BLM

Billings Field Office
Approved Resource Management Plan

Attachment 5

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-15/011+1610

State Director Recommendation for Approval

I hereby recommend for approval the Billings Resource Management Plan.

Jamie E. Connell, Montana/Dakotas State Director

September 15, 2015
Date

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Y Screening Criteria Checklist for Ten Year Grazing Permit / Lease Renewal and Transfers
Z PFC – Proper Functioning Condition
AA 1975 Memorandum between Montana and Wyoming - Administration of the Pryor Mountain Wild Horse Range
AB Summary of Eligibility, Suitability, and Tentative Classification Determinations for Rivers in the Billings Field Office
AC Land Health Standards

ACRONYMS AND ABBREVIATIONS

	Full Phrase
AML	appropriate management level
AMP	allotment management plan
ANS	aquatic nuisance species
APD	application for permit to drill
AQRV	air quality related values
ARMP	Approved Resource Management Plan
BA	biological assessment
BiFO	Billings Field Office
BLM	US Department of the Interior Bureau of Land Management
BMPs	best management practices
BSU	biologically significant unit (GRSG)
CFR	Code of Federal Regulations
COA	conditions of approval
COT	Conservation Objectives Team (GRSG)
CSU	controlled surface use
CWPP	community wildfire protection plan
DFC	desired future condition
DOI	Department of the Interior
EA	environmental assessment
EIS	environmental impact statement
EO	Executive Order
ESA	Endangered Species Act of 1973
ESR	emergency stabilization and rehabilitation
FEIS	final environmental impact statement
FLPMA	Federal Land Policy and Management Act
FRCC	fire regime condition class
GHMA	general habitat management area(s) (GRSG)
GRSG	Greater Sage-Grouse
HMA	herd management area
HMAP	herd management area plan
IPM	integrated pest management
LBA	lease by application
LCNHT	Lewis and Clark National Historic Trail
LN	lease notice
LWC	lands with wilderness characteristics
MDEQ	Montana Department of Environmental Quality
MIST	minimum impact suppression tactics
MLP	master leasing plan
MSIP	Montana State Implementation Plan
MTFWP	Montana Fish, Wildlife, and Parks
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NHT	National Historic Trail

	Full Phrase
NM	National Monument
NOI	notice of intent
NRCS	US Dept. of Agriculture, Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSO	no surface occupancy
NWSRS	National Wild and Scenic River System
OHV	off-highway vehicle
OSV	over-snow vehicle
PAC	priority areas for conservation
PFC	proper functioning condition
PFYC	potential fossil yield classification
PHMA	priority habitat management area(s) (GRSG)
PMWHR	Pryor Mountain Wild Horse Range
PPMN	Pompeys Pillar National Monument
R&PP	Recreation and Public Purposes Act
RFD	reasonably foreseeable development
RHMA	restoration habitat management area(s) (GRSG)
RMP	resource management plan
RMZ	recreation management zone
RNA	research natural area
ROD	record of decision
ROW	right-of-way
SFA	sagebrush focal area(s) (GRSG)
SRMA	special recreation management area
SRP	special recreation permit
SSS	special status species
T&E	threatened and endangered
TCP	traditional cultural property
TL	timing limitation
TMA	travel management area
USC	United States Code
USFS	US Department of Agriculture, Forest Service
USFWS	US Department of the Interior, Fish and Wildlife Service
USGS	US Department of the Interior, Geological Service
VRI	visual resource inventory
VRM	visual resource management
WAFWA	Western Association of Fish and Wildlife Agencies
WMA	wildlife management area
WSA	wilderness study area
WSR	wild and scenic river
WUI	wildland urban interface
YCT	Yellowstone cutthroat trout

CHAPTER 1
INTRODUCTION

The purpose of the Approved Resource Management Plan (ARMP) is to approve the BLM management decisions on approximately 434,154 acres of BLM-administered surface and 889,479 acres of BLM-administered minerals in the Billings Field Office (BiFO; **Table 1-1**). The regulations for making and modifying land use plan decisions, which comprise an 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. This ARMP replaces the land use decisions within the 1985 Billings RMP, as amended.

Table 1-1
Lands in the Planning Area

County	Total County Acres	BLM-Administered Surface Acres (and Percentage of Total County Surface Acres)	BLM-Administered Federal Mineral Estate (and Percentage of Total County Mineral Acres)
Big Horn, Wyoming (managed by BiFO as part of the PMWHR)	4,299	4,299 (100%)	4,299 (100%)
Big Horn, Montana	3,209,364	7 (0.00022%)	1.015 (0.000032%)
Carbon	1,319,667	220,556 (16.7%)	341,380 (25.9%)
Golden Valley	752,882	7,943 (1.1%)	44,360 (5.9%)
Musselshell	1,197,367	101,247 (8.5%)	226,885 (18.9%)
Stillwater	1,154,939	5,504 (0.5%)	58,359 (5.1%)
Sweet Grass	1,191,687	15,893 (1.3%)	75,229 (6.3%)
Wheatland	914,081	1,333 (0.2%)	21,433 (2.4%)
Yellowstone	1,695,363	77,540 (4.6%)	116,517 (6.9%)
Total	**10,804,548**	**434,321 (4%)**	**889,479 (8%)**

The BiFO of the US Department of the Interior (DOI), (Bureau of Land Management (BLM) prepared the Billings and Pompeys Pillar National Monument Draft RMP/Draft EIS (published on March 29, 2013) and the Billings and Pompeys Pillar National Monument Proposed RMP/Final EIS (published on May 29,

2015) for the BiFO and Pompeys Pillar National Monument planning areas together. For ease of implementation, one ARMP for the BiFO and one for PPNM have been prepared. The document reflects the management direction for the BiFO only.

1.1 DESCRIPTION OF THE PLANNING AREA

The Record of Decision (ROD) approving the resource management plan (RMP) provides a framework for future management direction and appropriate use on BLM-administered lands in the following south-central Montana counties: Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, Yellowstone and portions of Big Horn. The BiFO also administers 4,299 acres of public land in Big Horn County, Wyoming as part of the Pryor Mountain Wild Horse Range (**Table 1-1**, **Figure 1-1**, **Figure 1-2**, and **Figure 1-3**).

1.2 PURPOSE AND NEED

The purpose of the RMP is to provide a single, comprehensive land use plan to guide management of BLM-administered lands in the BiFO. 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 USC, Section 1701 et seq.). More specifically, consistent with valid existing rights and applicable law, the intent of the RMP is to provide a net conservation gain to the Greater Sage-Grouse (GRSG).

This comprehensive plan is needed to address competing resource uses and values in the same area. In addition, the following conditions have changed since the 1984 Billings Resource Area RMP was approved:

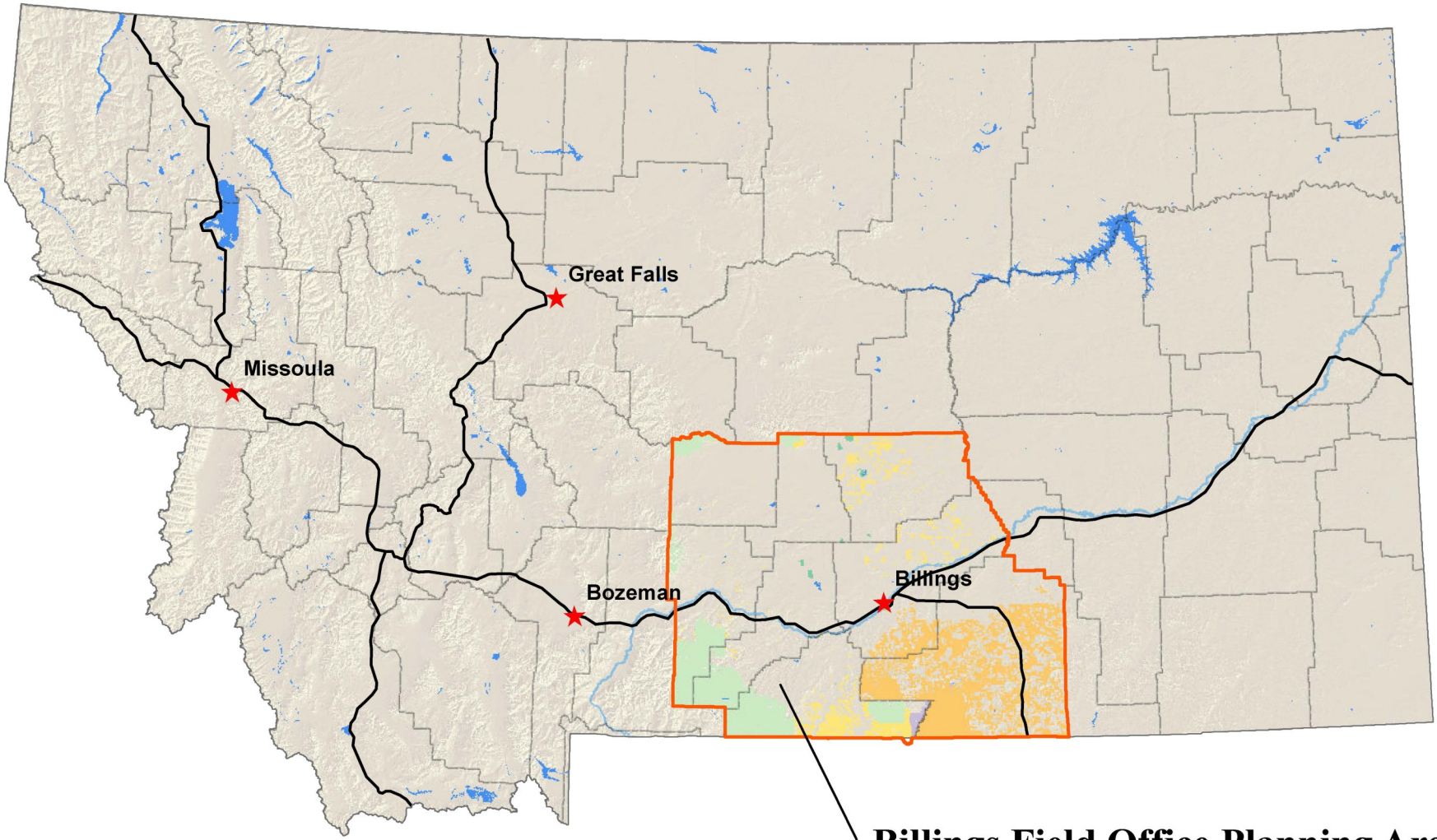
- Changed ecological, socioeconomic, institutional, and regulatory conditions
- New laws, regulations, and policies that supersede previous decisions
- Increased public demand for use of the lands and changing activity types
- Changing tolerance or acceptance of impacts
- Heightened public awareness
- Increases in conflict between competing resource values and land uses

The RMP was also prepared to incorporate consistent objectives and conservation measures for managing GRSG habitat. These conditions also drive the need for an inclusive, comprehensive plan that provides updated and clear direction to both the BLM and the public. The RMP also incorporates appropriate management actions and practices to enhance or restore GRSG habitat on BLM-administered land.

The BLM has prepared this ARMP and associated EIS for areas containing GRSG habitat. This is needed to respond to the U.S. Fish and Wildlife Service's (USFWS) March 2010 "warranted, but precluded" Endangered Species Act (ESA) listing decision. It identified inadequacy of regulatory mechanisms as a significant threat in the finding. The USFWS also identified the principal regulatory mechanisms for the BLM and the US Department of Agriculture (USDA), Forest Service (USFS) as conservation measures embedded in land use plans.

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS



Billings Field Office Planning Area

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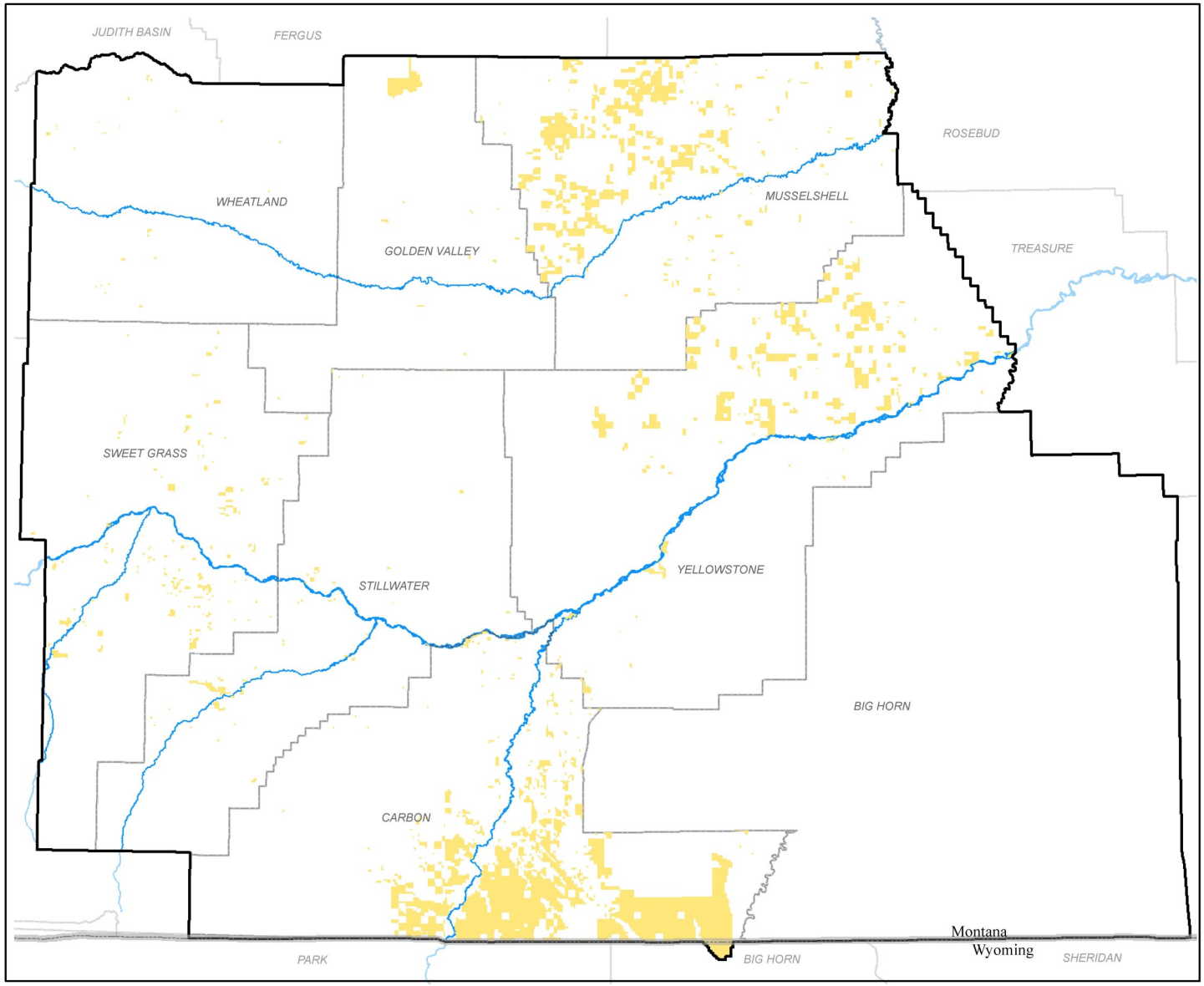
July 2015

Map 1-1



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Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Rivers
- Bureau of Land Management

Bureau of Land Management Administered Surface within the Billings Field Office Planning Area

0 1.753.5 7 10.5 14 17.5 Miles
Map scale 1:900,000

Map generated by the Billings Field Office in July 2015

Albers Equal Area, NAD83 Projection

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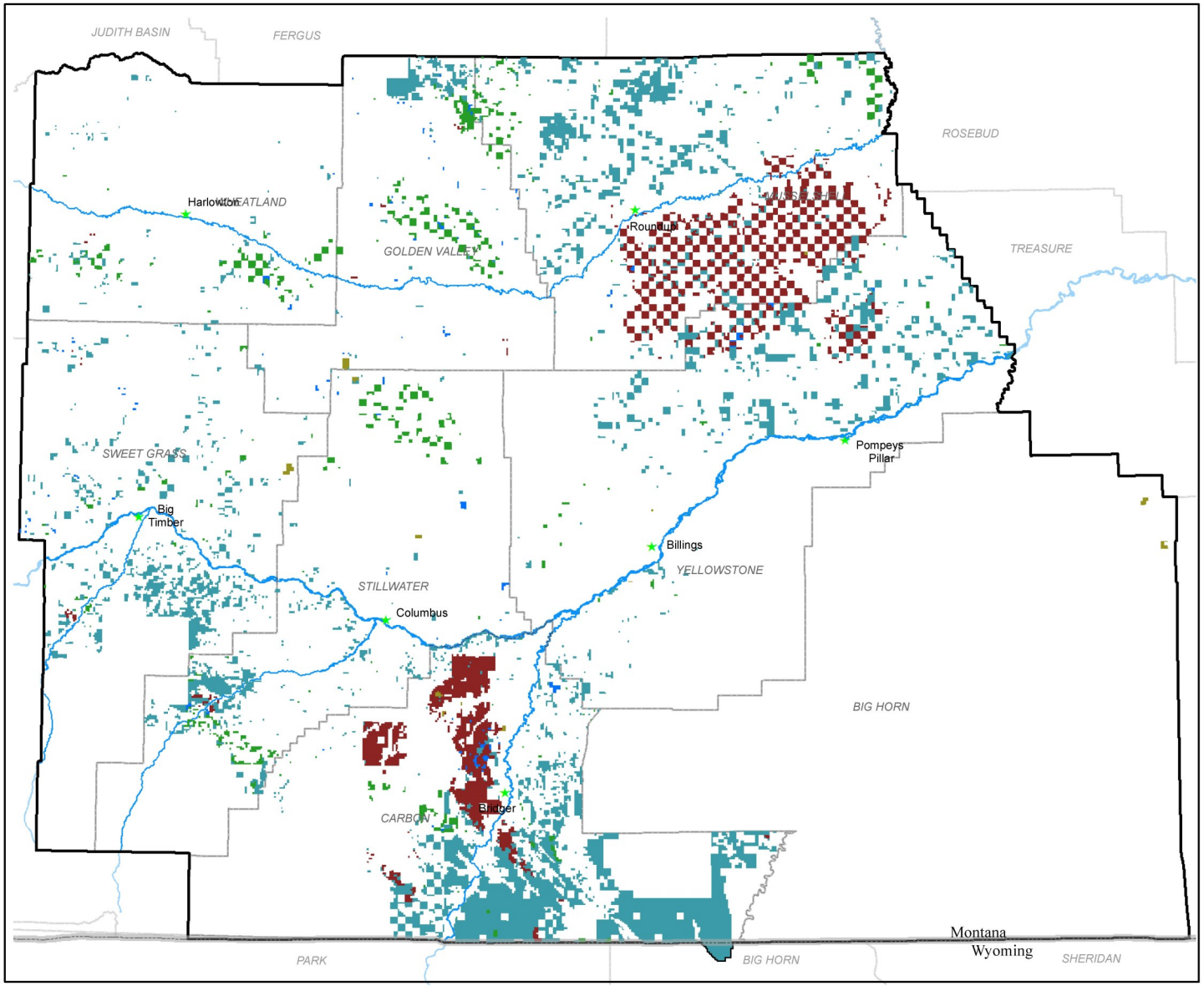
Map 1-2



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

Legend

- State Border
- Planning Area Boundary
- County Boundaries
- Rivers
- Towns

Federal Minerals

- All Minerals
- Coal & Oil and Gas
- Coal
- Oil & Gas
- Restricted

Bureau of Land Management Administered Federal Minerals within the Billings Field Office Planning Area

0 2 4 8 12 16 20 Miles
Map scale 1:900,000

Map generated by the Billings Field Office in July 2015

Albers Equal Area, NAD83 Projection

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Map 1-3

Changes in management of GRSG habitats are necessary to avoid the continued decline of populations across the species' range. This ARMP focuses on areas affected by threats to GRSG habitat that the USFWS identified in its March 2010 listing decision and in the USFWS Conservation Objectives Team (COT) report (USFWS 2013).

The major threats identified in BLM-administered lands the BiFO planning area the following:

- Fluid mineral development—Fragmentation of GRSG habitat due to mineral exploration and development
- Human uses—Fragmentation of GRSG habitat or modification of GRSG behavior due to human presence and activities
- Wildfire—Loss of large areas of GRSG habitat due to wildfire
- Infrastructure—Fragmentation of GRSG habitat due to development, such as rights-of-way and renewable energy development
- Climate change–Fragmentation of GRSG habitat due to climate stress
- Invasive species—Conversion of GRSG habitat to cheatgrass- dominated plant communities
- Grazing—Loss of habitat components due to improper livestock grazing
- Conifer invasion—Encroachment of pinyon or juniper into GRSG habitat
- Hard rock mining—Fragmentation of GRSG habitat due to mineral exploration and development

The purpose for this ARMP is to identify and incorporate appropriate measures in existing land use plans to conserve, enhance, and restore GRSG habitat by reducing, eliminating, or minimizing threats to GRSG habitat. The BLM will consider such measures in the context of its multiple use and sustained yield mandates under FLPMA.

Because the BLM administers a large portion of GRSG habitat in the affected states, changes in GRSG habitat management are anticipated to have a considerable beneficial impact on present and future GRSG populations.

1.3 PLANNING CRITERIA

BLM planning regulations (43 CFR, Part 1610) require the preparation of planning criteria as preliminary to the development of all RMPs. 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 as well as 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, where the federal government has retained the subsurface mineral estate
- Planning decisions will 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])
- Areas potentially suitable for ACECs 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 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]), 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))
- The National Greater Sage-Grouse Habitat Conservation Strategy (BLM 2004a) requires that impacts on sagebrush habitat and sagebrush-dependent wildlife species (including GRSG) be analyzed and considered in BLM land use planning efforts for public lands with GRSG/sagebrush habitats.
- The BLM will use the Western Association of Fish and Wildlife Agencies (WAFWA) Conservation Assessment of Greater Sage-Grouse and Sagebrush Habitats (Connelly, et al. 2004), and any other appropriate resources, to identify GRSG habitat requirements and best management practices (BMPs).

1.4 TRAVEL MANAGEMENT PLANNING

In the Draft and Proposed RMPs, travel management and access was addressed at two levels: (1) RMP level decisions, such as identification of Travel Management Areas (TMA) and the designation of areas as open, closed, or limited to motorized vehicle use and (2) site-specific motorized travel route designations within TMAs which are implementation-level decisions. This ARMP contains only the RMP level decisions and the site-specific travel plan decisions for each of the eleven TMAs contained in the Draft and Proposed RMPs. These decisions will be made within five years of the signing of the ROD for the ARMP.

1.5 ISSUES ADDRESSED

Those planning issues determined to be within the scope of the EIS are used to develop one or more of the alternatives or are 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 this EIS are listed below.

Issue 1: How can the public lands be managed to provide desired plant communities?

A healthy cover of perennial vegetation stabilizes the soil, increases infiltration of precipitation, reduces runoff, provides clean water to adjacent streams, and minimizes noxious weed invasion. Some resource uses (e.g., grazing, mineral development, OHV use, and recreation) can affect the natural function and condition of plant communities. Plant communities can also be altered and affected by fire, invasive species, and natural disasters (e.g., floods and drought). All factors mentioned that may affect rangeland, forest, and riparian vegetation will be addressed in the RMP.

Issue 2: 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 3: How can public lands be managed to conserve and recover threatened, endangered, proposed, and sensitive species, including Greater Sage-Grouse?

The majority of the animal species considered sensitive by Montana/Dakotas BLM are found in habitats within the planning area. Many of these species are associated with grassland and sagebrush habitats, and the decision area contains a portion of their global breeding range.

The RMP will identify reasonable strategies to conserve and recover special status species in the decision area in consultation with the USFWS as required under the ESA and Bureau Special Status

Species policy. Special status species include species listed, proposed for listing, or candidate species under the ESA and sensitive species identified by the BLM (Appendix L of the B&PPNM PRMP/FEIS).

In March 2010, the USFWS determined that the greater sage-grouse warranted protection under the Endangered Species (ESA), but that listing the species was precluded by the need to address other, higher-priority species first (75 FR 13910, March 23, 2010). One reason for the USFWS decision was an identified need for "improved regulatory mechanisms" to ensure species conservation. The principal regulatory mechanisms for BLM are RMPs, therefore, the BLM is using this opportunity to develop long-term and effective management for the species on the BLM lands (WO IM 2012-044).

Issue 4: What public lands will be available for commercial activities and how will those activities be managed while protecting the integrity of other resources?

A wide variety of commercial activities are conducted on BLM-managed lands in the planning area. Some of the primary uses are: oil and gas development, coal mining, livestock grazing, rights-of-way and land use authorizations, commercial recreation permits, locatable/saleable minerals, and forest product removal, and community wildfire protection plans (CWPP). The potential for wind power development is also present. The RMP will identify areas available for commercial activities and how those activities will be managed to protect resource values.

Issue 5: 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 6: How will conflicts between motorized and non-motorized uses be resolved and how will impacts on resources from motorized use be addressed?

Use of the public lands in south central Montana (for recreation, commercial uses, and general enjoyment) has grown in popularity in recent years. With this popularity has come a demand for greater variety and availability of access opportunities, including off-highway vehicle (OHV) use. With the number of visitors growing, resource and user conflicts are becoming more common. Motorized use needs to be managed, including identifying areas to be restricted or closed for the protection of other resource values.

Major considerations in alternative development and estimation of the effects for travel and access management in the RMP will include: public and administrative access needs, road densities, recreational activities, and resource values.

Issue 7: 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 (NWSRS) 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 BiFO 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 8: How will local social and economic conditions be addressed?

Through this RMP/EIS, the BLM will identify how management of various resources and BLM authorized activities in the decision area will affect economic and social conditions.

1.5.1 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. The PRMP/FEIS is available at 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.

1.5.1.1 Issues beyond the Scope of the Purpose and Goals of this RMP

- Settlement of 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 Revised Statute (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 WSAs or wilderness. Any individual, organization, or agency can submit potential wilderness designation lands to Congress for designation. Only Congress can designate WSAs, established under Section 603 of FLPMA, as wilderness or release WSAs for other uses.
- Expansion of the 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 USFS 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 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 (HMA) 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.

1.5.1.2 Master Leasing Plans

During the preparation of the Billings RMP revision, the BLM issued Washington Office Instruction Memorandum (IM) 2010-117 which introduced the Master Leasing Plan (MLP) concept as part of the BLM's oil and leasing reform. The MLP process entails analyzing likely development scenarios and varying levels of protective design features and mitigation measures in a defined area with greater detail than a traditional RMP allocation analysis, but at a less site-specific level than a development plan that has been fully defined by an operator. While preparing some MLPs may result in land use plan-level decisions, some may result in implementation-level decisions.

No externally generated MLP proposals were received for the BiFO. After an internal review by BLM staff, the need to address or consider an MLP within the BiFO was determined not to meet the criteria. The following provides a brief overview of the findings of the review criteria. For a more detailed review of the MLP criteria and considerations, a full report can be reviewed at the Internet website:

http://www.blm.gov/style/medialib/blm/mt/blm_programs/energy/oil_and_gas/leasing/leasing_reform.Par.58748.File.dat/MLPAssessments.pdf.

Only 8 percent of the planning area is federal mineral estate. In addition, only 57 percent of the federal mineral estate is currently leased. The BiFO is considered to have mostly moderate to low occurrence potential based on the updated Reasonably Foreseeable Development (RFD) scenario prepared for the Proposed Billings Field Office RMP/EIS. There is scattered oil production throughout the southern portion of the area, as well as some production in the northeast corner. This production is in older fields with all of the wells being drilled prior to 2000. Since the area contains only 8 percent federal mineral estate and since there is no new discovery, an MLP analysis is not warranted at this time.

Based on the reasons described above and the range of alternatives considered to address the planning issues and resource values identified, in relationship to oil and gas leasing and development, an MLP proposal is not analyzed further in this RMP.

1.5.1.3 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
APPROVED RESOURCE MANAGEMENT PLAN FOR GREATER SAGE-GROUSE HABITAT

2.1 DESCRIPTION OF GRSG HABITAT MANAGEMENT AREAS

Within the BiFO planning area, GRSG priority habitat management areas (PHMA) are not further refined into biologically significant units (BSU) for GRSG; the PHMA are themselves the BSU for GRSG. A BSU for this plan is the summary of all the PHMA within a GRSG population, as delineated in the COT report.

The decision area for GRSG habitat management within this ARMP is BLM-administered lands in GRSG habitat management areas, including surface and split-estate with BLM subsurface mineral rights. GRSG habitat on BLM-administered lands in the decision area consists of lands allocated as PHMA, General Habitat Management Areas (GHMA), and Restoration Habitat Management Areas (RHMA; **Table 2-1**, **Table 2-2**, and **Figure 2-1**).

PHMA, GHMA, and RHMA are defined as follows:

- PHMA—BLM-administered lands identified as having the highest value to maintain sustainable GRSG populations. The boundaries and management strategies for PHMA are derived from and generally follow the Preliminary Priority Area boundaries identified in the Draft RMP/EIS. Areas of PHMA largely coincide with areas identified as priority areas for conservation (PAC) in the COT report. The PHMA boundaries were derived from and generally follow the preliminary priority area (PPA) boundaries, as identified in the Draft RMP/EIS.
- GHMA—BLM-administered lands where some special management will apply to sustain GRSG populations. The boundaries and management strategies for GHMA are derived from and generally follow the Preliminary General Habitat boundaries identified in the Draft RMP/EIS.
- RHMA—BLM-administered lands where the priorities are maintaining populations and achieving a balance between ongoing and future resource use so that enough quality habitat is maintained to allow some residual population in impacted areas to persist.

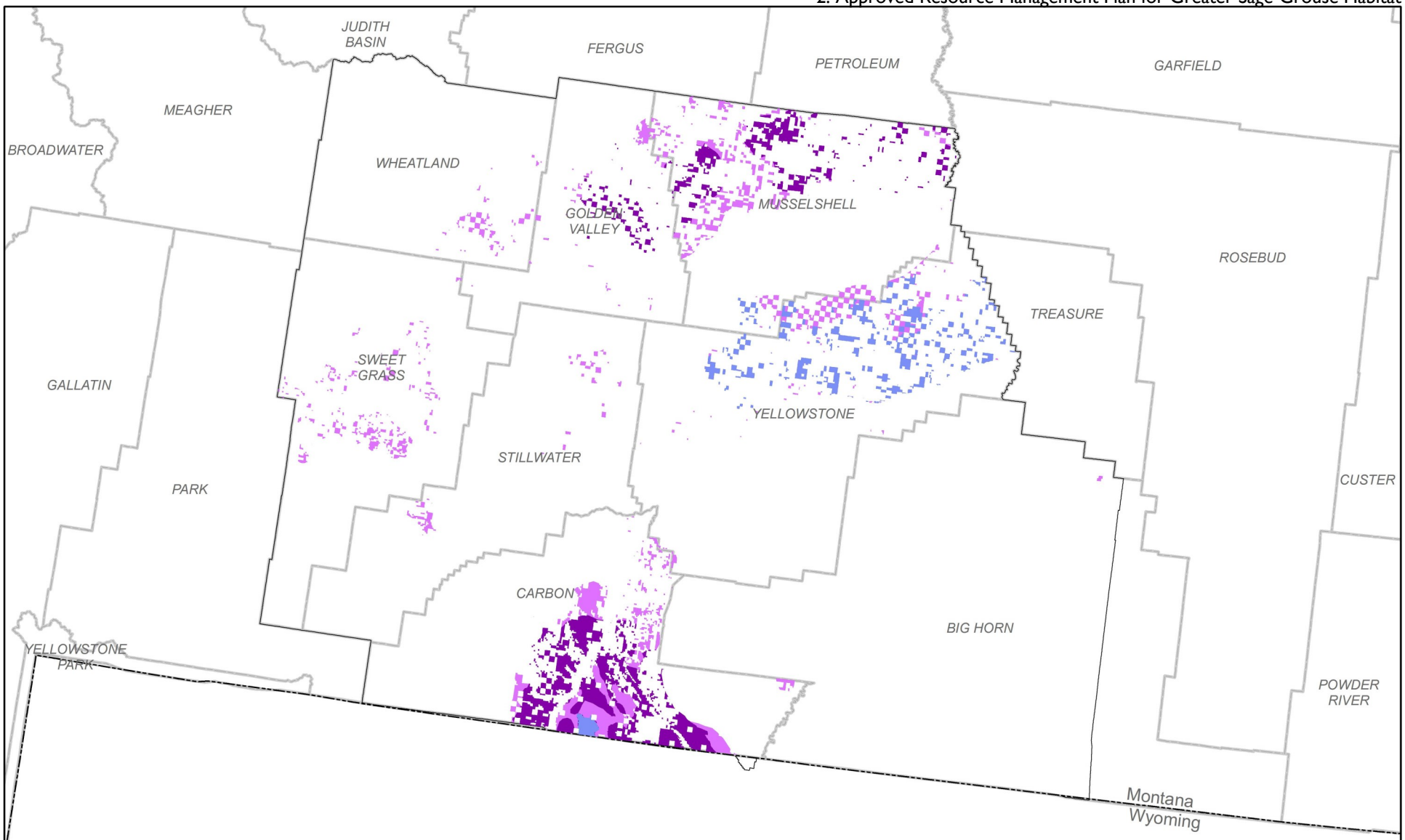

Figure 2-1: Billings and Pompeys Pillar National Monument RMP/EIS, Habitat Management Areas

Priority Habitat Management Areas (PHMSs)

Restoration Habitat Management Areas (RHMAs)

General Habitat Management Areas (GHMAs)

Billings Planning Area

State Boundary

N W E S

0 4 8 16 24 32 Miles

September 2015

Map Area

WA MT ND OR ID WY SD NE NV UT CO KS CA AZ NM TX OK

No warranty is made by the Bureau of Land Management (BLM). The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed.

Table 2-1
Acres of PHMA, GHMA, and RHMA in the Decision Area for the Approved RMP

	PHMA	GHMA	RHMA
BLM-administered surface	158,926	176,734	78,927
BLM-administered federal mineral estate	205,254	299,166	88,642

Source: BLM GIS 2015

Table 2-2
Acres of GRSG Habitat by County in the Decision Area

County Name	Approved RMP			
	PHMA (BLM-Administered Surface Acres/BLM Federal Mineral Estate Acres)	GHMA (BLM-Administered Surface Acres/BLM Federal Mineral Estate Acres)	RHMA (BLM-Administered Surface Acres/BLM Federal Mineral Estate Acres)	TOTAL (BLM-Administered Surface Acres/BLM Federal Mineral Estate Acres)
Big Horn, Wyoming	0	0	0	4,299 / 4,299
Big Horn, Montana	0	0	0	7 / 1.015
Carbon	112,704 / 138,432	59,770 / 87,737	6,850 / 7,571	220,556 / 341,380
Golden Valley	446 / 14,699	497 / 9,147	0	7,943 / 44,360
Musselshell	51,946 / 52,123	36,887 / 49,671	41 / 3,435	101,247 / 226,885
Stillwater	0	528 / 10,243	0	5,504 / 58,359
Sweet Grass	0	6,676 / 27,314	0	15,893 / 72,229
Wheatland	0	40 / 10,053	0	1,333 / 21,433
Yellowstone	0	72,348 / 105,001	72,073 / 77,646	77,540 / 116,517
Total	**165,096 / 205,254**	**176,734 / 299,166**	**78,927 / 88,642**	**434,321 / 889,479**

Source: BLM GIS 2015

Sagebrush focal areas (SFA) are a subset of PHMA. They were derived from GRSG stronghold areas described in a USFWS memorandum to the BLM titled Greater Sage-Grouse: Additional Recommendations to Refine Land Use Allocations in Highly Important Landscapes (USFWS 2014). The memorandum and associated maps provided by the USFWS identify areas that represent recognized strongholds for GRSG; these areas have been noted and referenced as having the highest densities of GRSG and other criteria important for the persistence of the species. There are no SFA in the Billings planning area. Within the BiFO planning area, GRSG PHMA are not further refined into BSU for GRSG. The GRSG PHMA are themselves the BSU for GRSG. A BSU for this plan is the summary of all the PHMA within a Greater Sage-Grouse population as delineated in the COT report (**Figure 2-2**).

2.2 BILLINGS GRSG CONSERVATION SUMMARY

The ARMP identifies and incorporates measures to conserve, enhance, and restore GRSG habitat by avoiding, minimizing, and compensating for unavoidable impacts of threats to GRSG habitat. The ARMP addresses threats to GRSG and its habitat identified by the National Technical Team (NTT) and by the USFWS in the March 2010 listing decision, as well as those threats described in the USFWS's COT report. The COT report, which identified threats to GRSG populations across the range. The COT stated in the report whether that threat is present and widespread, present but localized, or unknown for that specific population (see **Table 2-3**).

Table 2-4 provides a crosswalk as to how the ARMP for the BiFO addresses the threats from the COT report; **Table 2-5** provides a summary of allocation decisions by GRSG Habitat Management Areas.

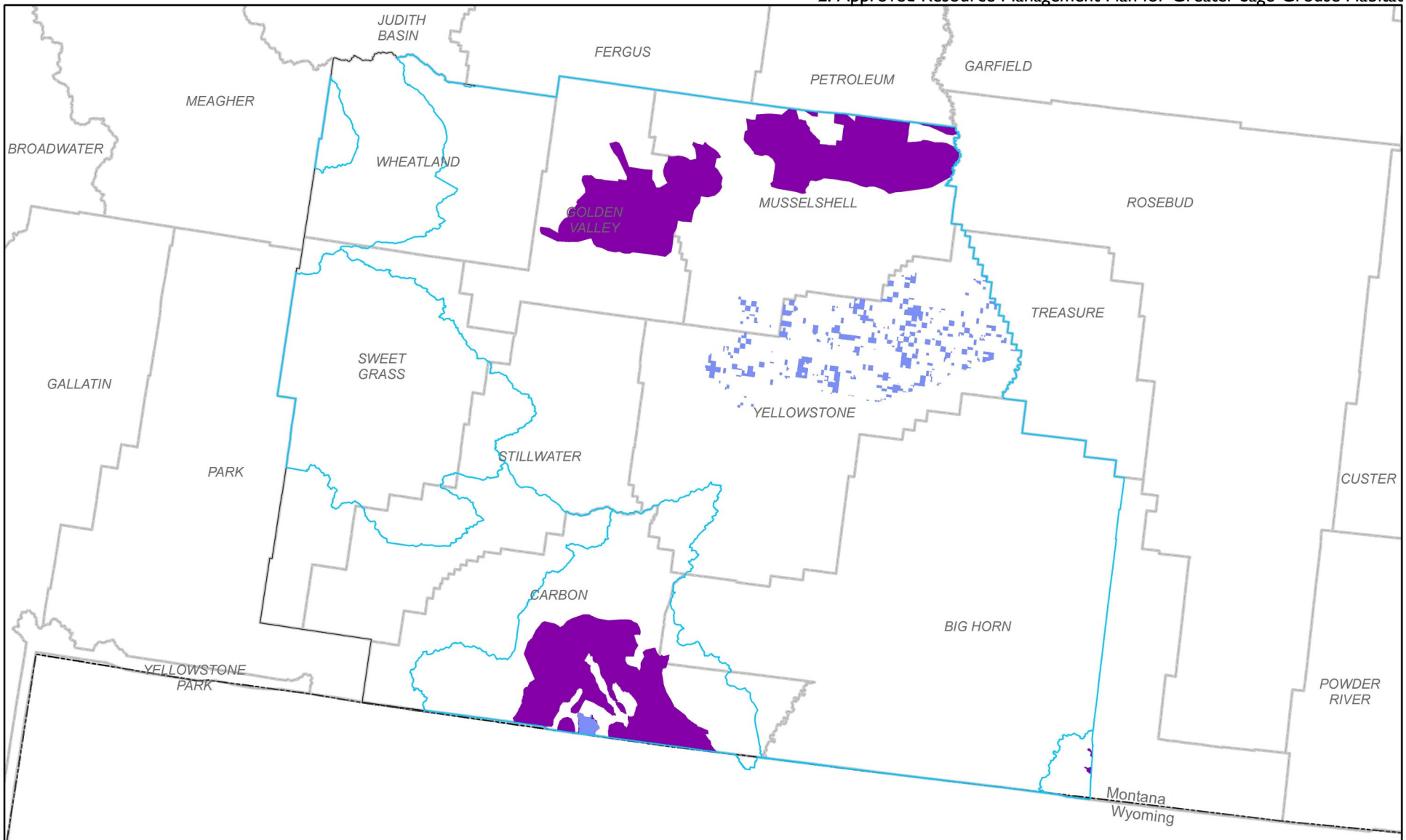

Figure 2-2: Billings and Pompeys Pillar National Monument RMP/EIS, Biologically Significant Units, Priority Habitat Management Areas and Restoration Habitat Management Areas

Biologically Significant Units (BSU)

Priority Habitat Management Areas (PMHAs)

Restoration Habitat Management Areas (RHMAs)

Billings Planning Area

State Boundary

N W E S

0 4 8 16 24 32 Miles

September 2015

No warranty is made by the Bureau of Land Management (BLM). The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed.

Table 2-3
Threats to GRSG in the BiFO as Identified by the COT

GRSG Identified Populations from the COT Report Applicable to the Billings Field Office Sub-region	Unit Number	Isolated Small Size	Sagebrush Elimination	Agriculture Conversion	Fire	Conifers	Weeds/Annual Grasses	Energy	Mining	Infrastructure	Improper Grazing	Free-Roaming Equids	Recreation	Urbanization
Yellowstone Watershed Population	4	N	L	Y	L	L	Y	Y	N	Y	Y	N	L	N
Wyoming Basin Population	9a	N	L	N	L	L	L	Y	L	Y	Y	L	Y	L

Source: USFWS 2013

Threats are characterized as Y = threat is present and widespread, L = threat present but localized, N = threat is not known to be present, and U = unknown.

Table 2-4
Key Components of the BiFO ARMP Addressing COT Report Threats

Threats to GRSG and its Habitat (from the COT Report)	Key Component of the Proposed Plan
All Threats	• Implement the adaptive management plan, which allows for more restrictive land use allocations and management actions to be implemented if habitat or population hard triggers are met. • Require and ensure mitigation that provides a net conservation gain to GRSG, for actions that result in habitat loss and degradation. • Monitor implementation and effectiveness of conservation measures in GRSG habitats according to the Habitat Assessment Framework.
All development threats, including mining, infrastructure, and energy development	• PHMA—Implement an anthropogenic disturbance cap of 3% at the BSU and project area scale. • PHMA—Implement a density cap of an average of 1 energy and mining facility per 640 acres. • Minimize the effects of infrastructure projects, including siting, using the best available science, updated as monitoring information on current infrastructure projects becomes available. • Apply buffers necessary based on project type and location to address impacts on leks when authorizing actions in GRSG habitat. • Apply Required Design Features (RDF) when authorizing actions in GRSG habitat. • Consider the potential for the developing valid existing rights when authorizing new projects in PHMA.

Table 2-4
Key Components of the BiFO ARMP Addressing COT Report Threats

Threats to GRSG and its Habitat (from the COT Report)	Key Component of the Proposed Plan
Energy development—fluid minerals	• PHMA—Open to fluid mineral leasing subject to No Surface Occupancy (NSO) stipulation without waiver or modification, and with limited exception. • GHMA—Open to fluid mineral leasing subject to NSO within 0.6 mile of an occupied lek and Timing Limitation (TL) stipulation from March 1 to June 15 within 2 miles of a lek. • RHMA—Open to fluid mineral leasing subject to NSO within 0.6 miles of GRSG leks, subject to a TL stipulation from March to June 15 in nesting habitat within 3 miles of a lek, and subject to a controlled surface use (CSU) stipulation regarding surface disturbance density and a mitigation plan. • Prioritize the leasing and development of fluid mineral resources outside of GRSG habitat.
Energy development—wind energy	• PHMA—Exclusion area (not available for wind energy development under any conditions) • GHMA—Avoidance Area (may be available for wind energy development with special stipulations) • RHMA (Elk Basin)—Exclusion area • RHMA (outside of Elk Basin)—Avoidance area
Energy development—solar energy	• PHMA—Exclusion area (not available for solar energy development under any conditions) • GHMA—Avoidance Area (may be available for solar energy development with special stipulations) • RHMA (Elk Basin)—Exclusion area • RHMA (outside of Elk Basin)—Avoidance area
Infrastructure—major ROWs	• PHMA—Avoidance area (may be available for major ROWs with special stipulations) • GHMA—Avoidance area (may be available for major ROWs with special stipulations) • RHMA—Avoidance area (may be available for major ROWs with special stipulations)
Infrastructure—minor ROWs	• PHMA—Avoidance area (may be available for minor ROWs with special stipulations) • RHMA—Avoidance area (may be available for minor ROWs with special stipulations)
Mining—locatable minerals	• Apply RDFs to locatable minerals consistent with applicable law.
Mining—nonenergy leasable minerals	• Not applicable; not present in the planning area.
Mining—salable minerals	• PHMA—Closed area (not available for salable minerals) with a limited exception (may remain open to free use permits and expansion of existing active pits if criteria are met)

Table 2-4
Key Components of the BiFO ARMP Addressing COT Report Threats

Threats to GRSG and its Habitat (from the COT Report)	Key Component of the Proposed Plan
Mining—coal	• PHMA is essential habitat for GRSG for purposes of the suitability criteria set forth at 43 CFR, Part3461.5(o)(1).
Improper livestock grazing	• Prioritize the review and processing of grazing permits/leases in PHMA. • Include in the NEPA analysis for renewals and modifications of grazing permits and leases specific management thresholds, based on the GRSG Habitat Objectives Table, Land Health Standards and ecological site potential, to allow adjustments to grazing that have already been subjected to NEPA analysis. • Prioritize field checks in PHMA to ensure compliance with the terms and conditions of grazing permits.
Free-roaming equid (wild horses and burros) management	• Not applicable; none present in GRSG habitat in the planning area.
Range management structures	• Allow range improvements that do not impact GRSG or that provide a conservation benefit to GRSG, such as fences for protecting important seasonal habitats.
Recreation	• PHMA—Do not construct new recreation facilities.
Fire	• PHMA—Allow only treatments that conserve, enhance, or restore GRSG habitat.
Nonnative, invasive plants species	• Do not use 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. • Use integrated pest management (IPM) to make progress toward a healthy plant community.
Sagebrush removal	• PHMA—Maintain all lands ecologically capable of producing sagebrush (but no less than 70%), with a minimum of 15% sagebrush cover or as consistent with specific ecological site conditions. • Ensure that all BLM use authorizations contain terms and conditions regarding the actions needed to meet or progress toward meeting the habitat objectives for GRSG.
Pinyon and Juniper Expansion	• Remove conifers encroaching into sagebrush habitats, in a manner that considers tribal cultural values, prioritizing occupied GRSG habitat.
Agricultural conversion and ex-urban development	• Retain GRSG habitat in federal management.

Table 2-5
Summary of Allocation Decisions by GRSG Habitat Management Areas

Resource	PHMA	RHMA	GHMA
Land Tenure (Figure 2-11)	Retention	Retention	Retention
Renewable Energy (Wind) (Figure 2-7)	Exclusion	Exclusion (Elk Basin) Avoidance with approved mitigation (outside of Elk Basin)	Avoidance with approved mitigation
Major ROWs (Figure 2-9)	Avoidance	Avoidance	Avoidance
Minor ROWs (Figure 2-10)	Avoidance	Avoidance	Open
Utility Corridors (Figure 2-8)	Open	Open	Open
Oil and Gas (Figure 2-4)	Open to fluid mineral leasing subject to NSO stipulation without waiver or modification, and with limited exception.	Surface occupancy and use for oil and gas exploration and development will be prohibited within 0.6 miles of Greater Sage-Grouse leks (NSO). Surface use for oil and gas exploration and development will be prohibited from March 1 to June 15 in Greater Sage-Grouse nesting habitat within 3 miles of a lek (TL). Surface occupancy and use for oil and gas exploration and development will be subject to the following special operating constraints that will maintain Greater Sage-Grouse habitat: surface disturbance density and mitigation plan (CSU).	Surface occupancy and use for oil and gas exploration and development will be prohibited within 0.6 miles of the perimeter of Greater Sage-Grouse leks (NSO). To protect nesting Greater Sage-grouse, surface occupancy and use within 2 miles of a lek may be restricted or prohibited. Prior to such activities, a plan to mitigate impacts on nesting Greater Sage-grouse and Greater Sage-grouse nesting habitat will be prepared by the proponent and implemented upon approval by the Authorized Officer (AO) (CSU). Geophysical exploration will be allowed on existing roads and trails with surface use prohibited from March 1 to June 15 within 3 miles of a lek (TL).
Salable Minerals (Figure 2-6)	Closed to new	Open	Open
Locatable Minerals (Figure 2-5)	Open	Open	Open
Coal (Figure 2-12)	Suitable	Suitable	Suitable
Travel Management (Figure 2-13)	Limited	Limited	Limited
Livestock Grazing (Figure 2-3)	Available	Available	Available

2.3 GOALS, OBJECTIVES, AND MANAGEMENT DECISIONS FOR GRSG HABITAT

This section of the ARMP presents the goals, objectives, land use allocations, and management actions established for protecting and preserving Greater Sage-grouse and its habitat on public lands managed by the BLM in the BiFO planning area. A *Monitoring Framework* is also included (**Appendix D**) to describe how the implemented program decisions will be monitored.

Many of these goals, objectives, and management actions identified in this section can also be found in Section 3 of this ARMP for other resources and/or program areas (e.g., Physical Resources) and have been consolidated in this section to depict how the agency will manage GRSG habitat (**Table 2-5**).

Throughout the planning area, BLM-authorized activities associated with all resources and all resource use programs will be subject to impact mitigation/minimization guidelines and BMPs found in **Appendix H**.

2.3.1 Vegetation – Forests and Woodlands (Veg/F&W)

Management Decisions (MD)

MD Veg/F&W-8: Remove conifers encroaching into sagebrush habitats, in a manner that considers tribal cultural values. Prioritize treatments closest to occupied sage-grouse habitats and near occupied leks, and where juniper encroachment is phase 1 or phase 2. Use of site-specific analysis and principles like those included in the FIAT report (Chambers et. al., 2014) and other ongoing modeling efforts to address conifer encroachment will help refine the location for specific priority areas to be treated.

2.3.2 Vegetation – Rangelands and Shrublands (Veg/R&S)

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.*

Goal Veg/R&S 4: *Promote recovery and restoration of sagebrush communities after wildfire events.*

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.

MD Veg/R&S-3: Identify priority treatment areas for conifer encroachment, including big game winter range, WUIs, current and historic sagebrush habitat, forest meadows and bighorn sheep habitat.

MD Veg/R&S-6: Within Greater Sage-Grouse PHMA, only treatments that conserve, enhance, or restore Greater Sage-Grouse habitat will be allowed. 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.

MD Veg/R&S-7: In all PHMA the desired condition is to maintain all lands ecologically capable of producing sagebrush (but no less than 70%) with a minimum of 15% sagebrush cover or as consistent with specific ecological site conditions. The attributes necessary to sustain these habitats are described in Interpreting Indicators of Rangeland Health (BLM Tech Ref 1734-6).

MD Veg/R&S-9: A target of eight percent of crested wheatgrass acres (approximately 2,378 acres) will be converted to native sagebrush/grassland over the life of the plan.

- Preferred treatment areas will 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.
- Priority treatment areas will be in Greater Sage-Grouse PHMA, RHMAs, and GHMA.

2.3.3 Vegetation – Riparian and Wetlands (Veg/R&W)

Management Decisions (MD)

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). (**Appendix Z**)

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
- Riparian areas within Greater Sage-Grouse Priority Habitat

2.3.4 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 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).*

Management Decisions (MD)

MD Veg/IS&NW-14: 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.

2.3.5 Wildlife Habitat and Special Status Species (Wildlife) (WLH & SSS)

Objectives: Sagebrush, native grasslands, seasonal or crucial wildlife ranges, special status species habitat, fisheries, cottonwood galleries, and riparian/wetlands will be priority habitats. All wildlife habitats will be managed to meet Rangeland Health Standards (Standards 1 and 5). BLM is responsible for managing habitats, whereas state and federal wildlife management agencies (e.g., MT FWP, USFWS) oversee management of wildlife species. BLM will coordinate with and support the conservation plans of those agencies on BLM administered lands. Priority wildlife species for management are described in Chapter 3.

In 2010, the USFWS determined that the Greater Sage-Grouse is a Candidate species and Warranted, but precluded, by other priorities, for listing under the ESA. In 2009, the MT/DAKs BLM delineated three types of Greater Sage-Grouse habitat areas as part of the planning process (Map 2-1):

- Greater Sage-Grouse Habitat - PHMA,
- Greater Sage-Grouse Habitat - RHMA, and
- Greater Sage-Grouse Habitat -– GHMA

Each area will have varying degrees of management in order to achieve the goals or objectives for each Greater Sage-Grouse habitat area. The Greater Sage-Grouse habitat delineations may be modified as needed as local site conditions change or as new information becomes available. Refer to the Glossary for definitions of the three Greater Sage-Grouse habitat areas, **Appendix F** for mitigation measures and conservation actions for Greater Sage-Grouse habitat, and **Appendix D** for monitoring of Greater Sage-Grouse and Sagebrush Habitats.

Goal WLH & SSS 2: *Manage for net conservation gain and connectivity of 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 MT FWP in the attainment of objectives and well-distributed, healthy populations of wildlife species consistent with the MT FWP'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 (WMA).*

Goal WLH & SSS 8: *Provide for the long-term conservation, enhancement, and restoration of the sagebrush steppe/mixed-grass prairie complex in a manner that supports sustainable Greater Sage-Grouse populations and a healthy diversity and abundance of wildlife species.*

Management Decisions (MD)

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: Conditions of Approval (COAs) will be applied to all Applications for Permit to Drill (APDs) for Special Status Species.

MD WLH & SSS-8: Utilize appropriate off-site 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-18: Areas that will be targeted for conversion from crested wheatgrass to native sagebrush/grasslands will be areas that have high wildlife habitat potential, particularly for Greater Sage-Grouse, big game, and other sagebrush obligate species, and are currently monocultures with little vegetation diversity.

MD WLH & SSS-27: Mitigation of surface-disturbing or disrupting activities (including operations and maintenance associated with fluid mineral development) will be applied where needed to minimize impacts of human activities on important seasonal wildlife habitats, consistent with the wildlife stipulations outlined in the Wildlife / Special Status Species and Fluid Minerals sections of Chapter 2. Mitigation measures will be applied during activity level planning if an on-site evaluation of the project area indicates the presence of important wildlife species.

Exceptions may be granted by the AO, if an environmental review demonstrates that effects could be mitigated to an acceptable level, habitat for the species is not present in the area, or portions of the area can be occupied without affecting a particular species. Exceptions may also be granted where the short-term effects are mitigated by the long-term benefits (e.g., prescribed fire, wildlife monitoring, or forest health treatments).

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 WLH & SSS-38: Crucial Winter Range - Surface occupancy and use for oil and gas exploration and development will be prohibited (NSO) in crucial winter range (antelope, elk, moose, bighorn sheep, mule deer, whitetail deer, and greater sage-grouse).

MD WLH & SSS-51: 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-52: 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-53: Special Status Species - 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.

MD WLH & SSS-56: Special Status Species - Lease Notice: 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. 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. 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. 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 ESA as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation.

MD WLH & SSS-73: Special Status Species: Greater Sage-Grouse –

- These habitat objectives in **Table 2-6** summarize the characteristics that research has found represent the seasonal habitat needs for Greater Sage-Grouse. The specific seasonal components identified in **Table 2-6** were adjusted based on local science and monitoring data to define the range of characteristics used in this sub-region. Thus, the habitat objectives provide the broad vegetative conditions we strive to obtain across the landscape that indicate the seasonal habitats used by sage-grouse. These habitat indicators are consistent with the rangeland health indicators used by the BLM.
- The habitat objectives will be part of the sage-grouse habitat assessment to be used during land health evaluations (**Appendix D**, Monitoring Framework). These habitat objectives are not obtainable on every acre within the designated GRSG habitat management areas. Therefore, the determination on whether the objectives have been met will be based on the specific site's ecological ability to meet the desired condition identified in the table.
- All BLM use authorizations will contain terms and conditions regarding the actions needed to meet or progress toward meeting the habitat objectives. If monitoring data show the habitat objectives have not been met nor progress being made towards meeting them, there will be an evaluation and a determination made as to the cause. If it is determined that the authorized use is a cause, the use will be adjusted by the response specified in the instrument that authorized the use.
- This information should not be viewed as providing standards by which to judge the overall quality of sagebrush habitats. Instead, these sage-grouse habitat characteristics should be used as one tool for assessing habitats and guiding management actions. There is a tendency to review each indicator and its suitability category independently, but site suitability is determined by the relationship among the several indicator values in each matrix and the relative abundance of habitat types across the landscape. It is important to understand that the desired conditions described for these habitat types are based on average plant productivity and structural data and expert opinion relative to sage-grouse use of a subset of sagebrush communities and they may not apply to all sagebrush communities in the planning

Table 2-6
Billings Field Office Greater Sage-Grouse Habitat Objectives

Attribute	Indicators	Desired Condition	Reference
Breeding, Nesting, and Early Brood-Rearing (Seasonal Use Period: March 1 – June 15)			
Lek Security	Proximity of trees	.65– Km2 (.388 miles) avoidance of coniferous habitats	Doherty, K.E. 2008. *Sage-grouse and Energy Development: Integrating Science with Conservation Planning to Reduce Impacts*. (Doctoral dissertation, the University of Montana (Missoula). Available at: http://etd.lib.umt.edu/theses/available/etd-03262009-132629/unrestricted/doherty.pdf
	Collision Risks	Fences and other structures that pose a high collision risk are absent or mitigated with visual markers within 1.25 miles of leks active within 5 years.	Connelly et al. 2000 Stevens 2011 *Sage-Grouse Habitat Assessment Framework, Multi-scale Habitat Assessment Tool* (unpublished report). August 2010. BLM, Idaho State Office. Boise.
	Proximity of sagebrush to leks	Adjacent protective sagebrush cover within 100 m (328 ft.) of an active lek	*Sage-Grouse Habitat Assessment Framework, Multi-scale Habitat Assessment Tool* (unpublished report). August 2010. BLM, Idaho State Office. Boise.
Cover	% of seasonal habitat meeting desired conditions	80% of the nesting habitat within 3.1 miles of sage-grouse leks meets the recommended vegetation characteristics, where appropriate (relative to ecological site potential, etc.)	Knick, S.T. and J.W. Connelly, 2011. *Greater Sage-grouse, Ecology and Conservation of a Landscape Species and its Habitats*. Studies in Avian Biology No. 38. A Publication of the Cooper Ornithological Society, University of California Press. Berkeley. pp. 1–9. Stiver, S. J., E. T. Rinkes, D. E. Naugle, 2010. *Sage-Grouse Habitat Assessment Framework*. U.S. Bureau of Land Management, Idaho State Office, Boise, Idaho.
	Sagebrush canopy cover	5-25%	Herman – Brunson, K.M. 2007. Swanson, C.C. 2009. Doherty, K.E., Naugle, D.E., Walker, B.L. 2010 Hagen, C.A., Connelly, J.W., Schroeder, M.A. 2007 Doherty, K.E., Beck, J.L., Naugle, D.E. 2011. USDA, NRCS, Montana, Ecological Site Descriptions. Accessed January 28, 2014. Foster, M.A, Ensign, J.T., Davis, W.N., Tribby, D.C. 2014. Wright, P and Wegner, D. 2008 Lane , V.R. 2005

Table 2-6
Billings Field Office Greater Sage-Grouse Habitat Objectives

Attribute	Indicators	Desired Condition	Reference
	Sagebrush height	6-31 inches (15-50cm)	Schroeder et al. 1999. Swanson, C.C. 2009. Holloran, M.J., Heath, B.J., Lyon, A.G. 2005. Doherty, K.E., Beck, J.L., Naugle, D.E. 2011 USDA, NRCS, Montana, Ecological Site Descriptions. Accessed January 28, 2014. Lane , V.R. 2005
	Predominant sagebrush shape	Predominately spreading shape	Stiver, S. J., E. T. Rinkes, D. E. Naugle, 2010.
	Perennial grass cover (including bunchgrasses/important native grasses)	≥10%	Doherty, K.E., Beck, J.L., Naugle, D.E. 2011. USDA, NRCS, Montana, Ecological Site Descriptions. Accessed January 28, 2014. Holloran, M.J., Heath, B.J., Lyon, A.G. 2005 Doherty, K.E., Naugle, D.E., Walker, B.L. 2010 Hagen, C.A., Connelly, J.W., Schroedeer, M.A 2007 Lane, V.R. 2005
	Perennial grass and forb height (including residual grasses)	Adequate nest cover based on ecological site potential and seasonal precipitation; 4.4-11.3 inches (11.4-29 cm)	K.E. Doherty, K.E. Naugle, J.D. Tack, B.L.Walker, J.M.Graham and J.L. Beck. 2014
	Perennial forb canopy cover	≥3%	Doherty, K.E., Beck, J.L., Naugle, D.E. 2011. USDA, NRCS, Montana, Ecological Site Descriptions. Accessed January 28, 2014. Holloran, M.J., Heath, B.J., Lyon, A.G. 2005. Doherty, K.E., Naugle, D.E., Walker, B.L. 2010. Hagen, C.A., Connelly, J.W., Schroedeer, M.A. 2007
Brood-Rearing/Summer [1] (Seasonal Use Period: June 16 – October 31)			
Cover	% of Seasonal habitat meeting desired condition	>40% of the brood-rearing/summer habitat meets recommended brood habitat characteristics where appropriate, relative to site potential and seasonal precipitation.	Stiver, S. J., E. T. Rinkes, D. E. Naugle, 2010.
	Sagebrush canopy cover	5-25%	Herman – Brunson, K.M. 2007. Swanson, C.C. 2009. Doherty, K.E., Naugle, D.E., Walker, B.L. 2010 Doherty, K.E., Beck, J.L., Naugle, D.E. 2011.

Table 2-6
Billings Field Office Greater Sage-Grouse Habitat Objectives

Attribute	Indicators	Desired Condition	Reference
			USDA, NRCS, Montana, Ecological Site Descriptions. Accessed January 28, 2014. Foster, M.A., Ensign, J.T., Davis, W.N., Tribby, D.C., 2014. Lane , V.R. 2005
	Sagebrush height	6-31 inches (15-50cm)	Schroeder et al. 1999 Holloran, M.J., Heath, B.J., Lyon, A.G. 2005 Doherty, K.E., Beck, J.L., Naugle, D.E. 2011. USDA, NRCS, Montana, Ecological Site Descriptions. Accessed January 28, 2014. Lane , V.R. 2005
	Perennial grass and forb canopy cover	≥10%	Doherty, K.E., Beck, J.L., Naugle, D.E. 2011. Holloran, M.J., Heath, B.J., Lyon, A.G. 2005. Doherty, K.E., Naugle, D.E., Walker, B.L. 2010 Hagen, C.A., Connelly, J.W., Schroedeer, M.A. 2007 USDA, NRCS, Montana, Ecological Site Descriptions. Accessed January 28, 2014.
	Riparian areas/mesic meadows	Proper Functioning Condition	BLM, 1997c. Prichard, D., F. Berg, S. Leonard, M. Manning, W. Hagenbuck, R. Krapf, C. Noble, J. Staats, and R. Leinard. 1999. Prichard, D., 1998
	Upland and riparian perennial forb availability	Preferred forbs are common with several preferred species present.	Stiver, S. J., E. T. Rinkes, D. E. Naugle, 2010 Doherty, K.E., Beck, J.L., Naugle, D.E. 2011. USDA, NRCS, Montana, Ecological Site Descriptions. Accessed January 28, 2014.
Winter [1] (Seasonal Use Period: November 1 – February 28)			
Cover and Food	% of seasonal habitat meeting desired conditions	>80% of wintering habitat meets winter habitat characteristics where appropriate (relative to ecological site, etc.).	Stiver, S. J., E. T. Rinkes, D. E. Naugle, 2010.
	Sagebrush canopy cover	≥10%	Schroeder et al. 1999. Swanson, C.C. 2009. Foster, M.A, Ensign, J.T., Davis, W.N., Tribby, D.C. 2014.
	Sagebrush height	≥25cm	Connelly et al. 2000

area variation (Davies et al. 2006). These measures also do not account for inter-annual climate variation (Davies et al. 2006). Individual indicator values do not define site suitability and overall site suitability descriptions require an interpretation of the relationships between the indicators and other factors. Professional expertise and judgment are required. Measurement of these objectives will follow the steps described in **Appendix D**.

MD WLH & SSS-74: Special Status Species: Greater Sage-Grouse – As described above, the identified habitat objectives are averages and will vary based on the individual ecological sites and their potential. Ecological sites are the basic component of a land-type classification system that describes ecological potential and ecosystem dynamics of land areas. All land/land use types are identified within the ecological site system, including rangeland, pasture, and forest land. An ecological site is defined as a distinctive kind of land with specific soil and physical characteristics that differ from other kinds of land in its ability to produce a distinctive kind and amount of vegetation and its ability to respond similarly to management actions and natural disturbances. Lands are classified considering discrete physical and biotic factors. Physical factors include soils, climate, hydrology, geology, and physiographic features. Biotic factors include plant species occurrence, plant community compositions, annual biomass production, wildlife-vegetation interactions, and other factors. Ecological dynamics, primarily disturbance regimes, such as grazing; fire; drought; management actions; and all resulting interactions are also a primary factor of ecological sites. Information and data pertaining to a particular ecological site is organized into a reference document known as an ESD. ESDs function as a primary repository of ecological knowledge regarding an ecological site. ESDs are maintained on the NRCS Ecological Site Information System (ESIS), which is the repository for information associated with ESDs and the collection of all site data (https://esis.sc.egov.usda.gov/Welcome/pgESDWelcome.aspx). The ESD can help interpret if a site's potential is less than or greater than the identified habitat objectives.

MD WLH & SSS-75: Special Status Species: Greater Sage-Grouse – In addition to the references identified in the following table, the Conservation Plans developed for each of the Wyoming Local Sage-Grouse Working Groups will be consulted to identify specific habitat objectives appropriate for site-specific conditions. The Conservation Plans, updated in March 2014, are available on the Wyoming Game and Fish Department (WGFD) website at: https://wgfd.wyo.gov/web2011/wildlife-1000817.aspx.

MD WLH & SSS-76: Special Status Species: Greater Sage-Grouse – All BLM use authorizations will contain terms and conditions regarding the actions needed to meet or progress toward meeting the habitat objectives. If monitoring data show the habitat objectives have not been met nor progress being made towards meeting them, there will be an evaluation and a determination made as to the cause. If it is determined that the authorized use is a cause, the use will be adjusted by the response specified in the instrument that authorized the use.

Greater Sage-Grouse

MD WLH & SSS-9: 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-71: In all sage-grouse habitat, in undertaking BLM management actions, and consistent with valid existing rights and applicable law, in authorizing third-party actions that result in

habitat loss and degradation, the BLM will require and ensure mitigation that provides a net conservation gain to the species including accounting for any uncertainty associated with the effectiveness of such mitigation. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions. Actions which result in habitat loss and degradation" include those identified as threats which contribute to Greater Sage-Grouse disturbance as identified by the USFWS in its 2010 listing decision (75 FR 13910) and shown in Table 2 in the attached Monitoring Framework (**Appendix D**).

MD WLH & SSS-77: Surface occupancy and use for oil and gas exploration and development will be prohibited within Greater Sage-Grouse crucial winter range (NSO).

MD WLH & SSS-78: Special Status Species – Greater Sage-Grouse –

- If the 3% anthropogenic disturbance cap is exceeded on lands (regardless of land ownership) or if anthropogenic disturbance and habitat loss associated with conversion to agricultural tillage or fire exceed 5% within a project analysis area in PHMA, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the 1872 Mining Law, valid existing rights, etc.) will be permitted by BLM within PHMA in a project analysis area until the disturbance has been reduced to less than the cap.
- If the BLM determines that the State of Montana has adopted a GRSG Habitat Conservation Program that contains comparable components to those found in the State of Wyoming's Core Area Strategy including an all lands approach for calculating anthropogenic disturbances, a clear methodology for measuring the density of operations, and a fully operational Density Disturbance Calculation Tool, the 3% disturbance cap will be converted to a 5% cap for all sources of habitat alteration within a project analysis area.
- If the 3% anthropogenic disturbance cap is exceeded on lands (regardless of land ownership) within GRSG PHMA in any given BSU, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the 1872 hard rock mining law, valid existing rights, etc.) will be permitted by BLM within GRSG PHMA in any given BSU until the disturbance has been reduced to less than the cap. Within existing designated utility corridors, the 3% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that a net conservation gain to the species will be achieved. This exception is limited to projects which fulfill the use for which the corridors were designated (ex., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location.

MD WLH & SSS-81: In undertaking BLM management actions, and consistent with valid and existing rights and applicable law in authorizing third-party actions, the BLM will apply the lek buffer-distances identified in the USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse – A Review (Open File Report 2014-1239) in accordance with **Appendix B**.

MD WLH & SSS-83: Subject to applicable laws and regulations and valid existing rights, if the average density of one energy and mining facility per 640 acres (the density cap) is exceeded on all lands (regardless of land ownership) in the PHMA within a proposed project analysis area, then no further disturbance from energy or mining facilities will be permitted by BLM: (1) until disturbance in the

proposed project analysis area has been reduced to maintain the limit under the cap; or (2) unless the energy or mining facility is co-located into an existing disturbed area.

GRSG PHMA

Goal WLH & SSS 10: *To maintain or improve Greater Sage-Grouse populations by maintaining Greater Sage-Grouse habitat in good condition.*

Management Decisions (MD)

MD WLH & SSS-79: Establish Greater Sage-Grouse PHMA (158,926 acres of BLM-administered lands and 205,254 acres of federal minerals). These PHMA are generally consistent with MTFWP Greater Sage-Grouse core area designations, with the exception of one small area in southern Carbon County near Elk Basin Oil field (Map 2-1).

MD WLH & SSS-80: In all PHMA the desired condition is to maintain all lands ecologically capable of producing sagebrush (but no less than 70%) with a minimum of 15% sagebrush cover or as consistent with specific ecological site conditions. The attributes necessary to sustain these habitats are described in Interpreting Indicators of Rangeland Health (BLM Tech Ref 1734-6).

MD WLH & SSS-81: In undertaking BLM management actions, and consistent with valid and existing rights and applicable law in authorizing third-party actions, the BLM will apply the lek buffer-distances identified in the USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse – A Review (Open File Report 2014-1239) in accordance with **Appendix B**.

MD WLH & SSS-82: No waivers or modifications to a fluid mineral lease no-surface-occupancy stipulation will be granted. The AO may grant an exception to a fluid mineral lease no-surface-occupancy stipulation only where the proposed action:

i. Will not have direct, indirect, or cumulative effects on GRSG or its habitat; or,

ii. Is proposed to be undertaken as an alternative to a similar action occurring on a nearby parcel, and will provide a clear conservation gain to GRSG.

Exceptions based on conservation gain (ii) may only be considered in (a) PHMA of mixed ownership where federal minerals underlie less than fifty percent of the total surface, or (b) areas of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of this RMP revision. Exceptions based on conservation gain must also include measures, such as enforceable institutional controls and buffers, sufficient to allow the BLM to conclude that such benefits will endure for the duration of the proposed action's impacts.

Any exceptions to this lease stipulation may be approved by the AO only with the concurrence of the State Director. The AO may not grant an exception unless the applicable state wildlife agency, the USFWS, and the BLM unanimously find that the proposed action satisfies (i) or (ii). Such finding shall initially be made by a team of one field biologist or other GRSG expert from each respective agency. In the event the initial finding is not unanimous, the finding may be elevated to the appropriate BLM State Director, USFWS State Ecological Services Director, and state wildlife agency head for final resolution.

In the event their finding is not unanimous, the exception will not be granted. Approved exceptions will be made publically available at least quarterly.

MD WLH & SSS-85: Open to fluid mineral leasing and development (including geophysical exploration). To protect Greater Sage-grouse, a priority species for management, surface occupancy and use for oil and gas exploration and development will be prohibited within Greater Sage-Grouse PHMA (NSO).

MD WLH & SSS-86: Exclusion area for renewable and solar energy exploration and facility development.

MD WLH & SSS-87: Avoidance area for major and minor ROWs. However ROWs will only be allowed in GRSG PHMA where habitat functionality will be maintained.

GRSG RHMAs

Goal WLH & SSS 11: *In these areas, BLM will manage habitat so that Greater Sage-Grouse populations can be restored over the long-term. BLM will strive to restore historical Greater Sage-Grouse habitat functionality, or at a minimum, have no net loss of Greater Sage-Grouse habitat, to support Greater Sage-Grouse populations.*

Management Decisions (MD)

MD WLH & SSS-88: Establish RHMAs (78,927 acres of BLM-administered lands and 88,642 acres of federal mineral estate). These areas will include one small polygon of core habitat in Carbon County near Elk Basin Oil Field, as well as other areas (Map 2-1).

MD WLH & SSS-89: Surface occupancy and use for oil and gas exploration and development will be prohibited within 0.6 miles of Greater Sage-Grouse leks (NSO).

MD WLH & SSS-90: Surface use for oil and gas exploration and development will be prohibited from March 1 to June 15 in Greater Sage-Grouse nesting habitat within 3 miles of a lek (TL).

MD WLH & SSS-91: Surface occupancy and use for oil and gas exploration and development will be subject to the following special operating constraints that will maintain Greater Sage-Grouse habitat: surface disturbance density and mitigation plan (CSU).

MD WLH & SSS-92: Geophysical exploration will be allowed on existing roads and trails with surface use prohibited from March 1 to June 15 within 4 miles of a lek (TL).

MD WLH & SSS-93: GRSG RHMAs outside of Elk Basin will be avoidance areas for renewable and solar energy exploration, development and facilities with approved mitigation.

MD WLH & SSS-94: The Elk Basin GRSG RHMA will be an exclusion area for renewable and solar energy exploration, development and facilities with approved mitigation.

MD WLH & SSS-95: Avoidance area for major and minor ROWs. However ROWs will only be allowed in GRSG RHMAs where habitat functionality will be maintained.

GRSG GHMA

Goal WLH & SSS 12: *BLM will maintain habitat for viable Greater Sage-Grouse populations to promote movement and genetic diversity. Maintain, restore or enhance Greater Sage-Grouse habitat and connectivity between sagebrush habitats, with emphasis on those habitats occupied by Greater Sage-Grouse.*

Management Decisions (MD)

MD WLH & SSS-96: Establish GHMA (176,734 acres of BLM-administered lands and 299,166 acres of federal mineral estate). These areas include a 3 mile buffer around Greater Sage-Grouse leks, outside of the PHMA and RHMA areas (Map 2-1).

MD WLH & SSS-97: In undertaking BLM management actions, and consistent with valid and existing rights and applicable law in authorizing third-party actions, the BLM will apply the lek buffer-distances identified in the USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse – A Review (Open File Report 2014-1239) in accordance with **Appendix B**.

MD WLH & SSS-98: Surface occupancy and use for oil and gas exploration and development will be prohibited within 0.6 miles of the perimeter of Greater Sage-Grouse leks (NSO).

MD WLH & SSS-99: To protect nesting Greater Sage-grouse, surface occupancy and use within 2 miles of a lek may be restricted or prohibited. Prior to such activities, a plan to mitigate impacts on nesting Greater Sage-grouse and Greater Sage-grouse nesting habitat will be prepared by the proponent and implemented upon approval by the AO (CSU).

MD WLH & SSS-100: Geophysical exploration will be allowed on existing roads and trails with surface use prohibited from March 1 to June 15 within 3 miles of a lek (TL).

MD WLH & SSS-101: Avoidance area for renewable and solar energy exploration, development and facilities with approved mitigation.

MD WLH & SSS-102: GRSG GHMA will be avoidance areas for major ROWs. GRSG GHMA will be open to minor ROWs. Utilities and similar facilities will be located adjacent to other facilities where practical and only when habitat can be maintained.

MD WLH & SSS-103: Consider the potential for the development of not-yet-constructed valid existing rights of surface disturbing activities as defined in Table 2 of the Monitoring Framework (**Appendix D**) prior to authorizing new projects in PHMA.

2.3.6 Fire Ecology and Management (Fire)

Goals and Objectives

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 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 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-4: Fuels treatments will be designed to protect or improve resource values

MD FIRE-7: Within the following areas work to restore or maintain approximately 14,000 acres available for restoring natural Fire Regime Condition Classes (FRCC) in Musselshell, Stillwater, Carbon, and Sweet Grass Counties, should resource management constraints and considerations (i.e. GRSG habitat, other identified T&E issues, and culturally sensitive areas) allow.

MD FIRE-8: If prescribed fire is used in Greater Sage-Grouse habitat, the NEPA analysis for the Burn Plan will address:

- why alternative techniques were not selected as a viable options;
- how Greater Sage-Grouse goals and objectives will be met by its use;
- how the COT Report objectives will be addressed and met;
- a risk assessment to address how potential threats to Greater Sage-Grouse habitat will be minimized.

Prescribed fire as a vegetation or fuels treatment shall only be considered after the NEPA analysis for the Burn Plan has addressed the four bullets outlined above. Prescribed fire could be used to meet specific fuels objectives that will protect Greater Sage-Grouse habitat in PHMA (e.g., creation of fuel breaks that will disrupt the fuel continuity across the landscape in stands where annual invasive grasses are a minor component in the understory, burning slash piles from conifer reduction treatments, used as a component with other treatment methods to combat annual grasses and restore native plant communities).

Prescribed fire in known winter range shall only be considered after the NEPA analysis for the Burn Plan has addressed the four bullets outlined above. Any prescribed fire in winter habitat will need to be designed to strategically reduce wildfire risk around and/or in the winter range and designed to protect winter range habitat quality."

MD FIRE-11: 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-14: 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; (2) the reduction of hazardous fuels; and (3) the introduction of fire into fire-adapted ecosystems.

Within Greater Sage-Grouse PHMA and RHMAs, only treatments that conserve, enhance, or restore Greater Sage-Grouse habitat will be allowed.

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.

A fire risk assessment will be completed for implementation of prescribed fire in relation to GRSG goals and objectives.

When prescribed fire is used for vegetation treatments, the burn plan will clearly indicate how COT objectives will be addressed and met by use of prescribed fire and why alternative techniques for vegetation treatment were not selected.

2.3.7 Energy &Mineral Resources: Solid Leasables (including Coal) (SL-Coal)

Management Decisions (MD)

MD SL-COAL-4: Terms and conditions will be applied to mining activities to meet land health standards for uplands, riparian areas and wetlands, water quality, air quality, and native plant and animal species (see BMPs in **Appendix H** and Greater Sage-Grouse Required Design Features in **Appendix C**).

MD SL-COAL-6: At the time an application for a new coal lease or lease modification is submitted to the BLM, the BLM will determine whether the lease application area is "unsuitable" for all or certain coal mining methods pursuant to 43 CFR, Part3461.5. PHMA is essential habitat for maintaining GRSG for purposes of the suitability criteria set forth at 43 CFR, Part3461.5(o)(1).

MD SL-COAL-8: Within Greater Sage-Grouse PHMA (Map 3-5) and RHMAs solid mineral leasing (coal) will only be allowed with the following lease stipulations:

- Mining may only occur via subsurface methods
- All mine related appurtenant facilities will be placed outside of the PHMA

MD SL-COAL-9: 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 will determine which lands may be available for further consideration for coal leasing and development. Appropriate NEPA analysis will be required prior to leasing. The existing RMP (BLM 1984) coal-screening management decisions are current and relevant to the application area. (See **Appendix M**)

2.3.8 Energy & Mineral Resources: Fluid Mineral Resources (FLUIDS)

Management Decisions (MD)

MD FLUIDS-15: Priority will be given to leasing and development of fluid mineral resources, including geothermal, outside of PHMA and GHMA. When analyzing leasing and authorizing development of fluid mineral resources, including geothermal, in PHMA and GHMA, and subject to applicable stipulations for the conservation of Greater Sage-Grouse, priority will be given to development in non-habitat areas first and then in the least suitable habitat for Greater Sage-Grouse (Map 2-4). The implementation of these priorities will be subject to valid existing rights and any applicable law or regulation, including, but not limited to, 30 U.S.C. 226(p) and 43 C.F.R. 3162.3-1(h).

MD FLUIDS-16: Where a proposed fluid mineral development project on an existing lease could adversely affect GRSG populations or habitat, the BLM will work with the lessees, operators, or other project proponents to avoid, reduce and mitigate adverse impacts to the extent compatible with lessees' rights to drill and produce fluid mineral resources. The BLM will work with the lessee, operator, or project proponent in developing an APD for the lease to avoid and minimize impacts on sage-grouse or its habitat and will ensure that the best information about the GRSG and its habitat informs and helps to guide development of such Federal leases.

MD FLUIDS-17: Where the federal government owns the mineral estate in PHMA and GHMA, and the surface is in non-federal ownership, apply the same stipulations, COAs, and/or conservation measures and RDFs applied if the mineral estate is developed on BLM-administered lands in that management area, to the maximum extent permissible under existing authorities, and in coordination with the landowner.

MD FLUIDS-18: Where the federal government owns the surface and the mineral estate is in non-federal ownership in PHMA and GHMA, apply appropriate surface use COAs, stipulations, and mineral RDFs through ROW grants or other surface management instruments, to the maximum extent permissible under existing authorities, in coordination with the mineral estate owner/lessee.

2.3.9 Energy & Mineral Resources: Locatable Minerals (LOC_MIN)

Goal LOC_MIN 1: *Encourage and facilitate development of locatable minerals in the manner to prevent unnecessary or undue degradation, as defined in 3809.5. Provide land use opportunities contributing to economic benefits while protecting or minimizing adverse impacts on other resources.*

Management Decisions (MD)

MD LOC_MIN-4: Terms and conditions will 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 (see Appendices B, C, D, E, F) for Greater Sage-Grouse specific measures). Note: All withdrawal actions (including mineral withdrawals) are processed in the Realty, Cadastral Survey, and Lands program. Restrictions applicable to locatable minerals are limited to the prevention of unnecessary or undue degradation, as defined in 43 CFR, Part3809.5.

2.3.10 Energy & Mineral Resources: Mineral Materials (Saleable) (SALE_MIN)

Goal SALE_MIN 1: *Provide land-use opportunities contributing to economic benefits and meet local infrastructure needs while protecting or minimizing adverse impacts on other resources and resource uses.*

Management Decisions (MD)

MD SALE_MIN-4: The following areas are closed to mineral material disposals (281,597 acres) (Maps 2-6 & 3-8):

- Four Dances Natural Area ACEC
- Petroglyph Canyon ACEC
- Pompeys Pillar ACEC
- Pryor Foothills RNA/ACEC
- Stark Site ACEC
- Weatherman Draw ACEC
- Lands with wilderness characteristics (LWC)
- Big Horn Tack-On WSA
- Burnt Timber Canyon WSA
- Pryor Mountain WSA
- Twin Coulee WSA (If Twin Coulee WSA is released from further consideration, the area may be open to mineral material disposals.)
- Greater Sage-Grouse PHMA - closed to new salable minerals sales; existing permits will be renewed with no increase in the permitted boundary. However, these areas remain "open" to free use permits and the expansion of existing active pits, only if the following criteria are met:
  - the activity is within the BSU and project area disturbance cap;
  - the activity is subject to the provisions set forth in the mitigation framework (**Appendix F**);
  - all applicable required design features are applied; and [if applicable] the activity is permissible under the specific sub-regional screening criteria
- Shepherd Ah-Nei Recreation Area
- Acton Recreation Area
- Asparagus Point

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

Management Decisions (MD)

MD R/LT-14: Lands classified as priority habitat and general habitat (or habitat classification appropriate for the sub-region) for Greater Sage-Grouse will be retained in federal management unless:

1) the agency can demonstrate that disposal of the lands, including land exchanges, will provide a net conservation gain to the Greater Sage-Grouse or

2) the agency can demonstrate that the disposal of the lands, including land exchanges, will have no direct or indirect adverse impact on conservation of the Greater Sage-Grouse. (Map 2-11)

MD R/LT-18: Manage 353,829 acres in Category II (which includes GRSG habitat) - Retention/Limited Land Ownership Adjustment (no land disposals through direct sale). Land exchanges will be considered. (Map 3-9)

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

Goal R/RLP 4: *Indirect effects of infrastructure will be minimized through time by siting informed by the best available science updated as monitoring information becomes available.*

Management Decisions (MD)

MD R/RLP-15: PHMA avoidance area for major and minor ROWs. (Maps 2-9 & 2-10)

- However ROWs will only be allowed in GRSG PHMA where habitat functionality will be maintained.

MD R/RLP-16: RHMA avoidance area for major and minor ROWs. (Maps 2-9& 2-10)

- However ROWs will only be allowed in GRSG RHMAs where habitat functionality will be maintained.

MD R/RLP-17: GHMA avoidance areas for major ROWs. (Maps 2-9 & 2-10)

- Utilities and similar facilities will be located adjacent to other facilities where practical and only when habitat can be maintained.

MD R/RLP-18: GHMA open to minor ROWs.

- Utilities and similar facilities will be located adjacent to other facilities where practical and only when habitat can be maintained.

MD R/RLP-21: Silver Tip Road in Carbon County will be designated as a ROW corridor (1,750 feet on either side of the center line of Silver Tip Road). This corridor will have a total width of 3,500 feet and 6 miles in length on public land, with the exception of the portion of this corridor occurring in the Elk Basin GRSG RHMA which will be 1,320 feet on either side of the center line of Silver Tip Road (total width of 2,640 feet) (Map 2-8).

MD R/RLP-23: ROW avoidance areas will include 378,958 acres (Maps 2-9, 2-10, 3-11):

- Castle Butte ACEC
- East Pryor ACEC
- Four Dances Natural Area ACEC
- Grove Creek ACEC

- Pompeys Pillar ACEC (General Management Zone - restricts ROW to a 500' wide path paralleling the southern boundary of the public lands along Highway 312)
- Pryor Foothills RNA/ACEC
- Stark Site ACEC Weatherman Draw (expansion area)
- Cave and karst areas will be managed as ROW avoidance areas.
- L&CNHT and NPNHT corridors will managed as ROW avoidance areas
- Asparagus Point, Steamboat Butte, 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)
- WSR eligible segments
- Big Horn Sheep Winter Range
- Big Game Winter Range
- Greater Sage-Grouse GHMA
- Greater Sage-Grouse PHMA and RHMAs will remain avoidance areas. However ROWs will only be allowed in Greater Sage-Grouse PHMA and RHMAs where habitat functionality will be maintained.

2.3.13 Realty, Cadastral Survey, and Lands – Withdrawals (R/WD)

Management Decisions (MD)

MD R/RWD-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 (**Appendix H**, BMPs) and GRSG Appendices (**Appendices B, C, D, E, F, G**) as appropriate).

2.3.14 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.*

Management Decisions (MD)

MD LG-9: In areas of resource conflicts, installation of structural range improvements will only be considered where grazing practices (change in season of use, reduction of AUMs, increased rest, etc.) are unable to resolve the resource concern. Structural range improvements could be considered where necessary to facilitate the change in grazing management practices. Existing range improvements will be evaluated and modified to address impacts on wildlife populations (e.g. Greater Sage-Grouse/fence conflicts).

MD LG-11: All allotments wholly located in Greater Sage-Grouse PHMA will be considered for retirement, where the base property owner relinquishes their preference.

MD LG-12: Site specific Greater Sage-Grouse habitat and management objectives will be developed for BLM land within Greater Sage-Grouse PHMA. These objectives will be incorporated into the respective allotment management plans (AMPs) or livestock grazing permits as appropriate. (Map 2-1)

MD LG-13: The NEPA analysis for renewals and modifications of livestock grazing permits/leases that include lands within PHMA will include specific management thresholds based on GRSG Habitat Objectives Table (**Table 2-6**) and Land Health Standards (43 CFR, Part4180.2) and one or more defined responses that will allow the authorizing officer to make adjustments to livestock grazing that have already been subjected to NEPA analysis.

MD LG-14: The BLM will prioritize (1) the review of grazing permits/leases, in particular to determine if modification is necessary prior to renewal, and (2) the processing of grazing permits/leases in PHMA. In setting workload priorities, precedence will be given to existing permits/leases in these areas not meeting Land Health Standards, with focus on those containing riparian areas, including wet meadows. The BLM may use other criteria for prioritization to respond to urgent natural resource concerns (ex., fire) and legal obligations.

MD LG-15: The NEPA analysis for renewals and modifications of livestock grazing permits/leases that include lands within PHMA will include specific management thresholds based on GRSG Habitat Objectives Table (**Table 2-6**) and Land Health Standards (43 CFR, Part4180.2) and ecological site potential, and one or more defined responses that will allow the authorizing officer to make adjustments to livestock grazing that have already been subjected to NEPA analysis.

MD LG-16: Allotments within PHMA, and focusing on those containing riparian areas, including wet meadows, will be prioritized for field checks to help ensure compliance with the terms and conditions of the grazing permits. Field checks could include monitoring for actual use, utilization, and use supervision.

MD LG-17: At the time a permittee or lessee voluntarily relinquishes a permit or lease, the BLM will consider whether the public lands where that permitted use was authorized should remain available for livestock grazing or be used for other resource management objectives, such as reserve common allotments or fire breaks. This does not apply to or impact grazing preference transfers, which are addressed in 43 CFR, Part4110.2-3.

2.3.15 Recreation and Visitor Services (REC)

Management Decisions (MD)

MD REC-15: In PHMA, do not construct new recreation facilities (e.g., campgrounds, trails, trailheads, staging areas) unless the development will have a net conservation gain to GRSG habitat (such as concentrating recreation, diverting use away from critical areas, etc.), or unless the development is required for visitor health and safety or resource protection

MD REC-27: 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.

2.3.16 Trails and Travel Management (TTM)

Management Decisions (MD)

MD TTM-24: Site specific travel planning within Greater Sage-Grouse PHMA will be completed within a five (5) year period after the ROD is signed where it hasn't already been completed as part of this plan.

MD TTM-25: In PHMA and GHMA, temporary closures will be considered in accordance with 43 CFR subpart 8364 (Closures and Restrictions); 43 CFR subpart 8351 (Designated National Area); 43 CFR subpart 6320 (Use of Wilderness Areas, Prohibited Acts, and Penalties); 43 CFR subpart 8341 (Conditions of Use).

Temporary closure or restriction orders under these authorities are enacted at the discretion of the AO to resolve management conflicts and protect persons, property, and public lands and resources. Where an AO determines that 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, other authorized uses, or other resources, the affected areas shall 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. (43 CFR, Part8341.2) A closure or restriction order should be considered only after other management strategies and alternatives have been explored. The duration of temporary closure or restriction orders should be limited to 24 months or less; however, certain situations may require longer closures and/or iterative temporary closures. This may include closure of routes or areas.

<u>Gage Dome/Colony Road TMA</u>

MD TTM-47: Management Objectives: reduce road density to minimize impacts on Greater Sage-Grouse habitat and other resource values. Manage the TMA to provide recreational opportunities and access while protecting Greater Sage-Grouse habitat

<u>Cottonwood/Weatherman Draw TMA</u>

MD TTM-58: This area will 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 on 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 on Greater 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 on fragile and erosive soils, and other resource values

Warren TMA

MD TTM-60: Management Objectives: to provide recreational opportunities with emphasis on protecting key Greater Sage-Grouse habitat while minimizing impacts on other resources values. Maintain current level of access.

Grove Creek TMA

MD TTM-62: Management Objectives: to minimize impacts on geologic and visual resources, special status plants, and cultural and wildlife values, including Greater Sage-Grouse, while providing casual, non-commercial public recreational access.

2.3.17 Renewable Energy (Wind/Solar) (RE)

Management Decisions (MD)

MD RE-5: Manage 231,755 acres as exclusion areas (closed) to renewable energy authorizations, including:

- WSAs*
  - Big Horn Tack-On WSA
  - Burnt Timber Canyon WSA
  - Pryor Mountain WSA
  - Twin Coulee WSA
    - *If released by an Act of Congress, lands within WSA boundaries will remain closed.
- National Historic Trails
  - Nez Perce NHT
  - Lewis & Clark NHT
- ACECs
  - Bridger Fossil Area ACEC
  - Castle Butte ACEC
  - East Pryor ACEC
  - Four Dances Natural Area ACEC
  - Grove Creek ACEC
  - Meeteetse Spires ACEC
  - Petroglyph Canyon ACEC
  - Pompeys Pillar ACEC
  - Pryor Foothills RNA ACEC
  - Stark Site ACEC

  - Weatherman Draw ACEC
- WSR Eligible/Suitable Segments
- LWC
- PMWHR
- Cultural Sites
  - Steamboat Butte
  - Bruder-Janich Site
  - Paul Duke Site
  - Demi-John Flat NR District
  - Bighorn Mouth North Cliffs Rock Art Site
  - Hoskins Basin Archaeological District
- VRM Class I areas
- GRSG PHMA
- Elk Basin GRSG RHMA

MD RE-6: Manage 200,278 acres as avoidance areas for renewable energy authorizations, subject to special stipulations and mitigation beyond standard stipulations and BMPs applied through site-specific analysis.

Special stipulations and mitigation include provisions such as TLs, CSU, and other constraints/restrictions consistent with fluid minerals stipulations that will be applied to protect the following particular resources/habitats:

- GRSG GHMA
- GRSG RHMAs outside of Elk Basin
- Bald/Golden Eagles
- Ferruginous Hawks
- Greater Sage-Grouse Winter Range
- Big Game Winter Range
- Big Game Parturition
- Bighorn Sheep Habitat
- Sharp-tailed grouse
- Peregrine Falcon
- Mountain Plover
- Raptor Nests
- Other avoidance areas include:

- Asparagus Point, Steamboat Butte, Portion of Acton, Portion of Shepherd Ah-Nei, Bad Canyon, East and Red Pryor Mountains,
- Cave and Karst areas
- VRM Class II areas
- Within ¼ mile of riparian areas and wetlands, designated 100 year flood plains and on water bodies and streams, unless activities are not in conflict with desired outcomes.
- Surface disturbance on slopes >30%, soils with low reclamation potential, and highly erodible characteristics will be avoided whenever possible. If disturbance could not be avoided an approved mitigation and reclamation plan will be required prior to activities taking place.
- TLs apply to development of facilities, but not to operation or maintenance.

CHAPTER 3
APPROVED RESOURCE MANAGEMENT PLAN

3.1 APPROVED RESOURCE MANAGEMENT PLAN INSTRUCTIONS

The ARMP is now the baseline plan for management for the BiFO in South Central Montana and Northern Wyoming.

Once an RMP is approved, a plan may be changed through amendment. An amendment is initiated by the need to consider monitoring and evaluation findings, new data, new or revised policy, or a change in circumstances. It may also be initiated by a proposed action that may result in a change in the scope of resource uses or a change in the terms, conditions, and decisions of the approved plan. If the BLM proposes to amend the plan, the amending process will follow the same procedure required for preparation and approval of the plan, but the focus is limited to that portion of the plan being amended (43 CFR, Part 1610.5-5).

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

The BLM decisions in this document do not change existing rights or authorizations (e.g. terms and conditions of existing oil and gas leases or rights-of-ways (ROWs)). However, post-lease actions or authorizations (e.g., application for permit to drill, (APD) road ROW, pipeline ROW) will potentially be subject to mitigation measures, as necessary, consistent with the decisions, on a case-by-case basis as required through project-specific National Environmental Policy Act (NEPA) analysis or other environmental review. The stipulations or COA are in accordance with applicable laws, regulations, and if applicable lease terms.

All future resource authorizations and actions in GRSG habitat will conform to, or be consistent with the decisions contained in this ARMP. All existing 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 valid existing rights on

public lands. A valid existing right 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 Environmental Impacts Statements (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 in the BiFO.

3.2.1 Physical, Biological, and Cultural/Heritage Resources

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 NAAQS, MAAQS, and the Montana State Implementation Plan (MSIP).*

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 (See* ***Appendix P****, Air Quality Resource Management Plan).*

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, WAAQS, and the Montana 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*: For oil and gas activities, reduce GHG emissions on a unit-production basis.*

Goal CC-2: *Evaluate the observed and anticipated ling-term dynamic of climate change and reduce GHG emissions from projects when feasible.*

Goal CC-3: *Provide for diverse, healthy ecosystems that are resilient to stressors, such as climate change.*

Goal CC-4: *Provide for flexible, adaptable management that allows for timely responses to changing climatic conditions.*

Goal CC-5: *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: Identify opportunities for geophysical carbon sequestration on federal lands where federal mineral ownership exists as outlined in national guidance.

MD CC-3: The BLM authorized activities will consider the use of BMPs to reduce emissions of GHGs.

MD CC-4: 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-5: 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 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: Surface disturbance on slopes >25%, soils with low reclamation potential, and highly erodible characteristics will be avoided whenever possible. If disturbance could not be avoided an approved mitigation and reclamation plan will be required prior to activities taking place.

MD SOIL-7: 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.).

MD SOIL-8: Mitigate impacts on sensitive soils for oil and gas leasing and development (CSU)

MD SOIL-9: Surface occupancy and use for oil and gas exploration and development will be prohibited on badlands and rock outcrops. (NSO)

MD SOIL-10: Use BMPs and Rangeland Health Standards at the project level to assess and mitigate impacts on fragile and unstable soils prone to slumping.

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/TMDL plans.

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

MD WATER-3: Use BMPs 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 Montana State DEQ 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 AO, 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: Surface occupancy and use for oil and gas exploration and development will be prohibited within State-designated Source Water Protection Areas (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 and BMPs 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 Montana DEQ 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 FH & SSS-14 and MD WATER-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 on 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-15 and MD VEG/R&W-7)

Vegetation: Forests and Woodlands (VEG/F&W)

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

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

Goal VEG/F&W 5: *Return forests toward a more natural forest condition class and fire regime by implementing treatments that move forest conditions toward FRCC1.*

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

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

Goal VEG/F&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 VEG/F&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 VEG/F&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 VEG/F&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 VEG/F&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: Remove conifers encroaching into sagebrush habitats, in a manner that considers tribal cultural values. Prioritize treatments closest to occupied sage-grouse habitats and near occupied leks, and where juniper encroachment is phase 1 or phase 2. Use of site-specific analysis and principles like those included in the FIAT report (Chambers et. al., 2014) and other ongoing modeling efforts to address conifer encroachment will help refine the location for specific priority areas to be treated.

MD VEG/F&W-9: Wheeled and tracked vehicle operation will be avoided on sustained slopes greater than 25% whenever possible. If operations could not be avoided, an approved mitigation and reclamation plan will be required prior to activities taking place.

MD VEG/F&W-10: Will allow operations on approx. 60% of forested acres not restricted by WSAs or ACECs.

MD VEG/F&W-11: 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-12: 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-13: 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.*

Goal VEG/R&S 4: *Promote recovery and restoration of sagebrush communities after wildfire events.*

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.

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: Identify priority treatment areas for conifer encroachment, including big game winter range, WUIs, current and historic sagebrush habitat, forest meadows and bighorn sheep habitat.

MD VEG/R&S-4: 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. Treat areas that contain cheatgrass and other invasive or noxious species to minimize competition and favor establishment of desired species.

MD VEG/R&S-5: Native seed will be used for all restoration and rehabilitation efforts unless site specific objectives dictate otherwise.

MD VEG/R&S-6: Within Greater Sage-Grouse PHMA, only treatments that conserve, enhance, or restore Greater Sage-Grouse habitat will be allowed. 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.

MD VEG/R&S-7: In PHMA, the desired condition is to maintain all lands ecologically capable of producing sagebrush (but no less than 70%) with a minimum of 15% sagebrush cover or as consistent with specific ecological site conditions. The attributes necessary to sustain these habitats are described in Interpreting Indicators of Rangeland Health (BLM Tech Ref 1734-6).

MD VEG/R&S-8: A variety of treatment methods, including mechanical, chemical, biological and prescribed fire (including wildfire), will be used if the treatment will achieve a diversity of habitat components within sagebrush communities.

MD VEG/R&S-9: A target of eight percent of crested wheatgrass acres (approximately 2,378 acres) will be converted to native sagebrush/grassland over the life of the plan.

- Preferred treatment areas will 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.
- Priority treatment areas will be in GRSG PHMA, RHMAs, and GHMA.

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 3-1).*

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 PFC. (**Appendix Z**)

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 AO, 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
- Riparian areas within GRSG PHMA

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 FH & SSS-14 and 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-15 and MD WATER-13)

MD VEG/R&W-8: Surface occupancy and use for oil and gas exploration and development (including geophysical operations) will be prohibited within ¼ mile of designated reservoirs with fisheries. (NSO) (same as MD FH & SSS-17)

MD VEG/R&W-9: Surface occupancy and use for oil and gas exploration and development (including geophysical operations) will be prohibited within ½ mile of Blue Ribbon streams and YCT populations (NSO) (same as MD FH & SSS-16)

MD VEG/R&W-10: 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 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).*

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 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: Oil and gas leases will be inventoried for noxious and/or invasive weeds, monitoring will occur throughout the duration of the project to prevent the spread and introduction of noxious and/or invasive weeds, and project activities must be designed to minimize soil disturbance. (LN)

MD VEG/IS&NW-12: Oil and gas leases will be subject to constraints should noxious and/or invasive weeds be identified within the boundaries of the lease parcel (CSU).

MD VEG/IS&NW-13: When possible, hand spray herbicides in areas of special status species (plants and animals)

MD VEG/IS&NW-14: 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-15: 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 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.

MD VEG/IS&NW-16: 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-17: 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-18: 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-19: 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-20: 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-21: 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-22: 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-23: 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).

Vegetation: Special Status Plants (Veg/SSP)

Goal Veg/SSP 1: *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.*

Goal Veg/SSP 2: *Protect or enhance areas of ecological importance for special status plant species. Manage for no net loss of habitat for any special status plant species.*

Goal Veg/SSP 3: *Conserve and recover special status plant species by determining and implementing strategies, restoration opportunities, use restrictions, and management actions.*

Goal Veg/SSP 4: *Manage specific environmental hazards, risks, and impacts in a manner compatible with special status plant species health.*

Management Decisions (MD)

MD Veg/SSP-1: BLM-authorized activities should maintain or improve habitat for Federally listed threatened, endangered, and special status plants.

MD Veg/SSP-2: Conduct inventory and monitoring to determine extent and trend of special status plant populations.

MD Veg/SSP-3: Habitats of special status plants will be managed to meet or exceed the Montana Standard for Rangeland Health (Standard 5).

MD Veg/SSP-4: Increase public awareness of special status plants through outreach, tours, and brochures.

MD Veg/SSP-5: 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 will be affected.

MD Veg/SSP-6: Evaluate all BLM-authorized activities for potential effects on special status plants.

Conduct on-site inventory if potential special status plant habitat is known to be present.

MD Veg/SSP-7: On-site examination will be required prior to oil and gas leasing, exploration and/or development surface disturbing activities (CSU).

MD Veg/SSP-8: Mineral material sales will be allowed on a case-by-case basis by permit only. Mitigation may be required as appropriate.

MD Veg/SSP-9: No supplement or salt placement within ¼ mile of known special status plant sites, unless livestock is otherwise excluded (fence or barrier).

MD Veg/SSP-10: Additional management actions related to Special Status Plants can be found under Special Designations - Areas of Critical Environmental Concern (ACECs) section under the East Pryor ACEC, Grove Creek ACEC, Meeteetse Spires ACEC, and Pryor Foothills Research Natural Area (RNA) ACEC.

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 L**)*

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 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 WMA.

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: *Provide for the long-term conservation, enhancement, and restoration of the sagebrush steppe/mixed-grass prairie complex in a manner that supports sustainable Greater Sage-Grouse populations and a healthy diversity and abundance of wildlife species.*

Goal WLH & SSS 9: *Coordinate with other agencies to prevent or control diseases, pests and species that threaten the health of humans, wildlife, livestock, and vegetation.*

Goal WLH & SSS 10: *Priority Habitat Management Areas (PHMA) for Greater Sage-Grouse habitat: to maintain or improve Greater Sage-Grouse populations by maintaining Greater Sage-Grouse habitat in good condition.*

Goal WLH & SSS 11: *Greater Sage-Grouse Restoration Habitat Management Areas (RHMAs): In these areas, BLM will manage habitat so that Greater Sage-Grouse populations can be restored over the long-term. BLM will strive to restore historical Greater Sage-Grouse habitat functionality, or at a minimum, have no net loss of Greater Sage-Grouse habitat, to support Greater Sage-Grouse populations.*

Goal WLH & SSS 12: *Greater Sage-Grouse Habitat: General Habitat Management Areas (GHMA): BLM will maintain habitat for viable Greater Sage-Grouse populations to promote movement and genetic diversity. Maintain, restore or enhance Greater Sage-Grouse habitat and connectivity between sagebrush habitats, with emphasis on those habitats occupied by Greater Sage-Grouse.*

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 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.

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: COAs will be applied to all Applications for Permit to Drill (APDs) for Special Status Species.

MD WLH & SSS-8: 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-9: 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-10: 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-11: Where wildlife conflicts exist, overhead power lines and tall structures will follow the recommendations in the APLIC guidelines. When possible, perch, collision, and electrocution preventions will be used.

MD WLH & SSS-12: Functional wildlife escape ramps will be installed on all water tanks on BLM-administered public lands with preference given to built-in bird ramps in new troughs/ tanks.

MD WLH & SSS-13: 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-14: 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-15: Caves and abandoned mines will be inventoried for bat habitation. The BLM will determine the need for closures or seasonal closures for activities affecting caves and abandoned mines. Hibernacula and maternity cave closure dates will be determined when the inventory is completed.

MD WLH & SSS-16: Bat gates or other suitable measures will 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.

MD WLH & SSS-17: Clearing of vegetation, will not be allowed within 250 feet of the entrance of caves and abandoned mines with populations of bats except for public safety and vegetation will only be removed for installing bat gates, noxious weed control, or when it becomes an obstruction to bat movement.

MD WLH & SSS-18: Areas that will be targeted for conversion from crested wheatgrass to native sagebrush/grasslands will be areas that have high wildlife habitat potential, particularly for Greater Sage-Grouse, big game, and other sagebrush obligate species, and are currently monocultures with little vegetation diversity.

MD WLH & SSS-19: Predator control will 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 will be subject to the same stipulations as applied to those counties where predators are managed by USDA-APHIS.

MD WLH & SSS-20: 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-21: Unoccupied raptor nests will be protected from removal or destruction for 7 years.

MD WLH & SSS-22: Surface disturbing and disruptive activities that impact special status species, particularly during critical life cycles, will be avoided or minimized.

MD WLH & SSS-23: Water developments, where deemed effective, will be managed to reduce the spread of West Nile virus

MD WLH & SSS-24: 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.

MD WLH & SSS-25: Oil and gas timing stipulations will not apply to operation and maintenance of production facilities. If environmental analysis determines that the operations and maintenance of oil and gas production facilities results in surface disturbing and disruptive activities or impacts, mitigation of these types of oil and gas activities will be applied where needed through COAs to minimize impact of human activities on important seasonal wildlife habitat.

MD WLH & SSS-26: Designated Crucial Winter Ranges will be used in lieu of CAPS data when the data is available. Any references to CAPS data will be updated when Crucial Winter Ranges are designated.

MD WLH & SSS-27: Mitigation of surface-disturbing or disrupting activities (including operations and maintenance associated with fluid mineral development) will be applied where needed to minimize impacts of human activities on important seasonal wildlife habitats, consistent with the wildlife stipulations outlined in the Wildlife / Special Status Species and Fluid Minerals sections of Chapter 2 of the PRMP/FEIS. Mitigation measures will be applied during activity level planning if an on-site evaluation of the project area indicates the presence of important wildlife species.

Exceptions may be granted by the AO, if an environmental review demonstrates that effects could be mitigated to an acceptable level, habitat for the species is not present in the area, or portions of the area can be occupied without affecting a particular species. Exceptions may also be granted where the short-term effects are mitigated by the long-term benefits (e.g., prescribed fire, wildlife monitoring, or forest health treatments).

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 WLH & SSS-28: Where environmental analysis and monitoring demonstrate a continued need for mitigation or insufficient mitigation measures are present for impacts on wildlife, restrictions could be applied to the operation and maintenance of production facilities or other projects.

MD WLH & SSS-29: Monitor areas with wildlife habitat conflicts on an annual basis. Identify all/any activities leading to causal factors for not achieving Standard 5. Where Standard 5 is not being met, guidelines will be applied within 1 year to make progress toward meeting the Standard.

Sprague's Pipit Habitat

MD WLH & SSS-32: Surface-disturbing and disruptive activities will be avoided from April 15 through July 15 in Sprague's pipit habitat. (TL)

MD WLH & SSS-33: Surface use for oil and gas exploration, (including geophysical exploration) is prohibited from April 15 through July 15 in Sprague's pipit habitat. (TL)

Migratory Bird Treaty Act

MD WLH & SSS-34: The oil and gas operator is responsible for compliance with provisions of the Migratory Bird Treaty Act (LN)

Power lines

MD WLH & SSS-35: 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. line location).

State Wildlife Management Areas, Fishing Access Sites, and State Parks

MD WLH & SSS-36: Surface occupancy and use for oil and gas exploration and development will be prohibited in designated State WMAs, Fishing Access Sites, and State Parks (NSO).

Elk Calving

MD WLH & SSS-37: Elk Calving: Prior to surface occupancy and use a plan will be prepared by the proponent as a component of the APD, Sundry Notice, etc., and approved by the AO in coordination with MTFWP. The operator will not initiate surface disturbing activities unless the AO has approved the plan. The plan must demonstrate to the AO's satisfaction that the function and suitability of the habitat will not be impaired (CSU).

Crucial Winter Range

(antelope, elk, moose, bighorn sheep, mule deer, whitetail deer, and Greater Sage-Grouse)

MD WLH & SSS-38: Crucial Winter Range: Surface occupancy and use for oil and gas exploration and development will be prohibited in crucial winter range (NSO).

Big Game Winter Range

(antelope, elk, moose, bighorn sheep, mule deer, and whitetail deer)

MD WLH & SSS-39: Big Game Winter Range: Prior to surface occupancy and use a plan will be prepared by the proponent as a component of the APD, Sundry Notice, etc. and approved by the AO in coordination with the state wildlife management agency. The operator will not initiate surface-disturbing activities unless the AO has approved the plan. The plan must demonstrate to the AO's satisfaction the function and suitability of the habitat will not be impaired. (CSU)

MD WLH & SSS-40: Big Game Winter Range: There will be no net increase in permanent roads built in areas where open road densities are 1 mi/mi2 or less in big game winter range habitat (Maps 15-20 of the B&PPNM PRMP/FEIS) and parturition ranges, unless not possible due to conflicts with valid existing rights. All practicable measures will be taken to assure that important habitats with low road densities remain in that condition.

MD WLH & SSS-41: Big Game Winter Range: BLM will manage to reduce open road densities in big game winter range (Maps 15-20 of the B&PPNM PRMP/FEIS) and calving ranges where they exceed 1 mi/mi2. Roads will be gated during crucial seasons, closed and/ or reclaimed.

MD WLH & SSS-42: Big Game Winter Range: Over the snow vehicles will be prohibited in big game winter range.

Bighorn Sheep Range and Bighorn Sheep Lambing Areas

MD WLH & SSS-43: Bighorn Sheep Range and Bighorn Sheep Lambing Areas Surface occupancy and use for oil and gas exploration and development will be prohibited within bighorn sheep lambing areas. (NSO)

MD WLH & SSS-44: Bighorn Sheep Range and Bighorn Sheep Lambing Areas: Prior to surface occupancy and use a plan will be prepared by the proponent as a component of the APD, sundry notice, etc., and approved by the AO in coordination with the state wildlife management agency. The operator will not initiate surface-disturbing activities unless the AO has approved the plan. The plan must demonstrate to the AO's satisfaction that the function and suitability of the habitat will not be impaired. (CSU)

MD WLH & SSS-45: Bighorn Sheep Range and Bighorn Sheep Lambing Areas: Domestic sheep/goat permits – No new grazing permits authorizing sheep or goats will be allowed within 14.3 air miles or 23 kilometers in bighorn sheep range (Map 17 of the B&PPNM PRMP/FEIS) or as determined through consultation with MTFWP.

Sheep and goat grazing allotments in areas with risk of contact between bighorn sheep and domestic sheep and/or goats in the planning area will be reviewed and managed, or reclassified if necessary, to achieve effective separation (both temporal and/or spatial at 23 kilometers (14.3 miles) or as determined through consultation with MTFWP. Contact risk will be based on habitat, distance between bighorn sheep range (current and anticipated), sheep and goat allotments, movement potential, and current science and guidelines. Domestic sheep/goats will not be allowed within bighorn sheep range unless mechanisms are in place to achieve effective separation from wild sheep.

Raptor Nests

(Applies to Special Status Species including ferruginous hawk, burrowing owl, great grey owl, Swainson's hawk, northern goshawk, and osprey (Bald Eagles and peregrine falcons are addressed separately) (note: Special Status Species designations can change)

MD WLH & SSS-46: Raptor Nests: Surface occupancy and use for oil and gas exploration and development will be prohibited within ¼ mile of raptor nest sites active within the preceding 7 years. (NSO)

MD WLH & SSS-47: Raptor Nests: Surface occupancy and use will be prohibited within ½ mile of active raptor nest sites from March 1 through July 31. (TL)

Sharp-tailed Grouse Leks and Nesting Habitat:

MD WLH & SSS-48: Sharp-tailed Grouse Leks and Nesting Habitat: Surface occupancy and use for oil and gas exploration and development will be prohibited on and within ½ mile of the perimeter of leks. (NSO)

MD WLH & SSS-49: Sharp-tailed Grouse Leks and Nesting Habitat: Surface use is prohibited within 2 miles of the perimeter of sharp-tailed grouse and/or greater prairie chicken leks from April 1 through July 15. (TL)

Special Status Species

MD WLH & SSS-50: Special Status Species: All federally listed and BLM sensitive species and their habitats will be considered priority species and habitats.

MD WLH & SSS-51: 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-52: 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-53: 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.

MD WLH & SSS-54: Special Status Species: Water developments, and discharge water from energy development, where deemed effective, will be managed with BMPs to reduce the spread of West Nile virus

MD WLH & SSS-55: Special Status Species: The BLM will require, as appropriate, a current year wildlife survey of the project area from the project proponent.

MD WLH & SSS-56: Special Status Species: 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. 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. 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. 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 ESA as amended, 16 U.S.C. § 1531 et seq., including completion of any required procedure for conference or consultation. (LN)

<u>Special Status Species: Potential Black-Footed Ferret Habitat</u>

MD WLH & SSS-57: Special Status Species: Potential Black-Footed Ferret Habitat- Black-footed ferret habitat is defined as prairie dog colonies within 1.5 km of each other and comprising of 1,500 acres.

MD WLH & SSS-58: Special Status Species: Potential Black-Footed Ferret Habitat: Surface occupancy and use for oil and gas exploration and development (including geophysical exploration) will be prohibited within ¼ mile of black-footed ferret habitat (NSO).

<u>Special Status Species: Black-tailed and White-tailed Prairie Dogs</u>

MD WLH & SSS-59: Special Status Species: Black-tailed and White-tailed Prairie Dogs- Management of prairie dog colonies on public lands will be subject to the Conservation Plan for Black-tailed and White-tailed Prairie Dogs in Montana. White-tailed prairie dogs will be considered a priority for management due to limited and declining populations in Montana.

MD WLH & SSS-60: Special Status Species: Black-tailed and White-tailed Prairie Dogs - Surface occupancy and use for oil and gas exploration and development will be prohibited within ¼ mile of prairie dog colonies active within the past 10 years. (NSO)

MD WLH & SSS-61: Special Status Species: Prairie Dog Habitat - Prairie dog colonies will be managed for maintenance of populations where the public has access. Control measures will be considered with the following criteria**:

Prairie dog towns will be allowed to expand as long as they are not adversely impacting adjacent private or state land, other resources, or affecting Standards for Rangeland Health (Appendix AC**).

Prairie dog towns will be adversely impacting other resources, and controls could be considered, if the towns are:

- The source of or an exacerbation of invasive or noxious plants;
- Substantially limiting forage and/or important habitat for wildlife species in the immediate area;
- Substantially limiting forage for livestock in the immediate area;
- Overriding the effectiveness of other management measures; or
- Posing a substantial economic hardship or risk for other landowners, resulting from the need to control populations on private or state land because of prairie dogs on adjacent BLM land.

Controls will not occur where mountain plover or burrowing owls have been documented using established habitat. Prairie dogs could be reestablished on historic towns that have been eradicated or that have died out due to sylvatic plague. Specific actions to address adverse impacts on or from prairie dogs will be addressed through a site-specific EA.

Special Status Species: Mountain Plover

MD WLH & SSS-62: Special Status Species: Mountain Plover - Surface occupancy and use for oil and gas exploration and development will be prohibited within mountain plover habitat (NSO)

MD WLH & SSS-63: Special Status Species: Mountain Plover - Surface use is prohibited within ¼ mile of mountain plover habitat from April 1 through July 15. (TL)

Special Status Species: Interior Least Tern

MD WLH & SSS-64: Special Status Species: Interior Least Tern - Surface occupancy and use for oil and gas exploration and development will be prohibited within ¼ mile of wetlands identified as Interior Least Tern habitat. (NSO)

Special Status Species: Peregrine Falcon

MD WLH & SSS-65: Special Status Species: Peregrine Falcon - Surface occupancy and use for oil and gas exploration and development (including geophysical exploration) will be prohibited within 1 mile of peregrine falcon nest sites active within the preceding 7 years. (NSO)

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

MD WLH & SSS-66: 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-67: 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-68: 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).

MD WLH & SSS-69: Special Status Species: Bald Eagle Nests - Surface occupancy and use for oil and gas exploration and development will be prohibited within ½ mile of eagle nest sites active within the preceding 5 years unless the activity complies with the USFWS National Bald Eagle Management Guidelines (2007). (NSO)

Special Status Species: Greater Sage-Grouse

MD WLH & SSS-70: Special Status Species: Greater Sage-Grouse - Refer to crested wheatgrass conversion alternative in the Vegetation- Rangelands section of this table. Acreages and priorities for conversion or treatments are discussed. Greater Sage-Grouse habitat is a priority for crested wheatgrass conversions or treatments.

MD WLH & SSS-71: Special Status Species: Greater Sage-Grouse - In all sage-grouse habitat, in undertaking BLM management actions, and consistent with valid existing rights and applicable law, in authorizing third-party actions that result in habitat loss and degradation, the BLM will require and ensure mitigation that provides a net conservation gain to the species including accounting for any uncertainty associated with the effectiveness of such mitigation. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions. Actions which result in habitat loss and degradation" include those identified as threats which contribute to Greater Sage-Grouse disturbance as identified by the USFWS in its 2010 listing decision (75 FR 13910) and shown in Table 2 in the attached Monitoring Framework (**Appendix D**).

MD WLH & SSS-72: Special Status Species: Greater Sage-Grouse - Vegetation objectives have been identified for sage-grouse breeding (leks, pre-laying, nesting and early brood-rearing) habitat on public land. The desired conditions for sage-grouse habitat presented are based on recommendations in current literature (Stiver, et al. 2014, Doherty, et al. 2014, Doherty, et al. 2011, Connelly, et al. 2000, and Hagen, et al. 2007) and have been modified to more accurately reflect local conditions based on the vegetative potentials identified for ecological sites in the BiFO. **Table 2-6**, Billings Field Office Greater Sage-Grouse Habitat Objectives, is to be used as a minimum to meet the applicable Land Health Standard in sage-grouse habitats.

MD WLH & SSS-73: Special Status Species: Greater Sage-Grouse –

- These habitat objectives in **Table 2-6** summarize the characteristics that research has found represent the seasonal habitat needs for Greater Sage-Grouse. The specific seasonal components identified in the Table were adjusted based on local science and monitoring data to define the range of characteristics used in this sub-region. Thus, the habitat objectives provide the broad vegetative conditions we strive to obtain across the landscape that indicate the seasonal habitats used by sage-grouse. These habitat indicators are consistent with the rangeland health indicators used by the BLM.
- The habitat objectives will be part of the sage-grouse habitat assessment to be used during land health evaluations (**Appendix D**, Monitoring Framework). These habitat objectives are not obtainable on every acre within the designated GRSG habitat management areas. Therefore, the determination on whether the objectives have been met will be based on the specific site's ecological ability to meet the desired condition identified in the table.
- All BLM use authorizations will contain terms and conditions regarding the actions needed to meet or progress toward meeting the habitat objectives. If monitoring data show the habitat objectives have not been met nor progress being made towards meeting them, there will be an evaluation and a determination made as to the cause. If it is determined that the authorized use is a cause, the use will be adjusted by the response specified in the instrument that authorized the use.
- This information should not be viewed as providing standards by which to judge the overall quality of sagebrush habitats. Instead, these sage-grouse habitat characteristics should be used as one tool for assessing habitats and guiding management actions. There is a tendency to review each indicator and its suitability category independently, but site suitability is determined by the relationship among the several indicator values in each matrix and the relative abundance of habitat types across the landscape. It is important to understand that the desired conditions described for these habitat types are based on average plant productivity and structural data and expert opinion relative to sage-grouse use of a subset of sagebrush communities and they may not apply to all sagebrush communities in the planning area variation (Davies et al. 2006). These measures also do not account for inter-annual climate variation (Davies et al. 2006). Individual indicator values do not define site suitability and overall site suitability descriptions require an interpretation of the relationships between the indicators and other factors. Professional expertise and judgment are required. Measurement of these objectives will follow the steps described in Appendices B, C, D, E, F, G.

MD WLH & SSS-74: Special Status Species: Greater Sage-Grouse - As described above, the identified habitat objectives are averages and will vary based on the individual ecological sites and their potential. Ecological sites are the basic component of a land-type classification system that describes ecological potential and ecosystem dynamics of land areas. All land/land use types are identified within the ecological site system, including rangeland, pasture, and forest land. An ecological site is defined as a distinctive kind of land with specific soil and physical characteristics that differ from other kinds of land in its ability to produce a distinctive kind and amount of vegetation and its ability to respond similarly to management actions and natural disturbances. Lands are classified considering discrete physical and biotic factors. Physical factors include soils, climate, hydrology, geology, and physiographic features. Biotic factors include plant species occurrence, plant community compositions, annual biomass production, wildlife-vegetation interactions, and other factors. Ecological dynamics, primarily disturbance

regimes, such as grazing; fire; drought; management actions; and all resulting interactions are also a primary factor of ecological sites. Information and data pertaining to a particular ecological site is organized into a reference document known as an ESD. ESDs function as a primary repository of ecological knowledge regarding an ecological site. ESDs are maintained on the NRCS Ecological Site Information System (ESIS), which is the repository for information associated with ESDs and the collection of all site data (https://esis.sc.egov.usda.gov/Welcome/pgESDWelcome.aspx). The ESD can help interpret if a site's potential is less than or greater than the identified habitat objectives.

MD WLH & SSS-75: Special Status Species: Greater Sage-Grouse - In addition to the references identified in the following table, the Conservation Plans developed for each of the Wyoming Local Sage-Grouse Working Groups will be consulted to identify specific habitat objectives appropriate for site-specific conditions. The Conservation Plans, updated in March 2014, are available on the Wyoming Game and Fish Department (WGFD) website at: https://wgfd.wyo.gov/web2011/wildlife-1000817.aspx.

MD WLH & SSS-76: Special Status Species: Greater Sage-Grouse - All BLM use authorizations will contain terms and conditions regarding the actions needed to meet or progress toward meeting the habitat objectives. If monitoring data show the habitat objectives have not been met nor progress being made towards meeting them, there will be an evaluation and a determination made as to the cause. If it is determined that the authorized use is a cause, the use will be adjusted by the response specified in the instrument that authorized the use.

MD WLH & SSS-77: Special Status Species: Greater Sage-Grouse - Surface occupancy and use for oil and gas exploration and development will be prohibited within Greater Sage-Grouse crucial winter range (NSO).

MD WLH & SSS-78: Special Status Species: Greater Sage-Grouse –

- If the 3% anthropogenic disturbance cap is exceeded on lands (regardless of land ownership) within GRSG PHMA in any given BSU, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the 1872 hard rock mining law, valid existing rights, etc.) will be permitted by BLM within GRSG PHMA in any given BSU until the disturbance has been reduced to less than the cap.
- If the BLM determines that the State of Montana has adopted a GRSG Habitat Conservation Program that contains comparable components to those found in the State of Wyoming's Core Area Strategy including an all lands approach for calculating anthropogenic disturbances, a clear methodology for measuring the density of operations, and a fully operational Density Disturbance Calculation Tool, the 3% disturbance cap will be converted to a 5% cap for all sources of habitat alteration within a project analysis area.
- If the 3% disturbance cap is exceeded on all lands (regardless of land ownership) within a proposed project analysis area in PHMA, then no further anthropogenic disturbance will be permitted by BLM until disturbance in the proposed project analysis area has been reduced to maintain the area under the cap (subject to applicable laws and regulations, such as the 1872 hard rock mining law, valid existing rights, etc.). Within existing designated utility corridors, the 3% disturbance cap may be exceeded at the project scale if the site specific NEPA analysis indicates that a net conservation gain to the species will be achieved. This exception is limited to projects which fulfill the use for which the corridors were designated

(ex., transmission lines, pipelines) and the designated width of a corridor will not be exceeded as a result of any project co-location.

MD WLH & SSS-79: Special Status Species: Greater Sage-Grouse PHMA- Establish Greater Sage-Grouse PHMA (158,926 acres of BLM-administered lands and 205,254 acres of federal minerals). These PHMA are generally consistent with MTFWP Greater Sage-Grouse core area designations, with the exception of one small area in southern Carbon County near Elk Basin Oil field (Map 2-1).

MD WLH & SSS-80: Special Status Species: Greater Sage-Grouse PHMA- In all PHMA the desired condition is to maintain all lands ecologically capable of producing sagebrush (but no less than 70%) with a minimum of 15% sagebrush cover or as consistent with specific ecological site conditions. The attributes necessary to sustain these habitats are described in Interpreting Indicators of Rangeland Health (BLM Tech Ref 1734-6).

MD WLH & SSS-81: Special Status Species: Greater Sage-Grouse PHMA- In undertaking BLM management actions, and consistent with valid and existing rights and applicable law in authorizing third-party actions, the BLM will apply the lek buffer-distances identified in the USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse – A Review (Open File Report 2014-1239) in accordance with **Appendix B**.

MD WLH & SSS-82: Special Status Species: Greater Sage-Grouse PHMA-

- No waivers or modifications to a fluid mineral lease no-surface-occupancy stipulation will be granted. The AO may grant an exception to a fluid mineral lease no-surface-occupancy stipulation only where the proposed action:
    - i. Will not have direct, indirect, or cumulative effects on GRSG or its habitat; or,
    - ii. Is proposed to be undertaken as an alternative to a similar action occurring on a nearby parcel, and will provide a clear conservation gain to GRSG.
- Exceptions based on conservation gain (ii) may only be considered in (a) PHMA of mixed ownership where federal minerals underlie less than fifty percent of the total surface, or (b) areas of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of this RMP [revision or amendment]. Exceptions based on conservation gain must also include measures, such as enforceable institutional controls and buffers, sufficient to allow the BLM to conclude that such benefits will endure for the duration of the proposed action's impacts.
- Any exceptions to this lease stipulation may be approved by the AO only with the concurrence of the State Director. The AO may not grant an exception unless the applicable state wildlife agency, the USFWS, and the BLM unanimously find that the proposed action satisfies (i) or (ii). Such finding shall initially be made by a team of one field biologist or other GRSG expert from each respective agency. In the event the initial finding is not unanimous, the finding may be elevated to the appropriate BLM State Director, USFWS State Ecological Services Director, and state wildlife agency head for final resolution. In the event their finding is not unanimous, the exception will not be granted. Approved exceptions will be made publically available at least quarterly."

MD WLH & SSS-83: Special Status Species: Greater Sage-Grouse - Subject to applicable laws and regulations and valid existing rights, if the average density of one energy and mining facility per 640 acres (the density cap) is exceeded on all lands (regardless of land ownership) in the PHMA within a proposed project analysis area, then no further disturbance from energy or mining facilities will be permitted by BLM: (1) until disturbance in the proposed project analysis area has been reduced to maintain the limit under the cap; or (2) unless the energy or mining facility is co-located into an existing disturbed area.

MD WLH & SSS-84: Special Status Species: Greater Sage-Grouse PHMA- No ACEC established

MD WLH & SSS-85: Special Status Species: Greater Sage-Grouse PHMA- Open to oil and gas leasing and development (including geophysical exploration). Surface occupancy and use for oil and gas exploration and development will be prohibited within Greater Sage-Grouse PHMA (NSO).

MD WLH & SSS-86: Special Status Species: Greater Sage-Grouse PHMA- Exclusion area for renewable and solar energy exploration and facility development.

MD WLH & SSS-87: Special Status Species: Greater Sage-Grouse PHMA- Avoidance area for major and minor ROWs. However ROWs will only be allowed in GRSG PHMA where habitat functionality will be maintained.

MD WLH & SSS-88: Special Status Species: Greater Sage-Grouse RHMA- Establish RHMAs (78,927 acres of BLM-administered lands and 88,642 acres of federal mineral estate). These areas will include one small polygon of core habitat in Carbon County near Elk Basin Oil Field, as well as other areas (Map 2-1).

MD WLH & SSS-89: Special Status Species: Greater Sage-Grouse RHMA- Surface occupancy and use for oil and gas exploration and development will be prohibited within 0.6 miles of Greater Sage-Grouse leks (NSO).

MD WLH & SSS-90: Special Status Species: Greater Sage-Grouse RHMA- Surface use for oil and gas exploration and development will be prohibited from March 1 to June 15 in Greater Sage-Grouse nesting habitat within 3 miles of a lek (TL).

MD WLH & SSS-91: Special Status Species: Greater Sage-Grouse RHMA- Surface occupancy and use for oil and gas exploration and development will be subject to the following special operating constraints that will maintain Greater Sage-Grouse habitat: surface disturbance density and mitigation plan (CSU).

MD WLH & SSS-92: Special Status Species: Greater Sage-Grouse RHMA- Geophysical exploration will be allowed on existing roads and trails with surface use prohibited from March 1 to June 15 within 4 miles of a lek (TL).

MD WLH & SSS-93: Special Status Species: Greater Sage-Grouse RHMA- GRSG RHMAs outside of Elk Basin will be avoidance areas for renewable and solar energy exploration, development and facilities with approved mitigation.

MD WLH & SSS-94: Special Status Species: Greater Sage-Grouse RHMA- The Elk Basin GRSG RHMA will be an exclusion area for renewable and solar energy exploration and facility development.

MD WLH & SSS-95: Special Status Species: Greater Sage-Grouse RHMA- Avoidance area for major and minor ROWs. However ROWs will only be allowed in GRSG RHMAs where habitat functionality will be maintained.

MD WLH & SSS-96: Special Status Species: Greater Sage-Grouse GHMA- Establish GHMA (176,734 acres of BLM-administered lands and 299,166 acres of federal mineral estate). These areas include a 3 mile buffer around Greater Sage-Grouse leks, outside of the PHMA and RHMA areas (Map 2-1).

MD WLH & SSS-97: Special Status Species: Greater Sage-Grouse GHMA- In undertaking BLM management actions, and consistent with valid and existing rights and applicable law in authorizing third-party actions, the BLM will apply the lek buffer-distances identified in the USGS Report Conservation Buffer Distance Estimates for Greater Sage-Grouse – A Review (Open File Report 2014-1239) in accordance with **Appendix B**.

MD WLH & SSS-98: Special Status Species: Greater Sage-Grouse GHMA- Surface occupancy and use for oil and gas exploration and development will be prohibited within 0.6 miles of the perimeter of Greater Sage-Grouse leks (NSO).

MD WLH & SSS-99: Special Status Species: Greater Sage-Grouse GHMA- To protect nesting Greater Sage-grouse, surface occupancy and use within 2 miles of a lek may be restricted or prohibited. Prior to such activities, a plan to mitigate impacts on nesting Greater Sage-grouse and Greater Sage-grouse nesting habitat will be prepared by the proponent and implemented upon approval by the AO (CSU).

MD WLH & SSS-100: Special Status Species: Greater Sage-Grouse GHMA- Geophysical exploration will be allowed on existing roads and trails with surface use prohibited from March 1 to June 15 within 3 miles of a lek (TL).

MD WLH & SSS-101: Special Status Species: Greater Sage-Grouse GHMA- Avoidance area for renewable and solar energy exploration, development and facilities with approved mitigation.

MD WLH & SSS-102: Special Status Species: Greater Sage-Grouse GHMA- Avoidance areas for major ROWs and open to minor ROWs. Utilities and similar facilities will be located adjacent to other facilities where practical and only when habitat can be maintained.\

MD WLH & SSS-103: Consider the likelihood of development of not-yet-constructed surface-disturbing activities–as defined in Table 2 of the Monitoring Framework (**Appendix D**)—under valid existing rights prior to authorizing new projects in PHMA..

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 Montana Fish, Wildlife and Park's (MTFWP) 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.*

Goal FH & SSS 8: *Yellowstone Cutthroat Trout (YCT)bearing waters and associated riparian habitat will 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 ID, MT, UT, NV, and WY).*

Management Decisions (MD)

MD FH & SSS-1: Manage riparian areas and wetlands supporting fisheries toward PFC, as required through Standards and Guidelines.

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: If natural barriers cannot be used, in-channel barriers (including selective barriers) will be constructed downstream of the native fish populations at risk from invasion.

MD FH & SSS-5: Impacts beyond the riparian zone will be considered as part of YCT habitat management. Project-level activities will mitigate impacts on water quality, in-stream habitat, channel morphology, and riparian areas to benefit YCT populations.

MD FH & SSS-6: Habitat-improvement techniques will be used where appropriate to provide missing habitat components or improve existing habitats.

MD FH & SSS-7: The BLM will continue to partner with MT FWP in the establishment of fishing access sites.

MD FH & SSS-8: Land and water management decisions likely to affect YCT populations will include both pre- and post-project evaluation and monitoring to ensure that the habitat elements for YCT are protected.

MD FH & SSS-9: Use restoration to enhance YCT habitat and riparian function where habitat conditions are determined to be degraded.

MD FH & SSS-10: Opportunistically enhance or restore habitat for populations of YCT.

MD FH & SSS-11: Establish high priority YCT habitat zones and increase monitoring on YCT bearing streams to ensure no significant degradation to water quality and fish habitat.

MD FH & SSS-12: Develop and maintain a prairie fish and fish habitat inventory and identify potential or suitable habitat.

MD FH & SSS-13: Mitigation of surface-disturbing activities will be applied where needed to minimize impacts of human activities on important fisheries, riparian and water 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 important fisheries, water or riparian resources. Exceptions may be granted by the AO, if an environmental review demonstrates that effects could be mitigated to an acceptable level, habitat for the species is not present in the area, or portions of the area can be occupied without affecting a particular species or 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 FH & SSS-14: Surface occupancy and use for oil and gas exploration and development (including geophysical exploration) 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 and MD VEG/R&W-6)

MD FH & SSS-15: 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-16: Surface occupancy and use for oil and gas exploration (including geophysical operations) will be prohibited within ½ mile of Class I (Blue Ribbon) streams, and YCT populations (Maps 26 & 27 of the B&PPNM PRMP/FEIS). (same as MD VEG/R&W-9)

MD FH & SSS-17: Surface occupancy and use for oil and gas exploration and development (including geophysical exploration) will be prohibited within ¼ mile of designated reservoirs with fisheries. (NSO) (same as MD VEG/R&W-8)

MD FH & SSS-18: New spring developments will be authorized and fenced if the development will maintain the integrity and functionality of the associated riparian area/wetland.

MD FH & SSS-19: 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.

MD FH & SSS-20: Livestock grazing will be allowed on YCT- bearing or other sensitive habitats as long as rangeland health standards are being met. If standards cannot be met through grazing management, grazing will be excluded.

MD FH & SSS-21: Fencing around the riparian zone, or at least 50' from the water's edge or using drift fence or other methods to exclude livestock from the riparian zone.

MD FH & SSS-22: Development of existing or potential reservoirs will be considered to promote recreational fisheries and riparian/aquatic habitat enhancement.

Wild Horses (WH)

Goal WH 1: *Maintain, protect, manage, and control a healthy wild horse herd inside the HMA within the appropriate management level (AML) 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 (Standards 1 and 5).*

Goal WH 2: *Maintain a wild horse herd that exhibits a diverse age structure, genetic diversity, and any characteristics unique to the Pryor horses.*

Goal WH 3: *Manage wild horses within a balanced program which considers all values without impairment to the productivity of the land.*

Management Decisions (MD)

MD WH-1: Initially, the wild horse population will be managed within a population range between 90 to 120 wild horses.

MD WH-2: Maintain a wild horse herd that exhibits a diverse age structure, genetic diversity, and any characteristics unique to the Pryor horses.

MD WH-3: Unless otherwise specified, implementation level planning through a Herd Management Area Plan (HMAP) or other activity level plans will 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 AML.

MD WH-4: AMLs will 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.

MD WH-5: Herd Management Area Establishment: Manage wild horses on approximately 27,094 acres of BLM-administered lands (39,994 acres all ownerships) (Map 3-2).

MD WH-6: Herd Management Area Establishment: Designate the closed portions of the Herd Area known as the administrative pastures to be included in the HMA. Due to private property conflicts, the "buffer" area will remain closed.

MD WH-7: Herd Characteristics: Within an HMAP, herd structure will be managed for all representations in the herd, not allowing specific colors or bloodlines to dominate from management manipulation.

MD WH-8: Appropriate Management Levels: AML determination will be made within the context of having the maximum amount of wild horses the range can sustain while preventing deterioration.

MD WH-9: 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.

Cultural and Heritage Resouces (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); National Historic Preservation Act (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 (**Appendix U**).

MD C&HR-2: All sites determined eligible to the National Register of Historic Places (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.

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: A lease notice (consistent with the Montana guidance for cultural resource protection related to oil and gas) will continue to be issued to ensure that leased lands are examined to determine if cultural resources are present and to specify mitigation measures. (LN)

MD C&HR-8: A lease notice stipulation will be attached to oil and gas leases around the Lake Mason National Wildlife Refuge to protect cultural resources. (LN)

MD C&HR-9: A lease notice for NHPA, AIRFA, NAGPRA and E.O. 13007 will be attached to all oil and gas leases. (LN)

MD C&HR-10: A Lease Notice for sacred sites and Historic Properties will be attached to oil and gas leases. (LN)

MD C&HR-11: Surface occupancy and use for oil and gas exploration and development (including geophysical exploration) will be prohibited within cemeteries or individual gravesites located on private surface/federal mineral estate (known cemeteries include: Annherer Spring Grave, Sunrise Cemetery, Castle Butte Cemetery, and Cabin Creek Cemetery). (NSO)

MD C&HR-12: Surface occupancy and use for oil and gas exploration and development (including geophysical exploration) will be prohibited within ½ mile of cultural properties of particular importance to Native Americans (TCPs, traditional use areas, burials, plant gathering locations, etc.). (NSO)

MD C&HR-13: Surface occupancy and use for oil and gas exploration (including geophysical operations) will be prohibited on the following sites, districts, or areas (NSO):

- Steamboat Butte
- Bruder-Janich Site
- Paul Duke Site
- Demi-John Flat NR District
- Bighorn Mouth North Cliffs Rock Art
- Gyp Springs Site
- Hoskins Basin Archaeological District
- Bandit Site (48BH0460)

MD C&HR-14: Surface occupancy and use for oil and gas exploration and development (including geophysical exploration) will be prohibited within eligible sites or areas designated for conservation use, public use, scientific use, or traditional use, including those areas determined to be traditional cultural properties (TCPs) and/or designated for traditional use. (NSO)

MD C&HR-14: Oil and gas leasing, exploration and development will be allowed within ¼ mile of the following historic trails with stipulations (CSU):

- Bridger Cut-Off Trail
- Meeteetse Trail

MD C&HR-15: 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-16: 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 will be developed as appropriate.

MD C&HR-17: 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-18: 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-19: Parameter – Cultural Resource Use Allocation – Communal Kill Sites: Allocate and manage all National Register eligible sites to Conservation, Scientific, and/or Public Use. Interpretative sites will be developed as appropriate.

MD C&HR-20: Parameter – Cultural Resource Use Allocation – Aboriginal Trails: Allocate and manage all National Register eligible sites to Conservation, Traditional, and/or Public Use. Interpretative sites will be developed as appropriate

MD C&HR-21: Parameter – Cultural Resource Use Allocation – Lithic Procurement Sites/Quarries (bedrock and surface): Allocate and manage all National Register eligible lithic procurement sites/quarries to Conservation, Traditional, and/or Scientific Use.

MD C&HR-22: 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

MD C&HR-23: Parameter – Cultural Resource Use Allocation – Historic Features: Allocate and manage all National Register eligible sites to Conservation and/or Scientific Use

MD C&HR-24: 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-25: 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-26: 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.

MD C&HR-27: 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: 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 cannot be used.

MD PALEO-3: 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-4: 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-5: Lands identified for disposal or exchange will be evaluated to determine whether such actions will remove significant fossils from federal ownership

MD PALEO-6: Where feasible, acquire properties adjacent to public lands through donation, exchange, or purchase that contain significant paleontological resources

MD PALEO-7: Surface occupancy and use for oil and gas exploration and development (including geophysical exploration) will be prohibited within designated or recorded paleontological sites NSO)

MD PALEO-8: For oil and gas leasing, exploration, and development occurring within PFYC Class 3 or higher, a lease notice will be attached. Assessment, inventory, and/or mitigation will be required based on PFYC class (Map 35 of the B&PPNM PRMP/FEIS). (LN)

MD PALEO-9: 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-10: Written and web-based information will be developed, maintained, and provided about fossils and to promote visitor education

MD PALEO-11: 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.

MD PALEO-12: Collection of common invertebrate and plant fossils will be allowed for personal, non-commercial use. Areas with vertebrate fossils will be closed to common invertebrate and plant fossil hobby collecting unless collection activity is authorized by the BLM.

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 O**).

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: Following BLM Handbook 8410-1 and BLM IM 2000-96, the BiFO will manage WSAs under VRM Class I objectives to maintain an undeveloped landscape and preserve their natural values.

MD VISUAL-4: Prepare rehabilitation plans to address landscape modifications on a case-by-case basis.

MD VISUAL-5: Manage BLM public lands according to the following VRM class designations (Map 3-3):

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

MD VISUAL-6: Surface occupancy or use, surface disturbing activities, and construction of semi-permanent and permanent facilities in VRM Class II – IV areas will 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).

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: Within the following areas work to restore or maintain approximately 14,000 acres available for restoring natural FRCC in Musselshell, Stillwater, Carbon, and Sweet Grass Counties, should resource management constraints and considerations (i.e. Greater Sage-Grouse habitat, other identified T&E issues and culturally sensitive areas) allow.

MD FIRE-8: If prescribed fire is used in Greater Sage-Grouse habitat, the NEPA analysis for the Burn Plan will address:

- why alternative techniques were not selected as a viable options;
- how Greater Sage-Grouse goals and objectives will be met by its use;
- how the COT Report objectives will be addressed and met;
- A risk assessment to address how potential threats to Greater Sage-Grouse habitat will be minimized.

Prescribed fire as a vegetation or fuels treatment shall only be considered after the NEPA analysis for the Burn Plan has addressed the four bullets outlined above. Prescribed fire could be used to meet specific fuels objectives that will protect Greater Sage-Grouse habitat in PHMA (e.g., creation of fuel breaks that will disrupt the fuel continuity across the landscape in stands where annual invasive grasses are a minor component in the understory, burning slash piles from conifer reduction treatments, used as a component with other treatment methods to combat annual grasses and restore native plant communities).

Prescribed fire in known winter range shall only be considered after the NEPA analysis for the Burn Plan has addressed the four bullets outlined above. Any prescribed fire in winter habitat will need to be

designed to strategically reduce wildfire risk around and/or in the winter range and designed to protect winter range habitat quality."

MD FIRE-9: Remove conifers encroaching into sagebrush habitats, in a manner that considers tribal cultural values. Prioritize treatments closest to occupied sage-grouse habitats and near occupied leks, and where juniper encroachment is phase 1 or phase 2. Use of site-specific analysis and principles like those included in the FIAT report (Chambers et. al., 2014) and other ongoing modeling efforts to address conifer encroachment will help refine the location for specific priority areas to be treated.

MD FIRE-10: 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 PHMA suppression will be prioritized to conserve habitat
  - In GMHA, suppression will be prioritized where wildfires threaten PHMA
- Proximity to private land
- Firefighting resource availability

MD FIRE-11: 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-12: 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-13: Wildfire management (natural ignitions) for resource benefit will be considered for the following areas:

- East Pryor ACEC
- Grove Creek ACEC
- Meeteetse Spires ACEC

- Pryor Foothills RNA ACEC
- Weatherman Draw ACEC
- Big Horn Tack-On WSA
- Burnt Timber Canyon WSA
- Pryor Mountain WSA
- Twin Coulee WSA

MD FIRE-14: 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; (2) the reduction of hazardous fuels; and (3) the introduction of fire into fire-adapted ecosystems.

Within Greater Sage-Grouse PHMA and RHMAs, only treatments that conserve, enhance, or restore Greater Sage-Grouse habitat will be allowed.

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.

A fire risk assessment will be completed for implementation of prescribed fire in relation to GRSG goals and objectives.

When prescribed fire is used for vegetation treatments, the burn plan will clearly indicate how COT objectives will be addressed and met by use of prescribed fire and why alternative techniques for vegetation treatment were not selected.

Lands With Wilderness Characteristics (LWC)

Goal LWC 1: *Protect, preserve, and maintain wilderness characteristics in areas inventoried and found to possess them.*

Goal LWC 2: *LWCs will 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 will be through non-motorized, non-mechanical means, and where no or minimal developed recreation facilities are encountered.*

Management Decisions (MD)

MD LWC-1: Conduct active restoration activities to remove unnatural features and rehabilitate unauthorized human disturbances. Remove unauthorized facilities consistent with regulations.

MD LWC-2: Monitor for development and disturbances, as well as visitor use, to identify and address potential impacts on wilderness character.

MD LWC-3: Manage for wilderness characteristics* the following areas/acres immediately adjacent to WSA (13,653 acres) (Map 3-4) (**Appendix X**):

- Pryor Mountain Unit Tract 1 – 2,873 acres
- Pryor Mountain Unit Tract 2 - 497 acres
- Pryor Mountain Unit Tract 3 - 143 acres
- Pryor Mountain Unit Tract 5 – 512 acres
- Pryor Mountain Unit Tract 6 – 1,074 acres
- Pryor Mountain Unit Tract 7 – 327 acres
- Meeteetse Unit Tract 10 – 2,149 acre
- Burnt Timber Unit Tract 1 – 703 acres
- Burnt Timber Unit Tract 2 – 5,375 acres

MD LWC-4: Do not manage for wilderness characteristics the following areas/acres (13,854 acres):

- Weatherman Draw – 6,033 acres
- Bad Canyon Unit – 2,036 acres
- Yellowstone River islands – 126 acres
- Bear Canyon Unit – 5,659 acres

MD LWC-5: LWCs* will be managed as follows:

- VRM Class II
- Closed to motorized OHV use, with the exception of the Meeteetse Spires Unit, which will be limited to authorized motorized OHV use only.
- 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 new ROWs
- Closed to permitted commercial and personal use wood cutting and seed collection
- Vegetation and fuel treatments using prescribed fire will be allowed
- Surface disturbing and disruptive activities will be allowed only if the activity does not impair the resource values and/or wilderness characteristics, with the exception of emergency operations and the exercise of valid existing rights.

- Closed to new structures unrelated to preserving the wilderness characteristics
- Vegetation treatments to control expansion of invasive exotic species will be allowed

Cave and Karst Resources (CAVE)

Goal CAVE 1: *Manage all cave resources as mandated by the Federal Cave Resources Protection Act of 1988, NEPA, and the ESA and other applicable laws and regulations to protect unique, nonrenewable, and fragile biological, geological, hydrological, cultural, paleontological, scientific and recreational values for present and future users.*

Goal CAVE 2: *Cave and karst resources will be managed to provide 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.*

Management Decisions (MD)

MD CAVE-1: Secure, protect, and preserve natural cave features and conditions.

MD CAVE-2: Geocaching will not be allowed in caves or at cave entrances.

MD CAVE-3: Scientific and research use of caves requires a written proposal explaining the purpose of the research, who will be conducting it, how long it is expected to take, if it will require any collection of specimens, and what kind of reporting will be done.

MD CAVE-4: Manage all cave and karst formations in compliance with the National Plan for assisting state, federal agencies, and tribes in managing White-Nose Syndrome in Bats (US Fish and Wildlife Service, May 2011).

MD CAVE-5: Evaluate all known caves in the region to determine if they satisfy the six criteria of significance. The Code of Federal Regulations at 43CFR, Part 37.11 (c) lists the six criteria that are used to evaluate cave significance.

MD CAVE-6: Manage recreational use of all known 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. Management actions proposed to be implemented also could include installation of cave gates, implementation of a visitor use permit system, the development of new visitor public education materials; systematic inventories of cave resources; restoration of damaged habitat; and monitoring of cave conditions and the quality of visitor recreational experiences.

MD CAVE-7: Mystery Cave, already designated as a significant cave, located near the Big Horn Tack-On WSA, is recommended for withdrawal from mineral entry and No Lease for oil and gas leasing, exploration, and/or development.

MD CAVE-8: Caves found to be significant will be recommended for withdrawal from mineral entry and managed as No Lease for oil and gas leasing, exploration, and development.

MD CAVE-9: Surface disturbing or disruptive activities within ¼ mile of cave entrances may be allowed if the activity benefits the desired outcome of this resource.

MD CAVE-10: Cave and karst areas will be inventoried prior to oil and gas leasing, exploration and/or development. An approved mitigation plan will be required to avoid impacts on cave resources (CSU).

MD CAVE-11: Inventory of cave and karst areas will be required prior to surface-disturbing activities. Cave and karst resources will be open to mineral development with an approved mitigation plan that protects resource values.

MD CAVE-12: Cave and karst areas will be managed as ROW avoidance areas.

3.2.2 Resource Uses and Support

Energy & Mineral Resources: Solid Leasables (including coal) (SL-COAL)

Goal SL-COAL 1: *Make federal solid mineral resources available for exploration and acquisition consistent with other resource goals.*

Goal SL-COAL 2: *Identify the public lands open to solid minerals leasing in accordance with existing laws and regulations (43 CFR, Parts 3400 and 3500).*

Management Decisions (MD)

MD SL-COAL-1: BLM will 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 will be required to lease these minerals.

MD SL-COAL-2: BLM will allow exploration and development of solid minerals as authorized under the 1920 and 1947 Mineral Leasing Acts.

MD SL-COAL-3: Prospecting permits will be available for all land not closed to mineral leasing in conformance with 43 CFR, Part 3500.

MD SL-COAL-4: Terms and conditions will be applied to mining activities to meet land health standards for uplands, riparian areas and wetlands, water quality, air quality, and native plant and animal species (see **Appendix H**, BMPs, and **Appendix C**, Greater Sage-Grouse Required Design Features).

MD SL-COAL-5: Surface occupancy and use for oil and gas exploration and development (including geophysical exploration) will be prohibited within the boundaries of existing coal leases. (NSO)

MD SL-COAL-6: At the time an application for a new coal lease or lease modification is submitted to the BLM, the BLM will determine whether the lease application area is "unsuitable" for all or certain coal mining methods pursuant to 43 CFR, Part 3461.5. PHMA is essential habitat for maintaining GRSG for purposes of the suitability criteria set forth at 43 CFR, Part 3461.5(o)(1).

MD SL-COAL-7: The following areas will be closed to solid mineral leasing and development (225,655 acres): (Map 3-5)

- Big Horn Tack-On WSA
- Burnt Timber Canyon WSA
- Pryor Mountain WSA
- Twin Coulee WSA (If Twin Coulee WSA is released from further consideration, the area may be open for solid mineral leasing and development.)
- LWCs
- Bridger Fossil Area ACEC
- East Pryor ACEC
- Four Dances Natural Area ACEC
- Grove Creek ACEC
- Meeteetse Spires ACEC
- Petroglyph Canyon ACEC
- Pompeys Pillar ACEC
- Pryor Foothills RNA/ACEC
- Weatherman Draw ACEC
- Nez Perce NHT
- Lewis and Clark NHT

MD SL-COAL-8: Within Greater Sage-Grouse PHMA and RHMAs solid mineral leasing (coal) will only be allowed with the following lease stipulations:

- Mining may only occur via subsurface methods
- All mine related appurtenant facilities will be placed outside of the PHMA

MD SL-COAL-9: Remainder of Planning Area: Process LBAs for new coal leases by applying the coal screening process to the application. The coal screening process results will determine which lands may be available for further consideration for coal leasing and development. Appropriate NEPA analysis will be required prior to leasing. The existing RMP (BLM 1984) coal-screening management decisions are current and relevant to the application area. (**Appendix M**)

Energy & Mineral Resources: Fluid Mineral Resources (FLUIDS)

Goal FLUIDS 1: *Provide opportunities for exploration and development of fluid mineral resources on available public lands.*

Goal FLUIDS 2: *Provide opportunities for exploring, leasing, and developing conventional oil and gas, coal bed natural gas, and geothermal resources while applying the appropriate lease stipulations and COA to mitigate environmental impacts from development.*

Goal FLUIDS 3: *Provide opportunities for geophysical (e.g. seismic) exploration for oil and gas subject to the appropriate mitigating measures.*

Management Decisions (MD)

MD FLUIDS-1: 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 NEPA, the NHPA, FLPMA (1976), the Wilderness Act of 1964, the ESA 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, Part 3150.

MD FLUIDS-2: All public lands available for oil and gas leasing will be offered first by competitive bid at an oral auction.

MD FLUIDS-3: Appropriate stipulations will be applied at the time of leasing (**Appendix S**).

MD FLUIDS-4: Areas where oil and gas development will coexist with other resource uses will 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: NSO, TL (seasonal restriction), and CSU. (For descriptions, see Leasing Process in the Oil and Gas section of **Appendix J**) Stipulations may be changed by application of waivers, exceptions, or modifications. The decision whether to grant waivers, exceptions, or modifications generally occurs during the APD approval process. If the AO determines the change to be substantial, the preferred alternative will 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.

MD FLUIDS-5: 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.

MD FLUIDS-6: The terms of existing oil and gas leases cannot be changed by the decisions in this document. When the lease expires, the area will be managed for oil and gas according to the decisions reached in this document.

MD FLUIDS-7: For federal oil and gas where the surface is managed by another federal agency, the BLM will 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, Part 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 will only occur following consultation, and consent if necessary, from the surface managing agency.

MD FLUIDS-8: 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 will be used (see Oil and Gas section in **Appendix J**).

MD FLUIDS-9: Lands unavailable under this RMP (Table 2.8 of the B&PPNM PRMP/FEIS) will 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 will be leased with a NSO and no subsurface occupancy stipulation with no waiver, modification or exception provisions. There will only be a paper transaction with no physical impacts on the unavailable lands. There will be no exploration or development (drilling or production) within the unavailable lands. After issuance of a lease, the lease will be committed to a communitization agreement and the United States will then receive revenue in proportion to its acreage interest as it bears to the entire acreage interest committed to the agreements.

MD FLUIDS-10: Additional information can be provided to the lessee in the form of a LN. 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.

MD FLUIDS-11: 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 APD 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 J**).

MD FLUIDS-12: Follow BLM Manual 6330 guidance for mineral leasing in WSAs as appropriate. All WSAs will be closed to new oil and gas leases.

MD FLUIDS-13: 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 J**.

The BLM will 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 will be prepared for each NOI filed.

MD FLUIDS-14: Lands in the planning area will be available for geothermal leasing, unless located within wilderness or WSAs or in instances where it is determined that issuing the lease will cause unnecessary or undue degradation to public lands or resources. Other areas that will be made unavailable are listed in the ROD and RMP Amendments for Geothermal Leasing in the Western United States (December, 2008) which is incorporated in this RMP. A site-specific environmental analysis will be prepared as needed should interest be expressed in exploring for or developing geothermal resources in the planning area. This analysis will 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 will 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 will be modified.

MD FLUIDS-15: Priority will be given to leasing and development of fluid mineral resources, including geothermal, outside of PHMA and GHMA. When analyzing leasing and authorizing development of fluid mineral resources, including geothermal, in PHMA and GHMA, and subject to applicable stipulations for the conservation of Greater Sage-Grouse, priority will be given to development in non-habitat areas first and then in the least suitable habitat for Greater Sage-Grouse. The implementation of these priorities will be subject to valid existing rights and any applicable law or regulation, including, but not limited to, 30 U.S.C. 226(p) and 43 C.F.R. 3162.3-1(h).

MD FLUIDS-16: Where a proposed fluid mineral development project on an existing lease could adversely affect GRSG populations or habitat, the BLM will work with the lessees, operators, or other project proponents to avoid, reduce and mitigate adverse impacts to the extent compatible with lessees' rights to drill and produce fluid mineral resources. The BLM will work with the lessee, operator, or project proponent in developing an APD for the lease to avoid and minimize impacts on sage-grouse or its habitat and will ensure that the best information about the GRSG and its habitat informs and helps to guide development of such Federal leases.

MD FLUIDS-17: Where the federal government owns the mineral estate in PHMA and GHMA, and the surface is in non-federal ownership, apply the same stipulations, COAs, and/or conservation measures and RDFs applied if the mineral estate is developed on BLM-administered lands in that management area, to the maximum extent permissible under existing authorities, and in coordination with the landowner.

MD FLUIDS-18: Where the federal government owns the surface and the mineral estate is in non-federal ownership in PHMA and GHMA, apply appropriate surface use COAs, stipulations, and mineral RDFs through ROW grants or other surface management instruments, to the maximum extent permissible under existing authorities, in coordination with the mineral estate owner/lessee.

<u>Oil and Gas</u>

MD FLUIDS-19: Manage 44,142 acres as open to leasing, subject to standard lease terms (Map 3-6)

MD FLUIDS-20: Manage 412,600 acres as open to leasing subject to moderate constraints (CSU/TL stipulations) (Map 3-6).

MD FLUIDS-21: Manage 420,126 acres as open to leasing subject to major constraints (NSO) (Map 3-6).

MD FLUIDS-22: Manage 60,359 acres as closed to leasing in the following areas (NL) (Map 3-6):

Non-Discretionary:

- Big Horn Tack-On WSA
- Burnt Timber Canyon WSA

- Pryor Mountain WSA
- Twin Coulee WSA

Discretionary:

- Bridger Fossil Area ACEC
- East Pryor ACEC
- Four Dances Natural Area ACEC
- Meeteetse Spires ACEC (965 acres)
- Petroglyph Canyon ACEC
- Weatherman Draw ACEC (4,986 acres)
- PMWHR
- LWCs

Geophysical Exploration

MD FLUIDS-23: Geophysical exploration will not be allowed in the following areas:

- Pompeys Pillar ACEC
- East Pryor ACEC
- Four Dances Natural Area ACEC
- Meeteetse Spires ACEC
- Petroglyph Canyon ACEC
- Pryor Foothills RNA ACEC
- Stark Site ACEC
- Weatherman Draw ACEC
- Within ½ mile of bald and golden eagle nest sites which have been active within the past 7 years and within bald and golden 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 reduce line of site).
- Within ½ mile of raptor nests (peregrine, ferruginous and bald and golden eagles noted above) from March 1 to August 1 which have been active within the last 2 years (distance may be reduced).
- Bighorn Sheep Habitat

Energy & Mineral Resources: Locatable Minerals (LOC_MIN)

Goal LOC_MIN 1: *Encourage and facilitate development of locatable minerals in the manner to prevent unnecessary or undue degradation, as defined in 3809.5. Provide land use opportunities contributing to economic benefits while protecting or minimizing adverse impacts on other resources.*

Goal LOC_MIN 2: *Identify the public lands open to locatable mineral entry in accordance with existing laws and regulations (43 CFR, Part 3700 and 3800).*

Management Decisions (MD)

MD LOC_MIN-1: Standard management practices in the public land administration of locatable minerals will continue across all alternatives. BLM will coordinate with MDEQ during the review, approval, inspection and reclamation of mining operations. At a minimum, conduct an annual compliance inspection on each active notice, and two times per year for Plan of Operations.

MD LOC_MIN-2: Requirements of all state and federal laws will be met in the management of mining operations.

MD LOC_MIN-3: In cases involving valid mining claims, exploration will occur under all alternatives. Administration of locatable minerals on public lands will continue as required by law and regulation (43 CFR, Part 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.

MD LOC_MIN-4: Terms and conditions will 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 (see Appendices B, C, D, E, F, G for Greater Sage-Grouse specific measures). Note: All withdrawal actions (including mineral withdrawals) are processed in the Realty, Cadastral Survey, and Lands program. Restrictions applicable to locatable minerals are limited to the prevention of unnecessary or undue degradation, as defined in 43 CFR, Part 3809.5.

MD LOC_MIN-5: Valid, existing mineral rights, within the planning area will 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.

MD LOC_MIN-6: The following areas are currently closed and will continue to be recommended for withdrawal from mineral entry (1,855 acres) (Map 3-7):

- Britton Springs Administrative Site

- Crooked Creek Natural Area (portions) (WY)
- Four Dances Natural Area ACEC
- Petroglyph Canyon ACEC
- Weatherman Draw ACEC (600 acres)

MD LOC_MIN-7: The following areas will be recommended for withdrawal from all locatable mineral entry (60,204 acres): (Map 3-7)

- Bridger Fossil Area ACEC
- East Pryor ACEC
- Meeteetse Spires ACEC
- Pompeys Pillar ACEC
- Pryor Foothills RNA/ACEC
- Stark Site ACEC
- Weatherman Draw ACEC (4,386 acres)
- Big Horn Tack-On WSA
- Burnt Timber Canyon WSA
- Pryor Mountain WSA
- Twin Coulee WSA
- LWCs

Energy & Mineral Resources: Mineral Materials (Saleable) (SALE_MIN)

Goal SALE_MIN 1: *Provide land-use opportunities contributing to economic benefits and meet local infrastructure needs while protecting or minimizing adverse impacts on other resources and resource uses.*

Goal SALE_MIN 2: *Identify the public lands open to minerals materials disposal in accordance with existing laws and regulations (43 CFR, Part 3600).*

Management Decisions (MD)

MD SALE_MIN-1: BLM will dispose of saleable minerals on unpatented mining claims only for a public purpose when no reasonable alternative exists. Saleable mineral sites will have an approved mining and reclamation plan and an environmental analysis prior to being opened. Mineral material will be sold at a fair market value to the public, but will be free to state, county, or other local governments when used for public projects. Mineral material sales will be processed on a case-by-case basis.

MD SALE_MIN-2: The BLM will continue to provide for the exploration and development of mineral materials unless closed.

MD SALE_MIN-3: New mineral material sites will be evaluated on a case-by-case basis. With the exception of lands withdrawn from all mineral entry, the planning area will be available for establishment

of future sites, pending site-specific analysis. Terms and conditions to protect public land and resource values will be applied on a case-by-case basis.

MD SALE_MIN-4: The following areas are closed to mineral material disposals (281,597 acres) (Map 3-8):

- Four Dances Natural Area ACEC
- Petroglyph Canyon ACEC
- Pompeys Pillar ACEC
- Pryor Foothills RNA/ACEC
- Stark Site ACEC
- Weatherman Draw ACEC
- LWCs
- Big Horn Tack-On WSA
- Burnt Timber Canyon WSA
- Pryor Mountain WSA
- Twin Coulee WSA (If Twin Coulee WSA is released from further consideration, the area may be open to mineral material disposals.)
- Greater Sage-Grouse PHMA - closed to new salable minerals; existing permits will be renewed with no increase in the permitted boundary. However, these areas remain "open" to free use permits and the expansion of existing active pits, only if the following criteria are met:
  - the activity is within the BSU and project area disturbance cap;
  - the activity is subject to the provisions set forth in the mitigation framework (**Appendix F**);
  - all applicable required design features are applied; and [if applicable] the activity is permissible under the specific sub-regional screening criteria.
- Shepherd Ah-Nei Recreation Area
- Acton Recreation Area
- Asparagus Point

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: *Provide forest products while maintaining a balance between public demand and the health and productivity of native and desired vegetative communities. Forest product sales include over the-counter sales of firewood, Christmas trees or other products, and 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.*

Goal FWP 3: *Provide forest and woodland products including, but not limited to; saw logs, pulp, post/poles, fuel wood, and biomass on a sustainable basis.*

Goal FWP 4: *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: Commercial harvest of forest products will normally be associated with vegetative restoration (including forest health and fuels treatments) and will be designed to meet objectives for forest management, wildlife habitat management, fire hazard reduction, hazard tree removal, special status species management, visuals, recreation, travel management, and any other relevant resource concerns.

MD FWP-2: Provide forest products as practical where forests have been damaged by wildfire and/or insects/disease.

MD FWP-3: Biomass and small diameter materials associated with forest/fuels treatments will be made available for use.

MD FWP-4: Forest products will be managed according to sustainability limits and where consistent with other resource management objectives.

MD FWP-5: Removal of dead or down trees will be allowed for firewood cutting, unless otherwise restricted (e.g., WSAs, ACECs, riparian areas, etc.). Cutting of live trees for firewood for personal use or commercial purposes will be authorized on a case by case basis after review and compliance with NEPA. Forest products use will be allowed except where prohibited.

MD FWP-6: Accommodate the demand for commercial forest products (PSQ appx. 178 MBF/year).

PSQ values may be adjusted based on monitoring evaluations, due to unforeseen events such as wildfires, current inventories, and insect/disease, or climate conditions.

MD FWP-7: Restrict permits for other forest products (e.g., Christmas trees, fuel wood, juniper, wildlings, mushrooms, etc.), when harvest will conflict with other resource values.

MD FWP-8: New roads will be built where multiple entries will be necessary to meet objectives.

MD FWP-9: 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-10: 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-11: 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.*

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 W**. 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 W**.

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-6: Acquisition of patented mining claims will be addressed on a case-by-case basis. Patented claims so acquired will be withdrawn from mineral entry.

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. (LN)

MD R/LT-11: Surface occupancy and use for oil and gas exploration and development (including geophysical exploration) will be prohibited on lands acquired with Land and Water Conservation Funds (NSO)

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-13: Oil and gas facilities will not be allowed within 500 feet of human occupied dwellings (LN).

MD R/LT-14: Lands classified as priority habitat and general habitat (or habitat classification appropriate for the sub-region) for Greater Sage-Grouse will be retained in federal management unless:

1) the agency can demonstrate that disposal of the lands will provide a net conservation gain to the Greater Sage-Grouse or
2) the agency can demonstrate that the disposal of the lands, including land exchanges, will have no direct or indirect adverse impact on conservation of the Greater Sage-Grouse. Map 2-11)

MD R/LT-15: Surface occupancy and use for oil and gas exploration and development (including geophysical exploration) will be prohibited within and 500 feet from unincorporated towns or human occupied residential structures (structures that are regularly occupied by persons at least 20 hours per week) (NSO).

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

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.), LWCs, National Register listed archeological/historic sites/districts, and lands acquired through 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 W**. 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 3-9)

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 3-9)

MD R/LT-19: Manage 264.4 acres in Category III – Disposal (land ownership adjustments, including direct sale or land exchanges). (Map 3-9)

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.*

Goal R/RLP 4: *Indirect effects of infrastructure projects, including siting, will be minimized using the best available science, updated as monitoring information on current infrastructure projects becomes available.*

Management Decisions (MD)

MD R/RLP-1: Analyze requests for land use authorizations and apply mitigation measures as appropriate (**Appendix H**).

MD R/RLP-2: Land use authorizations will not be issued for uses that involve the disposal or storage of materials which will contaminate the land (hazardous waste disposal sites, landfills, rifle ranges, etc.).

MD R/RLP-3: New ROW facilities will be located within or adjacent to existing rights-of-way to the extent possible.

MD R/RLP-4: New communication site users will be encouraged to locate within existing communication site buildings or within boundaries defined by communication site plans.

MD R/RLP-5: Reclamation of sites will be required where documented resource damage has occurred from unauthorized use.

MD R/RLP-6: ROW exclusion or avoidance areas will be subject to valid existing rights.

MD R/RLP-7: Terms and conditions for ROWs, corridors and development areas will incorporate BMPs.

MD R/RLP-8: Issues in connection with RS2477 roads will be subject to the current guidance

MD R/RLP-9: If a BLM ROW, lease, permit, conservation easement, or R&PP lease or patent occurs on an oil and gas lease, the lessee will be notified

MD R/RLP-10: The following five ROW areas are designated for communication sites: Wall Creek, north of Pompeys Pillar, Bridger, Tin Can Hill, and Four Dances Natural Area ACEC. Applicants are encouraged to utilize existing communication site facilities to minimize disturbance.

MD R/RLP-11: Upon project completion, roads used for commercial access on public lands will be reclaimed, unless, based on site-specific analysis, the route provides specific benefits for public access and does not contribute to resource conflicts.

MD R/RLP-12: Pursue reciprocal rights for public access when granting a BLM ROW, as appropriate.

MD R/RLP-13: Overhead power lines, where authorized, will follow the recommendations in Avian Protection on Power lines, State of the Art in 2006. Power poles and other tall structures will be designed to prevent raptors from perching on the poles and reflectors attached.

MD R/RLP-14: Geophysical carbon sequestration will be allowed in the planning area in accordance with the goals and objectives for resources in the RMP. The BLM will comply with policy for issuing ROWs or leases for the purpose of geophysical carbon sequestration.

MD R/RLP-15: PHMA will be avoidance area for major and minor ROWs. However ROWs will only be allowed in GRSG PHMA where habitat functionality will be maintained.

MD R/RLP-16: RHMAs will be avoidance areas for major and minor ROWs. However ROWs will only be allowed in GRSG RHMAs where habitat functionality will be maintained.

MD R/RLP-17: GRSG GHMA will be avoidance areas for major ROWs. Utilities and similar facilities will be located adjacent to other facilities where practical and only when habitat can be maintained.

MD R/RLP-18: GRSG GHMA will be open to minor ROWs. Utilities and similar facilities will be located adjacent to other facilities where practical and only when habitat can be maintained.

MD R/RLP-19: BLM will require power lines 69kV and less in size to be buried if feasible. BLM will require power lines 69kV and less in size to be authorized in a manner that ensures habitat is maintained (e.g. burying, perch, collision, and electrocution prevention measures, or line location).

Corridors

MD R/RLP-20: A multi-modal (pipeline and electrical transmission) Section 368 corridor (identified as Segment 79-216) will continue to be a designated corridor and is 5.2 miles in length, 3,500 feet in total width, located east of Highway 310 in Carbon County (Map 3-10).

MD R/RLP-21: Silver Tip Road in Carbon County will be designated as a ROW corridor (1,750 feet on either side of the center line of Silver Tip Road). This corridor will have a total width of 3,500 feet and 6 miles in length on public land, with the exception of the portion of this corridor occurring in the Elk Basin GRSG RHMA which will be 1,320 feet on either side of the center line of Silver Tip Road (total width of 2,640 feet) (Map 3-10).

ROW Exclusion Areas

MD R/RLP-22: ROW Exclusion Areas: (48,258 acres) and include the following areas (Map 3-11):

- Big Horn Tack-On WSA
- Burnt Timber Canyon WSA
- Pryor Mountain WSA
- Twin Coulee WSA.
- In addition, if not designated by Congress as Wilderness, the WSAs will continue to be managed as ROW exclusion areas.
- Bridger Fossil Area ACEC
- Meeteetse Spires ACEC
- Petroglyph Canyon
- Pompeys Pillar ACEC – Front Country Zone, except those necessary to service the site facilities
- Portion of Weatherman Draw ACEC (original ACEC and acquisition).
- LWCs

ROW Avoidance Areas

MD R/RLP-23: ROW avoidance areas will include 378,958 acres (Map 3-11):

- Castle Butte ACEC
- East Pryor ACEC
- Four Dances Natural Area ACEC
- Grove Creek ACEC
- Pompeys Pillar ACEC (General Management Zone - restricts ROW to a 500' wide path paralleling the southern boundary of the public lands along Highway 312)
- Pryor Foothills RNA/ACEC
- Stark Site ACEC

- Weatherman Draw ACEC (expansion area)
- Cave and karst areas will be managed as ROW avoidance areas.
- L&CNHT and NPNHT corridors will managed as ROW avoidance areas
- Asparagus Point
- Steamboat Butte
- 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)
- WSR eligible segments
- Big Horn Sheep Winter Range
- Big Game Winter Range
- Greater Sage-Grouse GHMA
- Greater Sage-Grouse PHMA and RHMAs will remain avoidance areas. However ROWs will only be allowed in Greater Sage-Grouse PHMA and RHMAs where habitat functionality will be maintained.

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 H**) and GRSG Appendices (**B, C, D, E, F, G**) as appropriate).

MD R/WD-5: The following areas are currently closed and will continue to be recommended for withdrawal from mineral entry (1,855 acres): (Map 3-7)

- Britton Springs Administrative Site
- Crooked Creek Natural Area (portions) (WY)
- Four Dances Natural Area ACEC
- Petroglyph Canyon ACEC
- Weatherman Draw ACEC (600 acres)

MD R/WD-6: The following areas will be closed and recommended for withdrawal from mineral entry (60,204 acres): (Map 3-7)

- Bridger Fossil Area ACEC
- East Pryor ACEC
- Meeteetse Spires ACEC
- Pompeys Pillar ACEC
- Pryor Foothills RNA/ACEC
- Stark Site ACEC
- Weatherman Draw ACEC (4,386 acres)
- Big Horn Tack-On WSA
- Burnt Timber Canyon WSA
- Pryor Mountain WSA
- Twin Coulee WSA
- LWCs

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: Monitor and evaluate grazing allotments to maintain or improve rangeland productivity.

MD LG-2: AUM levels will be sustained on an allotment-by-allotment basis for livestock grazing, providing Montana Standards for Healthy Rangelands are being met.

MD LG-3: Adjust permit terms and conditions (e.g. increased/decreased permitted use, season of use, and kind and class of livestock) when grazing permits are issued or as otherwise deemed necessary by site specific evaluation of monitoring data and environmental analysis.

MD LG-4: 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-5: During periods of drought, adjust livestock numbers commensurate with the needs of other resources in the area (riparian, wildlife, etc.)

MD LG-6: Exclude livestock grazing from small areas (such as springs) within allotments that cannot meet Rangeland Health Standards with livestock grazing.

MD LG-7: Site-specific management actions that protect riparian areas will be addressed at the project level.

MD LG-8: Grazing treatments and systems will be adaptive to new research, science and methodologies.

MD LG-9: In areas of resource conflicts, installation of structural range improvements will only be considered where grazing practices (change in season of use, reduction of AUMs, increased rest, etc.) are unable to resolve the resource concern. Structural range improvements could be considered where necessary to facilitate the change in grazing management practices. Existing range improvements will be evaluated and modified to address impacts on wildlife populations (e.g. Greater Sage-Grouse/fence conflicts).

MD LG-10: Newly acquired lands will be evaluated for livestock grazing during the acquisition process, and subject to 43CFR, Part 4110.1-1.

MD LG-11: All allotments wholly located in Greater Sage-Grouse PHMA will be considered for retirement, where the base property owner relinquishes their preference.

MD LG-12: Site specific Greater Sage-Grouse habitat and management objectives will be developed for BLM land within Greater Sage-Grouse PHMA. These objectives will be incorporated into the respective AMPs or livestock grazing permits as appropriate.

MD LG-13: The NEPA analysis for renewals and modifications of livestock grazing permits/leases that include lands within PHMA will include specific management thresholds based on GRSG Habitat Objectives Table (**Table 2-6**) and Land Health Standards (43 CFR, Part 4180.2) and one or more

defined responses that will allow the authorizing officer to make adjustments to livestock grazing that have already been subject to NEPA analysis.

MD LG-14: The BLM will prioritize (1) the review of grazing permits/leases, in particular to determine if modification is necessary prior to renewal, and (2) the processing of grazing permits/leases in PHMA. In setting workload priorities, precedence will be given to existing permits/leases in these areas not meeting Land Health Standards, with focus on those containing riparian areas, including wet meadows. The BLM may use other criteria for prioritization to respond to urgent natural resource concerns (ex., fire) and legal obligations.

MD LG-15: The NEPA analysis for renewals and modifications of livestock grazing permits/leases that include lands within PHMA will include specific management thresholds based on GRSG Habitat Objectives Table (Table 7) and Land Health Standards (43 CFR, Part 4180.2), ecological site potential, and one or more defined responses that will allow the authorizing officer to make adjustments to livestock grazing that have already been subjected to NEPA analysis.

MD LG-16: Allotments within PHMA, and focusing on those containing riparian areas, including wet meadows, will be prioritized for field checks to help ensure compliance with the terms and conditions of the grazing permits. Field checks could include monitoring for actual use, utilization, and use supervision.

MD LG-17: At the time a permittee or lessee voluntarily relinquishes a permit or lease, the BLM will consider whether the public lands where that permitted use was authorized should remain available for livestock grazing or be used for other resource management objectives, such as reserve common allotments or fire breaks. This does not apply to or impact grazing preference transfers, which are addressed in 43 CFR, Part 4110.2-3.

Areas Open to Grazing, AUM Allocation, and Monitoring

MD LG-18: Total Acres Available to livestock grazing: 434,154 (Map 3-12)

MD LG-19: Isolated parcels not included within grazing allotments: 9,522 acres

MD LG-20: Total acres permitted for livestock grazing: 387,057

MD LG-21: Total acres closed to permitted livestock use for the life of the plan: 28,387 acres

Areas specifically closed to livestock grazing include:

- Pryor Herd Area: 28,387 acres

MD LG-22: Total acres available for prescriptive use of livestock grazing: 9,021 acres

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
- Bundy Island: 78 acres

- Sundance Lodge Recreation Area: 387 acres
- Four Dances Natural Area ACEC: 784 acres
- Asparagus Point: +/- 26 acres (that portion north of the Musselshell River and accessible from State Hwy 12)
- Meeteetse Spires ACEC: 558 acres
- Twin Coulee WSA: 6,756 acres

MD LG-23: Maintain current available AUMs (up to 54,873). Adjustments to permitted use will be authorized, based on allotment specific standards and conformance reviews.

MD LG-24: Consider adjusting (increase or decrease) suspended AUMs, based on monitoring data and range conditions.

MD LG-25: Priority Allotments for monitoring and evaluation will be allotments which (**Appendix I**):

- Are not meeting standards for rangeland health
- Contain special status species habitat (including Greater Sage-Grouse PHMA / RHMAs)
- 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

MD LG-26: 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 significant factor, management actions will be taken to make progress toward meeting the standard before the next grazing season.

MD LG-27: No supplement or salt placement within ¼ mile of known special status plant sites, unless livestock is otherwise excluded (fence or barrier).

<u>Permit and Lease Renewals and Relinquishments</u>

MD LG-28: Grazing permits/leases will 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 Y**) 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 will not meet the criteria for this type of action.

MD LG-29: Relinquished AUMs will be transferred or managed as reserve common allotments for neighboring allotments with conflict or resource condition issues.

MD LG-30: Areas with active surface disturbance will be available to livestock grazing.

The AUMs for these areas will be suspended during surface disturbance activities until at such time grazing will continue in a manner which supports the standards for rangeland health.

MD LG-31: Domestic sheep/goat permits – No new grazing permits authorizing sheep or goats will be allowed within 14.3 air miles or 23 Kilometers in bighorn sheep range (Map 17 of the B&PPNM PRMP/FEIS) or as determined through consultation with MTFWP.

MD LG-32: Sheep and goat grazing allotments in areas with risk of contact between bighorn sheep and domestic sheep and/or goats in the planning area will be reviewed and managed, or reclassified if necessary, to achieve effective separation (both temporal and/or spatial at 23 kilometers (14.3 miles) or as determined through consultation with MTFWP. Contact risk will be based on habitat, distance between bighorn sheep range (current and anticipated), sheep and goat allotments, movement potential, and current science and guidelines. Domestic sheep/goats will not be allowed within bighorn sheep range unless mechanisms are in place to achieve effective separation from wild sheep.

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 1: *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 1: *BLM's goal is to develop and maintain appropriate recreational facilities, balancing public demand, protection of public land resources, and fiscal responsibility.*

Goal REC 1: *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 FWP, 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 PPNM 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: The landing of fixed wing aircraft and rotary wing helicopters, for non-emergency purposes, will be restricted to existing or designated roads. The landing of aircraft for non-casual, commercial use such as guiding or air taxi services will be addressed on a case-by-case basis in the

development of an SRP. Develop an appropriate method to allocate air taxi operator and guiding permits, such as lottery, sealed bid, or ranking criteria.

MD REC-10: 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 ERMAs are consistent with their management objectives.

MD REC-11: 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-12: All signs will conform to the sign policies, guidelines, directives, and plans (**Appendix R**).

MD REC-13: As emerging technologies cause new types of recreational activities to be developed or proposed for use on lands managed by the BLM 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, PMWHR, visual resources, areas of high soil erosion, critical wildlife habitats, cultural and paleontological sites, etc.).

MD REC-14: No Surface Occupancy for oil and gas leasing, exploration and development within agency-designated fishing access sites (NSO).

MD REC-15: In PHMA, do not construct new recreation facilities (e.g., campgrounds, trails, trailheads, staging areas) unless the development will have a net conservation gain to GRSG habitat (such as concentrating recreation, diverting use away from critical areas, etc.), or unless the development is required for visitor health and safety or resource protection.

Special Recreation Management Areas

MD REC-16: SRMAs management plans will be initiated within 5 years. Existing SRMA plans will be reviewed for consistency and revised as needed.

MD REC-17: Distinct recreation settings, recreation objectives, recreational experiences, and activities for each SRMA and recreation management zone (RMZ) are identified in **Appendix N** and **Appendix V**.

MD REC-18: Construction and maintenance of non-motorized recreational trails will be considered during the development of SRMA management plans.

MD REC-19: The following areas will be managed as SRMAs (9 SRMAs – 110,862 acres) (Map 3-13):

- Sundance Lodge Recreation Area (387 acres) (Map 3-14)
- Four Dances Natural Area ACEC (784 acres) (Map 3-15)

- Shepherd Ah-Nei Recreation Area (4,680 acres) (Map 3-16)
- Acton Recreation Area (3,697 acres) (Map 3-17)
- Yellowstone River Corridor (½ mile corridor from centerline) (6,311 acres) (Map 3-18)
- Asparagus Point (158 acres) (Will be managed as an SRMA provided that the course of the Musselshell River stabilizes to a condition that management as an SRMA is feasible or practical.) (Map 3-19)
- South Hills TMA (1,357 acres) (Map 3-20)
- Pryor Mountain TMA (81,227 acres) (Map 3-21)
- Horsethief TMA (12,261 acres) (Map 3-22)

MD REC-20: Manage the following 2 areas as ERMAs (36,319 acres) (Map 3-13):

- 17 Mile (2,080 acres) (Map 3-23)
- Mill Creek/Bundy TMA (34,239 acres) (Map 3-24)

MD REC-21: Manage the following areas as non-designated areas:

- The remaining public lands not identified above as SRMAs or ERMAs. (322,418 acres)

MD REC-22: Close the following areas to trapping:

- Sundance Lodge Recreation Area SRMA
- Shepherd Ah-Nei Recreation Area SRMA
- Four Dances Natural Area and ACEC/SRMA

Allow trapping in the other designated SRMAs (see Management Decisions for each individual ACEC for trapping restrictions in ACECs)

MD REC-23: Oil and gas leasing, exploration and development will 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 (YRC): ½ mile corridor

MD REC-24: Oil and gas leasing, exploration and development allowed with a CSU:

- Asparagus Point
- Pryor Mountain TMA

- Horsethief TMA
- South Hills TMA

MD REC-25: The following SRMAs or ERMAs will be managed as VRM Class II:

- Sundance Lodge Recreation Area SRMA (387 acres)
- Four Dances Natural Area ACEC/SRMA (784 acres)
- Shepherd Ah-Nei Recreation Area SRMA (RMZ 2) (3,664 acres)
- Acton Recreation Area SRMA (3,697 acres)
- Yellowstone River Corridor
- Pryor Mountain TMA SRMA (which includes WSA, lands w/ wilderness characteristics, and ACECs)
- Mill Creek/Bundy TMA/ERMA (YRC only)

MD REC-26: The following SRMAs or ERMAs will be managed as VRM Class III:

- Shepherd Ah-Nei Recreation Area SRMA (RMZ 1 (OHV area)) (976 acres)
- Acton Recreation Area SRMA (parking area)
- Horsethief TMA SRMA (12,261 acres)
- 17 Mile Recreation Area ERMA (2,080 acres)
- Asparagus Point Recreation Area SRMA (158 acres)
- South Hills TMA SRMA (1,357 acres)
- Mill Creek/Bundy TMA ERMA (lands outside of YRC)
- Pryor Mountain TMA SRMA (all lands outside of ACEC, lands w/ wilderness characteristics, and WSA)

Special Recreation Permits

MD REC-27: 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-28: Issuance of Special Recreation Permits (SRP) 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-29: 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 3-25)

MD REC-30: Four Dances Natural Area ACEC & SRMA

- 784 acres closed for resource (cultural, historical, wildlife) and public safety concerns (private inholdings, proximity to urban area, topography and vegetation screening)
- 0 acres open
- Managed as ACEC & SRMA

MD REC-31: Sundance Lodge SRMA

- 387 acres closed for resource (cultural, historical, wildlife) and public safety concerns (proximity to suburban areas, vegetation screening)
- 0 acres open
- Managed as SRMA

MD REC-32: Acton Recreation Area

- 3,697 acres closed for resource (cultural, historical) and public safety concerns (vegetation and topography screening, number of other users)
- 0 acres open
- designated an SRMA

MD REC-33: Shepherd Ah-Nei Recreation Area

- 4,689 acres closed for public safety (other recreation users).
- 0 acres open
- SRMA designated for motorized and non-motorized activities, specifically: OHVs less than 50 "

MD REC-34: South Hills Recreation Area

- 1,357 acres closed for public safety concerns (adjacent housing tracts, golf course, roads).
- 0 acres open

MD REC-35: PPNM and ACEC

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

MD REC-36: 17 Mile Recreation Area

- 0 acres closed
- 2,080 acres open
- ERMA designated – no specific management emphasis

MD REC-37: Castle Butte ACEC

- 184 acres closed for resource concerns (historical and cultural)
- 0 acres open
- Managed as ACEC

MD REC-38: Weatherman Draw ACEC

- 12,277 acres closed for resource concerns (historical and cultural) ACEC size increased
- 0 acres open
- Managed as ACEC

MD REC-30: Petroglyph Canyon ACEC

- 240 acres closed for resource (historical and cultural significance) and public safety concerns (topography screening)
- 0 acres open
- Managed as ACEC

MD REC-40: PMWHR and East Pryor ACEC

- Shooting not allowed only in T. 8 S., R 28 E., from Memorial Day through Labor Day for resource (wild horse population), public safety concerns (number of people present). Total area seasonally closed is approximately 6,720 acres.

MD REC-41: Asparagus Point Area

- 2 acres closed for public safety concerns (developed site)
- 156 acres open
- Managed as SRMA

MD REC-42: Stark Site ACEC

- 799 acres closed for resource concerns (cultural and Historical resources)
- 0 acres open
- Managed as ACEC

MD REC-43: Grove Creek ACEC

- 0 acres closed
- 8,251 acres open
- ACEC designation

MD REC-44: Total Field Office BLM Administered public lands (Map 3-25)

- 31,586 acres closed or seasonally closed for resource/safety concerns
- 402,568 acres open to target shooting

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 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 MFWP 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 AO 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 AO, 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 MT FWP). Stipulations or limitations will be included in the authorization.

MD TTM-14: Oil and gas activities will comply with all motorized vehicle use and travel plan restrictions, including seasonal restrictions and areas closed to motorized travel. (CSU)

MD TTM-15: By BLM Manual 6330, WSAs do not allow for new surface disturbances and there is no cross-country OHV use. Use is restricted to the actual tread width.

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

MD TTM-17: Motorized travel in designated SRMAs will be allowed on designated routes only.

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 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-21: BLM will manage to reduce open road densities in big game winter and calving ranges where they exceed 1.0 miles/square mile.

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.

MD TTM-24: Site specific travel planning within Greater Sage-Grouse PHMA will be completed within a five (5) year period after the ROD is signed where it hasn't already been completed as part of this plan.

MD TTM-25: In PHMA and GHMA, temporary closures will be considered in accordance with 43 CFR, subpart 8364 (Closures and Restrictions); 43 CFR, subpart 8351 (Designated National Area); 43 CFR, subpart 6320 (Use of Wilderness Areas, Prohibited Acts, and Penalties); 43 CFR, subpart 8341 (Conditions of Use).

Temporary closure or restriction orders under these authorities are enacted at the discretion of the AO to resolve management conflicts and protect persons, property, and public lands and resources. Where an AO determines that 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, other authorized uses, or other resources, the affected areas shall 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. (43 CFR, Part 8341.2) A closure or restriction order should be considered only after other management strategies and alternatives have been explored. The duration of temporary closure or restriction orders should be limited to 24 months

or less; however, certain situations may require longer closures and/or iterative temporary closures. This may include closure of routes or areas.

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.

Travel Management Areas (TMAs)

MD TTM-39: Establish 11 TMAs to minimize impacts and provide a spectrum of motorized and non-motorized recreational opportunities (Map 3-26). (refer to Glossary – Travel Management Areas - for definitions of terminology)

MD TTM-40: Motorized travel in TMAs will be limited to designated roads, primitive roads, and trails, except in designated Open Areas (South Hills OHV Area) or on designated and existing routes (Elk Basin area of the Sub Region III of the Cottonwood/Weatherman Draw TMA) until the TMA Implementation Plan is completed or other resource concerns (such as soil erosion or sage grouse habitat concerns) are addressed. For the Elk Basin Area boundary defined see Section 3.21.3.11 in the PRMP.)

MD TTM-41: An implementation and monitoring plan will be initiated for the TMAs within 3-5 years of the ROD. The plan will include signing, mapping, information, and education, and monitoring of impacts associated with continued use on designated open routes, etc. Implementation plan will also identify criteria for route variances specific to each TMA.

MD TTM-42: Upon project completion, routes used for commercial or other BLM authorized activities 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-43: The BLM will close or restore unauthorized or user created roads and trails to prevent resource damage.

MD TTM-44: Variances to travel plan or route designations will be issued based on essential agency administrative actions, data variances due to route inventory, boundary adjustments, etc., as determined by the AO.

MD TTM-45: 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 will adjust its travel routes accordingly.

MD TTM-46: TMAs can be changed, added, or deleted as conditions warrant, but the management prescriptions remain constant.

Gage Dome/Colony Road TMA

MD TTM-47: Gage Dome/Colony Road TMA Management Objectives: reduce road density to minimize impacts on Greater Sage-Grouse habitat and other resource values. Manage the TMA to provide recreational opportunities and access while protecting Greater Sage-Grouse habitat.

Horsethief TMA

MD TTM-48: Horsethief TMA Management Objectives: provide a range of recreational and access opportunities while minimizing impacts on cultural and heritage values and other resources. This TMA was expanded to include Stark Site ACEC.

MD TTM-49: A rock crawl area will not be established. SRPs for motorized events or organized group activities will be considered on a case-by-case basis.

Acton TMA

MD TTM-50: Acton TMA Management Objectives: provide a range of recreational and access opportunities while minimizing impacts on cultural properties and other resource values.

Shepherd Ah-Nei TMA

MD TTM-51: Shepherd Ah-Nei TMA. This TMA is delineated into three sub-regions, based on landscape patterns, use, and resource considerations.

Management Objectives: minimize user conflicts and impacts on resources while providing opportunities for both motorized and non-motorized activities through three distinct management zones.

MD TTM-52: Shepherd Ah-Nei Area II: Admin Use only

MD TTM-53: Shepherd Ah-Nei Area III: Admin Use Only

Mill Creek/Bundy TMA

MD TTM-54: Mill Creek/Bundy TMA Management Objectives: improve access and provide a range of recreational opportunities. Protect cultural and resource habitat values within the Castle Butte ACEC boundaries. Emphasis will be placed on minimizing impacts on cultural properties and other resource values while providing access for the public, permittees, non-federal landowners, and administrative needs.

South Hills TMA

MD TTM-55: South Hills TMA Management Objectives: minimize user conflicts and impacts on resources while providing opportunities for both motorized and non-motorized activities (Map 3-27)

MD TTM-56: Manage South Hills open to cross country travel - Motorcycles only

- 1,097 acres Motorcycle Use only
- 260 acre Buffer Area - Closed to Motorized Use (adjacent to residential area)

To see acres of the total miles, refer to the travel area maps in the Map Section of the B&PPNM PRMP/FEIS.

Tin Can Hill TMA

MD TTM-57: Tin Can Hill TMA Management Objectives: to provide a range of recreational and access (public and administrative) opportunities. Minimize impacts on cultural properties and other resource values and minimize conflicting uses.

Cottonwood/Weatherman Draw TMA

MD TTM-58: Cottonwood/Weatherman Draw TMA: This area will be delineated into three sub-regions to address varying resource issues, access and recreational opportunities.

- Sub-Region I - Weatherman Draw/Castle Coulee. The area is described as being all lands in the Cottonwood/Weatherman Draw TMA which are east of Cottonwood Road. These lands include the Weatherman Draw ACEC and the Weatherman Draw LWC unit. The management objectives are to protect cultural values and resources within the ACEC and the LWC units, minimize impacts on cultural values, fragile and erosive soils, scenery and other resources throughout the sub-region.
- Sub-Region II - Hollenbeck These lands are described as all lands within the Cottonwood/Weatherman Draw TMA which lie west of Silver Tip Road. The management objectives are to provide recreational opportunities with an emphasis on minimizing impacts on Sage-grouse habitat, fragile and erodible soils, and other resources.

- Sub-Region III - Silver Tip. The area is described as being all lands within the Cottonwood/Weatherman Draw TMA lying between Silver Tip Road and Cottonwood Road. These lands include the Elk Basin area which covers the Oil and Gas field and the OHV Motorcycle Trail system. The management goals are to provide for motorized recreational opportunities and oil and gas development with emphasis on minimizing impacts on fragile and erosive soils, sage grouse habitat, and other resources.

MD TTM-59: Motorcycle use permitted on designated and existing single track trails in the Elk Basin Area (area defined in Section 3.21.3.11 of the PRMP/FEIS) until addressed through the follow-on Cottonwood/Weatherman Draw Travel Implementation Plan or through other resource initiatives (soil erosion, sage grouse, etc.).

Warren TMA

MD TTM-60: Warren TMA Management Objectives: to provide recreational opportunities with emphasis on protecting key Greater Sage-Grouse habitat while minimizing impacts on other resources values. Maintain current level of access.

Pryor Mountain TMA

MD TTM-61: Pryor Mountain TMA Management Objectives: to protect wilderness values, cultural/heritage/paleontological resources, visual characteristics, special status plants, fragile and erosive soils, wild horses, and wild horse habitat.

Grove Creek TMA

MD TTM-62: Grove Creek TMA Management Objectives: to minimize impacts on geologic and visual resources, special status plants, and cultural and wildlife values, including Greater Sage-Grouse, while providing casual, non-commercial public recreational access.

MD TTM-63: 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.

Renewable Energy (RE)

Goals RE 1: *Provide opportunities for the development of renewable energy resources from sources such as wind, biomass, and solar, while minimizing adverse impacts on other resource values.*

Goals RE 2: *Make lands available for renewable energy development, consistent with goals and objectives of other resources.*

Goals RE 3: *In cooperation with project proponents, promote and enhance scientific knowledge of renewable energy resources in the planning area.*

Management Decisions (MD)

MD RE-1: Proposals for renewable energy development will be considered, except in exclusion areas. Proposals will not be entertained in designated exclusion areas. Proposals in avoidance areas could be subject to substantial special stipulations given known resource values.

MD RE-2: Wind and solar applications will be processed under the Realty, Cadastral Survey, and Lands ROW regulations found at 43 CFR, Part 2800, as will biomass energy generating facilities.

MD RE-3: Geothermal development will be considered under the geothermal regulations found at 43 CFR, Part 3200; utilization of biomass will generally be authorized under regulations for the forestry program found at 43 CFR, Part 5400, and hydropower applications will be considered under provisions of the Federal Power Act, as amended, in coordination with the Federal Regulatory Energy Commission (FERC).

MD RE-4: Programmatic policies and BMPs identified in the ROD for Implementation of a Wind Energy Development Program as well as BLM policies and directives regarding wind energy will be used in processing all wind energy applications.

MD RE-5: Manage 231,755 acres as exclusion areas (closed) to renewable energy authorizations, including (Map 3-28):

- WSAs* (*If released by an Act of Congress, lands within WSA boundaries will remain closed.)
  - Big Horn Tack-On WSA
  - Burnt Timber Canyon WSA
  - Pryor Mountain WSA
  - Twin Coulee WSA
- National Historic Trails
  - Nez Perce NHT
  - Lewis & Clark NHT
- ACECs
  - Bridger Fossil Area ACEC
  - Castle Butte ACEC
  - East Pryor ACEC
  - Four Dances Natural Area ACEC
  - Grove Creek ACEC
  - Meeteetse Spires ACEC
  - Petroglyph Canyon ACEC
  - Pompeys Pillar ACEC
  - Pryor Foothills ACEC
  - Stark Site ACEC
  - Weatherman Draw ACEC
- WSR Eligible/Suitable Segments

- LWCs
- PMWHR
- Cultural Sites
  - Steamboat Butte
  - Bruder-Janich Site
  - Paul Duke Site
  - Demi-John Flat NR District
  - Bighorn Mouth North Cliffs Rock Art Site
  - Hoskins Basin Archaeological District
- VRM Class I areas
- Greater Sage-Grouse PHMA
- Elk Basin GRSG RHMA

MD RE-6: Manage 200,278 acres as avoidance areas for renewable energy authorizations, subject to special stipulations and mitigation beyond standard stipulations and BMPs applied through site-specific analysis. (Map 3-28)

Special stipulations and mitigation include provisions such as TLs, CSU, and other constraints/restrictions consistent with fluid minerals stipulations that will be applied to protect the following particular resources/habitats:

- Greater Sage-Grouse GHMA
- Greater Sage-Grouse RHMAs outside of Elk Basin
- Bald/Golden Eagles
- Ferruginous Hawks
- Greater Sage-Grouse Winter Range
- Big Game Winter Range
- Big Game Parturition
- Bighorn Sheep Habitat
- Sharp-tailed grouse
- Peregrine Falcon
- Mountain Plover
- Raptor Nests
- Other avoidance areas include:
  - Asparagus Point
  - Steamboat Butte

  - Portion of Acton
  - Portion of Shepherd Ah-Nei
  - Bad Canyon
  - East and Red Pryor Mountains,
- Cave and Karst areas
- VRM Class II areas
- Within ¼ mile of riparian areas and wetlands, designated 100 year flood plains and on water bodies and streams, unless activities are not in conflict with desired outcomes.
- Surface disturbance on slopes >30%, soils with low reclamation potential, and highly erodible characteristics will be avoided whenever possible. If disturbance could not be avoided an approved mitigation and reclamation plan will be required prior to activities taking place.
- TLs apply to development of facilities, but not to operation or maintenance.

MD RE-7: Manage 1,512 acres as Open to renewable energy, applying standard ROW terms and conditions and wind or other BMPs. (Map 3-28)

MD RE-8: Designate 360 acres of Open acres in Class 4 and above as Potential Wind Development Areas. At the discretion of the AO, areas designated as Potential Wind Development Areas could be offered for competitive leasing.

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.

3.2.3 Special Designations

Special Designations (SD)

Goal SD-1: *Evaluate areas of interest needing special management for special designation (**Appendix T**)*

Management Decision (MD)

MD SD-1: Retain 9 ACECs and designate 2 new ACECs for a total of 38,786 acres (Map 3-29)

Pompeys Pillar ACEC (432 acres) (PP/ACEC)

Goal PP/ACEC 1: *Pompeys Pillar ACEC will be managed as a high potential historic site and a high potential route segment along the Lewis and Clark National Historic Trail (LCNHT). The Lewis and Clark high potential route segment will be managed consistent with the trail-wide goals for the LCNHT.*

Goal PP/ACEC 2: *Pompeys Pillar ACEC is included within the LCNHT Management corridor.*

Goal PP/ACEC 3: *Give priority to the management and protection of the resources for which the ACEC was designated, according to FLPMA. The identified resources are primarily significant cultural resources, and also a functional riparian ecosystem and fish and wildlife habitat.*

Management Decisions (MD)

The 432 acre ACEC includes the 51 acre National Monument. The following management is for the ACEC and the Front Country Zone (34 acres) outside of the National Monument only. (see Pompeys Pillar National Monument ARMP for Pompeys Pillar National Monument management direction).

MD PP/ACEC-1: Land Use Authorizations: Avoidance (1) Area –restricts ROW to a 500' wide path paralleling the southern boundary of the public lands along Highway 312.

MD PP/ACEC-2: Land Tenure: Land disposals not allowed, with the possible exception of the three acre parcel south of Interstate 94.

MD PP/ACEC-3: Visual Resource Management: Class II established for consistency with the LCNHT management.

MD PP/ACEC-4: 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 PP/ACEC-5: Fluid Mineral leasing: NSO

MD PP/ACEC-6: Fuelwood cutting/Wood Product Sales: not allowed

MD PP/ACEC-7: Target Shooting: Not allowed for public safety and resource concerns

MD PP/ACEC-8: Hunting Allowed: Management restrictions will be implemented to ensure public safety. Alterations to restrictions will be made if conditions require. Hunting is not allowed in a portion of the ACEC located in proximity to developed facilities and an area of high public use (approximately 58 acres) for safety considerations.

MD PP/ACEC-9: 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 3-30). In this zone the BLM will:

1. 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 BMPs for visual resources management and the BLM Guidelines for a Quality Built Environment.
4. Facilities will be designed to enhance visitor experiences

General Management Zone – (347 acres) - entire ACEC outside of the PPNM and Front Country Zone: The management objective is to improve and/or maintain wildlife habitat, protect significant cultural and riparian ecosystem, provide for or enhance recreational opportunities, visitor services, and wildlife viewing. Priority may be given to resource protection measures for identified needs, but decisions may also include facility development, if needed. (Map 3-30)

MD PP/ACEC-10: OHV and Bicycle use: Limited to designated roads and trails (2). Administrative use or other authorized use allowed on a case-by-case basis.

MD PP/ACEC-11: Plant collecting: Allowed but with restrictions (3)

MD PP/ACEC-12: Locatable Minerals: Recommend withdrawal from mineral entry and location under the Mining Law of 1872, as amended. Subject to valid existing rights.

MD PP/ACEC-13: Solid Leasable Minerals: Closed and recommend for withdrawal from solid leasable mineral entry, subject to valid existing rights.

MD PP/ACEC-14: Mineral Material Sales and Permits: Not allowed

MD PP/ACEC-15: Renewable Energy: Not allowed (6)

MD PP/ACEC-16: Geophysical Exploration: Closed to geophysical exploration

MD PP/ACEC-17: Fire Suppression: No heavy equipment in riparian area. Full range of fire management activities will be used in remainder of ACEC.

MD PP/ACEC-18: fuels management: Fuels management and prescribed fire (8) may be allowed in the ACEC.

MD PP/ACEC-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. (7)

MD PP/ACEC-20: Range Improvements: Allowed (5)

MD PP/ACEC-21: Noxious/Invasive Weed Treatments: Allowed (5) (10)

MD PP/ACEC-22: Animal Trapping/Traplines: Allowed for administrative purposes in the entire ACEC.

MD PP/ACEC-23: non-commercial collection of common invertebrate and plant fossils: Not allowed

MD PP/ACEC-23: Cremains Scattering: Not allowed

MD PP/ACEC-23: Special Recreation Permits and Letters of Authorization: Allowed (5)

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 PP/ACEC-23: Other Permitted Activities: Allowed (5)

MD PP/ACEC-23: Geocaching: Generally not allowed but could be if conditions are met (11)

MD PP/ACEC-23: Road Maintenance: Allowed (4)

MD PP/ACEC-23: Other Management: Other management activities and/or uses will be considered in subsequent site-specific analysis, and will consider the values for which the ACEC is designated (5).

MD PP/ACEC-23: 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. Road maintenance will be limited to the designated roadway and only that necessary to ensure public safety and serviceability of the road.
5. 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 ACEC 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 ACEC (especially if cultural resources are one of the values for ACEC designation).
6. Closed to renewable energy facilities and renewable energy development. This includes all commercial renewable energy facilities, including those for testing, monitoring, and development.
7. Livestock grazing will be controlled through terms and conditions on the grazing permit.
8. 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 ACEC.
9. Open to mineral material activities on a case-by-case basis and subject to 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.
10. Treatments may include any combination of herbicide application, mechanical treatments, burning, grazing, and the use of insects or pathogens.
11. If geocache location/activity does not conflict with the resource values of the ACEC this activity could be considered. BLM resource specialists (archaeologist and wildlife biologist), BLM ORP, must agree activity does not impact ACEC values

Bridger Fossil Area ACEC (BFA/ACEC)

Goal BFA/ACEC 1: *The Bridger Fossil Area ACEC will be managed to protect paleontological values. In addition, the values for which the Bridger Fossil Area National Natural Landmark was designated will be maintained. (Map 3-31)*

Management Decisions (MD)

MD BFA/ACEC-1: Land Use Authorizations, including ROWs: Exclusion area

MD BFA/ACEC-2: Land Tenure: Category I retention land: no land disposal will occur

MD BFA/ACEC-3: Off-Highway Vehicle Use: Limited to designated roads and trails (refer to Warren TMA).

MD BFA/ACEC-4: BLM Road Maintenance: Limited (4)

MD BFA/ACEC-5: Visual Resource Management: Class II

MD BFA/ACEC-6: Plant Collecting: Allowed (3)

MD BFA/ACEC-7: Fluid Mineral Leasing: Closed (NL)

MD BFA/ACEC-8: Locatable Minerals: Recommend withdrawal from mineral entry and location under the Mining Law of 1872, as amended. Subject to valid existing rights.

MD BFA/ACEC-9: Solid Leasable Minerals: Closed

MD BFA/ACEC-10: Mineral Material Sales and Permits: Allowed (9)

MD BFA/ACEC-11: Renewable Energy: Closed (6)

MD BFA/ACEC-12: Geophysical Exploration: Allowed (5) if no damage to paleontological resources. If monitoring indicates fossil damage, this activity will not be allowed.

MD BFA/ACEC-13: Use of Explosives for Geophysical Exploration: Not allowed

MD BFA/ACEC-14: Fire Suppression: With the exclusion of heavy equipment, a full range of fire management activities will be used in the ACEC.

MD BFA/ACEC-15: Fuels Management: Fuels removed where there will be threat of loss of resource (8)

MD BFA/ACEC-16: Fuelwood Cutting/Wood Product Sales: Not allowed

MD BFA/ACEC-17: Livestock Grazing: Available (7)

MD BFA/ACEC-18: Range Improvements: Allowed if no conflicts with ACEC values (5)

MD BFA/ACEC-19: Noxious/Invasive Weed Treatments: Allowed (5) (10)

MD BFA/ACEC-20: Animal Trapping/Traplines: Allowed

MD BFA/ACEC-21: Target Shooting: Allowed – monitor to ensure no conflicts with resource values.

MD BFA/ACEC-22: Non-Commercial Collection of Common Invertebrate and Plant Fossils: Allowed (5) by BLM authorization only

MD BFA/ACEC-23: Cremains Scattering: Allowed (5)

MD BFA/ACEC-24: Special Recreation Permits and Letters of Authorization: Allowed (5)

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 BFA/ACEC-25: Other Permitted Activities: Allowed (5)

MD BFA/ACEC-26: Transportation: No new permanent road or trail development for motorized vehicles.

MD BFA/ACEC-27: Geocaching: Not allowed (11)

MD BFA/ACEC-28: 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 ACEC is designated (5).

MD BFA/ACEC-29: Notes:

1. Avoidance area; granting Rights-of-Way (surface, subsurface, aerial) within the area should be avoided, but rights-of-way will 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. Road maintenance will be limited to the designated roadway and only that necessary to ensure public safety and serviceability of the road.
5. 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 ACEC 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 ACEC (especially if cultural resources are one of the values for ACEC designation).
6. Closed to renewable energy facilities and renewable energy development
7. Livestock grazing will be controlled through terms and conditions on the grazing permit.

8. Evaluate fire potential and remove fuels where needed to protect resource values and meet the objectives of the ACEC values. Types of treatments permitted: No surface disturbing heavy equipment use, most types of fire/fuels treatments permitted, check with archaeologist prior to retardant use
9. Open to mineral material activities on a case-by-case basis and subject to 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.
10. Treatments may include any combination of herbicide application, mechanical treatments, burning, grazing, and the use of insects or pathogens.
11. If geocache location/activity does not conflict with the resource values of the ACEC, this activity could be considered. BLM Resource Specialist (arch) and BLM ORP must agree activity does not impact ACEC values.

Castle Butte ACEC (CB/ACEC)

Goal CB/ACEC 1: *The Castle Butte ACEC will be managed to protect unique cultural values. (Map 3-32)*

Management Decisions (MD)

MD CB/ACEC-1: Land Use Authorizations, including ROWs: Avoidance (1)

MD CB/ACEC-2: Land Tenure: Category I retention land: no land disposal will occur

MD CB/ACEC-3: Off-Highway Vehicle Use: Limited to designated routes (refer to Mill Creek TMA).

MD CB/ACEC-4: BLM Road Maintenance: Limited (4)

MD CB/ACEC-5: Visual Resource Management: Class II

MD CB/ACEC-6: Plant Collecting: Allowed (3)

MD CB/ACEC-7: Fluid Mineral Leasing: No federal minerals

MD CB/ACEC-8: Locatable Minerals: No federal minerals

MD CB/ACEC-9: Solid Leasable Minerals: No federal minerals

MD CB/ACEC-10: Mineral Material Sales and Permits: No federal minerals

MD CB/ACEC-11: Renewable Energy: Closed (6)

MD CB/ACEC-12: Geophysical Exploration: Not allowed

MD CB/ACEC-13: Use of Explosives for Geophysical Exploration: Not allowed

MD CB/ACEC-14: Fire Suppression: No heavy equipment use; no retardant or foam use on Castle Butte; full range of fire management activities will be used in remainder of ACEC.

MD CB/ACEC-15: Fuels Management: Fuels removed where there will be threat of loss of resource (8).

MD CB/ACEC-16: Fuelwood Cutting/Wood Product Sales: Not allowed

MD CB/ACEC-17: Livestock Grazing: Available (7)

MD CB/ACEC-18: Range Improvements: Allowed if no conflicts with ACEC values (5)

MD CB/ACEC-19: Noxious/Invasive Weed Treatments: Allowed (5) (10)

MD CB/ACEC-20: Animal Trapping/Traplines: Not allowed

MD CB/ACEC-21: Target Shooting: Not allowed

MD CB/ACEC-22: Non-Commercial Collection of Common Invertebrate and Plant Fossils: Allowed

MD CB/ACEC-23: Cremains Scattering: Not allowed

MD CB/ACEC-24: Special Recreation Permits and Letters of Authorization: Allowed (5)

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 CB/ACEC-25: Other Permitted Activities: Allowed (5)

MD CB/ACEC-26: Transportation: No new road or trail development

MD CB/ACEC-27: Geocaching: Not allowed (11)

MD CB/ACEC-28: 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 ACEC is designated (5).

MD CB/ACEC-29: Consider acquiring mineral estate from willing sellers for the ACEC.

MD CB/ACEC-30: 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. Road maintenance will be limited to the designated roadway; and only that necessary to ensure public safety and serviceability of the road.

5. 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 ACEC 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 ACEC (especially if cultural resources are one of the values for ACEC designation).
6. Closed to renewable energy facilities and renewable energy development
7. Livestock grazing will be controlled through terms and conditions on the grazing permit.
8. Evaluate fire potential and remove fuels where needed to protect resource values and meet the objectives of the ACEC values. Types of treatments permitted: hand cutting or, chainsaw use only on the Castle Butte rock formation, elsewhere in the ACEC other types of treatment will be allowed.
9. Open to mineral material activities on a case-by-case basis and subject to 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.
10. Treatments may include any combination of herbicide application, mechanical treatments, burning, grazing, and the use of insects or pathogens.
11. If geocache location/activity does not conflict with the resource values of the ACEC, this activity could be considered. BLM resource specialist (archaeologist) and BLM ORP must agree activity does not impact ACEC values.

East Pryor ACEC (EP/ACEC)

Goal EP/ACEC 1: *The East Pryor ACEC will be managed to protect wild horse and wildlife habitat, historical/cultural resources, special status plant species, and paleontological values. In addition, the values for which the Crooked Creek Natural Area and the Crooked Creek National Natural Landmark were designated will be maintained. (Map 3-33)*

Management Decisions (MD)

MD EP/ACEC-1: Land Use Authorizations, including ROWs: Avoidance (1)

MD EP/ACEC-2: Land Tenure: Category I retention land: no land disposal will occur

MD EP/ACEC-3: Off-Highway Vehicle Use, including Snowmobiles: Limited to designated routes (refer to Pryor TMA and Trails and Travel Management - Snowmobiles (OSVs)).

MD EP/ACEC-4: BLM Road Maintenance: Limited (4)

MD EP/ACEC-5: Visual Resource Management: Class II

MD EP/ACEC-6: Plant Collecting: Allowed (3)

MD EP/ACEC-7: Fluid Mineral Leasing: Closed to oil and gas leasing and development (NL).

MD EP/ACEC-8: Locatable Minerals: Recommend withdrawal from mineral entry and location under the Mining Law of 1872, as amended. Subject to valid existing rights.

MD EP/ACEC-9: Solid Leasable Minerals: Closed, subject to valid existing rights.

MD EP/ACEC-10: Mineral Material Sales and Permits: Allowed (9)

MD EP/ACEC-11: Renewable Energy: Closed (6)

MD EP/ACEC-12: Geophysical Exploration: Not allowed

MD EP/ACEC-13: Use of Explosives for Geophysical Exploration: Not allowed

MD EP/ACEC-14: Fire Suppression: Wildfire management (natural ignitions) for resource benefit.

Full range of fire management activities will be used in ACEC in response to human-ignited fires.

MD EP/ACEC-15: Fuels Management: Allowed (8)

MD EP/ACEC-16: Fuelwood Cutting/Wood Product Sales: Casual collection of dead and down allowed for personal use only while recreating.

MD EP/ACEC-17: Livestock Grazing: Closed within PMWHR boundary, except Bad Pass Trail Allotment. Available outside PMWHR (7)

MD EP/ACEC-18: Range Improvements: Allowed (5)

MD EP/ACEC-19: Noxious/Invasive Weed Treatments: Allowed (5) (10)

MD EP/ACEC-20: Animal Trapping/Traplines: Allowed

MD EP/ACEC-21: Target Shooting: Not allowed on 8S 28E Memorial Day weekend through Labor Day weekend. Allowed in remainder of ACEC

MD EP/ACEC-22: Non-Commercial Collection of Common Invertebrate and Plant Fossils: Allowed

MD EP/ACEC-23: Cremains Scattering: Not allowed

MD EP/ACEC-24: Special Recreation Permits and Letters of Authorization: SRPs will initially be limited to existing SRPs. Additional (new) SRPs will be permitted only when determined not to result in congestion, wild horse displacement, cause an adverse experience for members of the public viewing wild horses outside of an SRP experience through monitoring of existing SRPs and visitation, and when determined not to result in impacts on the values for which the ACEC was designated. (5)

MD EP/ACEC-25: Other Permitted Activities: Allowed (5)

MD EP/ACEC-26: Transportation: Routes for commercial or other BLM authorized activities may be considered on a case-by-case basis if the route meets public access needs.

MD EP/ACEC-27: Geocaching: Not allowed (11)

MD EP/ACEC-28: Other Management: Other management activities and/or uses will be considered in subsequent site-specific analysis, and will consider the values for which the ACEC is designated (5).

MD EP/ACEC-29: WSA: Until Congress acts to either release or designate the WSAs as Wilderness, the area will continue to be managed under the BLM Manual 6300 prescriptions. If Congress releases the lands from WSA status, the special management prescriptions as an ACEC will comprise the management direction. These management prescriptions are slightly different from the WSA prescriptions. A more detailed ACEC Management Plan will be initiated within 2 years following WSA release. This ACEC management plan will be developed through a public process. If at that time management decisions are proposed that will significantly alter the resource allocations outlined in this RMP, a Plan Amendment will likely be undertaken.

MD EP/ACEC-30: 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. Road maintenance will be limited to the designated roadway; and only that necessary to ensure public safety and serviceability of the road.
5. 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 ACEC 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 ACEC (especially if cultural resources are one of the values for ACEC designation).
6. Closed to renewable energy facilities and renewable energy development
7. Livestock grazing will be controlled through terms and conditions on the grazing permit.
8. Evaluate fire potential and remove fuels where needed to protect resource values. Most types of fire and fuels treatments are permitted.
9. Open to mineral material activities on a case-by-case basis and subject to 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.
10. Treatments may include any combination of herbicide application, mechanical treatments, burning, grazing, and the use of insects or pathogens.
11. If geocache location/activity does not conflict with the resource values of the ACEC, this activity could be considered. BLM resource specialists (Wild Horse Specialist, wildlife

biologist, and archaeologist) and BLM ORP must agree activity does not impact ACEC values.

Four Dances Natural Area ACEC (FDNA/ACEC)

Goal FDNA/ACEC 1: *The Four Dances Natural Area ACEC will be managed to protect significant historic, cultural, and scenic values, peregrine falcon nesting habitat, and managed for the natural hazards of the cliffs. (Map 3-34)*

Management Decisions (MD)

MD FDNA/ACEC-1: Land Use Authorizations, including ROWs: Avoidance (1). Uses and practices will be consistent with the Deed of Conservation Easement.

MD FDNA/ACEC-2: Land Tenure: Category I retention land: no land disposal will occur

MD FDNA/ACEC-3: Off-Highway Vehicle Use: Closed to motorized public use. Mechanized (bicycle) travel will be considered in a future SRMA plan.

MD FDNA/ACEC-4: BLM Road Maintenance: Limited (4)

MD FDNA/ACEC-5: Visual Resource Management: Class II (parking lot = Class III)

MD FDNA/ACEC-6: Plant Collecting: Allowed (3)

MD FDNA/ACEC-7: Fluid Mineral Leasing: Closed to oil and gas leasing, exploration and development.

MD FDNA/ACEC-8: Locatable Minerals: Closed and continue withdrawal from mineral entry.

MD FDNA/ACEC-9: Solid Leasable Minerals: Closed and continue withdrawal from mineral entry.

MD FDNA/ACEC-10: Mineral Material Sales and Permits: Not allowed

MD FDNA/ACEC-11: Renewable Energy: Closed (6)

MD FDNA/ACEC-12: Geophysical Exploration: Not allowed

MD FDNA/ACEC-13: Use of Explosives for Geophysical Exploration: Not allowed

MD FDNA/ACEC-14: Fire Suppression: Fire suppression will include use of natural barriers and hand constructed fire lines. Use of heavy equipment and retardant will be avoided unless approved by the AO. No heavy equipment use near vision quest site, no retardant use within 100 feet of Will James cabin or rock art. Full range of fire management activities will be used in remainder of ACEC.

MD FDNA/ACEC-15: Fuels Management: Allowed (5) (8)

MD FDNA/ACEC-16: Fuelwood Cutting/Wood Product Sales: Wood product sales and commercial timber harvest will not be allowed.

Timber management for the safety and enhancement of other values will be allowed in the woody draws, on the islands, and along the Yellowstone River bottom.

MD FDNA/ACEC-17: Livestock Grazing: Buffalo grazing not permitted.

Livestock grazing will be allowed.

Only authorized to meet other resource objectives consistent with ACEC designation. Grazing must meet Standard and Guidelines. (7)

MD FDNA/ACEC-18: Range Improvements: Allowed if no conflicts with ACEC objectives (5)

MD FDNA/ACEC-19: Noxious/Invasive Weed Treatments: Allowed (5) (10)

MD FDNA/ACEC-20: Animal Trapping/Traplines: Not allowed

MD FDNA/ACEC-21: Hunting/Target Shooting: No discharging of firearms.

Archery hunting may be allowed, if deemed necessary by MTFWP (authorization from BLM required).

MD FDNA/ACEC-22: Non-Commercial Collection of Common Invertebrate and Plant Fossils:

MD FDNA/ACEC-23: Cremains Scattering: Not allowed

MD FDNA/ACEC-24: Special Recreation Permits and Letters of Authorization: Allowed (5)

Authorizations will be required or timing and locations will 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 will be limited to specific time periods and specific portions of the property.

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 FDNA/ACEC-25: Other Permitted Activities: Allowed (5)

MD FDNA/ACEC-26: Transportation: No increase in road density

MD FDNA/ACEC-27: Recreation: 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.

MD FDNA/ACEC-28: Wildlife: Special management and priority will 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.

MD FDNA/ACEC-29: Geocaching: Not allowed (11)

MD FDNA/ACEC-30: Other Management: Other management activities and/or uses will be considered in subsequent site-specific analysis, and will consider the values for which the ACEC is designated (5).

MD FDNA/ACEC-31: Consider acquiring minerals from willing sellers for the ACEC.

MD FDNA/ACEC-32: 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.
3. Commercial collection of plant materials, including common species, authorized by permit only. Casual use allowed.
4. Road maintenance will be limited to the designated roadway and only that necessary to ensure public safety and serviceability of the road.
5. 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 ACEC 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 ACEC (especially if cultural resources are one of the values for ACEC designation).
6. Closed to renewable energy facilities and renewable energy development.
7. Livestock grazing will be controlled through terms and conditions on the grazing permit.
8. Evaluate fire potential and remove fuels where needed to protect resource values and meet the objectives of the ACEC. Types of treatments permitted: prescribed fire throughout ACEC allowed, hand cutting/chainsaw use preferred around rock art sites.
9. Open to mineral material activities on a case-by-case basis and subject to 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.
10. Treatments may include any combination of herbicide application, mechanical treatments, burning, grazing, and the use of insects or pathogens.
11. If geocache location/activity does not conflict with the resource values of the ACEC, this activity could be considered. BLM resource specialists (archaeologist and wildlife biologist) and BLM ORP must agree activity does not impact ACEC values.

Grove Creek ACEC (GC/ACEC)

Goal GC/ACEC 1: *The Grove Creek ACEC will be managed to protect significant archaeological and traditional cultural values and special status plants. (Map 3-35)*

Management Decisions (MD)

MD GC/ACEC-1: Land Use Authorizations, including ROWs: Avoidance (1)

MD GC/ACEC-2: Land Tenure: Category I retention land: no land disposal will occur

MD GC/ACEC-3: Off-Highway Vehicle Use: Limited to designated routes (refer to Grove Creek TMA).

MD GC/ACEC-4: BLM Road Maintenance: Limited (4)

MD GC/ACEC-5: Visual Resource Management: Class III

MD GC/ACEC-6: Plant Collecting: Allowed (3)

MD GC/ACEC-7: Fluid Mineral Leasing: NSO. COA for existing leases

MD GC/ACEC-8: Locatable Minerals: Recommend withdrawal from mineral entry and location under the Mining Law of 1872, as amended. Subject to valid existing rights.

MD GC/ACEC-9: Solid Leasable Minerals: Closed and recommend withdrawing from mineral entry

MD GC/ACEC-10: Mineral Material Sales and Permits: Allowed (9)

MD GC/ACEC-11: Renewable Energy: Closed (6)

MD GC/ACEC-12: Geophysical Exploration: Allowed (5)

MD GC/ACEC-13: Use of Explosives for Geophysical Exploration: Not allowed

MD GC/ACEC-14: Fire Suppression: Wildfire management (natural ignitions) for resource benefit. Full range of fire management activities will be used in ACEC in response to human-ignited fires. Use of heavy equipment and retardant will be avoided unless approved by the AO.

MD GC/ACEC-15: Fuels Management: Allowed (8)

MD GC/ACEC-16: Fuelwood Cutting/Wood Product Sales: Allowed if no conflicts with ACEC values (5)

MD GC/ACEC-17: Livestock Grazing: Available (7)

MD GC/ACEC-18: Range Improvements: Allowed if no conflicts with ACEC values (5)

MD GC/ACEC-19: Noxious/Invasive Weed Treatments: Allowed (5) (10)

Herbicide applications will be by hand, not by boom or aerial in order to protect special status plants

MD GC/ACEC-20: Animal Trapping/Traplines: Allowed

MD GC/ACEC-21: Target Shooting: Allowed

MD GC/ACEC-22: Cremains Scattering: Not allowed

MD GC/ACEC-23: Special Recreation Permits and Letters of Authorization: Allowed (5)

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 GC/ACEC-24: Other Permitted Activities: Allowed (5)

MD GC/ACEC-25: Transportation: No increase in road density

MD GC/ACEC-26: Geocaching: Not allowed (11)

MD GC/ACEC-27: Other Management: Other management activities and/or uses will be considered in subsequent site-specific analysis, and will consider the values for which the ACEC is designated (5).

MD GC/ACEC-28: 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. Road maintenance will be limited to the designated roadway; shoulder barrow/ditch construction will be limited to only that necessary to ensure public safety and serviceability of the road.
5. 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 ACEC 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 ACEC (especially if cultural resources are one of the values for ACEC designation).
6. Closed to renewable energy facilities and renewable energy development
7. Livestock grazing will be controlled through terms and conditions on the grazing permit.
8. Evaluate fire potential and remove fuels where needed to protect resource values and meet the objectives of the ACEC. Types of treatments permitted: hand cutting, chainsaw, mechanical, prescribed fire.
9. Open to mineral material activities on a case-by-case basis and subject to 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.

10. Treatments may include any combination of herbicide application, mechanical treatments, burning, grazing, and the use of insects or pathogens.
11. If geocache location/activity does not conflict with the resource values of the ACEC, this activity could be considered. BLM resource specialists (archaeologist and botanist) and BLM ORP must agree activity does not impact ACEC values.

Meeteetse Spires ACEC (MS/ACEC)

Goal MS/ACEC 1: *The Meeteetse Spires ACEC will be managed to protect and enhance unique vegetation (rare plants) and conserve scenic values. (Map 3-36)*

Management Decisions (MD)

MD MS/ACEC-1: Land Use Authorizations, including ROWs: Exclusion area

MD MS/ACEC-2: Land Tenure: Category I retention land: no land disposal will occur

MD MS/ACEC-3: Off-Highway Vehicle Use: Designated routes (refer to Grove Creek TMA)

MD MS/ACEC-4: BLM Road Maintenance: Not allowed

MD MS/ACEC-5: Visual Resource Management: Class II

MD MS/ACEC-6: Plant Collecting: Allowed for scientific use or range/forestry studies. No collection of special status species without a permit.

MD MS/ACEC-7: Fluid Mineral Leasing: Closed (NL) (original ACEC – 965 acres)

Manage remainder of ACEC for NSO (no federal minerals)

MD MS/ACEC-8: Locatable Minerals: Recommend withdrawal from mineral entry and location under the Mining Law of 1872, as amended. Subject to valid existing rights. (original ACEC – 965 acres).

Remainder of ACEC will be Open (no federal minerals)

MD MS/ACEC-9: Solid Leasable Minerals: Open (5)

MD MS/ACEC-10: Mineral Material Sales and Permits: Allowed (9)

MD MS/ACEC-11: Renewable Energy: Closed (6)

MD MS/ACEC-12: Geophysical Exploration: Not allowed

MD MS/ACEC-13: Use of Explosives for Geophysical Exploration: Not allowed

MD MS/ACEC-14: Fire Suppression: Wildfire management (natural ignitions) for resource benefit. Full range of fire management activities will be used in ACEC in response to human-ignited fires. No heavy equipment use within ACEC.

MD MS/ACEC-15: Fuels Management: Allowed (8)

MD MS/ACEC-16: Fuelwood Cutting: Not allowed

MD MS/ACEC-17: Wood Product Sales: Allowed if no conflicts with ACEC values (5)

MD MS/ACEC-18: Livestock Grazing: Livestock grazing permitted, except for sheep on 965 acres (original ACEC -). The 558 acre acquisition is not suitable for livestock grazing.

MD MS/ACEC-19: Range Improvements: Allowed if no conflicts with ACEC values (5)

MD MS/ACEC-20: Noxious/Invasive Weed Treatments: Allowed (5) (10)

Herbicide applications will be by hand, not by boom or aerial in order to protect special status plants

MD MS/ACEC-21: Animal Trapping/Traplines: Allowed

MD MS/ACEC-22: Target Shooting: Allowed

MD MS/ACEC-23: Cremains Scattering: Not allowed

MD MS/ACEC-24: Special Recreation Permits and Letters of Authorization: Allowed (5)

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 MS/ACEC-25: Other Permitted Activities: Allowed (5)

MD MS/ACEC-26: Transportation: No net increase in road density

MD MS/ACEC-27: Geocaching: Not allowed (11)

MD MS/ACEC-28: Other Management: Other management activities and/or uses will be considered in subsequent site-specific analysis, and will consider the values for which the ACEC is designated (5).

MD MS/ACEC-29: Consider acquiring minerals from willing sellers for the ACEC.

MD MS/ACEC-30: Notes:

1. Avoidance area; granting rights-of-way (surface, subsurface, aerial) within the area should be avoided, but rights-of-ways 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. Road maintenance will be limited to the designated roadway; and only that necessary to ensure public safety and serviceability of the road.
5. 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 ACEC 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 ACEC (especially if cultural resources are one of the values for ACEC designation).

6. Closed to renewable energy facilities and renewable energy development
7. Livestock grazing will be controlled through terms and conditions on the grazing permit.
8. Evaluate fire potential and remove fuels where needed to protect resource values and must meet objectives of ACEC. Types of treatments permitted: hand cutting, chainsaw, mechanical, prescribed and non-surface disturbing treatments.
9. Open to mineral material activities on a case-by-case basis and subject to 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.
10. Treatments may include any combination of herbicide application, mechanical treatments, burning, grazing, and the use of insects or pathogens.
11. If geocache location/activity does not conflict with the resource values of the ACEC, this activity could be considered. BLM resource specialist (botanist) and BLM ORP must agree activity does not impact ACEC values.

Petroglyph Canyon ACEC (PC/ACEC)

Goal PC/ACEC 1: *The Petroglyph Canyon ACEC will be managed to protect unique cultural values. (Map 3-37)*

Management Decisions (MD)

MD PC/ACEC-1: Land Use Authorizations, including ROWs: Exclusion Area

MD PC/ACEC-2: Land Tenure: Category I retention land: no land disposal will occur

MD PC/ACEC-3: Off-Highway Vehicle Use: Designated routes only (refer to Pryor TMA)

MD PC/ACEC-4: BLM Road Maintenance: Limited (4)

MD PC/ACEC-5: Visual Resource Management: Class II

MD PC/ACEC-6: Plant Collecting: Allowed (3)

MD PC/ACEC-7: Fluid Mineral Leasing: Closed (NL)

MD PC/ACEC-8: Locatable Minerals: Closed and continue withdrawal from mineral entry

MD PC/ACEC-9: Solid Leasable Minerals: Closed

MD PC/ACEC-10: Mineral Material Sales and Permits: Not allowed

MD PC/ACEC-11: Renewable Energy: Closed (6)

MD PC/ACEC-12: Geophysical Exploration: Not allowed

MD PC/ACEC-13: Use of Explosives for Geophysical Exploration: Not allowed

MD PC/ACEC-14: Fire Suppression: No heavy equipment use, no retardant or foam use;

MD PC/ACEC-15: Fuels Management: Allowed (8)

MD PC/ACEC-16: Fuelwood Cutting/Wood Product Sales: Not allowed

MD PC/ACEC-17: Livestock Grazing: Available (7)

MD PC/ACEC-18: Range Improvements: Allowed if no conflicts with ACEC values (5)

MD PC/ACEC-19: Noxious/Invasive Weed Treatments: Allowed (5) (10)

MD PC/ACEC-20: Animal Trapping/Traplines: Not allowed

MD PC/ACEC-21: Target Shooting: Not allowed

MD PC/ACEC-22: Non-Commercial Collection of Common Invertebrate and Plant Fossils:

MD PC/ACEC-23: Cremains Scattering: Not allowed

MD PC/ACEC-24: Special Recreation Permits and Letters of Authorization: Allowed (5)

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 PC/ACEC-25: Other Permitted Activities: Allowed (5)

MD PC/ACEC-26: Transportation: No net increase in road density

MD PC/ACEC-27: Geocaching: Not allowed (11)

MD PC/ACEC-28: Other Management: Other management activities and/or uses will be considered in subsequent site-specific analysis, and will consider the values for which the ACEC is designated (5).

MD PC/ACEC-29: 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. Road maintenance will be limited to the designated roadway; and only that necessary to ensure public safety and serviceability of the road.
5. 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 ACEC 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 ACEC (especially if cultural resources are one of the values for ACEC designation).
6. Closed to renewable energy facilities and renewable energy development
7. Livestock grazing will be controlled through terms and conditions on the grazing permit.
8. Evaluate fire potential and remove fuels where needed to protect resource values and meet the objectives of the ACEC. Types of treatments permitted: hand cutting and chainsaw use only.
9. Open to mineral material activities on a case-by-case basis and subject to 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.
10. Treatments may include any combination of herbicide application, mechanical treatments, burning, grazing, and the use of insects or pathogens.
11. If geocache location/activity does not conflict with the resource values of the ACEC, this activity could be considered. BLM resource specialist (archaeologist) and BLM ORP must agree activity does not impact ACEC values.

Pryor Foothills RNA/ACEC (PF/ACEC)

Goal PF/ACEC 1: *The Pryor Foothills Research Natural Area ACEC will be managed to protect unique vegetation (a large concentration of Bureau special status plant species and rare plant communities) and to protect significant historic and cultural values in the Gyp Springs area. (Map 3-38)*

Goal PF/ACEC 2: *The objectives of the BLM RNA program are: 1) to preserve examples of all significant natural ecosystems for comparison with those influenced by man; 2) to provide educational and research areas for ecological and environmental studies; and 3) to preserve gene pools of typical and endangered plants and animals. Research natural areas (RNA) are intended to represent the full array of North American ecosystems with their biological communities, habitats, natural phenomena, and geological and hydrological formations.*

Management Decisions (MD)

MD PF/ACEC-1: Land Use Authorizations, including ROWs: Avoidance (1), subject to valid existing rights.

MD PF/ACEC-2: Land Tenure: Category I retention land: no land disposal will occur

MD PF/ACEC-3: Off-Highway Vehicle Use: Limited to designated routes (refer to Pryor TMA)

MD PF/ACEC-4: BLM Road Maintenance: Limited (4)

MD PF/ACEC-5: Visual Resource Management: 839 acres – Class II (overlap w/ LWC unit)

Class III - remaining portions of ACEC

MD PF/ACEC-6: Plant Collecting: Allowed for scientific use or range/forestry studies. No collection of special status species without a permit.

MD PF/ACEC-7: Fluid Mineral Leasing: NSO - ¼ mile buffer on known sensitive plant sites (acres).

CSU - Inventory prior to surface disturbing activities.

(Note: All lands in this ACEC east of Crooked Creek Rd (839 acres) are within a lands w/ wilderness characteristics unit and are No Lease)

MD PF/ACEC-8: Locatable Minerals: Recommend withdrawal from mineral entry and location under the Mining Law of 1872, as amended. Subject to valid existing rights.

MD PF/ACEC-9: Solid Leasable Minerals: Closed, subject to valid existing rights

MD PF/ACEC-10: Mineral Material Sales and Permits: Not allowed

MD PF/ACEC-11: Renewable Energy: Closed (6)

MD PF/ACEC-12: Geophysical Exploration: Not allowed

MD PF/ACEC-13: Fire Suppression: Wildfire management (natural ignitions) for resource benefit. Full range of fire management activities will be used in ACEC in response to human-ignited fires. No heavy equipment use within ACEC.

MD PF/ACEC-14: Fuels Management: Allowed (8)

MD PF/ACEC-15: Fuelwood Cutting/Wood Product Sales: Allowed (5) periodically to protect resource values.

MD PF/ACEC-16: Livestock Grazing: Available (7)

MD PF/ACEC-17: Range Improvements: No improvements will be allowed that will result in a net increase of livestock use in the ACEC (5)

MD PF/ACEC-18: Noxious/Invasive Weed Treatments: Allowed (5) (10) to protect rare plant values

Herbicide applications will be by hand, not by boom or aerial in order to protect special status plants

MD PF/ACEC-19: Animal Trapping/Traplines: Allowed

MD PF/ACEC-20: Target Shooting: Allowed

MD PF/ACEC-21: Cremains Scattering: Not allowed

MD PF/ACEC-22: Special Recreation Permits and Letters of Authorization: Allowed (5)

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 PF/ACEC-23: Other Permitted Activities: Allowed (5)

MD PF/ACEC-24: Transportation: No increase in road density.

MD PF/ACEC-25: Geocaching: Not allowed (11)

MD PF/ACEC-26: Other Management: Other management activities and/or uses will be considered in subsequent site-specific analysis, and will consider the values for which the ACEC is designated (5).

MD PF/ACEC-27: 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 roads and trails only
3. Commercial collection of plant materials, including common species, authorized by permit only. Casual use allowed.
4. Road maintenance will be limited to the designated roadway; and only that necessary to ensure public safety and serviceability of the road.
5. 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 ACEC 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 ACEC (especially if cultural resources are one of the values for ACEC designation).
6. Closed to renewable energy facilities and renewable energy development
7. Livestock grazing will be controlled through terms and conditions on the grazing permit.
8. Evaluate fire potential and remove fuels where needed to protect resource values and meet objectives of the ACEC. Types of treatments permitted include: prescribed fire, hand-cutting, chainsaws, mechanical and non-surface disturbing treatments.
9. Open to mineral material activities on a case-by-case basis and subject to 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.
10. Treatments may include any combination of herbicide application, mechanical treatments, burning, grazing, and the use of insects or pathogens.
11. If geocache location/activity does not conflict with the resource values of the ACEC, this activity could be considered. BLM resource specialists (botanist and archaeologist) and BLM ORP must agree activity does not impact ACEC values.

Stark Site ACEC (SS/ACEC)

Goal SS/ACEC 1: *The Stark Site ACEC will be managed to protect unique cultural values. (Map 3-39)*

Management Decisions (MD)

MD SS/ACEC-1: Land Use Authorizations, including ROWs: Avoidance (1)

MD SS/ACEC-2: Land Tenure: Category I retention land: no land disposal will occur

MD SS/ACEC-3: Off-Highway Vehicle Use: Motorized travel limited to designated routes (refer to Horsethief TMA)

MD SS/ACEC-4: BLM Road Maintenance: Limited (4)

MD SS/ACEC-5: Visual Resource Management: Class II

MD SS/ACEC-6: Plant Collecting: Allowed (3)

MD SS/ACEC-7: Fluid Mineral Leasing: NSO

MD SS/ACEC-8: Locatable Minerals: Recommend withdrawal from mineral entry and location under the Mining Law of 1872, as amended. Subject to valid existing rights.

MD SS/ACEC-9: Solid Leasable Minerals: Open (5) with NSO

MD SS/ACEC-10: Mineral Material Sales and Permits: Not allowed

MD SS/ACEC-11: Renewable Energy: Closed (6)

MD SS/ACEC-12: Geophysical Exploration: Not allowed

MD SS/ACEC-13: Use of Explosives for Geophysical Exploration: Not allowed

MD SS/ACEC-14: Fire Suppression: No heavy equipment use, no retardant or foam use.

MD SS/ACEC-15: Fuels Management: Allowed (8)

MD SS/ACEC-16: Fuelwood Cutting/Wood Product Sales: Not allowed

MD SS/ACEC-17: Livestock Grazing: Available (7)

MD SS/ACEC-18: Range Improvements: Allowed if no conflicts with ACEC values (5)

MD SS/ACEC-19: Noxious/Invasive Weed Treatments: Allowed (5) (10)

MD SS/ACEC-20: Animal Trapping/Traplines: Allowed

MD SS/ACEC-21: Target Shooting: Not allowed

MD SS/ACEC-22: Cremains Scattering: Not allowed

MD SS/ACEC-23: Special Recreation Permits and Letters of Authorization: Allowed (5)

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 SS/ACEC-24: Other Permitted Activities: Allowed (5)

MD SS/ACEC-25: Transportation: No increase in road density.

MD SS/ACEC-26: Geocaching: Not allowed (11)

MD SS/ACEC-27: Other Management: Other management activities and/or uses will be considered in subsequent site-specific analysis, and will consider the values for which the ACEC is designated (5).

MD SS/ACEC-28: 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 bicycles, 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. Road maintenance will be limited to the designated roadway; and only that necessary to ensure public safety and serviceability of the road.
5. 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 ACEC 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 ACEC (especially if cultural resources are one of the values for ACEC designation).
6. Closed to renewable energy facilities and renewable energy development
7. Livestock grazing will be controlled through terms and conditions on the grazing permit.
8. Evaluate fire potential and remove fuels where needed to protect resource values and meet the ACEC values. Types of treatments permitted: hand cutting & chainsaw use. Other types of treatment (mechanical or prescribed) will be allowed if treatment meets objectives of ACEC.
9. Open to mineral material activities on a case-by-case basis and subject to 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.
10. Treatments may include any combination of herbicide application, mechanical treatments, burning, grazing, and the use of insects or pathogens.

11. If geocache location/activity does not conflict with the resource values of the ACEC, this activity could be considered. BLM resource specialist (archaeologist) and BLM ORP must agree activity does not impact ACEC values.

Weatherman Draw ACEC (WD/ACEC)

Goal WD/ACEC 1: *The Weatherman Draw ACEC will be managed to protect unique cultural values. (Map 3-40)*

Management Decisions (MD)

MD WD/ACEC-1: Land Use Authorizations, including ROWs: ROW exclusion area, subject to valid existing rights (1) (4,986 acres)

Remainder of ACEC: Avoidance area (1) (7,291 acres)

MD WD/ACEC-2: Land Tenure: Category I retention land: no land disposal will occur

MD WD/ACEC-3: Off-Highway Vehicle Use: Limited to designated routes (refer to Weatherman Draw TMA)

MD WD/ACEC-4: BLM Road Maintenance: Limited (4)

MD WD/ACEC-5: Visual Resource Management: Class II

MD WD/ACEC-6: Plant Collecting: Allowed (3)

MD WD/ACEC-7: Fluid Mineral Leasing: Closed (NL) (4,986 acres). NSO (5) (7,291 acres)

MD WD/ACEC-8: Locatable Minerals: 600 acres withdrawn from mineral entry

Recommend withdrawal from mineral entry and location under the Mining Law of 1872, as amended. Subject to valid existing rights. (4,386 acres)

Open (5) (7,291 acres)

MD WD/ACEC-9: Solid Leasable Minerals: Closed from mineral entry (4,986 acres)

Open (5) with NSO (7,291 acres)

MD WD/ACEC-10: Mineral Material Sales and Permits: Not allowed (4,986 acres)

Allowed (7,291 acres) (9)

MD WD/ACEC-11: Renewable Energy: Closed (6)

MD WD/ACEC-12: Geophysical Exploration: Not allowed

MD WD/ACEC-13: Fire Suppression: Wildfire management (natural ignitions) for resource benefit.

Full range of fire management activities will be used in ACEC in response to human-ignited fires.

No heavy equipment, no retardant or foam use

MD WD/ACEC-14: Fuels Management: Fuels removed where there will be threat or loss of resource (8)

MD WD/ACEC-15: Fuelwood Cutting/Wood Product Sales: Not allowed: (4,986 acres)

Allowed by permit only (7,291 acres)

MD WD/ACEC-16: Livestock Grazing: Available (7)

MD WD/ACEC-17: Range Improvements: Allowed if no conflicts with ACEC values (5)

MD WD/ACEC-18: Noxious/Invasive Weed Treatments: Allowed (5) (10)

MD WD/ACEC-19: Animal Trapping/Traplines: Not allowed (4,986 acres)

Allowed: (7,291 acres)

MD WD/ACEC-20: Target Shooting: Not allowed

MD WD/ACEC-21: Cremains Scattering: Not allowed

MD WD/ACEC-22: Special Recreation Permits and Letters of Authorization: Allowed (5)

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 WD/ACEC-23: Other Permitted Activities: Allowed (5)

MD WD/ACEC-24: Transportation: No net increase in road density

MD WD/ACEC-25: Geocaching: Not allowed (11)

MD WD/ACEC-26: Other Management: Other management activities and/or uses will be considered in subsequent site-specific analysis, and will consider the values for which the ACEC is designated (5).

MD WD/ACEC-27: 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 bicycles, 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. Road maintenance will be limited to the designated roadway and only that necessary to ensure public safety and serviceability of the road.
5. The activity is allowed in the area subject to specific environmental analysis upon individual permit applications and only if there is minimal or no conflict with identified resources values and impacts on ACEC 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 ACEC (especially if cultural resources are one of the values for ACEC designation).
6. Closed to renewable energy facilities and renewable energy development
7. Livestock grazing will be controlled through terms and conditions on the grazing permit.
8. Evaluate fire potential and remove fuels where needed to protect resource values. Types of treatments permitted: hand cutting/chainsaw only around rock art sites. Mechanical thinning will be allowed on a case-by-case basis - must meet objectives of ACEC.
9. Open to mineral material activities on a case-by-case basis and subject to 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.
10. Treatments may include any combination of herbicide application, mechanical treatments, burning, grazing, and the use of insects or pathogens.
11. If geocache location/activity does not conflict with the resource values of the ACEC, this activity could be considered. BLM resource specialist (archaeologist) and BLM ORP must agree activity does not impact ACEC values.

Wilderness Study Areas (WSA)

Goal WSA 1: *Manage Wilderness Study Areas (WSAs) following BLM Manual 6330 – Management of BLM Wilderness Study Areas - until such time as Congress acts upon the recommendations. (Map 3-41)*

Goal WSA 2: *The BLM is statutorily (FLPMA Section 603(c)) required to manage these areas to protect their suitability for Congressional designation into the National Wilderness Preservation System unless and until Congress either designates an area as wilderness or releases it from further consideration.*

Management Decisions (MD)

MD WSA-1: WSAs will be managed according to BLM Manual 6330 – Management of BLM Wilderness Study Areas. he 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.

MD WSA-2: Conduct resource and activity monitoring to identify developments and disturbances and to timely address impacts on wilderness characteristics.

MD WSA-3: Competitive or commercial SRPS will not be allowed within WSAs, with the exception of outfitter and guide uses and existing permittees.

MD WSA-4: Manage WSAs to protect, conserve, and enhance wilderness characteristics

MD WSA-5: Surface disturbing and disruptive activities will only be allowed if the activity does not impair the resource values and/or wilderness characteristics, except those actions specifically exempted from this standard by FLPMA (such as grandfathered uses). BLM will rehabilitate existing impacts during ESR/rehab operations of any human impacts which are destabilized by during a fire event.

MD WSA-6: Vegetation and fuels treatments, including prescribed fire, will be allowed, only if they enhance wilderness values.

MD WSA-7: Allow for habitat manipulations in WSAs on a case-by-case basis using methods which protect areas from weed infestations resulting from human influence and which specifically conform to guidance in BLM Manual 6330.

MD WSA-8: WSA lands will be closed to permitted commercial and personal use wood cutting, seed and plant collection.

MD WSA-9: WSAs will be managed as VRM Class I.

MD WSA-10: WSAs will be managed as closed to all types of mechanical transport, including snowmobiles. Aircraft may not land in a WSA, nor may air deliveries be made, with the exception of law enforcement activities, emergencies, aerial surveys, the installation of temporary or removal of obsolete facilities, and the gathering of wild horses. New routes (those not found in the initial Wilderness inventory) may not be established or designated for mechanical use.

MD WSA-11: WSAs will be closed to oil and gas leasing and development, subject to valid existing rights.

MD WSA-12: Mineral material sales will not be allowed in WSAs

MD WSA-13: WSAs will be managed as a ROW exclusion area. Existing ROWs may be renewed if still being used for their authorized purpose.

MD WSA-14: Conduct active restoration activities to remove unnatural features and rehabilitate unauthorized facilities, consistent with regulations. Closed vehicle routes will be rehabilitated or converted into non-mechanized trails.

MD WSA-15: As a high priority, BLM will acquire lands within WSAs boundaries from willing sellers. BLM will rehabilitate existing impacts on any acquired lands

MD WSA-16: Public access to WSAs will be provided through public access easements across public lands where feasible and needed.

MD WSA-17: Fire activities and projects in WSAs will adhere to the direction of BLM Manual 6330. Minimum Impact Suppression Tactics (MIST) will be used for all suppression efforts. A Resource Advisor will be assigned to all fires which occur within a WSAs

Release of WSAs

MD WSA-18: BLM Manages lands released from WSA designation by Congress in the same manner as surrounding lands. In the event that lands released from WSA designation are protected under some other special designation, those lands will retain those same protections identified in the Common to All (e.g., ACECs within a WSA). WSA lands not retained under some other special designation will be released for other purposes and uses. These other special designations are not a substitute for wilderness designation but provide specific management prescriptions to protect important resources.

MD WSA-19: If Congress acts on designation, and Big Horn Tack-On, Burnt Timber Canyon and Pryor Mountain WSAs are not selected as wilderness, the area within the current boundaries of all WSAs will continue to be closed to motorized use including snowmobile use.

MD WSA-20: 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 will be managed as an ACEC.

MD WSA-21: If Congress acts on designation and the lands within Big Horn Tack-On, Burnt Timber Canyon, Pryor Mountain, and Twin Coulee WSAs are released from further consideration; the land area within the current boundaries will be managed as VRM Class II.

MD WSA-22: If Congress acts on the designation and Twin Coulee WSA is released from further consideration, the area will be open for mineral entry and leasing.

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 will continue to be closed and recommended for withdrawal from mineral entry.

MD WSA-23: Wildfire management (natural ignitions) for resource benefit. Appropriate fire management in response to human-ignited fires.

Wild and Scenic Rivers (WSR)

Goal WSR 1: *The BiFO management strategy is to manage eligible river to protect and enhance the free-flowing character, water quality, and outstandingly remarkable values until suitability can be determined through the land use planning process, determine the suitability or non-suitability of eligible rivers for potential inclusion within the NWSR through the land use planning process, manage suitable rivers to protect and enhance the free-flowing character, water quality, and identified outstandingly remarkable values until congress designates the river as a component of the NWSRS or releases the river for other uses. (Map 3-42) (**Appendix AB**)*

Management Decisions (MD)

MD WSR-1: Management will be conducted in a manner to protect and enhance the outstandingly remarkable values, the free flowing nature, and the water quality for each river segment.

MD WSR-2: Manage the following river segments (3.15 miles) (Map 3-42) as suitable to protect their outstandingly remarkable values, free-flowing nature, and classification.

The following segments will be recommended as suitable for inclusion in the NWSRS:

- Crooked Creek (above fish barrier – 1.59 miles); tentative management class will be Wild.
- Crooked Creek (below fish barrier – 1.56 miles); tentative management class will be Scenic.

MD WSR-3: NSO for oil and gas leasing, exploration and development within ½ mile of WSR- eligible and suitable segments (NSO).

MD WSR-4: WSR-suitable and eligible segments will be exclusion areas for wind energy.

Pryor Mountain Wild Horse Range (PMWHR)

Goal PMWHR 1: *Management activities for other resources and programs within the PMWHR will be designed in a manner to minimize impacts on wild horses and their habitat. During the summer and fall seasons the PMWHR attracts many members of the public who enjoy viewing the wild horses and other recreational opportunities (e.g. camping, hiking, ATV riding, hunting, naturalizing, etc.). (Map 3-2) (**Appendix AA**)*

Goal PMWHR 2: *Management of the administrative designation area will be to enhance wild horse protection and habitat from congested recreational use, providing for public health, and safety of public land users.*

Management Decisions (MD)

MD PMWHR-1: Wild horse protection: public feeding – Only allowed for management purposes

MD PMWHR-2: 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 will not be allowed.

MD PMWHR-3: Wild Horse Protection: Seasonal Road Closures – Motorized routes within the PMWHR will be designated according to the Pryor TMA.

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 will 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.

MD PMWHR-4: Wild Horse Protection: Fencing – Exclusion fences for study, range improvements, riparian protection or rehabilitation will be allowed through site-specific analysis.

MD PMWHR-5: Wild Horse Protection: Wild horse health – Domestic horse use will be limited to day use only.

Recreational domestic horse use will require a free-use permit to ensure animals have health certifications to protect wild horses from disease transmission.

MD PMWHR-6: Wild Horse Habitat Enhancement – Maximize the amount of acres for vegetation treatment and water developments that will increase forage availability for wild horses, to maximize and/or increase wild horse numbers within other multiple uses and restrictions.

MD PMWHR-7: Public Health and Safety: Target shooting – Not allowed on T8S R28E Memorial day weekend through Labor Day weekend. Allowed in remainder of PMWHR

MD PMWHR-8: Public Health and Safety: Speed limits for mechanized and motorized vehicles – Not to exceed 15 miles per hour within T8S R28E

MD PMWHR-9: Livestock grazing: Bad Pass Trail will be managed as a livestock grazing allotment for trailing use only.

The remainder of the PMWHR will be closed to livestock grazing.

MD PMWHR-10: Special Recreation Permits and Letters of Authorization: SRPs will initially be limited to existing SRPs. Additional (new) SRPs will 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.

MD PMWHR-11: Land Use Authorizations: Avoidance (1)

MD PWMRH-12: Land Tenure: Category I retention land: no land disposal will occur

MD PMWHR-13: Off-highway vehicle use (including snowmobiles (OSVs)): Limited to designated routes (refer to Table 2.11 Trails and Travel Management – Management Actions by Alternative. Snowmobiles (OSVs) in the PRMP/FEIS)

MD PMWHR-14: BLM Road Maintenance: Limited (4)

MD PMWHR-15: Plant Collecting: Allowed (3)

MD PMWHR-17: Fluid Mineral Leasing: Closed to oil and gas leasing and development (NL).

MD PMWHR-18: Locatable Minerals: Close and recommend withdrawal from mineral entry, subject to valid existing rights.

MD PMWHR-19: Solid Leasable Minerals: Closed, subject to valid existing rights.

MD PMWHR-20: Mineral Material Sales and Permits: Allowed (9)

MD PMWHR-21: Renewable Energy: Closed (6)

MD PMWHR-22: Geophysical Exploration: Not allowed

MD PMWHR-23: Use of Explosives for Geophysical Exploration: Not allowed

MD PMWHR-24: Fire Suppression: Wildfire management (natural ignitions) for resource benefit.

Appropriate fire management in response to human-ignited fires.

MD PMWHR-25: Fuels Management: Allowed (8)

MD PMWHR-26: Fuelwood Cutting/Wood Product Sales: Casual collection of dead and down allowed for personal use during recreation activities.

MD PMWHR-27: Range Improvements: Allowed (5)

MD PMWHR-28: Noxious/Invasive Weed Treatments: Allowed (5) (10)

MD PMWHR-29: Animal Trapping/Traplines: Allowed

MD PMWHR-30: Non-Commercial Collection of Common Invertebrate and Plant Fossils: Allowed

MD PMWHR-31: Other Permitted Activities: Commercial film permits will be limited to existing permits. Additional (new) commercial film permits will 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 through monitoring of existing commercial film permits and visitation. (5)

MD PMWHR-32: Transportation: Routes for commercial or other BLM authorized activities may be considered if the route meets public access needs.

MD PMWHR-33: 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 PMWHR is designated (5).

MD PMWHR-34: 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 PMWHR resource values can be fully mitigated.
2. OHV and bicycles, 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. Road maintenance will be limited to the designated roadway and only that necessary to ensure public safety and serviceability of the road.
5. The activity is allowed in the area subject to specific environmental analysis upon individual permit applications and only if there is minimal or no conflict with identified resources values and impacts on PMWHR resource values can be fully mitigated. Additional NEPA analysis required. Cultural inventories will be required for surface disturbing activities.
6. Closed to renewable energy facilities and renewable energy development
7. Livestock grazing will be controlled through terms and conditions on the grazing permit.
8. Evaluate fire potential and remove fuels where needed to protect and/or enhance resource values. Must meet objectives of PMWHR HMAP.
9. Open to mineral material activities on a case-by-case basis and subject to 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.

10. Treatments may include any combination of herbicide application, mechanical treatments, burning, grazing, and the use of insects or pathogens.
11. If geocache location/activity does not conflict with the resource values of the ACEC, this activity could be considered. BLM resource specialist (Wild Horse State Lead) and BLM ORP must agree activity does not impact PMWHR values.

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 3-43)*

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 National Historic Trails. 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 Lewis and Clark NHT will be withdrawn from mineral actions. Once the actual Nez Perce NHT course is determined it will also be withdrawn

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: Identify the Nez Perce NHT Corridor and establish management prescriptions through a land use plan amendment once the corridor has been determined

MD NHT-7: The Lewis and Clark NHT management corridor is identical to the Yellowstone River corridor.

MD NHT-8: 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-9: 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-10: Implement the Interagency National Historic Trail Plans and all revisions including sub plans such as interpretive plans.

MD NHT-11: Participate and follow the NHT's Land Acquisition Management Plans.

MD NHT-12: 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-13: The management corridor for the Lewis and Clark and Nez Perce NHT segments is ½ mile either side of centerline

MD NHT-14: Management actions will apply to the NHT management corridor

MD NHT-15: An inventory and evaluation will be maintained for the trail segments and include this data in a trails management plan.

MD NHT-16: Manage NHTs as ROW avoidance areas.

MD NHT-17: The NHTs will be managed as exclusion areas for Renewable Energy (wind and solar) ROW actions.

MD NHT-18: Surface disturbing activities will be subject to mitigation guidelines.

MD NHT-19: No surface occupancy for oil and gas development and exploration within ½ mile of the L&C and NP NHTs management corridor (NSO).

MD NHT-20: Manage NHTs as Visual Resource Inventory (VRI) Class III.

Manage NHT trails as Visual Resource Management (VRM) Class II once specific trail course has been identified

Social and Economic Conditions and Environmental Justice (SEC/EJ)

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

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

Goal SEC/EJ 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.*

CHAPTER 4
CONSULTATION, COORDINATION, AND PUBLIC INVOLVEMENT

An interdisciplinary team of specialists from BLM BiFO and the Montana State Office prepared the Billings Field Office RMP. Fifteen agencies, including tribal, federal, state, and county governments, participated as cooperating agencies. BLM field and state office staff 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 the protest period and resolved all of them. See Section 2.5 of the ROD for changes to the ARMP as a result of the protests.

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.[1] The BLM held meetings with government agencies and tribes and initiated working relationships among team members and agency personnel.

[1] 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; Montana State Historic Preservation Office; 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, as follows: Wyoming Fish and Game Department, Wyoming State Historic Preservation Office, NPS Bighorn Canyon NRA, and USFS Custer National Forest.

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 sent letters of introduction to the following tribal governments to inform them of the RMP revision initiative:

- 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 (SHPOs) and the Tribes to participate in the preparation of the ARMP regarding the land use planning decisions included in the Billings planning area. The BLM sought information about 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 SHPOs and Tribes into the Proposed ARMPs 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 in the Section 106 regulations.

The BLM will satisfy the requirements of the NHPA Section 106 for future implementation-level decisions, such as project proposals, including adequate consultation with SHPO, Tribal Historic Preservation Officers (THPOs), Native American Tribes, and other interested parties, consistent with the alternative procedures set forth in the National Programmatic Agreement and relevant state protocols or, where applicable, the Section 106 regulations.

The Montana SHPO was a formal cooperating agency for the planning effort.

4.1.3 United States Fish and Wildlife Service

As required by Section 7 of the ESA, the BLM consulted with the USFWS. The BLM prepared a biological assessment (BA) based on the RMP's proposed plan (Alternative D) 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 (NOI) 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 of 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 comment period, which ended on June 29, 2013. During the 90-day comment period, the public was given 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, 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

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 RMP decisions to determine if the proposal conforms with the RMP.

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 ARMPA 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 ARMPA. 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 and/or support new management techniques, BMPs, and scientific principles. Where monitoring shows land use plan actions or BMPs are not effective, plan maintenance or plan amendment may be initiated, as appropriate.

Plan maintenance will be documented in supporting records. Plan maintenance 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

This ARMP may be changed, should conditions warrant, through a plan amendment or plan 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. The results of monitoring, evaluating new data, or changing policy and public needs might also provide a need for a plan amendment. If several areas of the plan become outdated or otherwise obsolete, a plan revision may become necessary. Plans are amended and revised with public input and the appropriate level of environmental analysis, conducted according to the Council on Environmental Quality procedures for implementation of NEPAt.

New information may lead to changes in existing 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. Identification of new areas or removal of old areas that no longer have those resource values would be added to the existing data inventory without a plan amendment or revision. In cases where changes constitute a change in resource allocation outside the scope of this plan, the BLM may revise the GRSG habitat management area maps and associated management decisions in coordination with Montana Fish, Wildlife, and Parks and the USFWS and based on the best available scientific information, through a plan maintenance or plan amendment or revision, as appropriate.

If the BLM finds that implementation of Montana GRSG Habitat Conservation Program is effective in meeting management goals and objectives for GRSG for conservation, the BLM, in coordination with the State of Montana and the USFWS, and based on best available scientific information, may revise the management decisions and associated GRSG habitat management area maps through plan maintenance decisions and associated GRSG habitat management area maps through plan maintenance or plan

amendment, as appropriate, to achieve our shared goal of consistent and effective GRSG management and conservation across all lands, regardless of ownership.

5.4 PLAN EVALUATION, ADAPTIVE MANAGEMENT, AND MONITORING

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. RMP 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 **Appendices D** and **Q**.

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CHAPTER 6
GLOSSARY

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

Active use. Livestock grazing term meaning the current authorized use. Active use may constitute a portion, or all, of permitted use; it does not include temporary non-use or suspended use for forage within all or a portion of an allotment (43 CFR, Part 4100.0-5).

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).

Additionality. The conservation benefits of compensatory mitigation are demonstrably new and will not have resulted without the compensatory mitigation project (adopted and modified from BLM Manual Section 1794).

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 right-of-way (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 present 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 FLM for a particular area. AQRV impacts may also include sulfur, nitrogen, acid deposition, and lake acidification.

Allotment. An area of land designated and managed for grazing livestock (43 CFR, Part 4100.0-5). An allotment may be grazed by one or more livestock operators. Allotments generally consist of BLM-administered lands but may also include other federally managed, state-owned, and private lands. An allotment may include one or more separate pastures. Livestock numbers and periods of use are specified for each allotment.

Allotment management plan. A document prepared in consultation with the grazing lessees or permittees involved, which applies to livestock operations on the public lands and which does the following:

- Prescribes the manner in and extent to which livestock operations will be conducted in order to meet the multiple-use, sustained-yield, economic and other needs and objectives as determined for the lands by the Secretary concerned
- Describes the type, location, ownership, and general specifications for the range improvements to be installed and maintained on the lands to meet the livestock grazing and other objectives of land management
- Contains such other provisions relating to livestock grazing and other objectives found by the Secretary concerned to be consistent with the provisions of this act and other applicable law (from FLPMA, Title 43 Chapter 35, Subchapter I 1702[k]).

All-terrain vehicle. A wheeled vehicle other than an over-snow vehicle) that has 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).

Animal unit month (AUM). The amount of forage necessary for the sustenance of one cow or its equivalent for one month, or approximately 800 pounds of forage (43 CFR, Part 4100.0-5).

Appeal. Application for review of an implementation decision by 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 envrironmental concern (ACEC). Areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) 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-1601-1, BLM Land Use Planning Handbook).

Assets. Term used to describe 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 on 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 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]). It may also include avoiding the impact by moving the proposed action to a different time or location.

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

Beneficial outcomes. Also referenced as recreation benefits, these are improved conditions, maintenance of desired conditions, prevention of worse conditions, and the realization of desired experiences.

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

Big game. Indigenous, ungulate (hoofed) wildlife species that are hunted, such as elk, deer, bison, bighorn sheep, and pronghorn antelope.

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).

Biologically significant unit (BSU). The summary of all the priority habitat management areas within a GRSG population, as delineated in the COT report.

Black-footed ferret habitat. A complex of prairie dog towns within a mile of each other comprising a total of 1,000 acres (Biggens 1993; Biggens et al. 2006).

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).

Canopy. The continuous cover formed by tree crowns, consisting of one or several layers.

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.

Cave. A natural underground space large enough for a human to enter. In popular usage, the term includes smaller spaces, such as rock shelters and grottos.

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).

Compensatory mitigation. Compensating for a residual impact by replacing or providing substitute resources or environments (40 CFR, Part 1508.20).

Compensatory mitigation projects. The restoration, creation, enhancement, or preservation of impacted resources (adopted and modified from 33 CFR, Part 332), such as on-the-ground actions to improve or protect habitats, such as chemical vegetation treatments, land acquisitions, and conservation easements (adopted and modified from BLM Manual Section 1794).

Compensatory mitigation sites. The durable areas where compensatory mitigation projects will occur (adopted and modified from BLM Manual Section 1794).

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.

Conditions of approval. The conditions or provisions (requirements) under which an application for a permit to drill or a sundry notice is approved.

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

Conifer. A tree or shrub of the order coniferae, with cones and needle-shaped or scale like leaves.

Coniferous. Pertaining to conifers, which bear woody cones containing naked seeds.

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.

Controlled surface use (CSU). (1) Use and occupancy is allowed (unless restricted by another stipulation), but identified resource values require special operational constraints that may modify the lease rights. CSU is used for operating guidance, not as a substitute, for the no surface occupancy or timing stipulations; (2) stipulations to be attached to oil and gas leases to protect specific areas or resources, such as riparian and wetland areas, rivers, sensitive species, viewsheds, and watersheds.

Cremains. Cremated human remains; not considered a hazardous substance (WO IM-2011-159).

Critical habitat. (1) The specific areas within the geographical area occupied by a species at the time it is listed in accordance with the Endangered Species Act, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; (2) specific areas outside the geographical area occupied by a species at the time it is listed as threatened or endangered as determined by the USFWS or NMFS that such areas are essential for the conservation of the species. Critical habitats are designated in 50 CFR, Parts 17 and 226. The constituent elements of critical habitat are those physical and biological features of designated or proposed critical habitat essential to the conservation of the species, including the following:

- Space for individual and population growth and for normal behavior
- Food, water, air, light, minerals, or other nutritional or physiological requirements
- Cover or shelter
- Sites for breeding, reproducing, rearing offspring, germinating, or dispersing seed
- Habitats that are protected from disturbance or are representative of the historic geographic and ecological distributions of a species (M6840, Special Status Species Manual)

Crucial value habitat. Any particular range or habitat component that directly limits a community, population, or subpopulation to reproduce and maintain itself at a certain level over the long term. Those sensitive use areas that, because of limited abundance or unique qualities, constitute irreplaceable critical requirements for high interest wildlife. This may also include highly sensitive habitats, including fragile soils that have little or no reclamation potential. Restoring or replacing these habitats may not be possible. Examples are the following:

- Most crucial (critical) summer or winter range or concentration areas
- Critical movement corridors
- Breeding and rearing complexes
- Spawning areas
- Developed wetlands
- Class 1 and 2 streams, lake, ponds or reservoirs
- Riparian habitats critical to high interest wildlife

Crucial winter range. That part of the winter range where a high proportion of the species' population is located during severe winter conditions.

Cultural resources or cultural property. A definite location of human activity, occupation, or use identifiable through field inventory (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 locations (sites or places) of traditional cultural or religious importance to specified social and/or cultural groups. (Cf. "traditional lifeway value"; see "definite location.") Cultural resources are concrete, material places and things that are located, classified, ranked, and managed through the system of identifying, protecting, and utilizing for public benefit described in this Manual series. (M-8100-1, BLM Cultural Resources Management)

Cultural resource inventory classes. There are three cultural resource inventory classes identified in M-8100-1, 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-8100-1, 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-1790-1, BLM NEPA Handbook).

Deferred rotation. Rotation grazing with regard to deferring pasture turn-out dates beyond the growing season, if they were used early the prior year, or that have been identified as needing deferment for resource reasons.

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).

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, 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. Recreation activities of an unstructured type that are 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 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). The maintenance of the effectiveness of a mitigation site and project for the duration of the associated impacts, which includes resource, administrative and 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 specific 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 and their abiotic environment, forming an interacting system and inhabiting an identifiable space (Society for Range Management).

Eligible river. A river or river segment found eligible for inclusion in 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 to natural and cultural resources, minimize threats to life and property, repair lands unlikely to recover, and 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 purposes

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

Environmental impact statement (EIS). A detailed written statement required by Section 102 (2) of the NEPA, which states that all agencies of the federal government must include in every major federal action significantly affecting the quality of the environment, a detailed statement prepared by the responsible official. The EIS must contain 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 would be involved in the proposed action, should it be implemented (40 CFR, Part 1508.11 and the NEPA of 1969)

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 if the land use plan decisions and NEPA analysis are still valid and if the plan is being implemented.

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.

Extensive recreation management area. An administrative unit that requires specific management consideration in order to address recreation use, demand, or recreation and visitor services program investments.

Facility, energy or mining. Human constructed assets designed and created to serve a particular function and to afford a particular convenience or service that is affixed to a specific locations, such as oil and gas well pads and associated infrastructure.

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). An act to establish public land policy, to establish guidelines for its administration, to provide for the management, protection, development, and enhancement of the 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 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.

Forage. Vegetation of all forms available and of a type used for animal consumption.

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

Forest health. The perceived condition of a forest derived from concerns about such factors as its age, structure, composition, function, vigor, presence of unusual levels of insects or disease, and resilience to disturbance.

Forest health treatments. These restore forest ecosystems or stands to a condition that sustains complexity, function, and productivity, while providing for human needs.

Forest land. Land that is now, or has the potential of being, at least 10 percent stocked by forest trees (based on crown closure) or 16.7 percent stocked (based on tree stocking).

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

Fragmentation. The splitting or isolating of patches of similar habitat. Habitat can be fragmented by natural events or development.

Free-flowing river. Term applied to any river or section of a river that 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 loading. The weight of fuels in a given area, usually expressed in tons per acre, pounds per acre, or kilograms per square meter.

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

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 authorize 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).

Grazing plan. A concisely written program of livestock grazing management, including supportive measures, if required, designed to attain specific management goals in a grazing allotment. Prepared in consultation with the permittees, lessees, and the interested public. Livestock grazing is considered in relation to other uses of the range and to renewable resources, such as watershed, vegetation, and wildlife. Establishes seasons of use, the number of livestock to be permitted, the range improvements needed, and the grazing system.

Grazing preference (or Preference). A superior or priority position against others for the purpose of receiving a grazing permit or lease. This priority is attached to base property owned or controlled by the permittee or lessee (43 CFR, Part 4100.0-5).

Grazing relinquishment. The voluntary and permanent surrender by an existing permittee or lessee, (with concurrence of any base property lienholders), of their priority (preference) to use a livestock forage allocation on public land, as well as their permission to use this forage. Relinquishments do not require the consent or approval of the BLM, whose receipt of a relinquishment is not a decision to close areas to livestock grazing.

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).

Herd area. The geographic area identified as having been used by a herd as its habitat as of December 1971.

Herd management area. Public land under the jurisdiction of the BLM that has been designated for special management, emphasizing the maintenance of an established wild horse or burro herd (H-4710-1).

Herd management area plan (HMAP). An activity plan that focuses on and contains the necessary instructions for managing wild horses on specified public lands to meet wild horse health, resource condition, sustained yield, multiple use, economic, and other objectives. The HMAP prescribes measures for the protection, management, and control of wild horses and burros and their habitat on one or more herd management areas, in conformance with decisions made in approved management framework or RMPs.

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.

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. Decisions that take action to 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. Includes 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]).

Indicator (species). Components of a system whose characteristics (presence or absence, quantity, or distribution) are used as an index of an attribute, such as rangeland health attribute, that are too difficult, inconvenient, or expensive to measure (Interagency Technical Reference 1734-8, 2000) (H-4180-1, BLM Rangeland Health Standards Manual).

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.

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

Interior Board of Land Appeals (IBLA). The Department of the Interior's 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 department's final decision but are 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.

Karst topography. Karst is a landscape shaped by the dissolution of a layer or layers of soluble bedrock, usually carbonate rock such as limestone or dolomite. Due to subterranean drainage, there may be very limited surface water, even to the absence of all rivers and lakes or perennial streams. Many karst regions display distinctive surface features, with sinkholes or dolines (an often funnel-shaped basin) being the most common. Some karst regions include thousands of caves, even though evidence of caves that are big enough for human exploration is not a required characteristic of karst.

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 of 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 acres or fewer. A listing of the legal descriptions of these disposal parcels can be found at the end of **Appendix W**, 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.

Lands with wilderness characteristics. Lands that have been inventoried under the provisions of BLM Manual Sections 6300-1 and 6300-2 and found to contain wilderness characteristics, as defined by Section 2(c) of the Wilderness Act of 1964. If found to possess wilderness characteristics, these lands may be designated as Wild Lands.

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

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*.

Lease stipulation (Oil and Gas). Conditions of lease issuance that protect other resource values or land uses by establishing authority for substantial delay or site changes or the denial of operations within the terms of the lease contract. The BLM Authorized Officer has the authority to relocate, control

timing, and impose other mitigation measures under Section 6 of the Standard Lease Form. Lease stipulations clarify the BLM's intent to protect known resources or resource values.

Lek. An assembly area where birds, especially GRSG, carry on display and courtship behavior. Also referred to as a strutting ground. The following are the definitions of lek terminology when applied to trends and monitoring of leks from Montana Fish, Wildlife, and Parks:

> **Unconfirmed**—Single count with no subsequent survey or a reported lek without supporting survey data
>
> **Confirmed Active**—Data supports existence of a lek. Supporting data is defined as a minimum of two years with two or more males lekking on-site (preferred) or one year with two or more males lekking on-site, followed with evidence of lekking (vegetation trampling, feathers, and droppings) during subsequent years.
>
> **Confirmed Inactive**—10 years with no males or sign of lek activity; supported by surveys conducted for three or more years over the last 10 years. GRSG abundance patterns have generally fit into a 10-year time frame, encompassing years of abundance and relative scarcity both. For the purpose of assigning lek status, ten years with three years of supporting data is minimal for characterizing a lek as inactive. However, the capacity for surveying leks at a greater annual frequency in 10 years is generally limited; therefore, this status definition incorporates both biological (i.e., past abundance patterns) and current administrative factors.
>
> **Confirmed Extirpated**—Habitat changes have caused birds to permanently abandon a lek (e.g., plowing, urban development, overhead power lines)

Limited areas. Designated areas where the use is subject to restrictions, such as limiting the number or types or vehicles allowed, dates and times of use (seasonal restrictions), limiting use to existing roads and trails, 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.

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.

Salable 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 operations.

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

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.

Net conservation gain. The actual benefit or gain above baseline conditions.

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).

No surface occupancy (NSO). A fluid mineral leasing constraint that prohibits occupancy or disturbance on all or part of the lease surface to protect special values or uses. Lessees may exploit the fluid mineral resources under the leases restricted by this constraint through use of directional drilling from sites outside the area. Leasing with NSO means that there will be no development or disturbance whatsoever of the land surface, including establishment of wells or well pads and construction of roads, pipelines, or power lines.

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

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 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).

Play (oil and gas). A set of known or postulated oil and gas accumulations sharing similar geologic, geographic, and temporal properties, such as source rock, migration pathway, trapping mechanism, and hydrocarbon type.

Pole. A tree of a size between a sapling and a mature tree.

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 (PFYC). 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.

Prairie dog habitat. The maximum extent of areas occupied by prairie dogs at any time during the last 10 years.

Preference. A superior or priority position against others for the purpose of receiving a grazing permit or lease. This priority is attached to base property owned or controlled by the permittee or lessee (43 CFR, Part 4100.0-5). Active use and suspended use together make up permitted use.

Prehistoric. Refers to the period when wherein 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 set (H-9214-1, BLM Prescribed Fire).

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-8550-1, 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.

Probable sale quantity (PSQ). The allowable harvest level that can be maintained without decline over the long term if the schedule of harvests and regeneration are followed. PSQ recognizes a level of uncertainty in meeting the determined level; this uncertainty is typically based on other environmental factors that preclude harvesting at a particular time (for example, because of watershed or habitat concerns). A PSQ is not a commitment to offer for sale a specific level of timber volume every year.

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).

Pryor Mountain Wild Horse Range (PMWHR). The combination of agency (BLM, Forest Service, and National Park Service) and private rangelands authorized for use by wild horses. Not to be confused with WILD HORSE RANGE (see definition below), which is a special designation where only the BLM portion has this status.

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-1601-1, 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-4180-1, 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-4180-1, 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.

Reasonably foreseeable development (RFD) scenario. The prediction of the type and amount of oil and gas activity that will occur in a given area. The prediction is based on geologic factors, past history of drilling, projected demand for oil and gas, and industry interest.

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 (ROD). A document signed by a responsible official recording a decision that was preceded by an EIS.

Recreation and Public Purposes (R&PP) Act of 1926. The objective of the this 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 management zones. Delineated for specific recreation opportunities, the predominant 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. 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 half a mile from either mechanized or motorized routes; undisturbed natural landscape; no structures; hiking, equestrian, and water trails only; fewer than three encounters per day at campsites and fewer than six encounters per day on travel routes; fewer than or equal to three) people per group; no alternation 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.

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

Relevant value. As related to ACECs, a relevant value is 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]).

Required design features (RDFs). These are required for certain activities in all GRSG habitat. RDFs establish the minimum specifications for certain activities to help mitigate adverse impacts. However, the applicability and overall effectiveness of each RDF cannot be fully assessed until the project begins, when the project location and design are known. Because of site-specific circumstances, some RDFs may not apply to some projects (e.g., a resource is not present on a given site) or may require slight variations (e.g., a larger or smaller protective area). All variations in RDFs will require that at least one of the following be demonstrated in the NEPA analysis associated with the project or activity:

- A specific RDF is documented to not be applicable to the site-specific conditions of the project or activity (e.g., due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable.
- An alternative RDF, state-implemented conservation measure, or plan-level protection is determined to provide equal or better protection for GRSG or its habitat.
- A specific RDF will provide no additional protection to GRSG or its habitat.

Reserve allotment. A separate BLM administered grazing unit (allotment or pasture) that is reserved for nonrenewable grazing use by permittees and lessees or others participating in land restoration or recovery that preclude use of all or part of the permitted use assigned to their base property.

Reserve common allotment. An area designated in the land use plan as available for livestock grazing but reserved as available for use as an alternative to grazing in another allotment in order to facilitate rangeland restoration treatments and recovery from natural disturbances, such as drought or wildfire. The reserve common allotment will provide needed flexibility that will help the agency apply temporary rest from grazing where vegetation treatments or management will be most effective.

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. Can be designated as closed, limited, open, or permanent.

Roaded natural. As defined in the Recreation Opportunity Spectrum, managed to provide a natural-appearing environment with moderate evidence of humans. Motor vehicle use is permitted and facilities for this use are provided. Activities include wood gathering, downhill skiing, fishing, OHV driving, interpretive uses, picnicking, and vehicle camping.

Rock art. A generic term used to describe both petroglyphs (carvings) and pictographs (paintings).

Rotation. Livestock rotations from one pasture to the next (in an allotment) at specified times of the year.

Routes. Multiple roads, trails, and primitive roads; a group or set of roads, trails, and primitive roads that represents 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 and vehicle dependent and include sightseeing, horseback riding, road biking, golf, swimming, picnicking, and outdoor games.

Sage-grouse habitat—general habitat management areas. Areas with or without ongoing or imminent impacts containing GRSG habitat outside of the priority areas. Management actions will maintain habitat for sustainable GRSG populations to promote movement and genetic diversity. Areas are delineated based on GRSG habitat.

Sage-grouse habitat—priority habitat management areas. Areas with limited impacts containing substantial and high quality GRSG habitat that support sustainable GRSG populations. Management actions emphasize the protection and enhancement of sustainable GRSG populations. Areas are delineated by using key, core, and connectivity data/maps and other resource information.

Sage-grouse habitat—restoration habitat management areas. Areas with ongoing or imminent impacts containing substantial and high quality GRSG habitat that historically supported sustainable GRSG populations. Management actions emphasize restoration for the purpose of establishing or restoring sustainable GRSG populations. Areas are delineated by using key, core, and connectivity data/maps and other resource information.

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 1507.3I.

Season of use. The period of time during which livestock grazing is permitted on a given allotment, as specified in the mandatory terms and conditions of the grazing lease or permit.

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)

Seral (state or stage). One of three successional states based on the current composition of the vegetation community. Includes early, mid and late seral states culminating in a climax community. Transition from one state to the next can be natural or induced. Induced transition is typically disturbance induced and can be progressive or regressive. Natural succession from one stage to the next is typically progressive, culminating in the climax community, a term that is often used synonymously with potential natural community and potential natural vegetation. It is the highest potential vegetative community that the site will support.

Setting character. See *Recreation Setting Character*.

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 estimating and analyzing economic and social impacts.

Solitude. Visitors may have outstanding opportunities for solitude, or primitive and unconfined types of recreation, when the sights, sounds, and evidence of other people are rare or infrequent, where visitors can be isolated, alone, or secluded from others, where the use of the area is through nonmotorized, nonmechanized means, and where no or minimal recreation facilities are encountered in an area of 5,000 acres or greater (from IM-2003-275, Change 1, Considerations of Wilderness Characteristics in LUP, Attachment 1).

Special recreation management area (SRMA). An administrative unit where the existing or proposed recreation opportunities and setting are recognized for their unique value, importance, or distinctiveness; especially compared to other areas used for recreation.

Special recreation permit (SRP). An authorization that allow specified and often time-restricted recreation of the 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). SRPs are used to manage visitor use, to protect natural and cultural resources, to achieve the goals and objectives of the BLM Field Office recreation program as outlined in a land use plan, and to authorize the following:

- 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.

Sprague's pipit habitat. Moderately suitable and optimal habitat classes from the NTNHP Maxent Inductive Model of Sprague's pipit breeding habitat.

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 uses to carry out its responsibilities under the Clean Air Act.

State-listed species. Species listed by a state in a category implying but not limited to 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.

Suppression. Actions taken to extinguish or reduce the intensity or extent of wildland fires, including the construction of fuel breaks by manual or mechanical means, ground or aerial application of water or water/chemical mixtures, ignition of backfires, or burning out of fuels to increase the size of fuel breaks.

Sustained slope. A slope, measured by the length of an incline, where short variances do not affect the overall grade.

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. The achievement and maintenance in perpetuity of 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).

Territory. The USFS geographic area identified as having been used by a herd as its habitat in 1971 at the passage of the Wild Free-Roaming Horse and Burro Act (PL 92-195) as amended.

Thinning. A 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). Allows certain activities during specific periods to avoid the disturbance of plant or animal species during critical periods of the life cycle, including, mating, parturition, or periods of environmental stress caused by limited food supplies or extreme temperatures.

Total maximum daily load (TMDL). 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.

Transfer of grazing preference. The BLM's approval of an application to transfer grazing preference from one party to another or from one base property to another or both. Grazing preference means a superior or priority position against others for the purposes of receiving a grazing permit or lease. This priority is attached to base property owned or controlled by the permittee or lessee.

Transportation linear feature. Represents 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 as open, closed, or limited and have identified 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:

- 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 4-wheel-drive 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 inches wide or less (open with restriction) vehicle type (ML or L)—Route is open to vehicles 50 inches 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 nonmotorized uses, in that a trail or route will not be officially recognized or maintained.
- Nonmotorized use only—Route is limited to nonmotorized 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.

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 mangement 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.

WAFWA Management Zone GRSG Conservation Team. WAFWA management zones will be used to identify and address cross-state issues, such as regional mitigation and adaptive management monitoring response, through WAFWA Management Zone GRSG Conservation Teams (Teams). These Teams will convene and respond to issues at the appropriate scale, and will utilize existing coordination and management structures to the extent possible.

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 inventories to identify routes that are not roads. It is developed from the definition of roadless, provided in the Wilderness Inventory Handbook (September 27, 1978), as follows. "…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 that has not been improved 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-8351, BLM WSR Policy and Program).

Wilderness. A congressionally designated area of undeveloped federal land retaining its primeval character and influence, without permanent improvements or human habitation, that is protected and managed to preserve its natural conditions and that (1) generally appears to have been affected mainly by the forces of nature, with human imprints substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least 5,000 acres or is large enough to make practical its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historic value. The definition is contained in Section 2(c) of the Wilderness Act of 1964 (78 Stat. 891; from H-6310-1, Wilderness Inventory and Study Procedures). These lands are included in the National Wilderness Preservation System.

Wilderness characteristics. The size, appearance of naturalness, outstanding opportunities for solitude, or a primitive and unconfined type of recreation. They may also include ecological, geological, or other features of scientific, educational, scenic, or historical value. A complete definition is contained in Section 2 (c) of the Wilderness Act of 1964 (78 Stat 891).

Wildernerss study areas (WSAs). Areas designated as having wilderness characteristics, as described in Section 2 (c) of the Wilderness Act (78 Stat. 891), made through the inventory and study process authorized by Section 603 or Section 202 of FLPMA. Areas designated as WSAs must be managed as being under wilderness review until Congress either designates these lands as wilderness or releases them for other purposes. They are not managed as if they are already designated wilderness but as not to impair their suitability for potential designation by Congress. If the lands are released from wilderness review, they are managed under the general BLM management policies and applicable land use plans.

Wildfire. An unplanned ignition of a wildland fire (such as a fire caused by lightening, volcanoes, unauthorized and accidental human-caused fires) and escaped prescribed fires (2009 Guidance for Implementation of Federal Wildland Fire Management Policy).

Wild horse range. An area of land designated from a herd management area to be managed principally, but not exclusively, for wild horse or burro herds.

Wild horses and burros. Unbranded and unclaimed horses and burros that use the public lands as all or part of their habitat or that have been removed from these lands by the BLM Authorized Officer but have not lost their status under Section 3 of the act (H-4750-2, BLM Wild Horse and Burro Adoption Handbook).

Wild lands. A designation resulting from a plan decision to protect lands with wilderness characteristics outside of the Wilderness Study Areas and wilderness areas. Wild land protection measures are developed in the course of plan development. The BLM is required under Section 201 of FLPMA to conduct and maintain a current inventory of natural resources. It 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 incorporate principles

from BLM guidance (for example, the 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. 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).

Winter range. Range that is grazed by livestock or wildlife during the winter.

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
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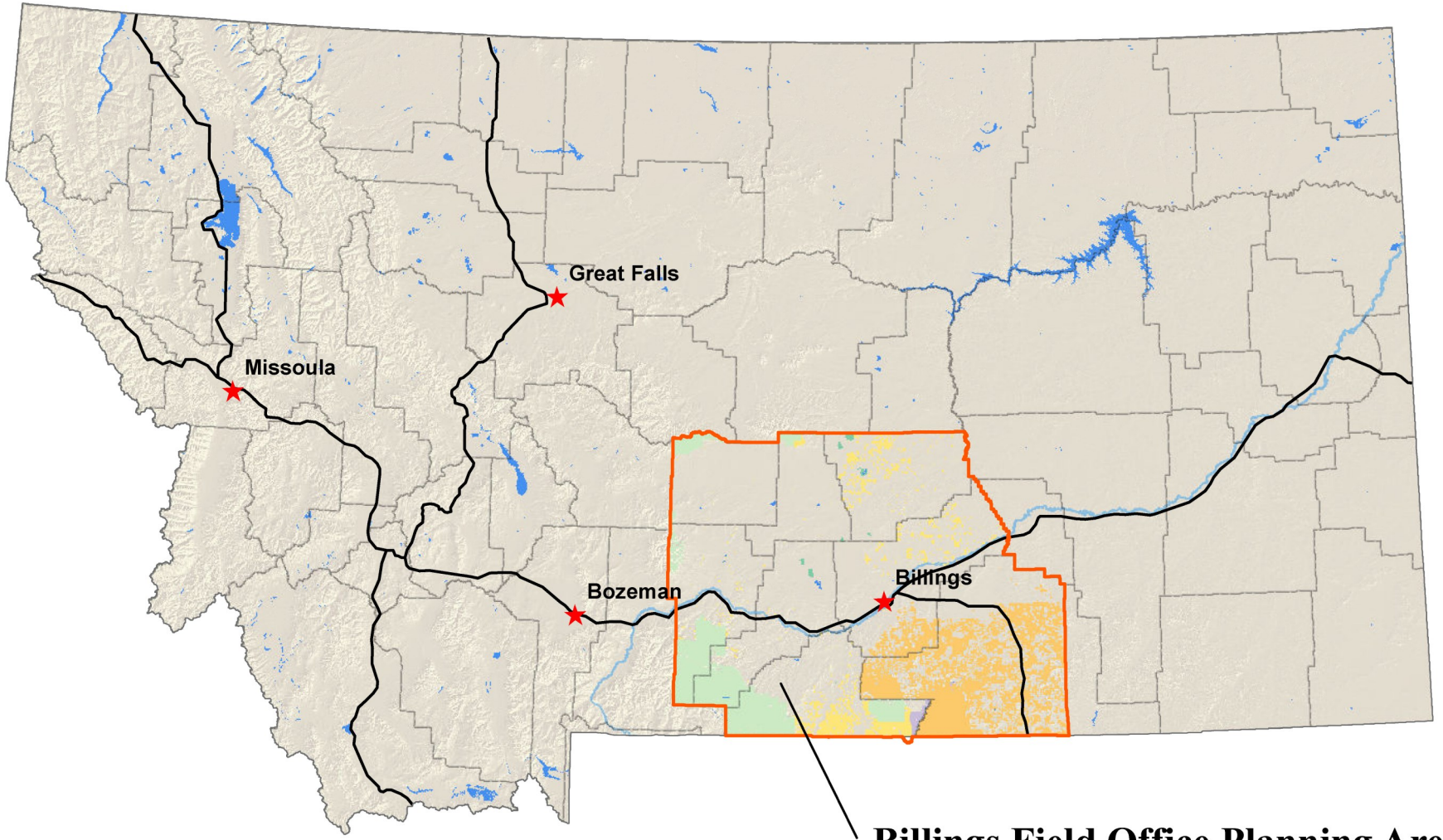
Appendices

Appendix A
Approved RMP Maps

Appendix A1
Approved GRSG RMP Maps

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS



Billings Field Office Planning Area

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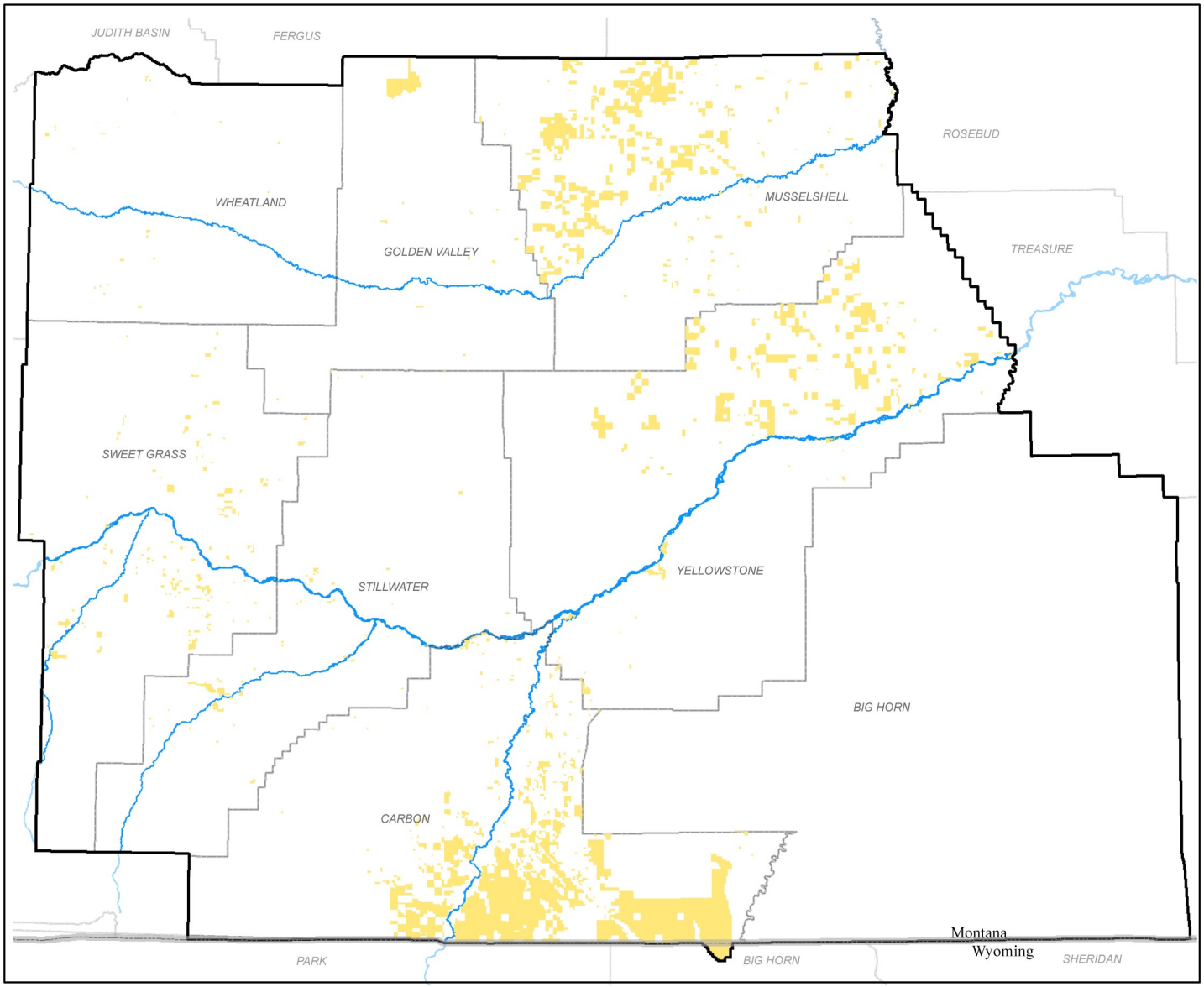
July 2015

Map 1-1



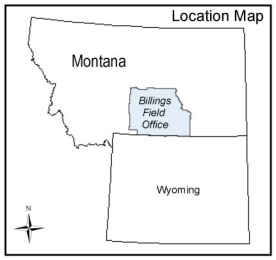
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Rivers
- Bureau of Land Management

Bureau of Land Management Administered Surface within the Billings Field Office Planning Area



0 1.753.5 7 10.5 14 17.5 Miles
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Map generated by the Billings Field Office in July 2015

Albers Equal Area, NAD83 Projection

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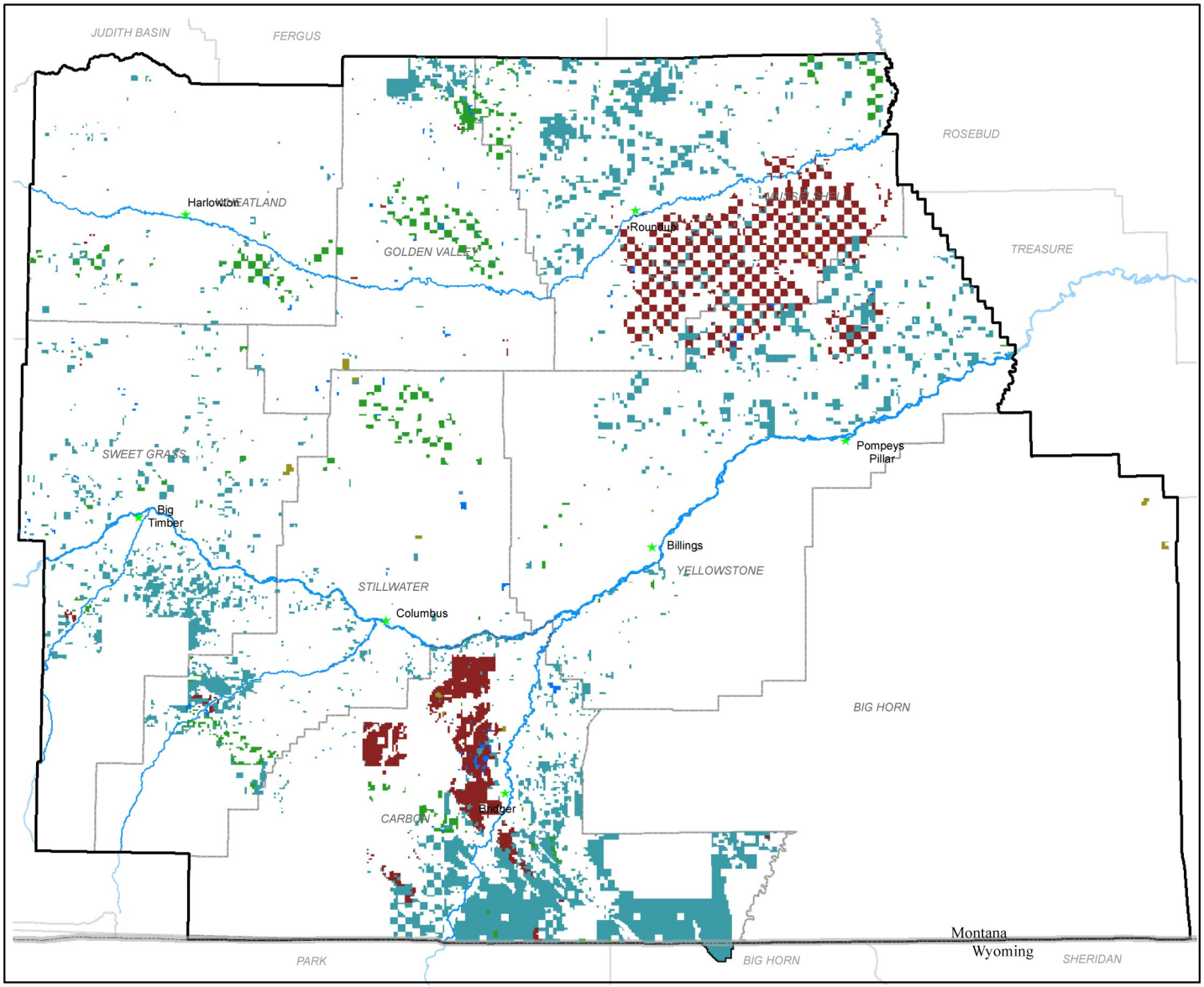
Map 1-2



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- Planning Area Boundary
- County Boundaries
- Rivers
- Towns

Federal Minerals

- All Minerals
- Coal & Oil and Gas
- Coal
- Oil & Gas
- Restricted

Bureau of Land Management Administered Federal Minerals within the Billings Field Office Planning Area

Map generated by the Billings Field Office in July 2015

Albers Equal Area, NAD83 Projection

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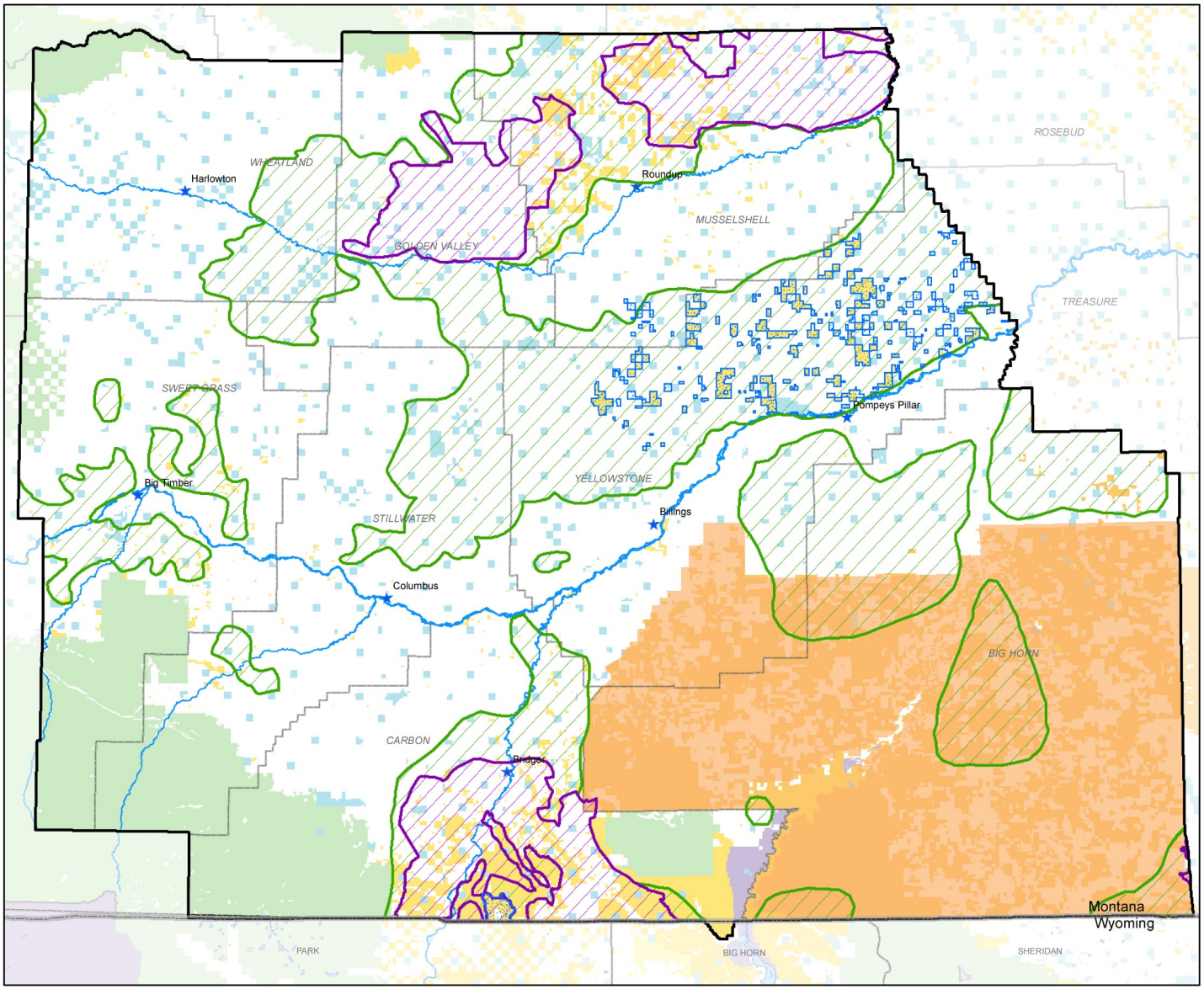
Map 1-3



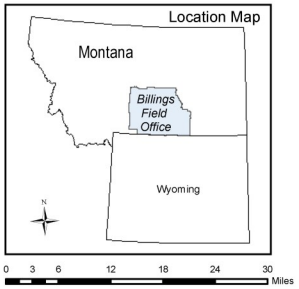
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Restoration Habitat Management Areas
- GRSG Priority Habitat Management Areas
- GRSG General Habitat Management Areas
- Rivers
- Towns
- Bureau of Land Management
- Bureau of Reclamation
- National Park Service
- Divison of State Lands
- Bureau of Indian Affairs
- US Forest Service

GRSG Habitat Management Areas within the Billings Field Office Planning Area Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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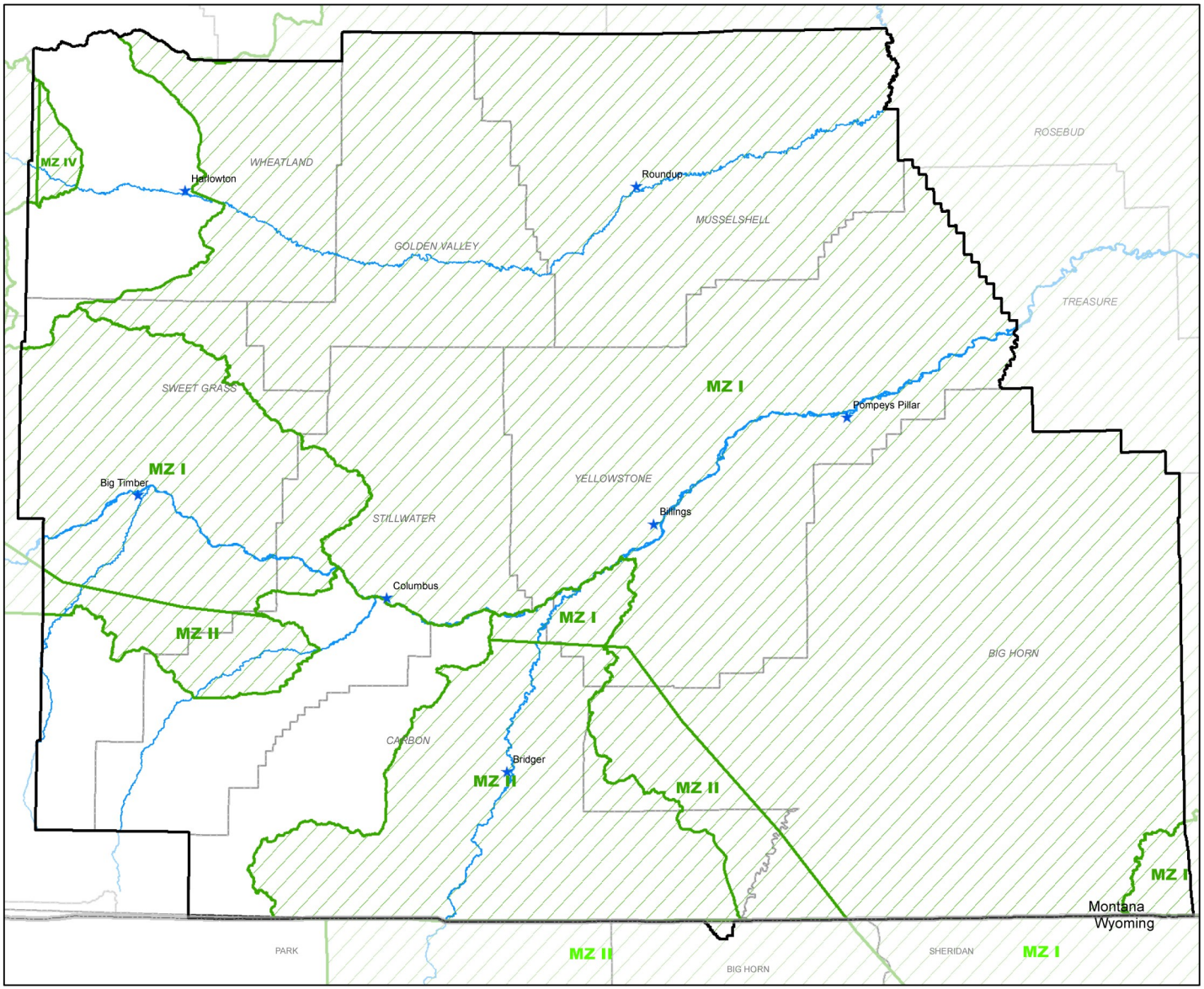
Map 2-1



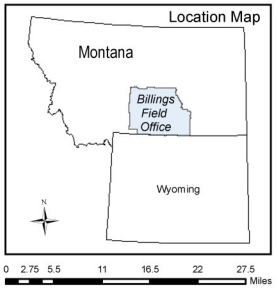
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- GRSG Biologically Significant Units
- Rivers
- Towns

Greater Sage Grouse Biologically Significant Units Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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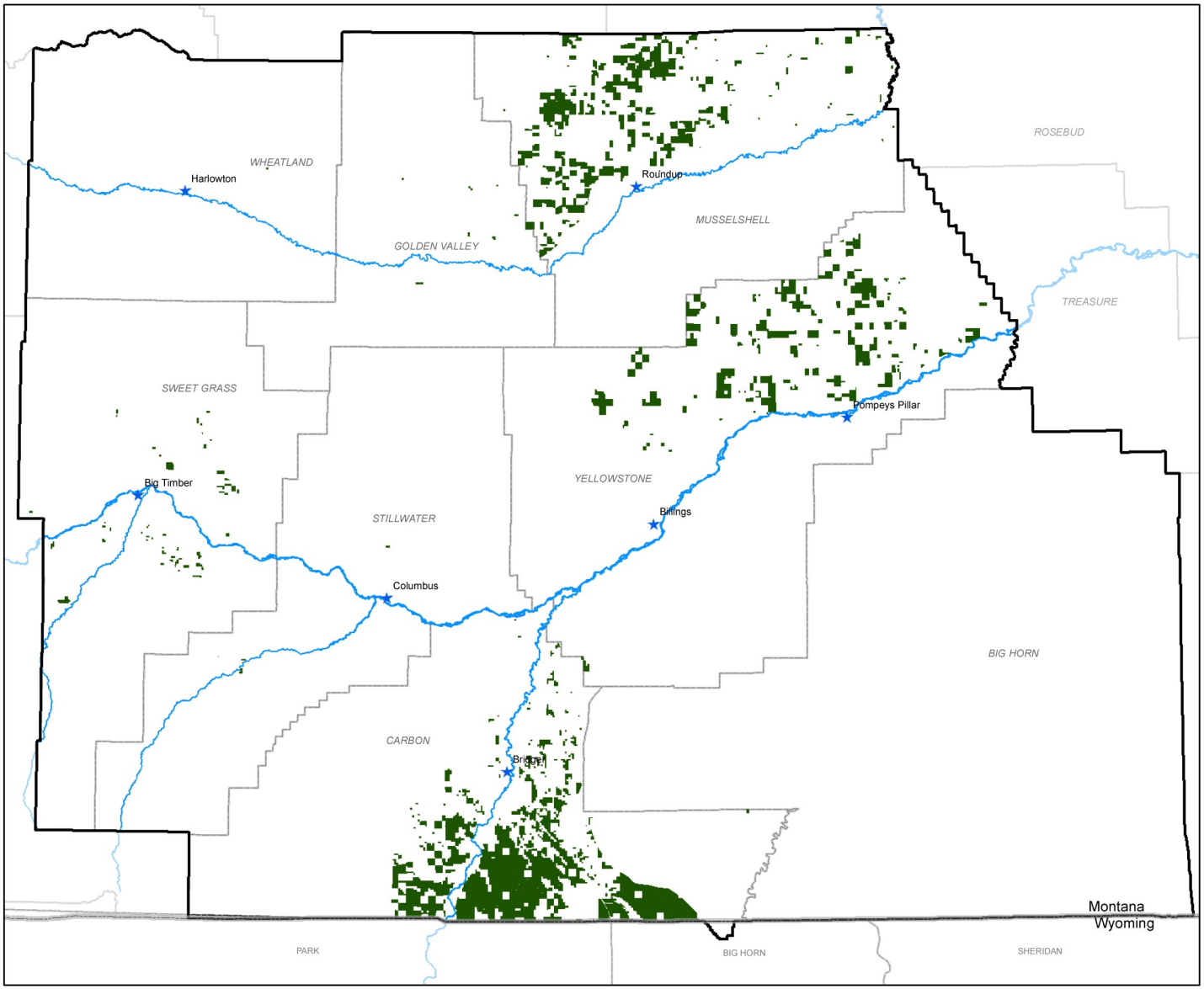
Map 2-2



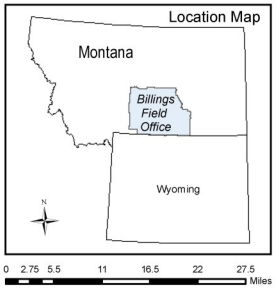
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Livestock Grazing Available
- Rivers
- Towns

Livestock Grazing in Greater Sage Grouse Habitat Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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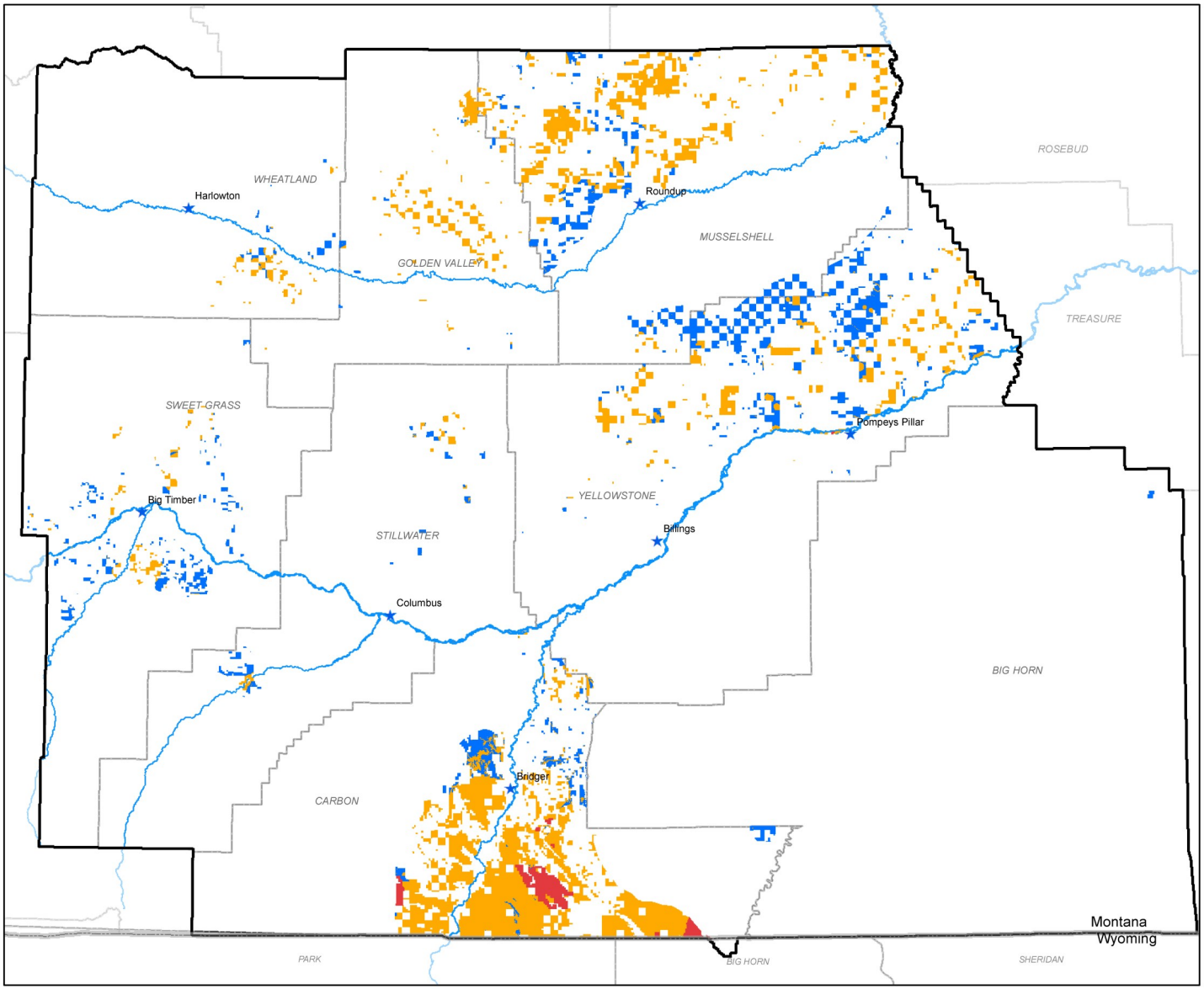
Map 2-3



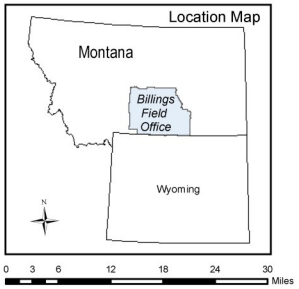
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- No Lease
- Major Stipulations (NSO)
- Moderate Stipulations (CSU, TL)
- Rivers
- Towns

Fluid Minerals (Oil and Gas) in Greater Sage Grouse Habitat Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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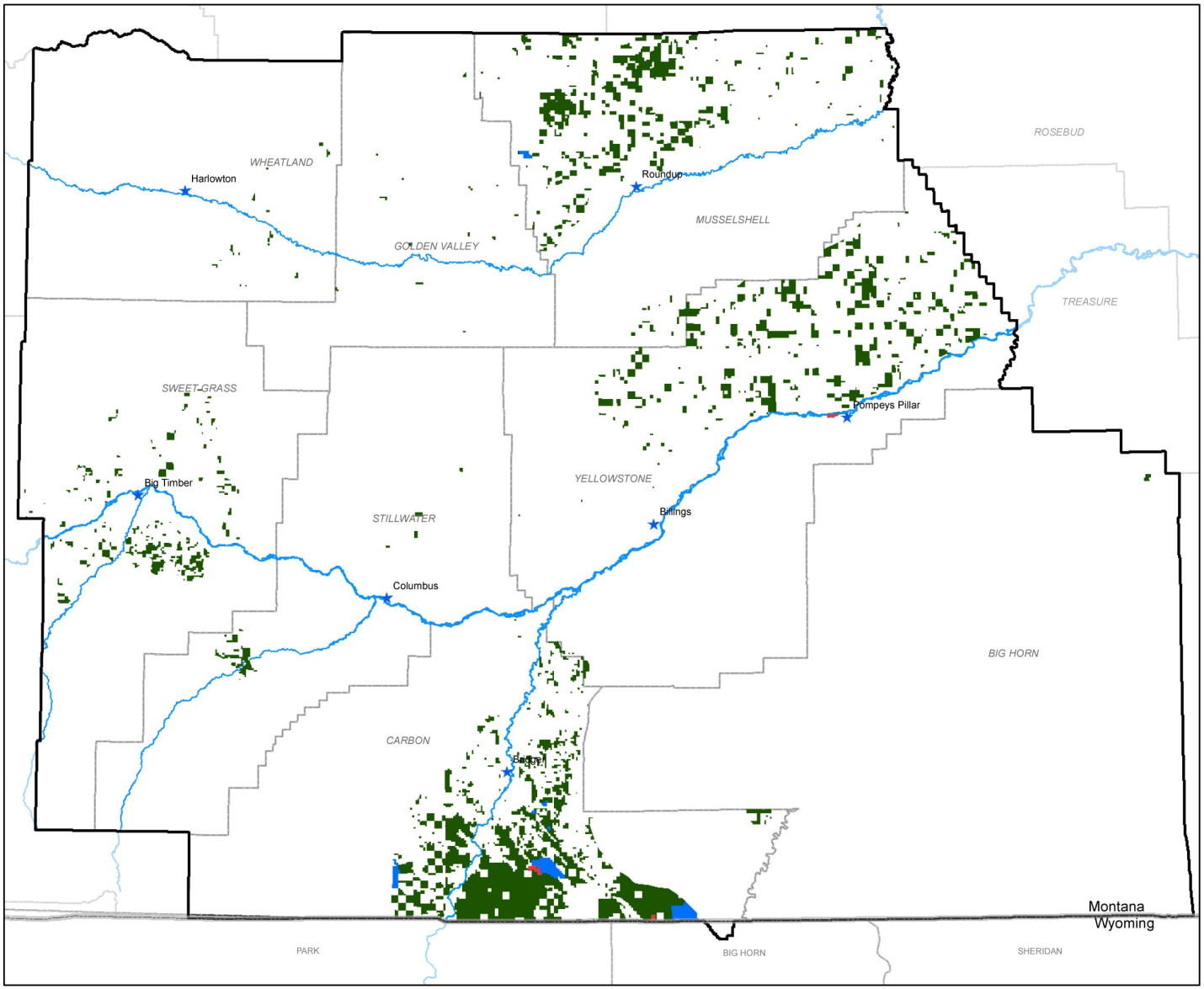
Map 2-4



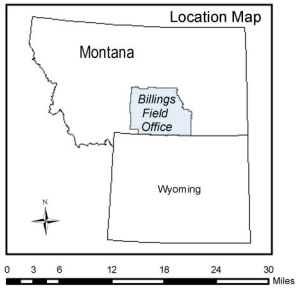
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Existing Withdrawals
- Recommended Withdrawals
- Locatable Minerals Open
- Rivers
- Towns

Locatable Minerals in Greater Sage Grouse Habitat Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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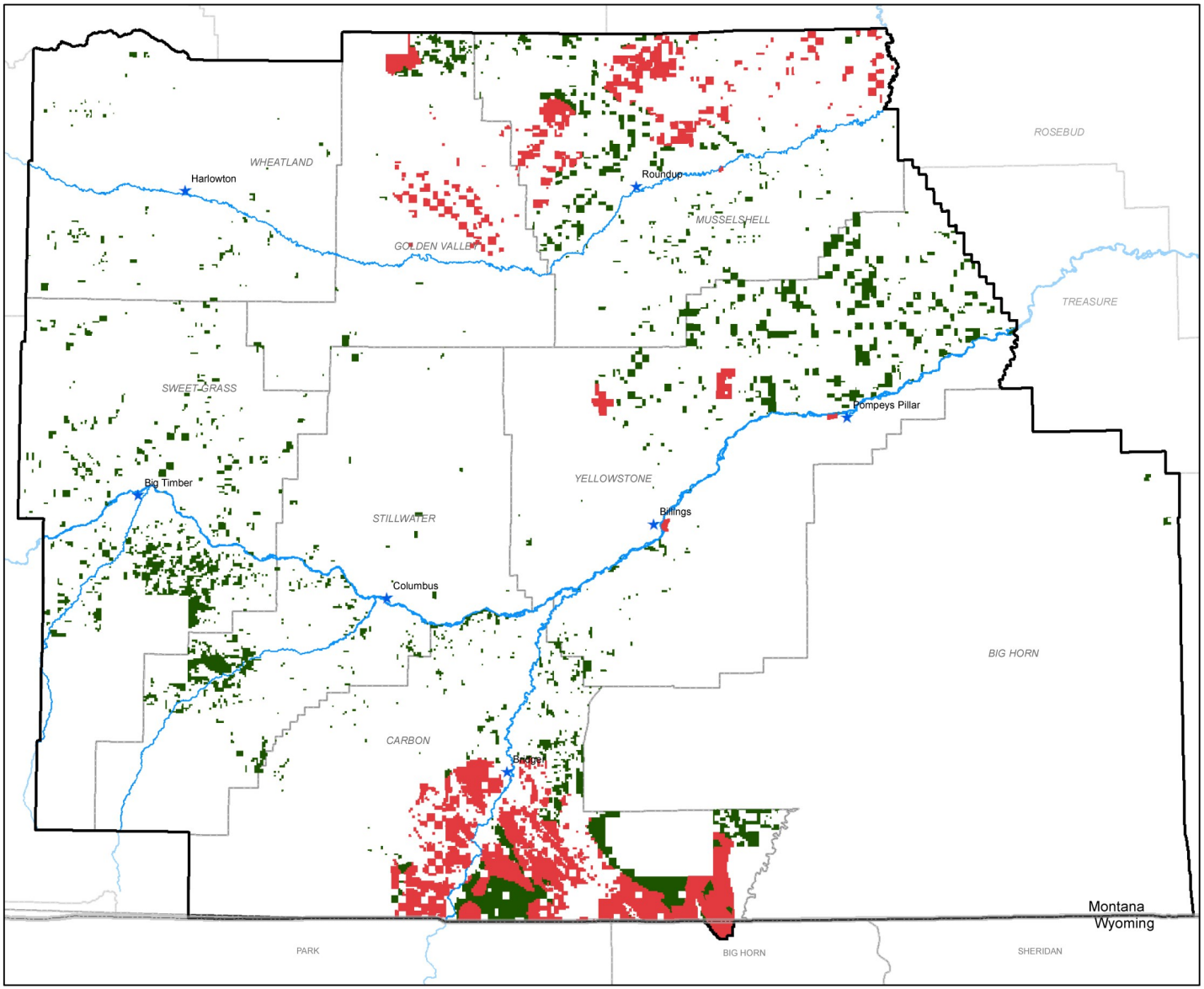
Map 2-5



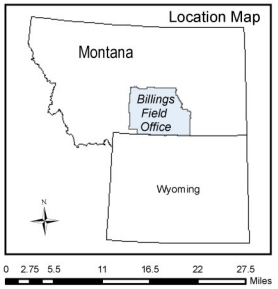
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Mineral Materials
- Mineral Materials Open
- Rivers
- Towns

Mineral Materials Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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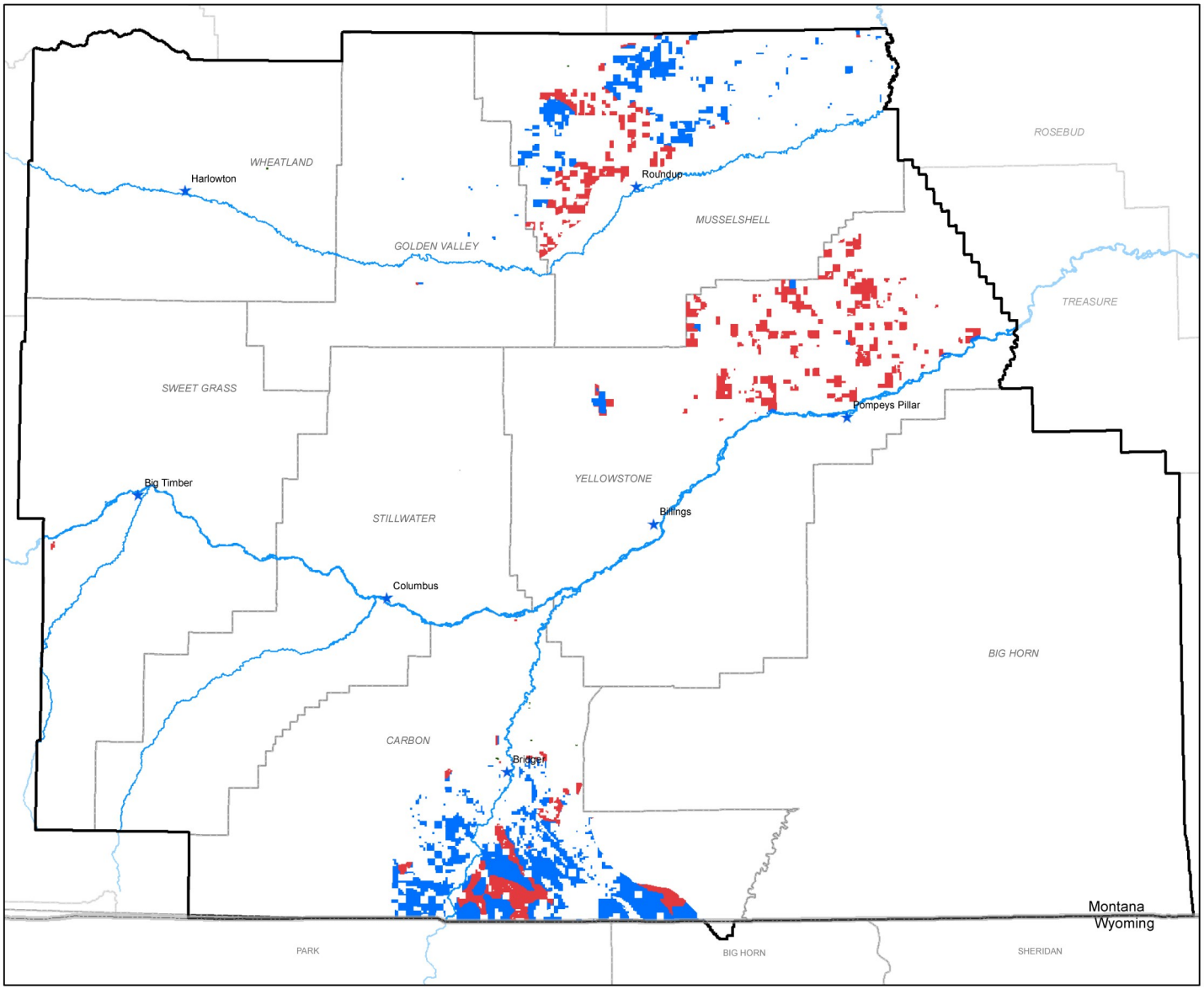
Map 2-6



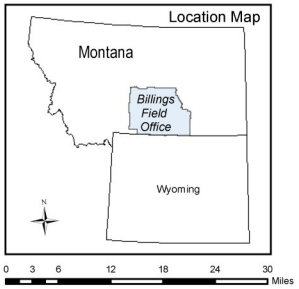
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Avoidance
- Exclusion
- Open
- Rivers
- Towns

Renewable Energy (Wind/Solar) in Greater Sage Grouse Habitat Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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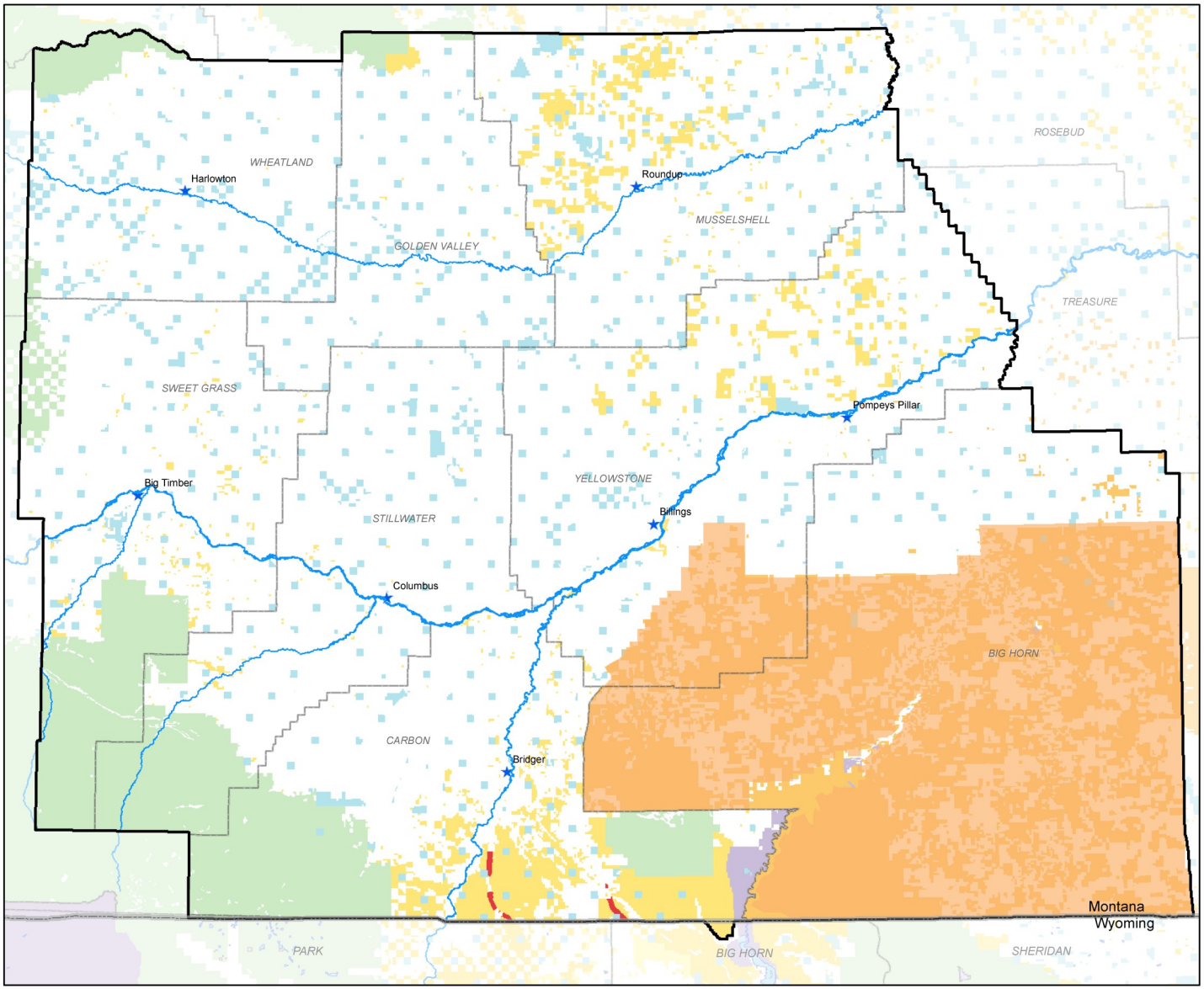
Map 2-7



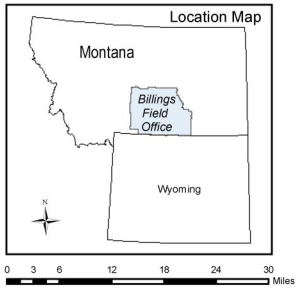
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Designated Utility Corridors
- Rivers
- Towns
- Bureau of Land Management
- Bureau of Reclamation
- National Park Service
- Divison of State Lands
- Bureau of Indian Affairs
- US Forest Service

Designated Utility Corridors in Greater Sage Grouse Habitat Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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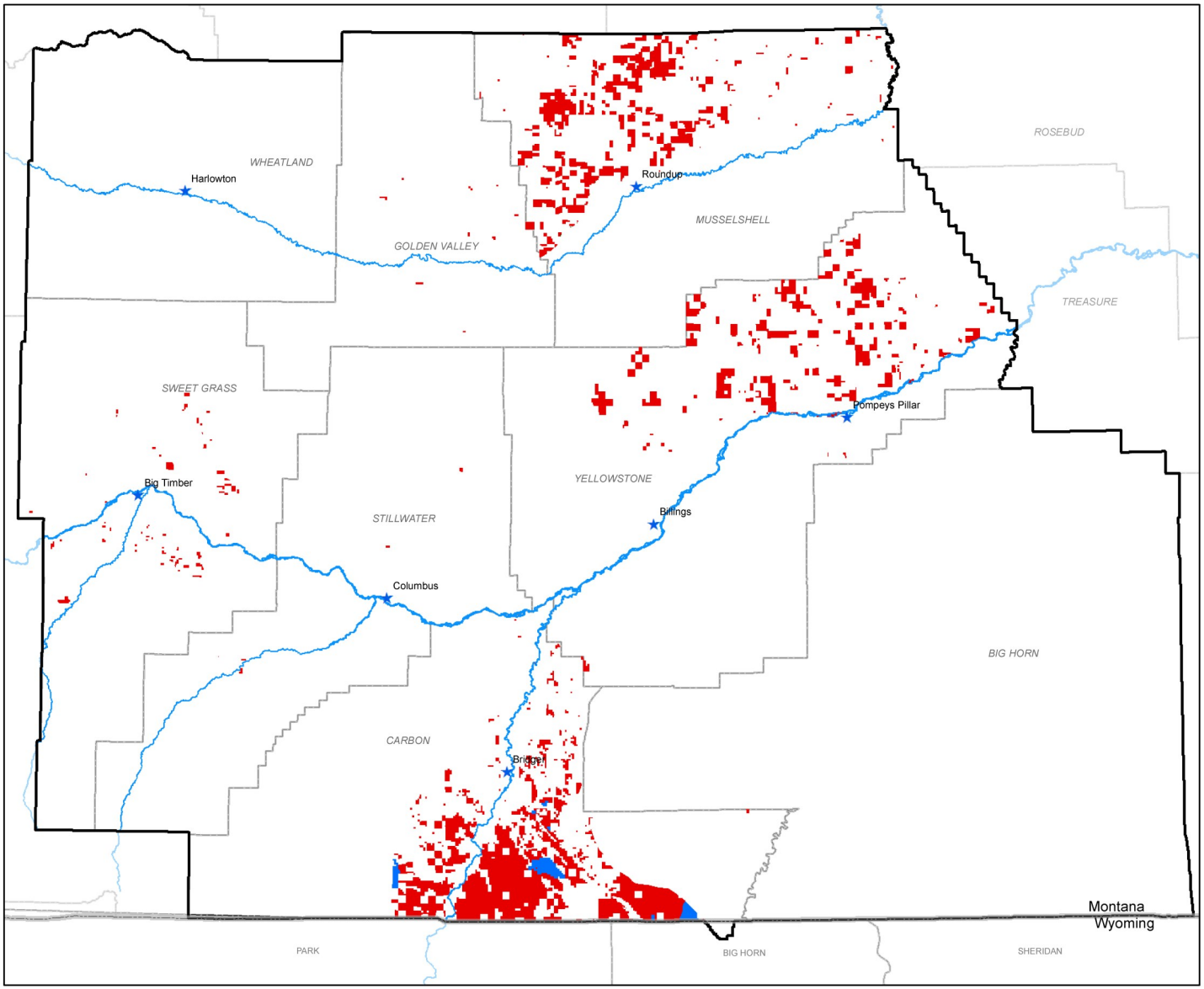
Map 2-8



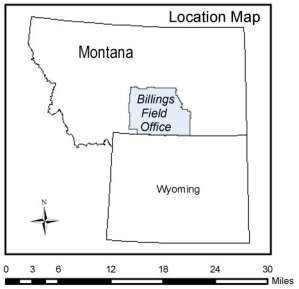
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Avoidance
- Exclusion
- Open
- Rivers
- Towns

Major Rights-of-Way in Greater Sage Grouse Habitat Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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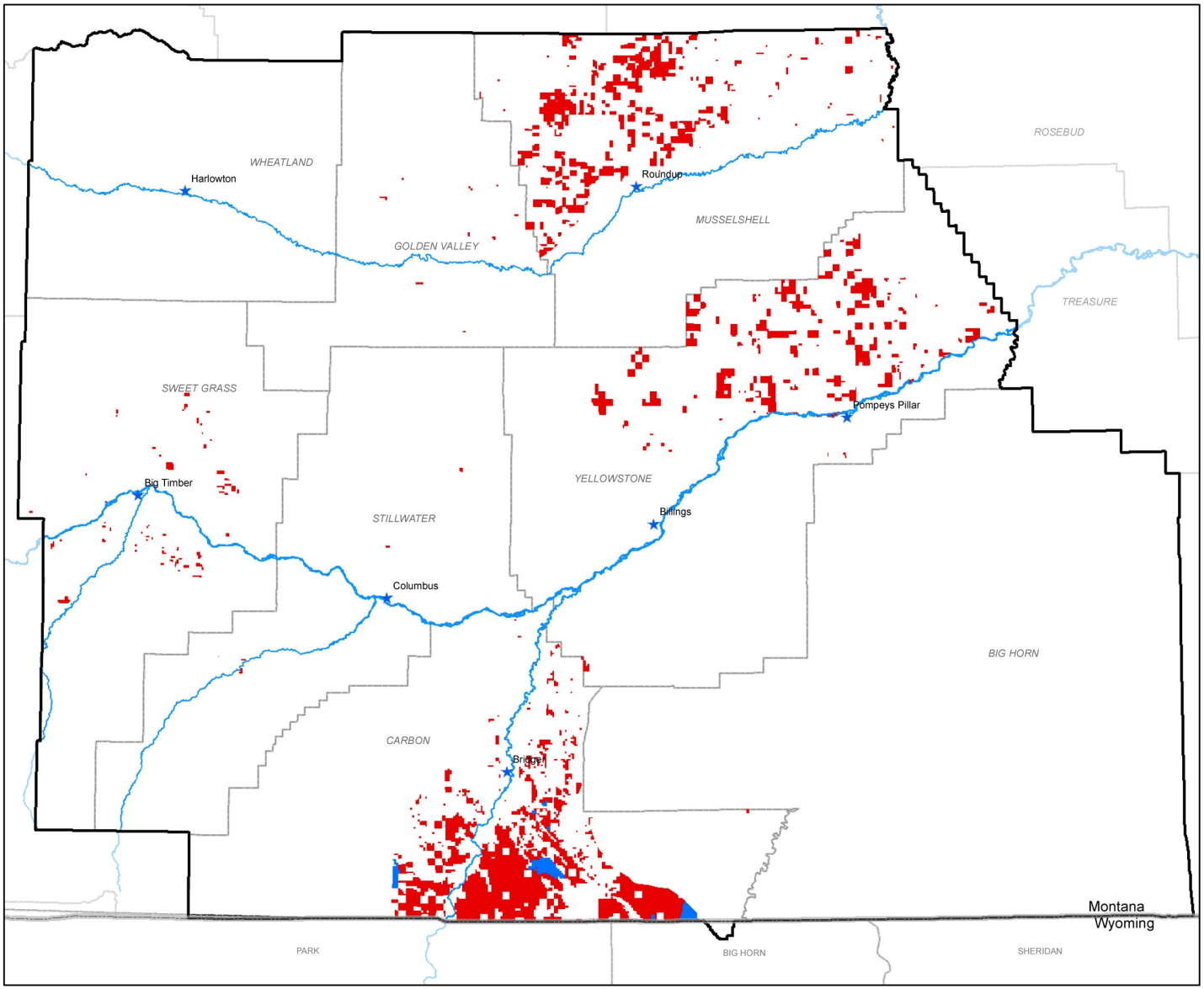
Map 2-9



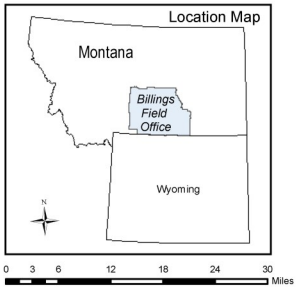
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Avoidance
- Exclusion
- Open
- Rivers
- Towns

Minor Rights-of-Way in Greater Sage Grouse Habitat Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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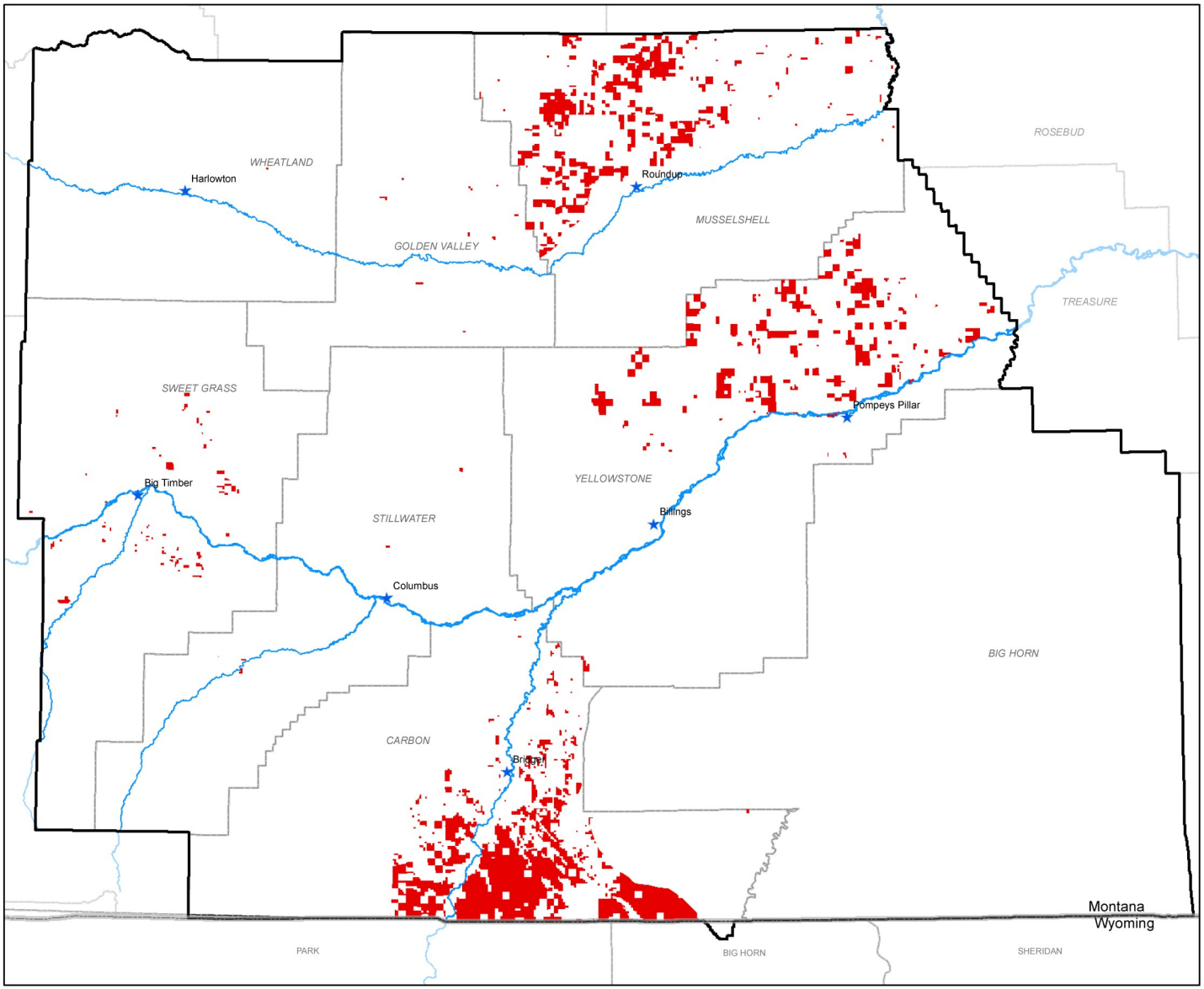
Map 2-10



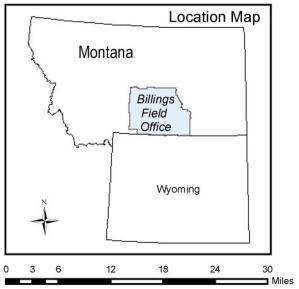
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Retention
- Rivers
- Towns

Land Tenure
in Greater Sage Grouse Habitat
Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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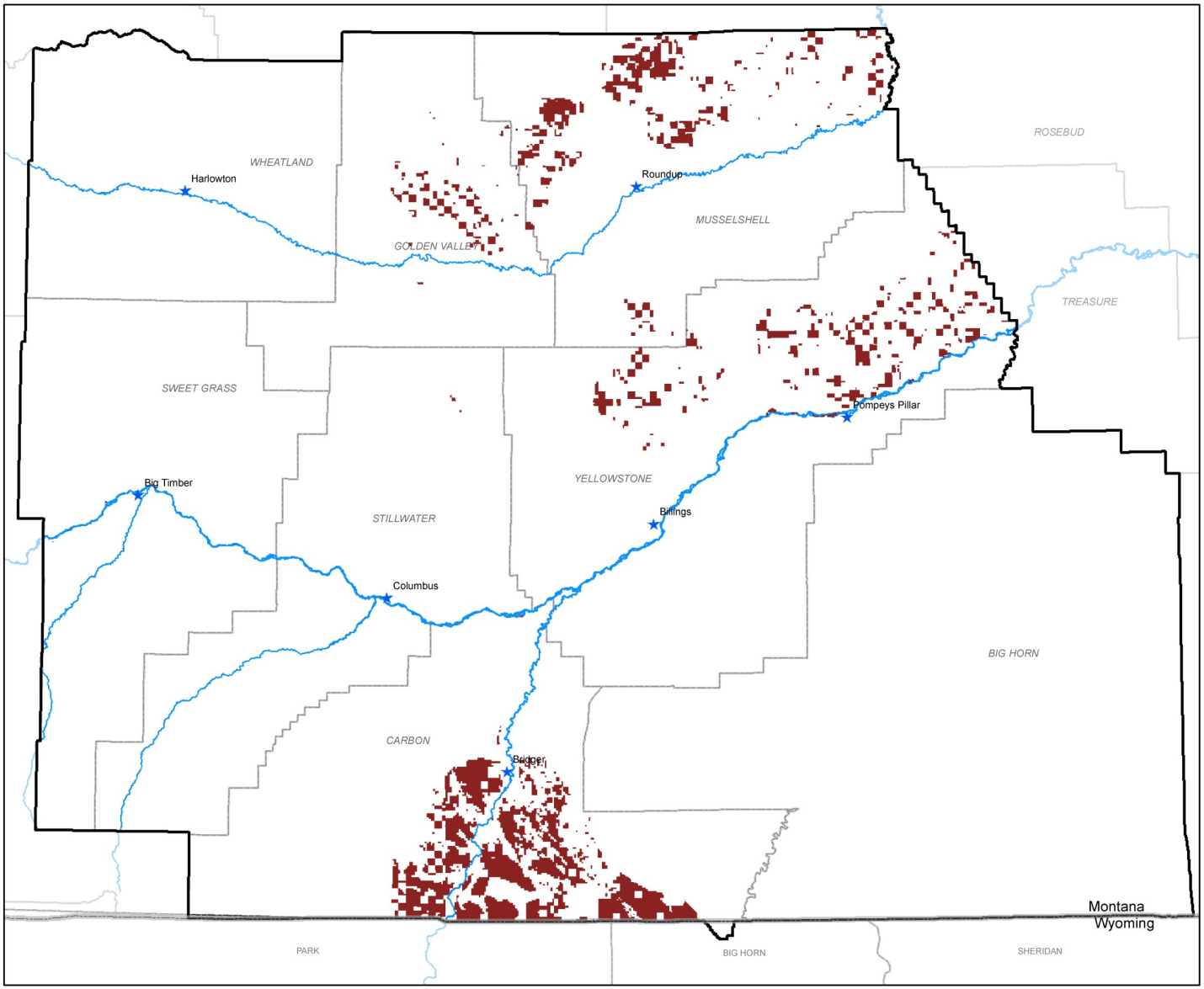
Map 2-11



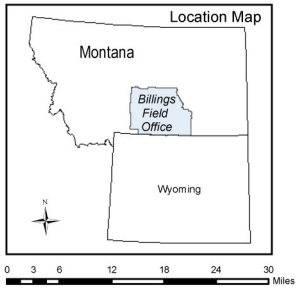
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Solid Leasables (Coal)
- Rivers
- Towns

Solid Leaseables (Coal)
in Greater Sage Grouse Habitat
Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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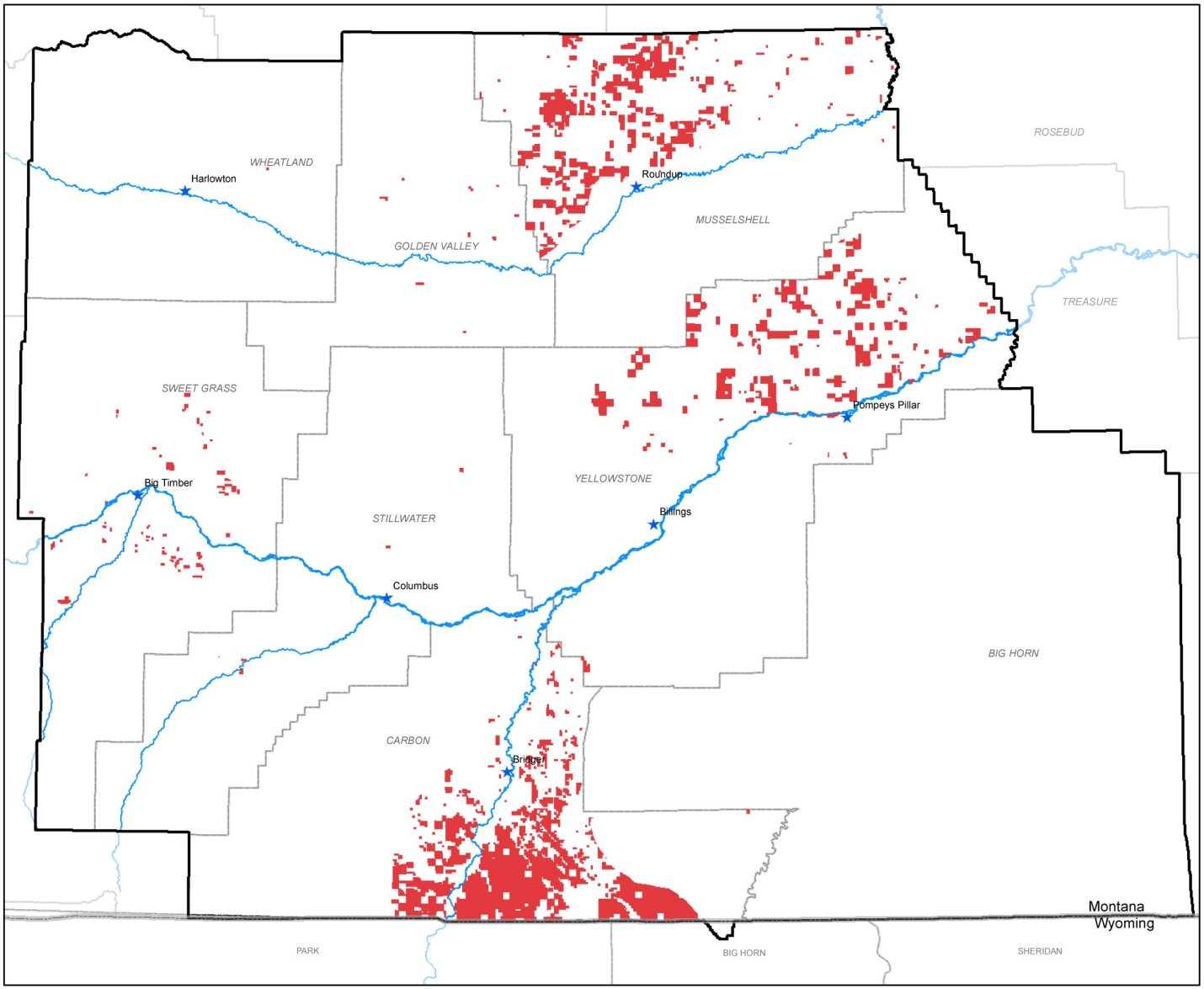
Map 2-12



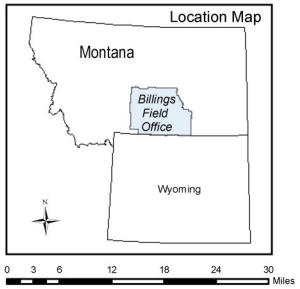
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Limited-existing roads & trails
- Rivers
- Towns

Trails and Travel Management in Greater Sage Grouse Habitat Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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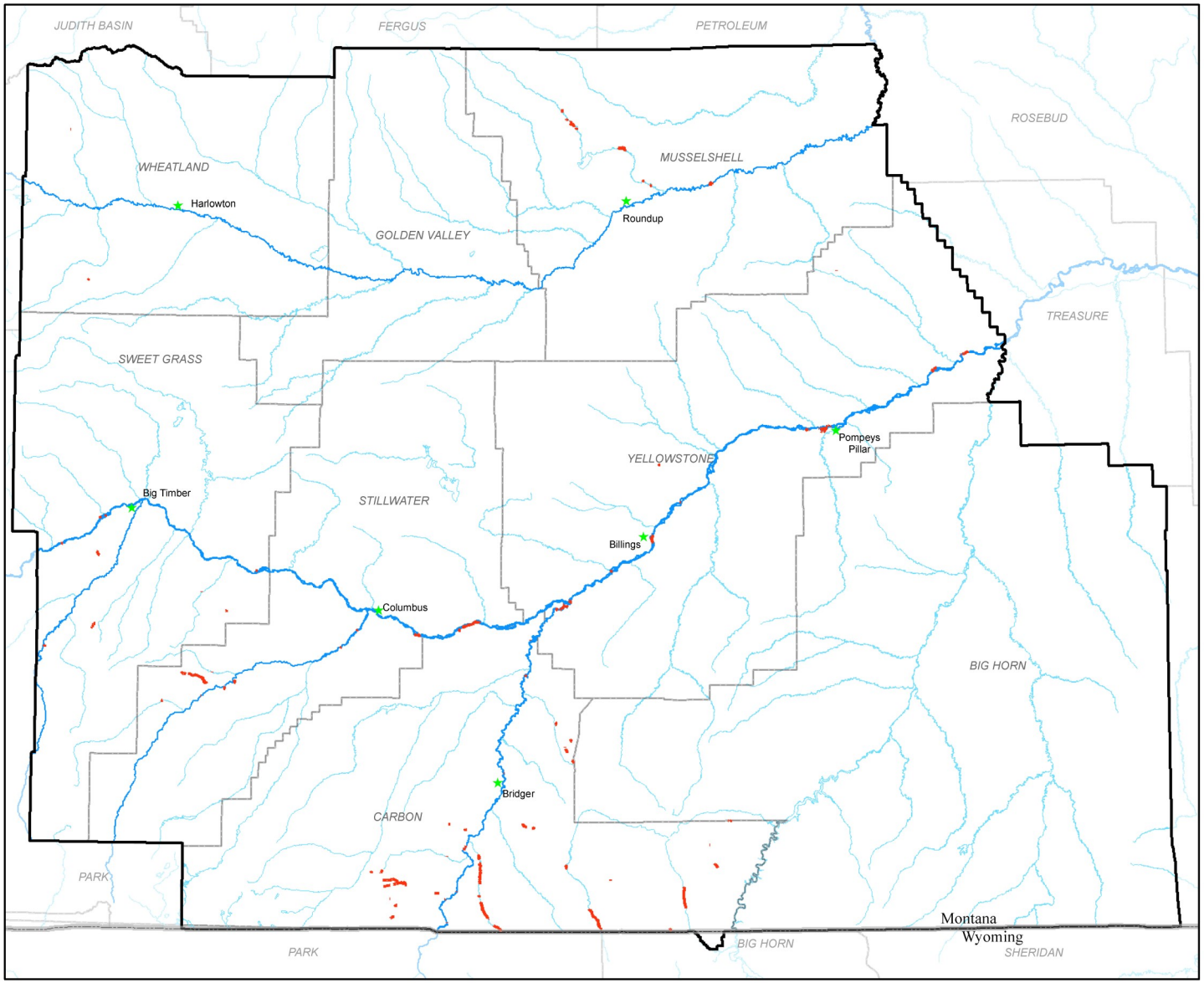
Map 2-13

Appendix A2
Approved RMP Maps



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Priority Recovery Areas
- Rivers
- Streams
- Towns

Riparian Priority Recovery Areas
Approved RMP

0 2 4 8 12 16 20 Miles
Map scale 1:900,000

Map generated by the Billings Field Office in July 2015

Albers Equal Area, NAD83 Projection

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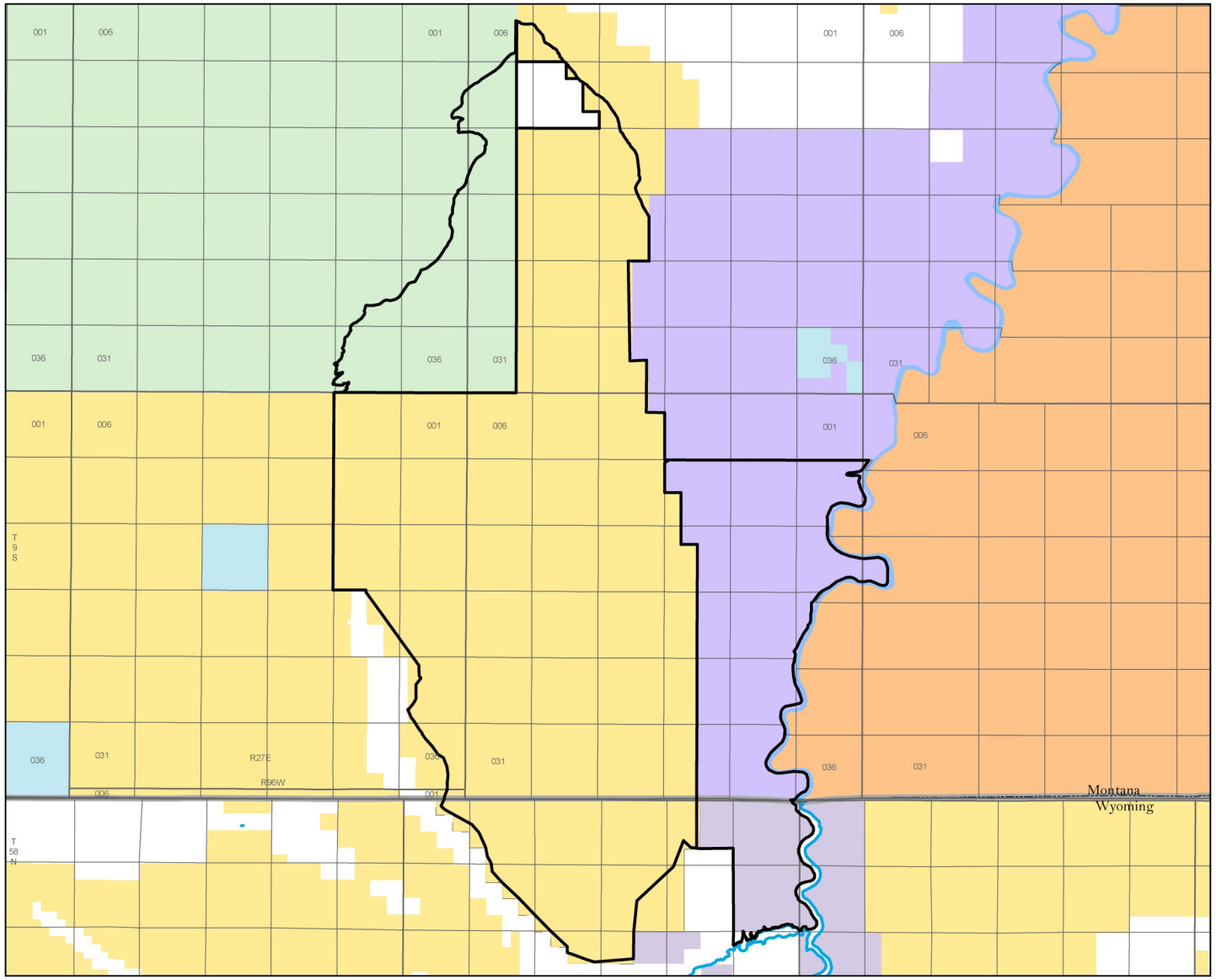
Map 3-1

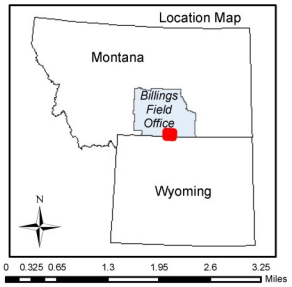


U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- Herd Management Area Boundary
- Montana Wyoming State Border
- Pulbic Lands Survey System
- Bureau of Land Management
- Division of State Lands
- Bureau of Indian Affairs
- National Park Service
- U.S. Forest Service
- Water
- Private Individual or Company

Pryor Herd Management Area Approved RMP



Map scale 1:100,000

Map generated by the Billings Field Office in July 2015

Albers Equal Area, NAD83 Projection

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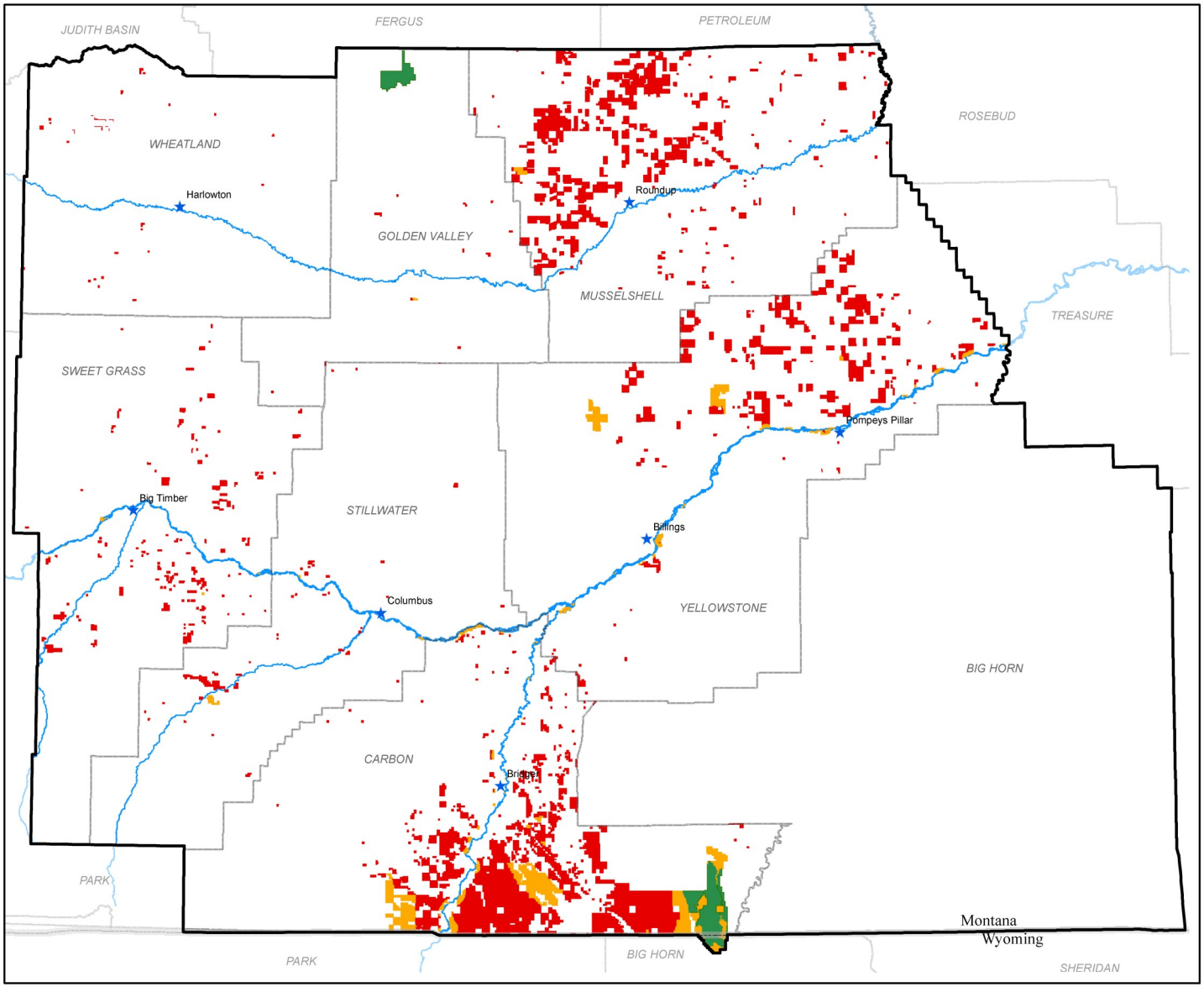
Maps 3-2



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary

Visual Resource Management

- Class I
- Class II
- Class III
- Rivers
- Towns

Visual Resource Management Approved RMP

0 2 4 8 12 16 20 Miles

Map scale 1:900,000

Map generated by the Billings Field Office in July 2015

Albers Equal Area, NAD83 Projection

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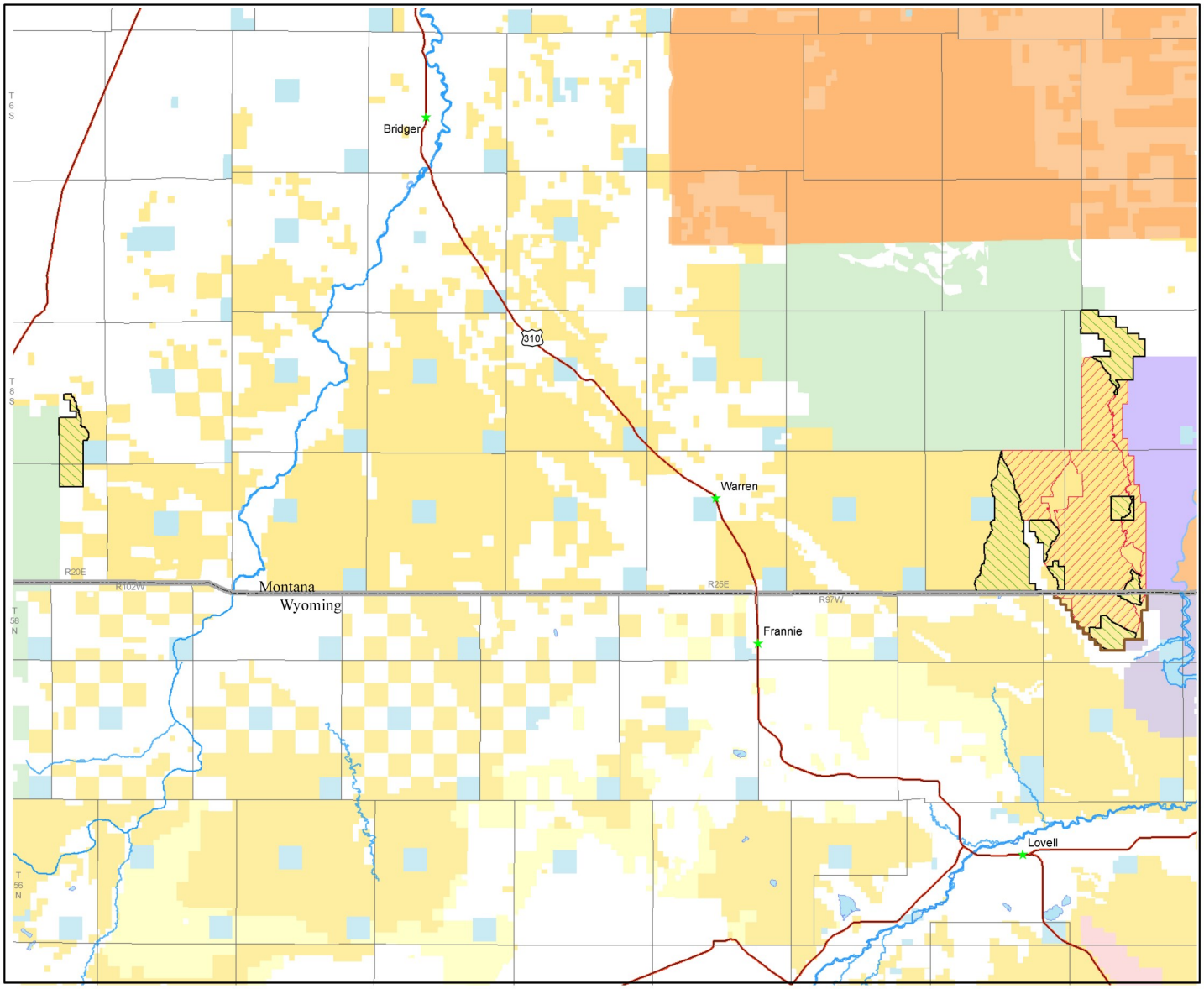
Map 3-3



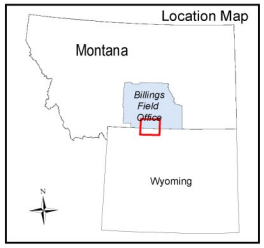
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- Planning Area Boundary
- Lands with Wilderness Characterists
- Wilderness Study Areas
- Public Lands Survey System
- Roads
- Rivers
- Towns
- Bureau of Indian Affairs
- Bureau of Land Management
- Division of State Lands
- National Park Service
- U.S. Forest Service
- Water

Lands with Wilderness Characteristics Approved RMP



0 125 250 500 750 1,000 Miles

Map scale 1:283,000

Map generated by the Billings Field Office in July 2015

Albers Equal Area, NAD83 Projection

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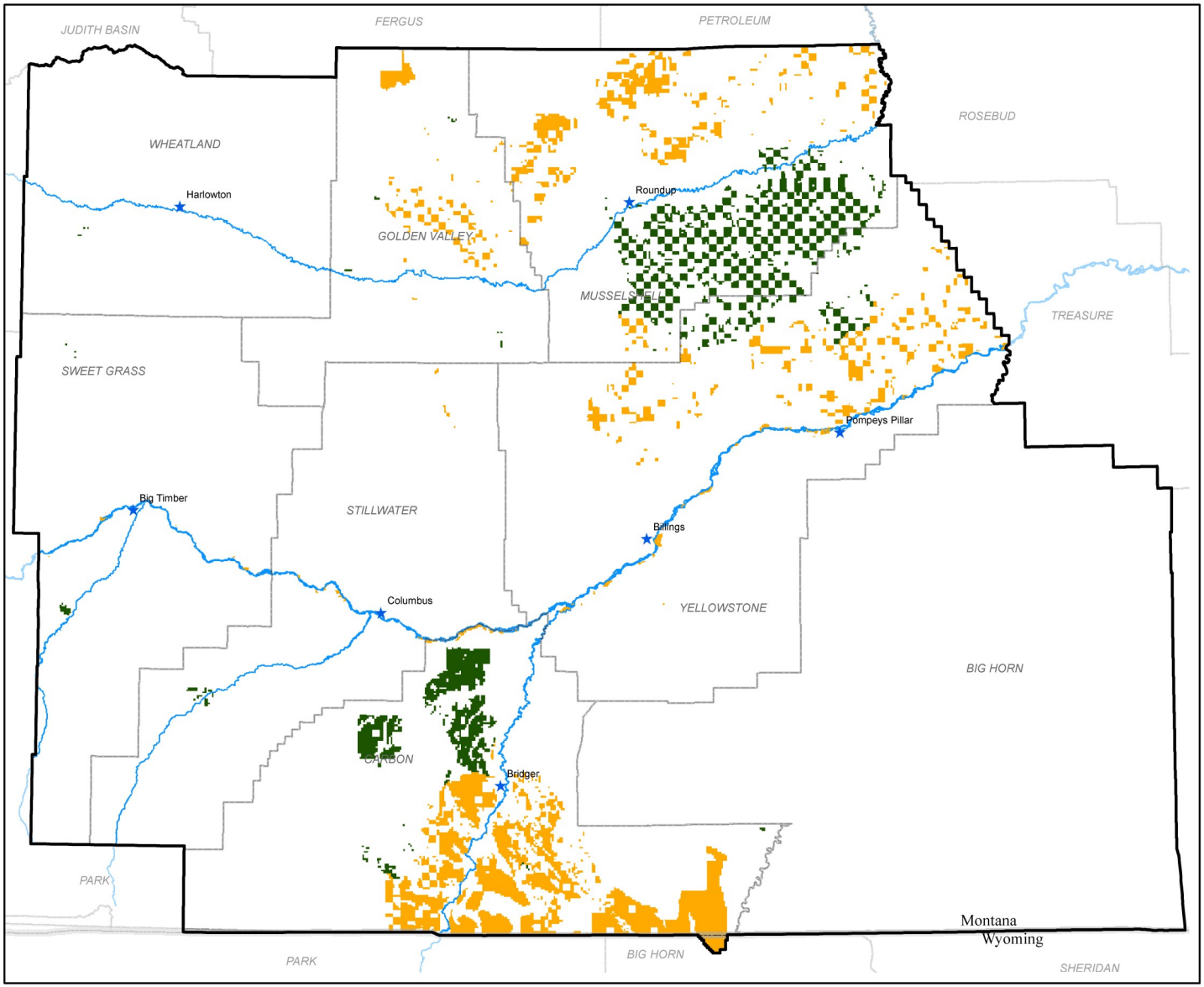
Map 3-4



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Coal Closed
- Coal Open
- Rivers
- Towns

Solid Leasables (Coal)
Approved RMP

0 2 4 8 12 16 20 Miles

Map scale 1:900,000

Map generated by the Billings Field Office in July 2015

Albers Equal Area, NAD83 Projection

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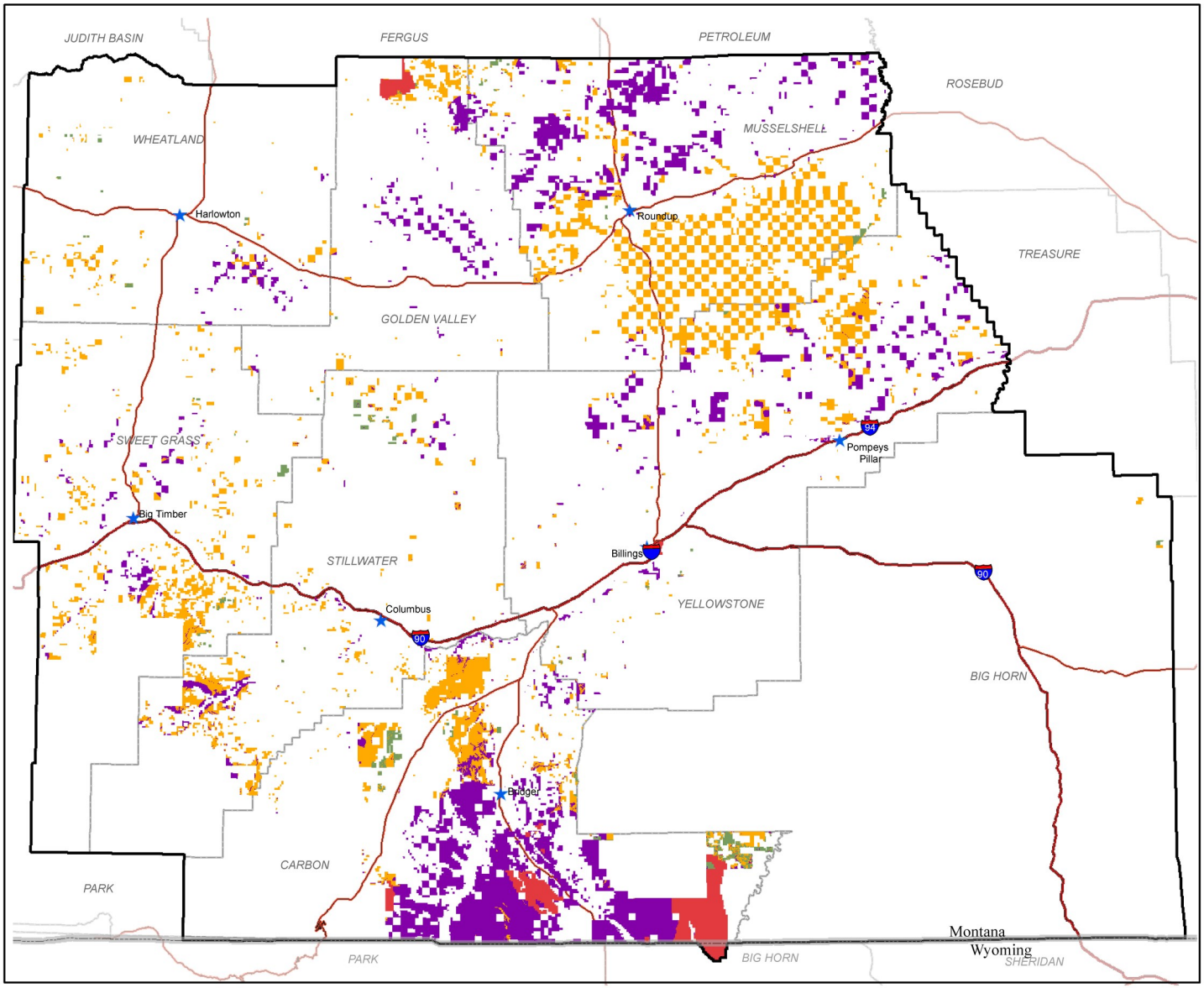
Map 3-5



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Interstate
- Highway
- Towns
- No Lease
- Major Constraints (NSO)
- Moderate Constraints (CSU, TL)
- Standard Leasing Terms

Fluid Minerals (Oil and Gas)
Approved RMP

4,950 acres available with standard leasing terms

0 2 4 8 12 16 20 Miles

Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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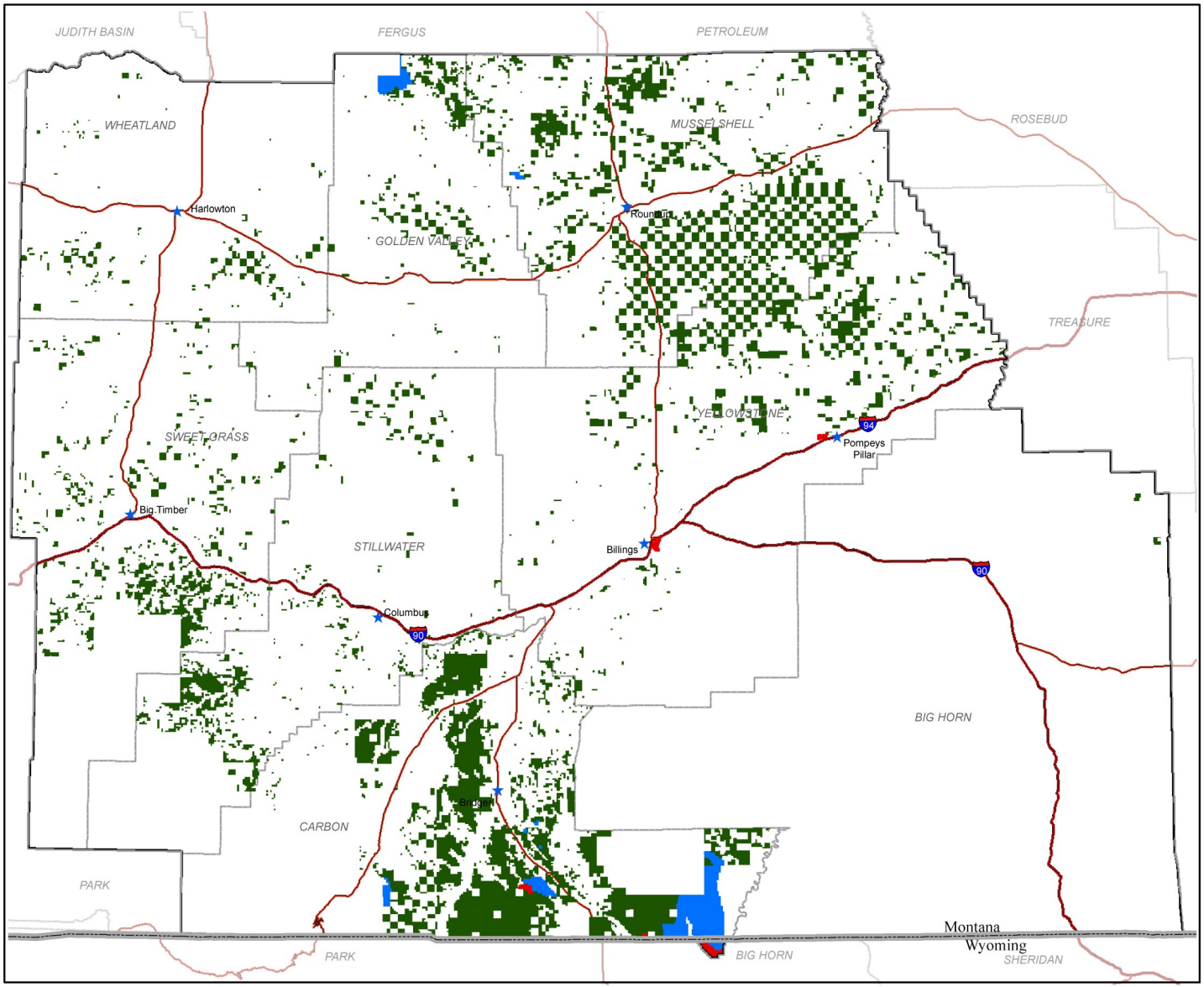
Map 3-6



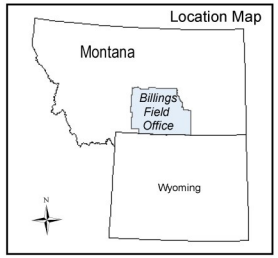
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- Planning Area Boundary
- County Boundaries
- Excisting Withdrawals
- Proposed Withdrawals
- Federal Minerals
- Interstate
- Highway

Locatable Minerals within the Billings Field Office Planning Area Approved RMP



Locatable Withdrawals are processed by Lands and Realty; as a result Locatable Withdrawals section is identical to the Lands and Realty Withdrawals section.

0 2 4 8 12 16 20 Miles

Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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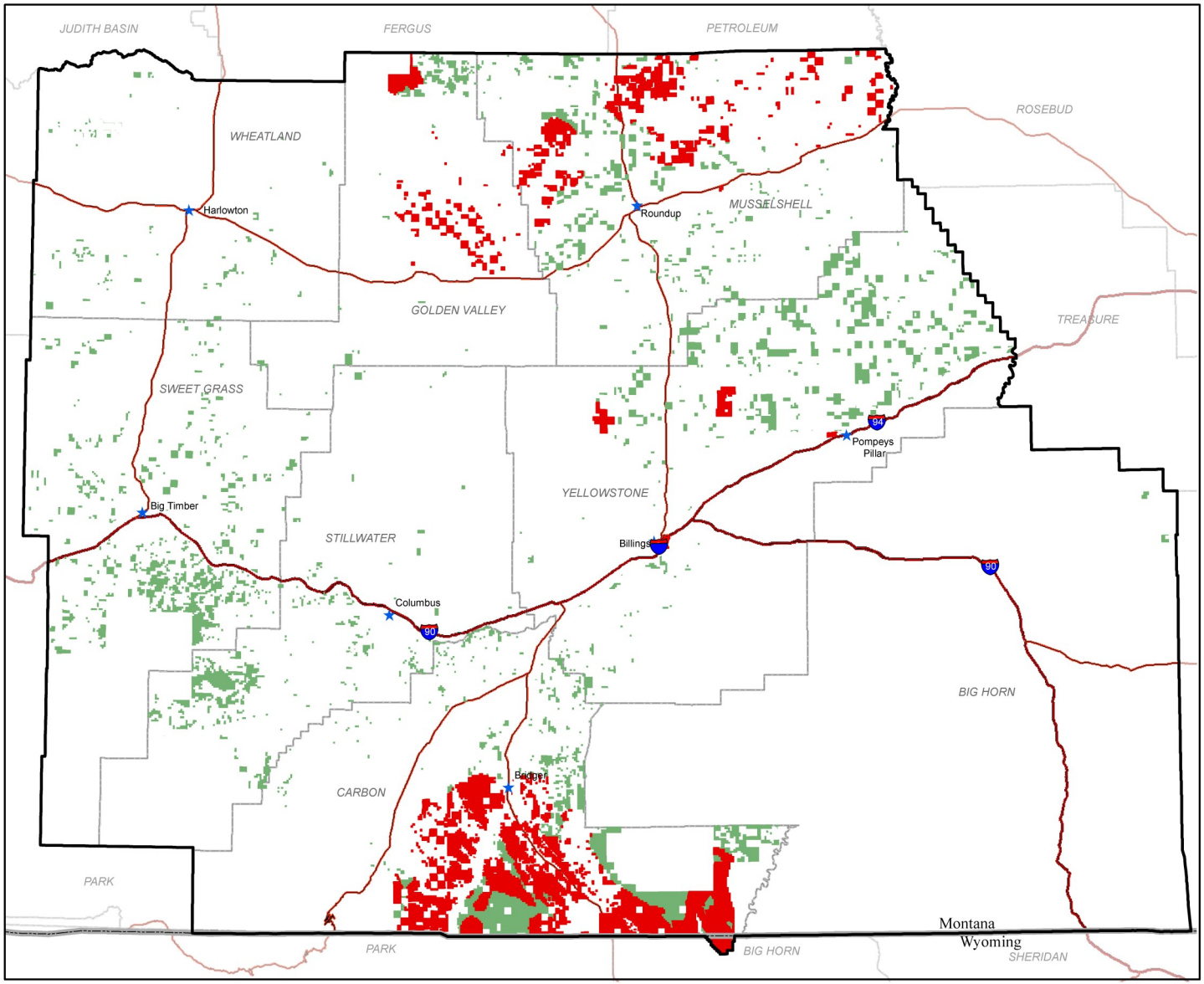
Map 3-7



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Mineral Materials Closed
- Mineral Materials Open
- Interstate
- Highway
- Towns

Mineral Materials Approved RMP

Locatable Withdrawals are processed by Lands and Realty; as a result Locatable Withdrawals section is identical to the Lands and Realty Withdrawals section.

0 3 6 12 18 24 30 Miles

Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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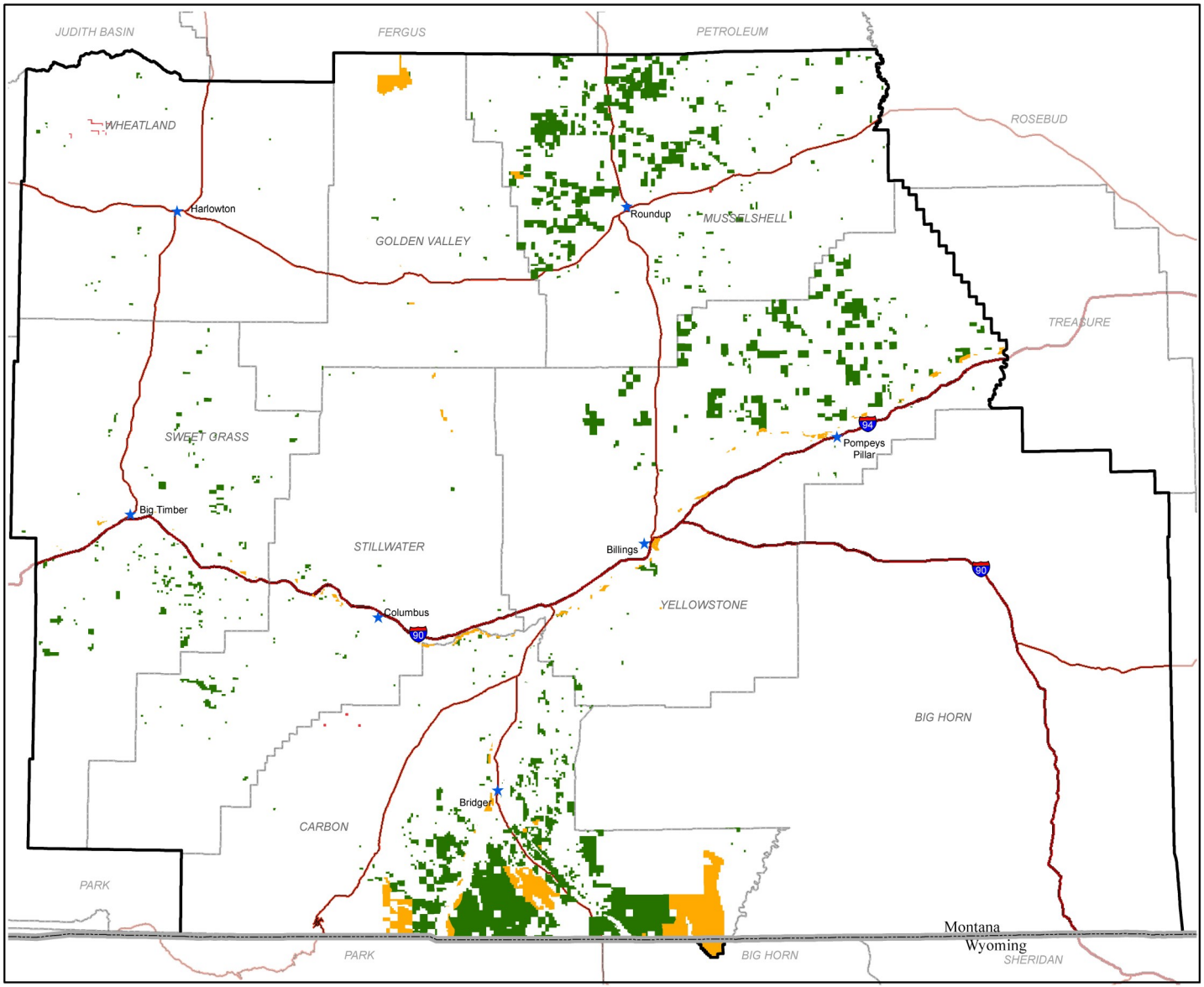
Map 3-8



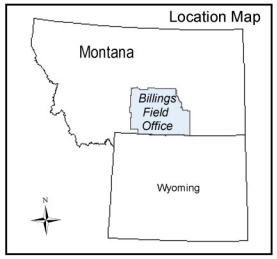
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Lands Available Disposal
- Retention I
- Retention II
- Interstate
- Highway
- Towns

Land: Retention and Available for Disposal Approved RMP



0 2 4 8 12 16 20 Miles

Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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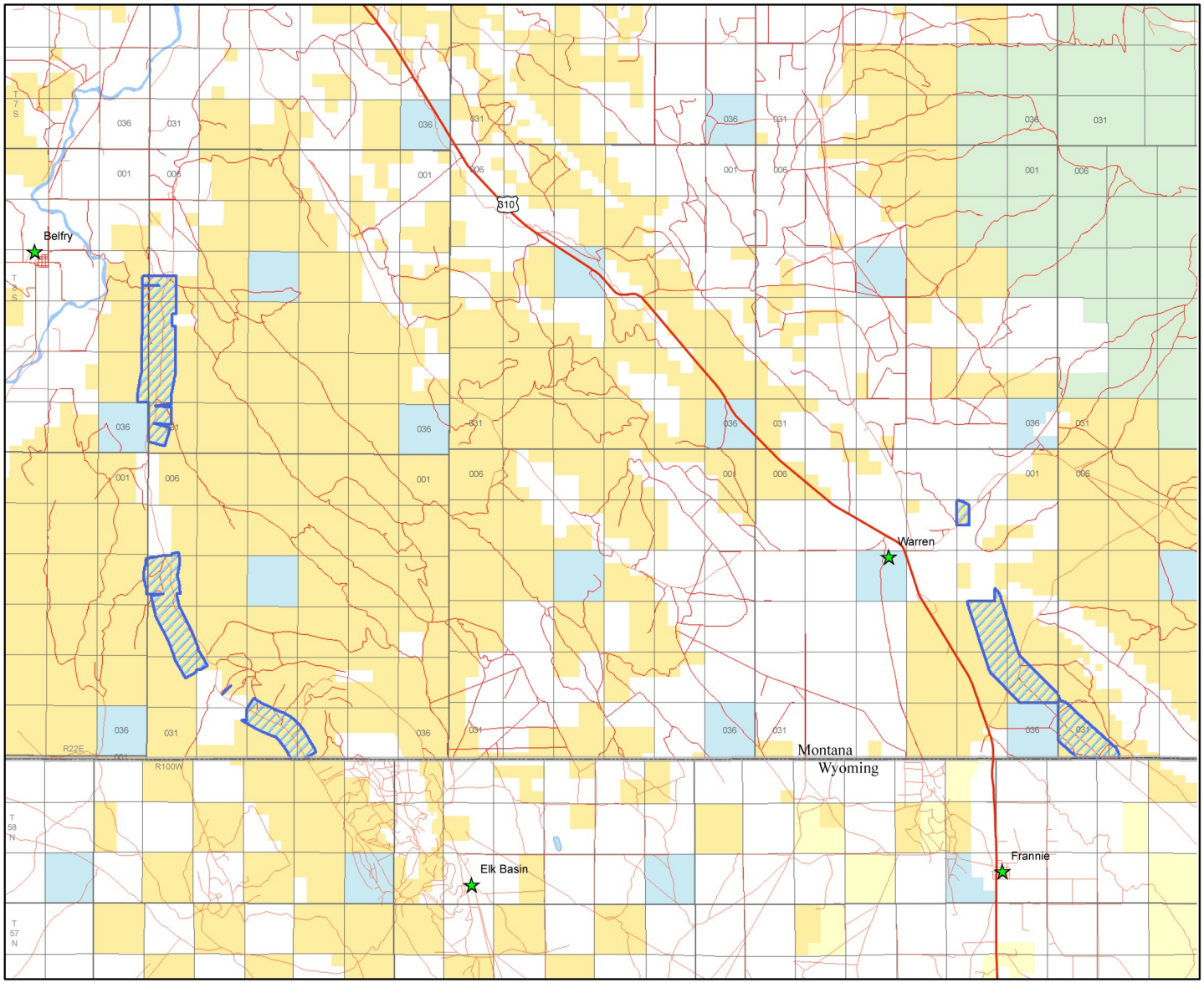
Map 3-9



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- Corridors
- Highway
- Roads
- Public Lands Survey System
- Towns
- Bureau of Land Management
- Bureau of Reclamation
- Division of State Lands
- U.S. Forest Service
- Water
- Private

Rights-of-Way Corridors (Designated Utility Corridors) Approved RMP

Map scale 1:130,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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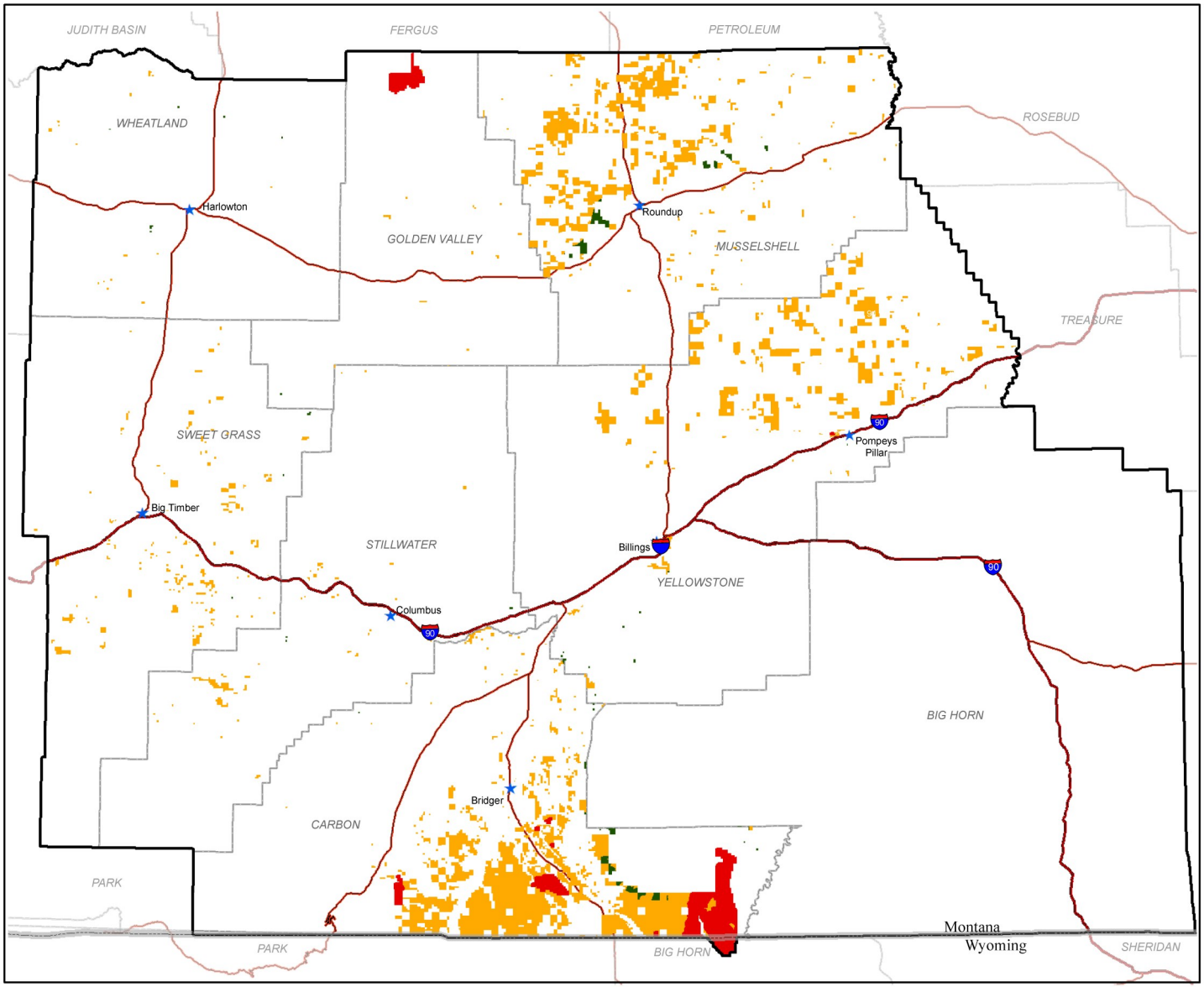
Map 3-10



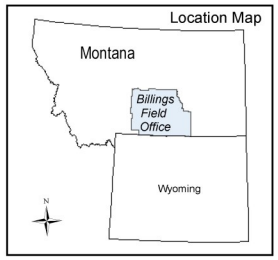
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Exclusion
- Avoidance
- Open
- Interstate
- Highway
- Towns

Rights-of-Way
Exclusion and Avoidance Areas
Approved RMP



0 2 4 8 12 16 20 Miles

Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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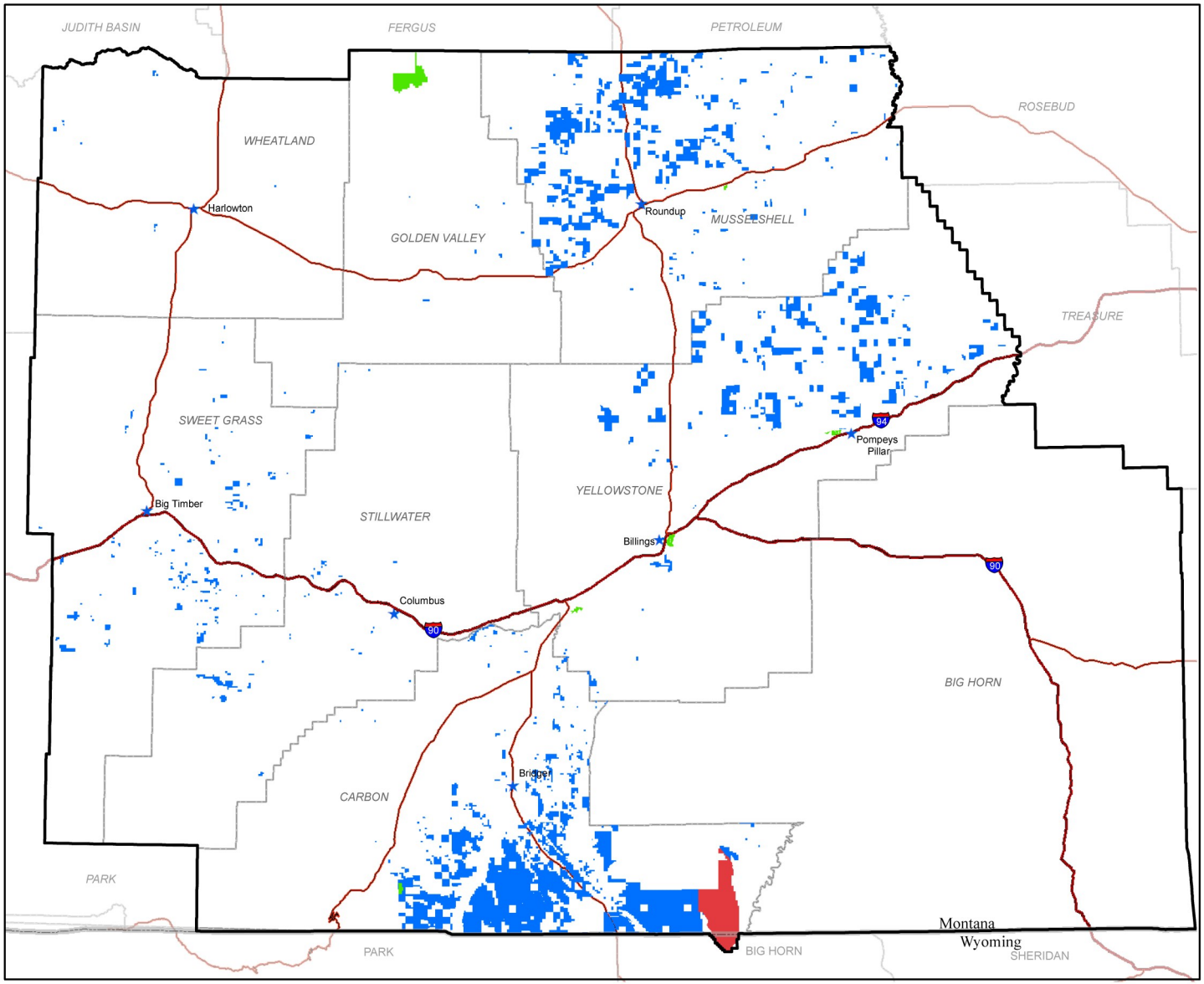
Map 3-11



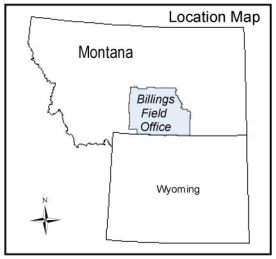
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Prescriptive Use Only
- Closed
- Available for Grazing
- Interstate
- Highway
- Towns

Livestock Grazing
Approved RMP



0 3 6 12 18 24 30 Miles

Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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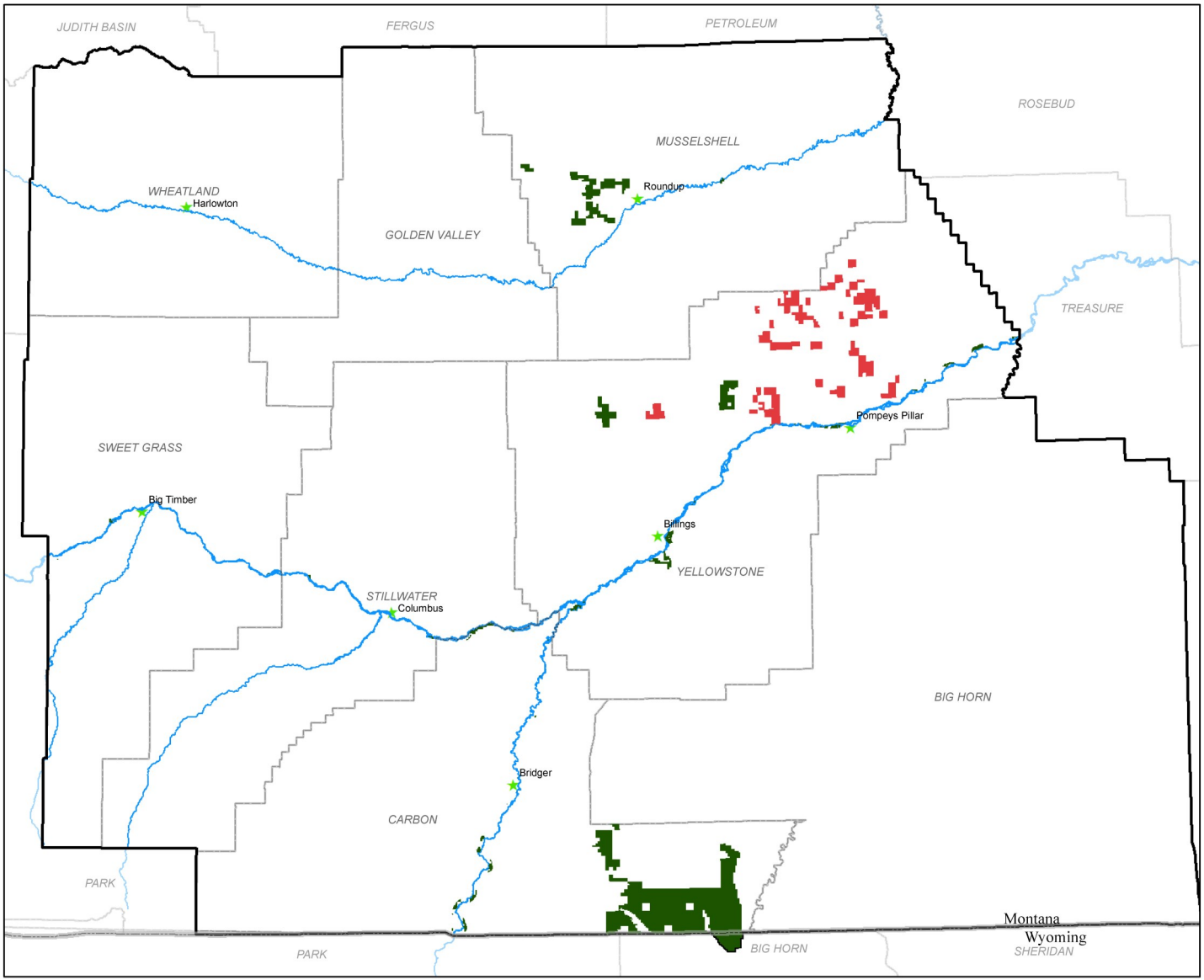
Map 3-12



US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- ERMAs
- SRMAs
- Rivers
- Towns

Recreation Management Areas
Approved RMP

0 3 6 12 18 24 30 Miles

Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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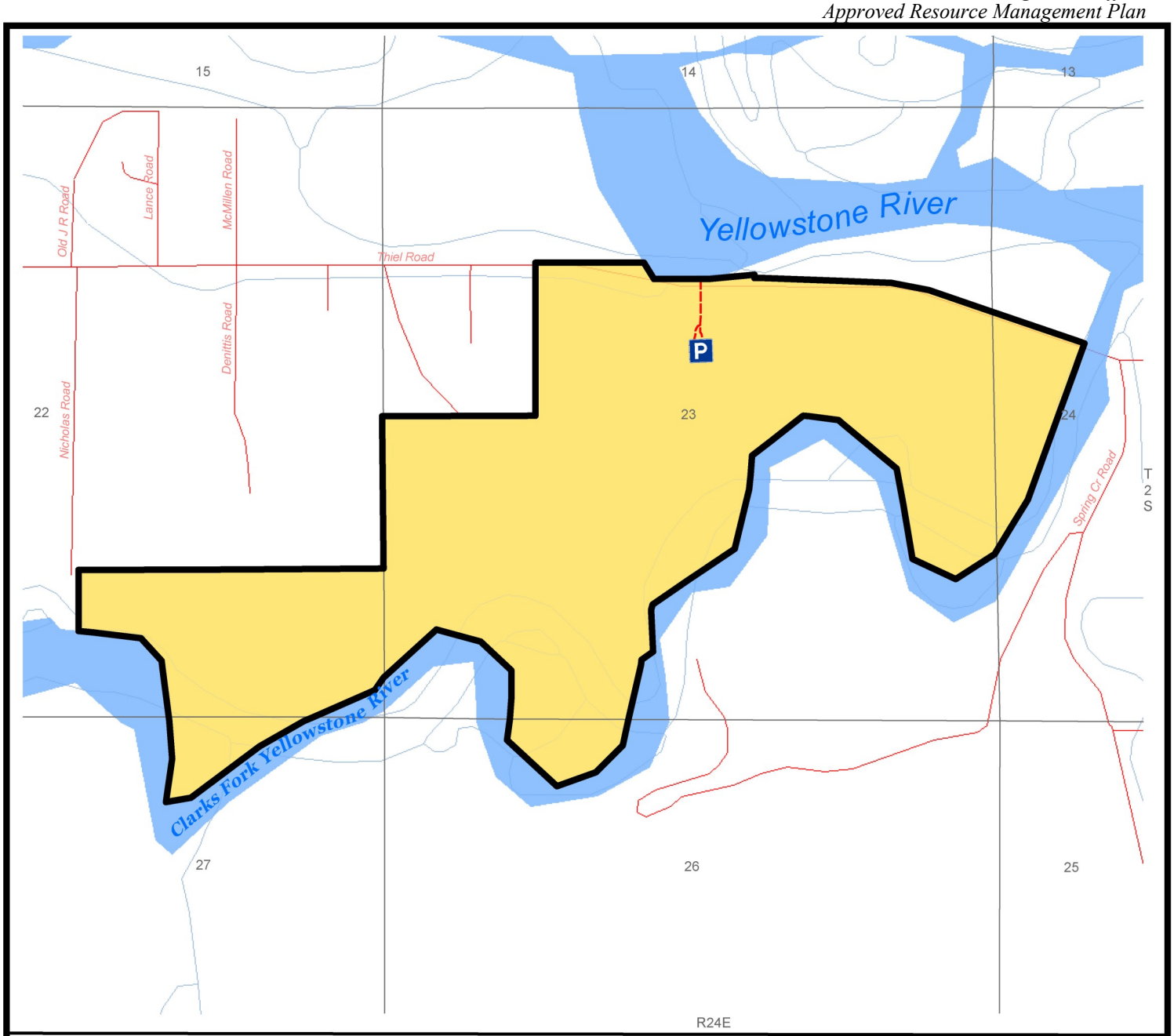
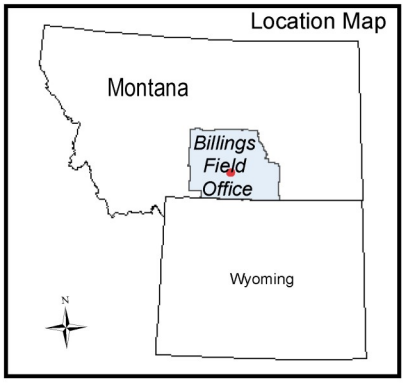
Map 3-13



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

Sundance Lodge Special Recreation Management Area Approved RMP



0 0.05 0.1 0.2 0.3 0.4 0.5 Miles

Map scale 1:15,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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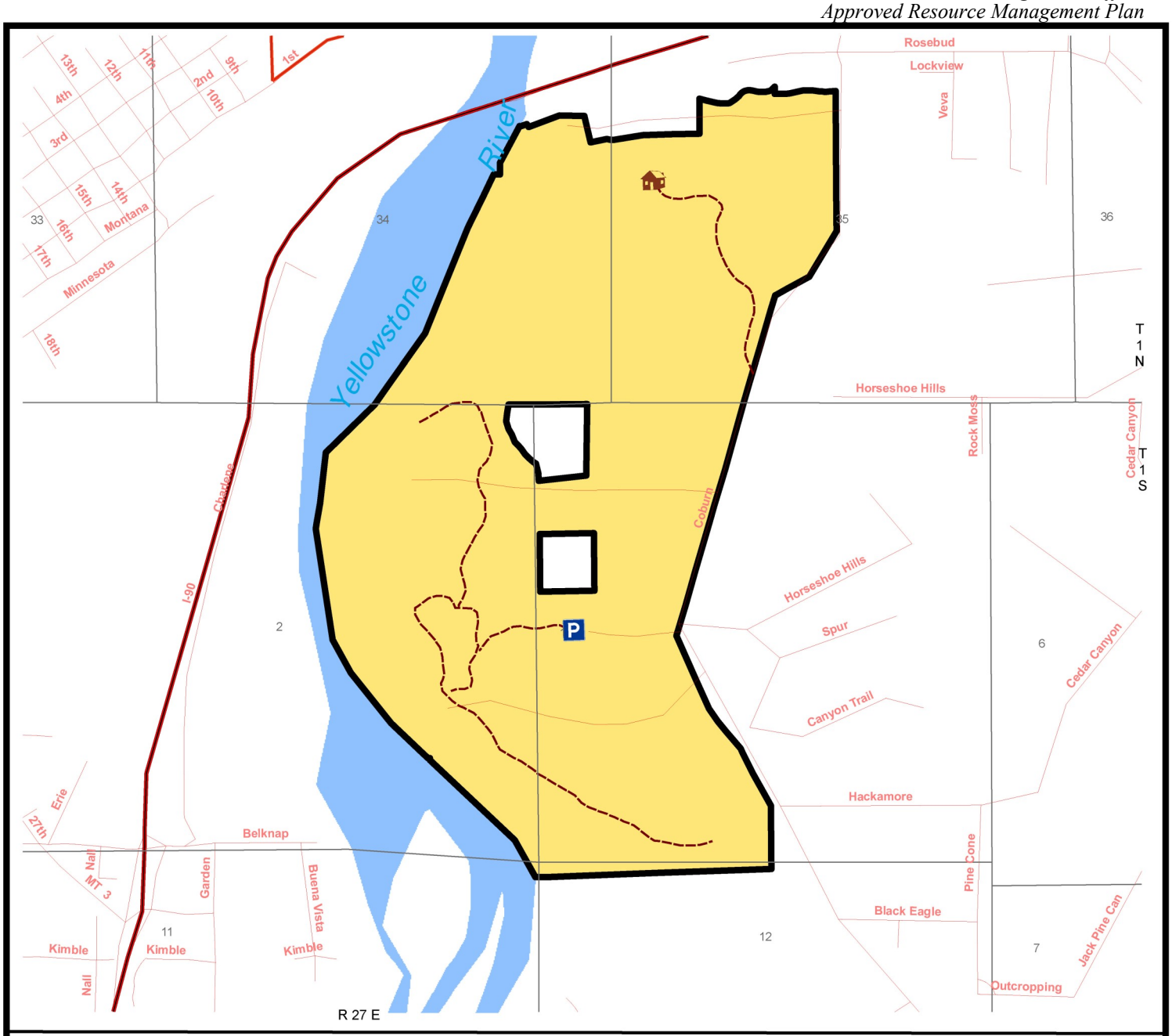
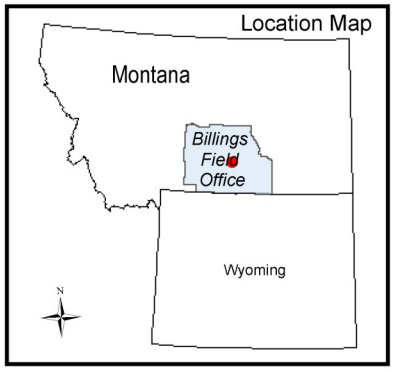
Legend

- Sundance Lodge SRMA
- Roads
- Streams
- Public Lands Survey System
- Bureau of Land Management
- Yellowstone River
- Private

Map 3-14



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



Four Dances Natural Area Special Recreation Management Area Approved RMP

0 0.05 0.1 0.2 0.3 0.4 0.5 Miles

Map scale 1:20,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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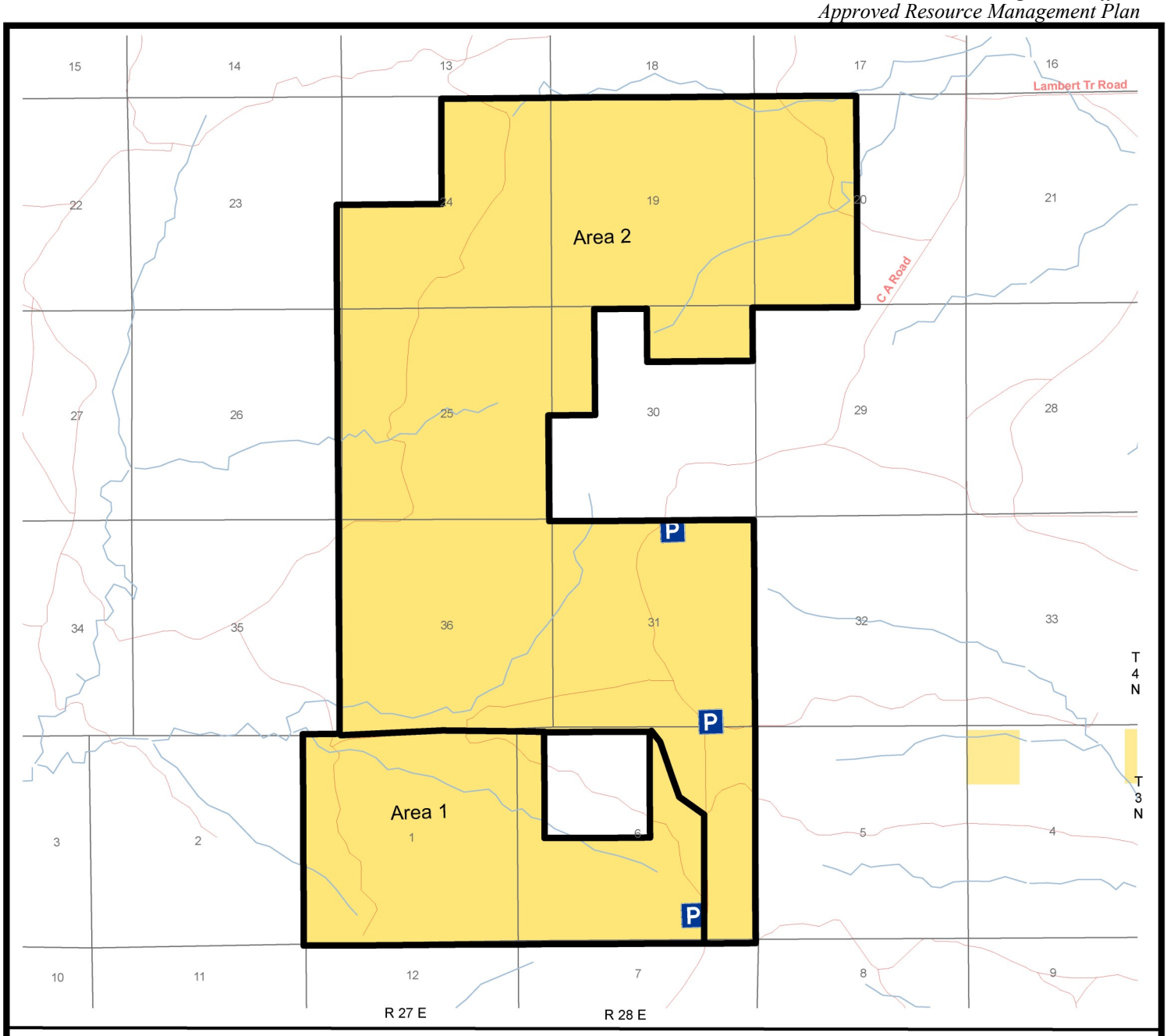
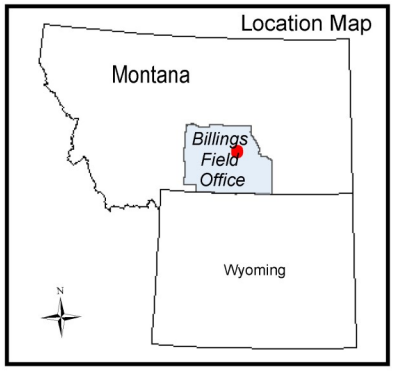
Legend

- Four Dances Natural Area SRMA
- Interstate
- Highway
- Cabin
- Parking
- Foot Trails
- Public Lands Survey System
- Bureau of Land Management
- Water

Map 3-15



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



Shepherd Ah-Nei Special Recreation Management Area Approved RMP

0 0.1 0.2 0.4 0.6 0.8 1 Miles

Map scale 1:43,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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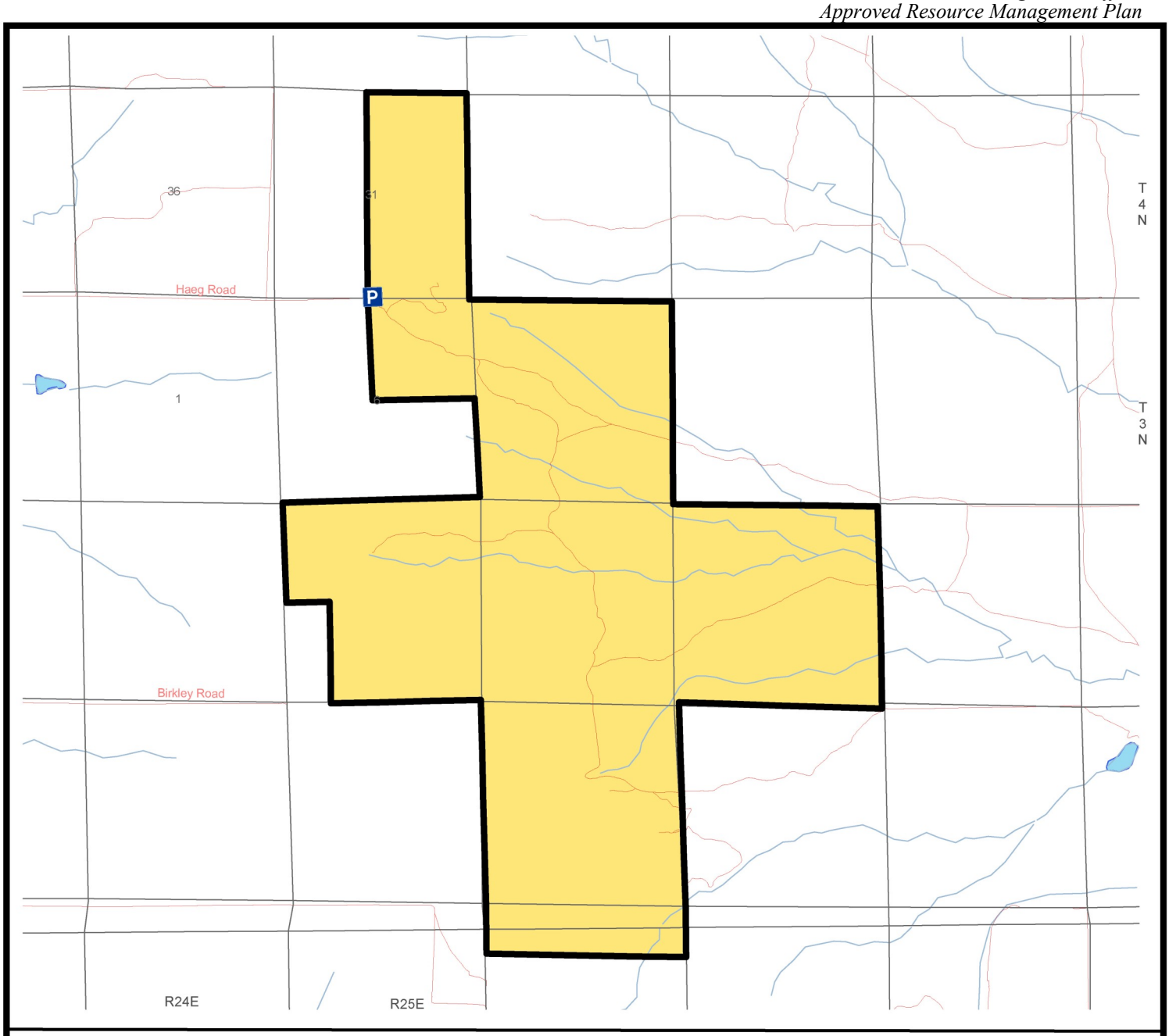
Legend

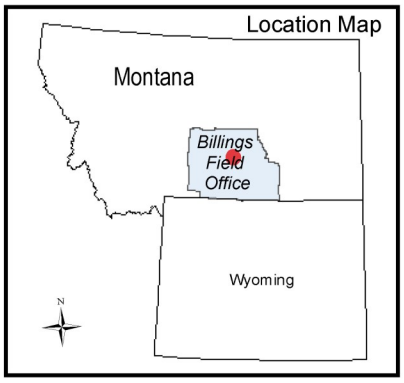
- Shepherd Ah-Nei SRMA
- Public Lands Survey System
- Streams
- Roads
- Parking
- Bureau of Land Management

Map 3-16



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

Acton Special Recreation Management Area Approved RMP



0 0.25 0.5 0.75 1 Miles

Map scale 1:45,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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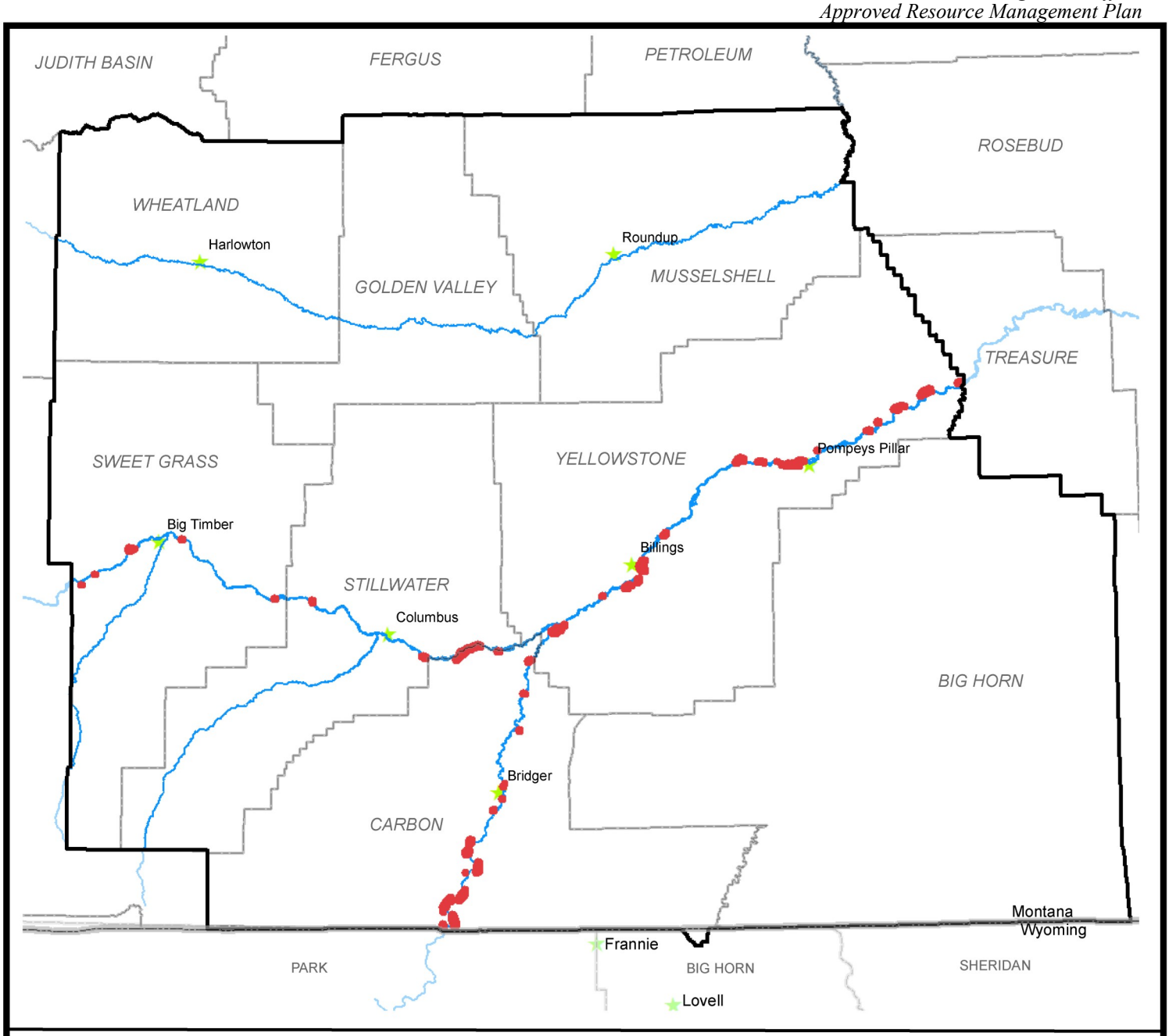
Legend

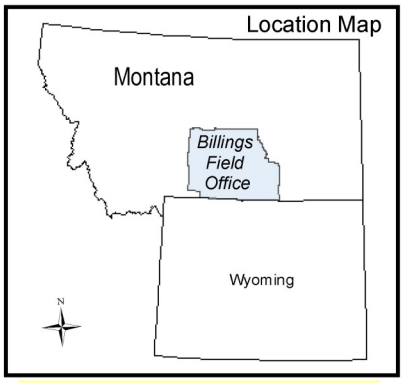
- Acton ERMA
- Roads
- Streams
- Public Lands Survey System
- Bureau of Land Management
- State Lands
- Private

Map 3-17



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

Yellowstone River Corridor Special Recreation Management Area Approved RMP



For display puroposed, the segments along the river have been enhanced.

0 7.5 15 22.5 30 Miles

Map scale 1:1,350,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

Legend

- State Border
- Planning Area Boundary
- County Boundaries
- Yellowstone River SRMA Corridor
- Rivers
- Towns

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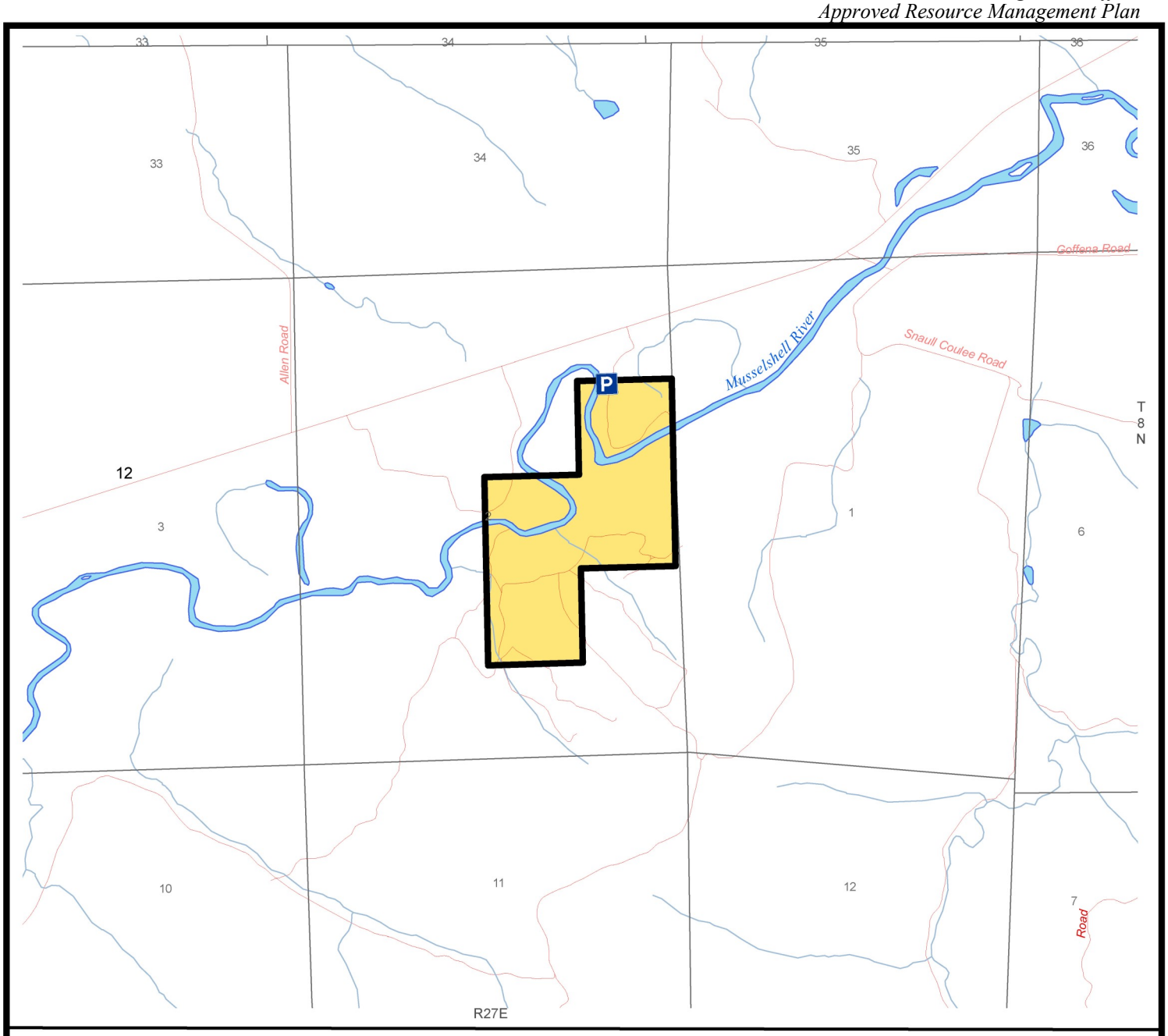
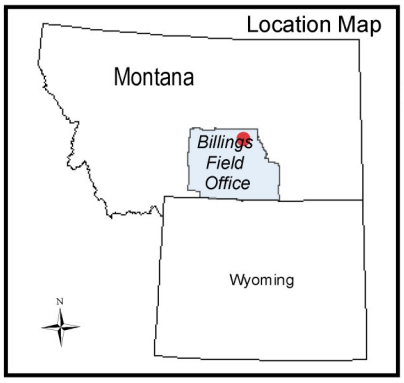
Map 3-18



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

Asparagus Point
Special Recreation Management Area
Approved RMP



0 0.1 0.2 0.3 0.4 Miles
Map scale 1:24,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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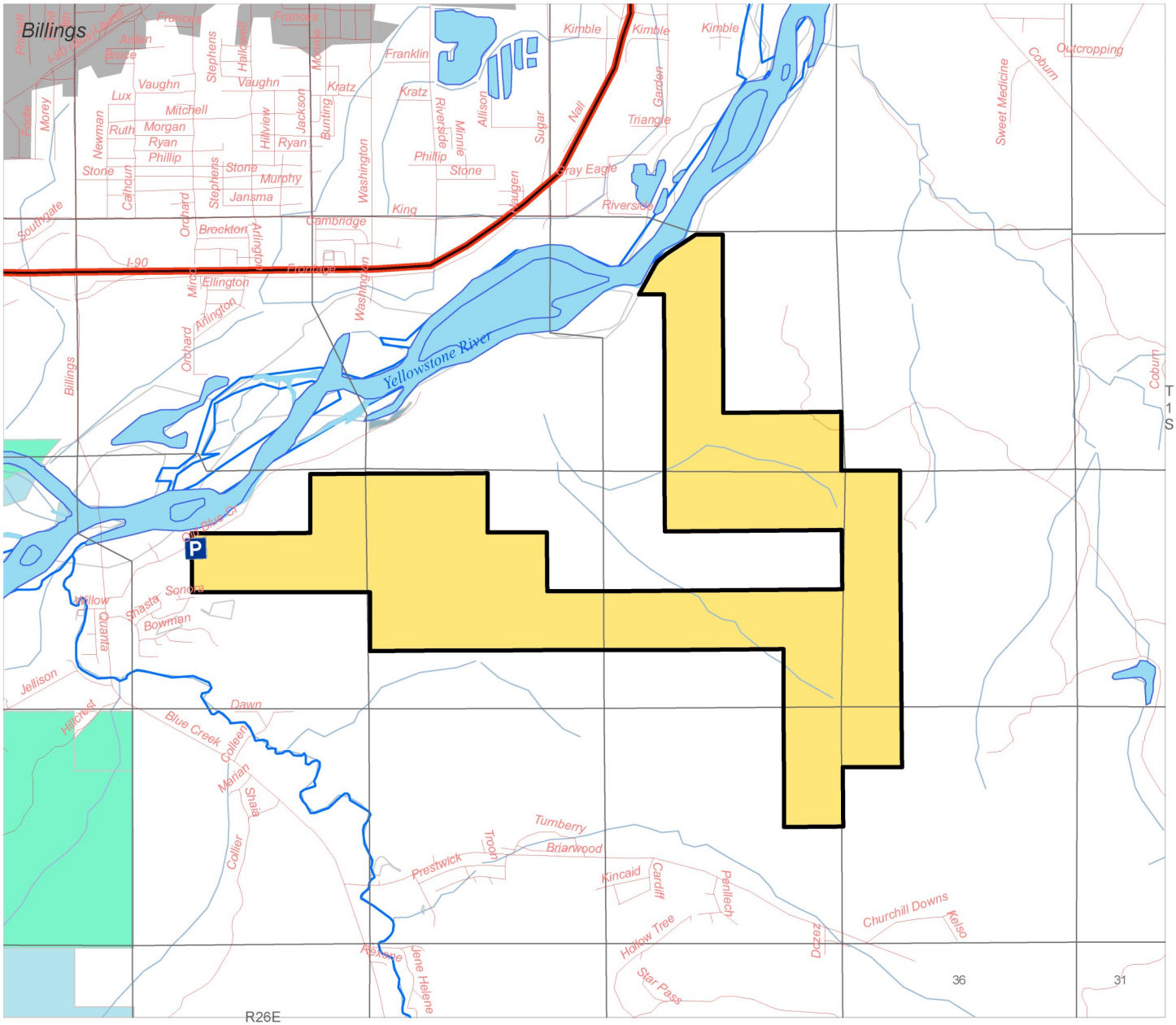
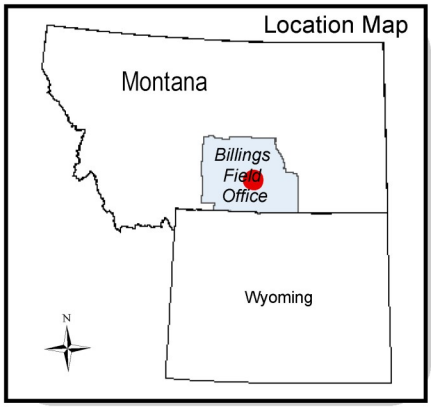
Legend
- Asparagus Point SRMA
- Public Land Survey System
- Roads
- Streams
- AsparagusPointParking
- Bureau of Land Management

Map 3-19



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

South Hills
Special Recreation Management Area
Approved RMP



0 0.125 0.25 0.5 0.75 1 1.25 Miles

Map scale 1:40,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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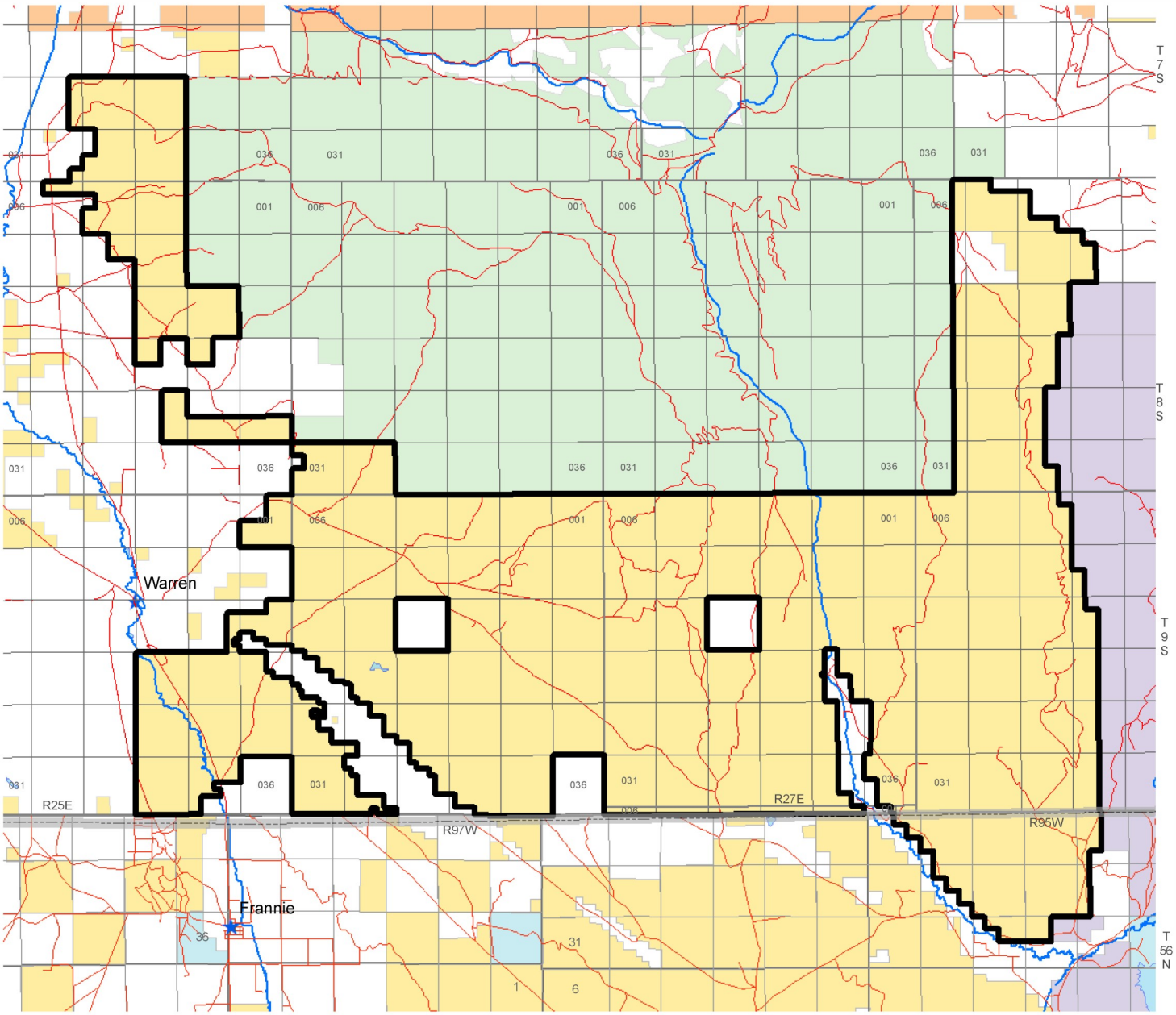
Legend

- South Hills SRMA
- Public Lands Survey System
- Parking
- Roads
- Streams
- Bureau of Land Management
- Local Government
- Division of State Lands
- State Parks and Recreation
- Private

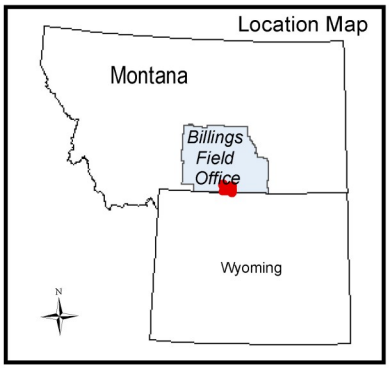
Map 3-20



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Pryor Mountain TMA
Special Recreation Management Area
Approved RMP



0 0.5 1 2 3 4 5 Miles

Map scale 1:180,000

Map generated by the Billings Field Office in July 2011

Albers Equal Area, NAD83 Projection

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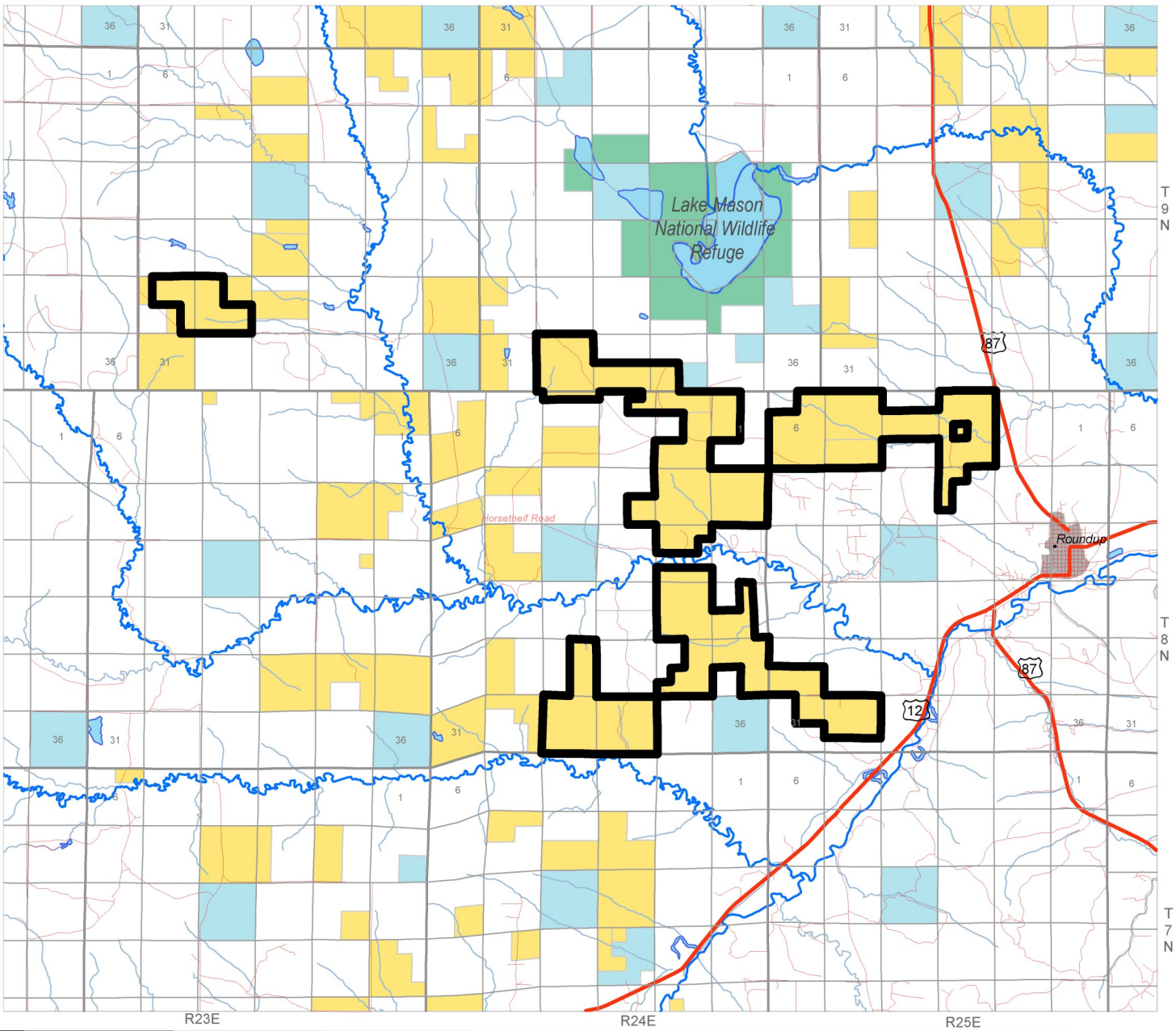
Legend

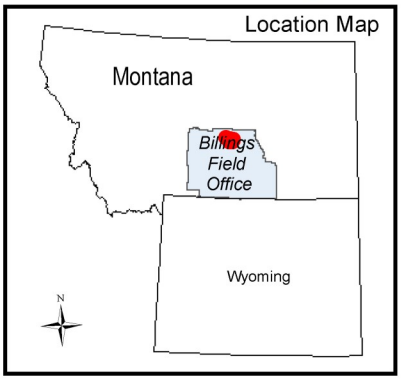
- State Line
- Pryor Mountain SMRA
- Public Lands Survey System
- Streams
- Roads
- Bureau of Land Management
- National Park Service
- Bureau of Indian Affairs
- Division of State Lands
- US Forest Service
- Private

Map 3-21



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

Horsethief Special Recreation Management Area Approved RMP



0 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 Miles

Map scale 1:165,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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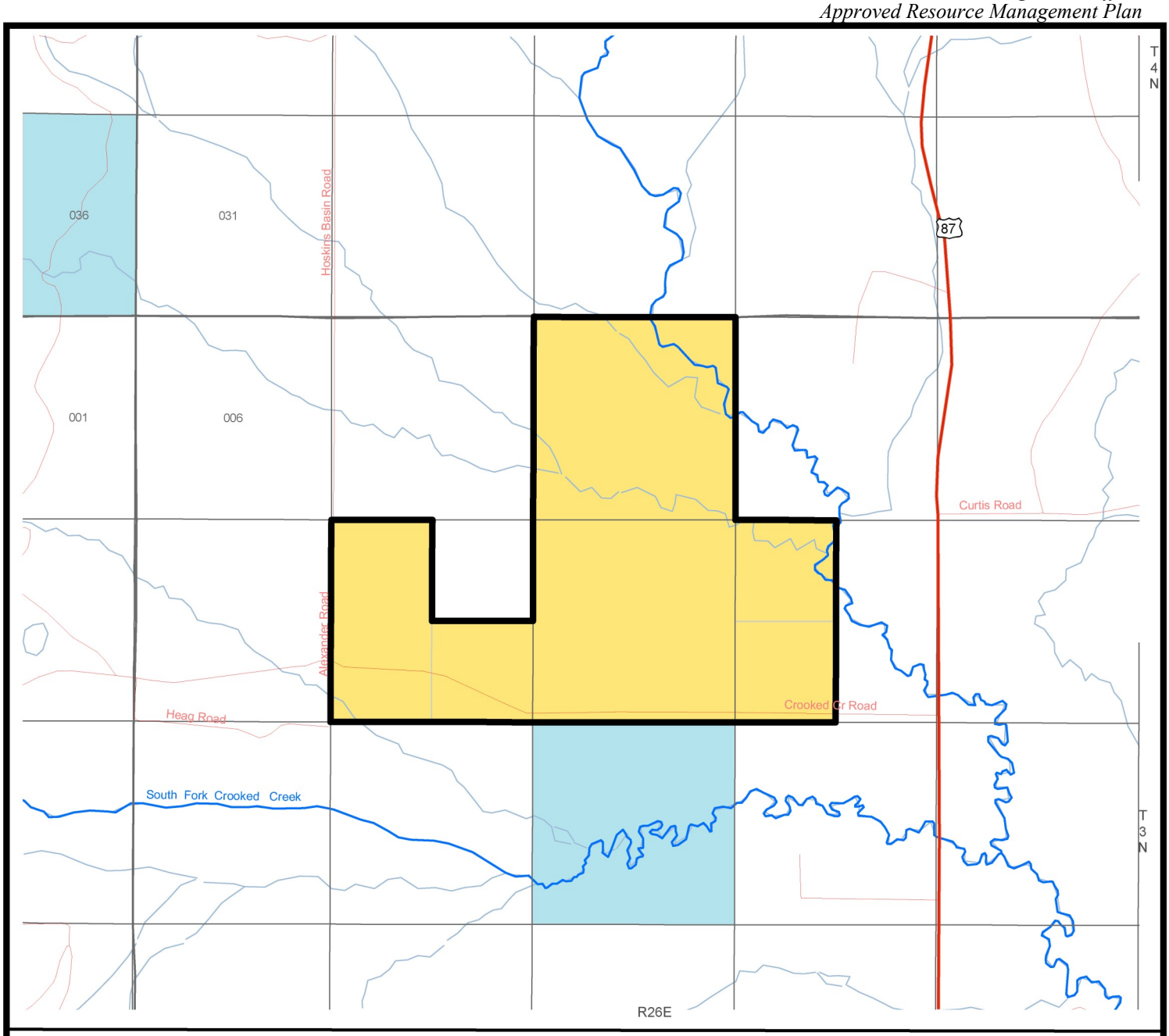
Legend

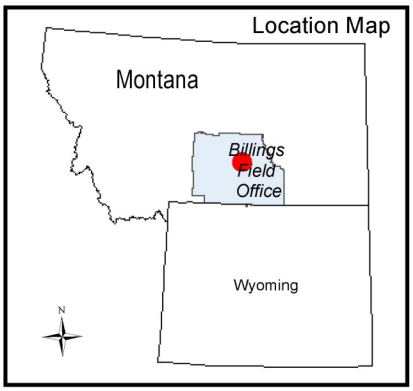
- Horsethief SRMA
- Public Lands Survey System
- Streams
- Roads
- Bureau of Land Management
- Division of State Lands
- US Fish and Wildlife Service
- Water
- Private

Map 3-22



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

17 Mile
Extensive RecreationManagement Area
Approved RMP



0 0.25 0.5 1 Miles
Map scale 1:45,000

Map generated by the Billings Field Office in April 2014

Albers Equal Area, NAD83 Projection

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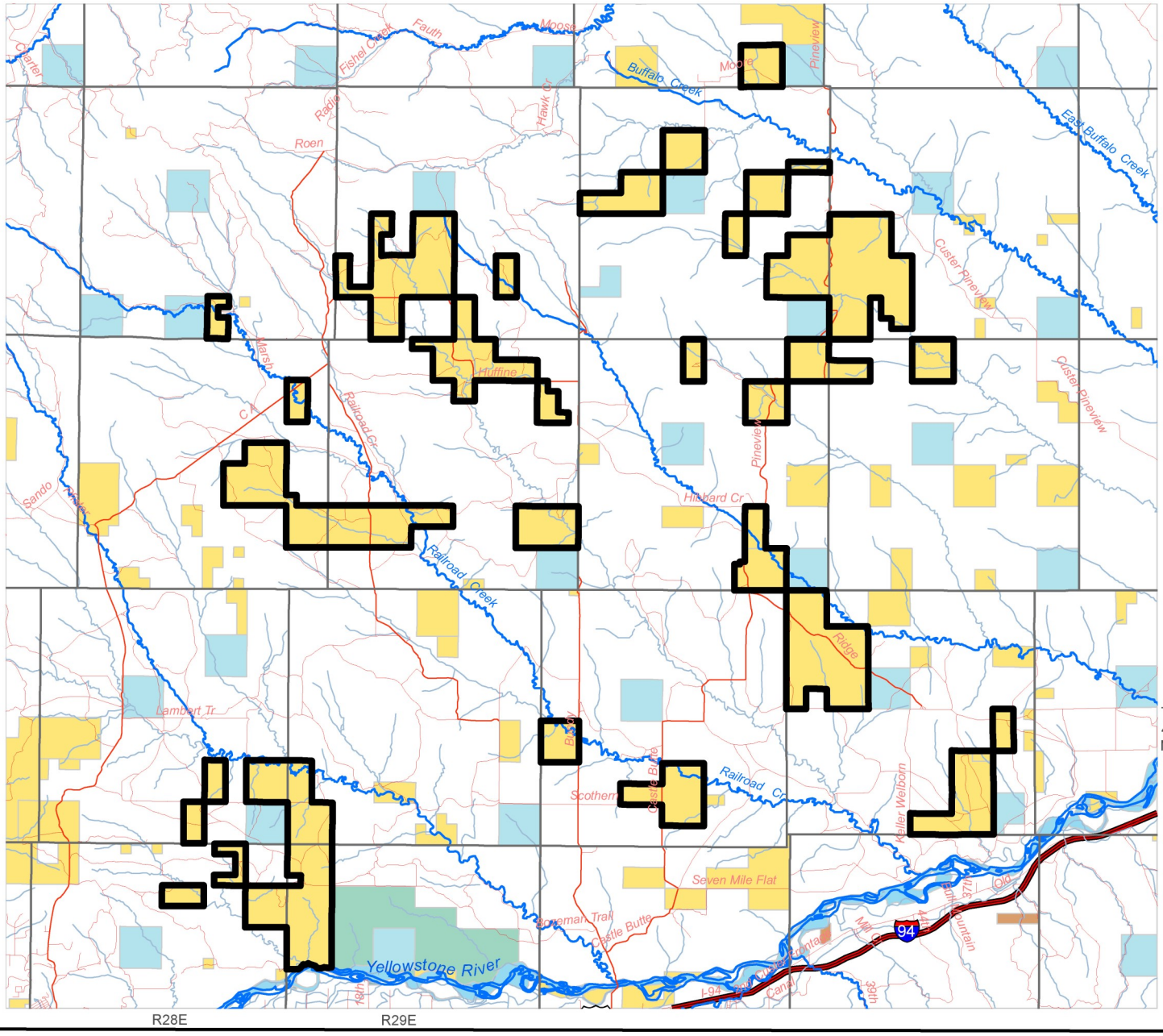
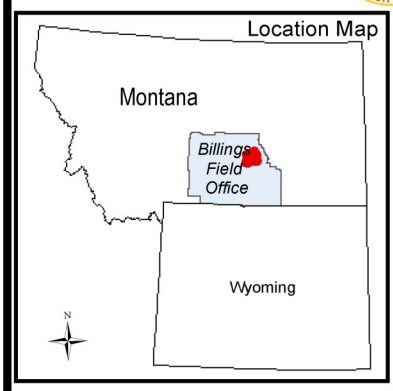
Legend
- 17 Mile ERMA
- Public Lands Survey System
- US Highway 87
- Roads
- Streams
- Bureau of Land Management
- State Lands
- Private

Map 3-23



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

Mill Creek / Bundy Extensive Recreation Management Area Approved RMP



0 0.5 1 2 3 4 5 Miles

Map scale 1:225,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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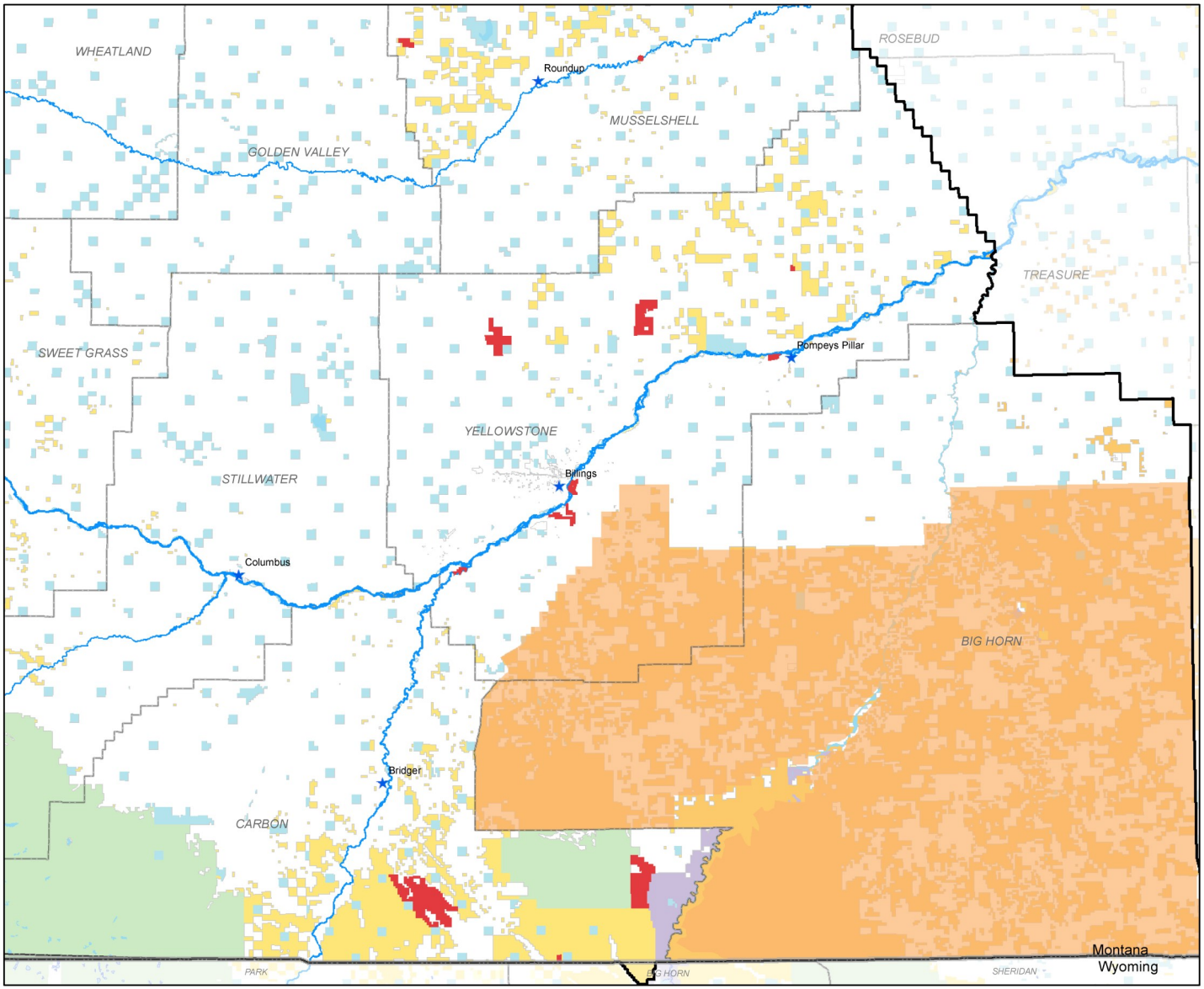
Legend

- Mill Creek / Bundy ERMA
- Public Lands Survey System
- Interstate
- Roads
- Streams
- Bureau of Land Management
- Bureau of Reclamation
- Division of State Lands
- State Fish and Wildlife
- Water
- Private

Map 3-24



US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- Planning Area Boundary
- County Boundaries
- Areas Closed to Target Shooting
- Rivers
- Towns
- Bureau of Land Management
- Bureau of Reclamation
- National Park Service
- Divison of State Lands
- Bureau of Indian Affairs
- US Forest Service
- Water
- Private

Areas Closed to Target Shooting Approved RMP

0 2.5 5 10 15 20 25 Miles

Map scale 1:750,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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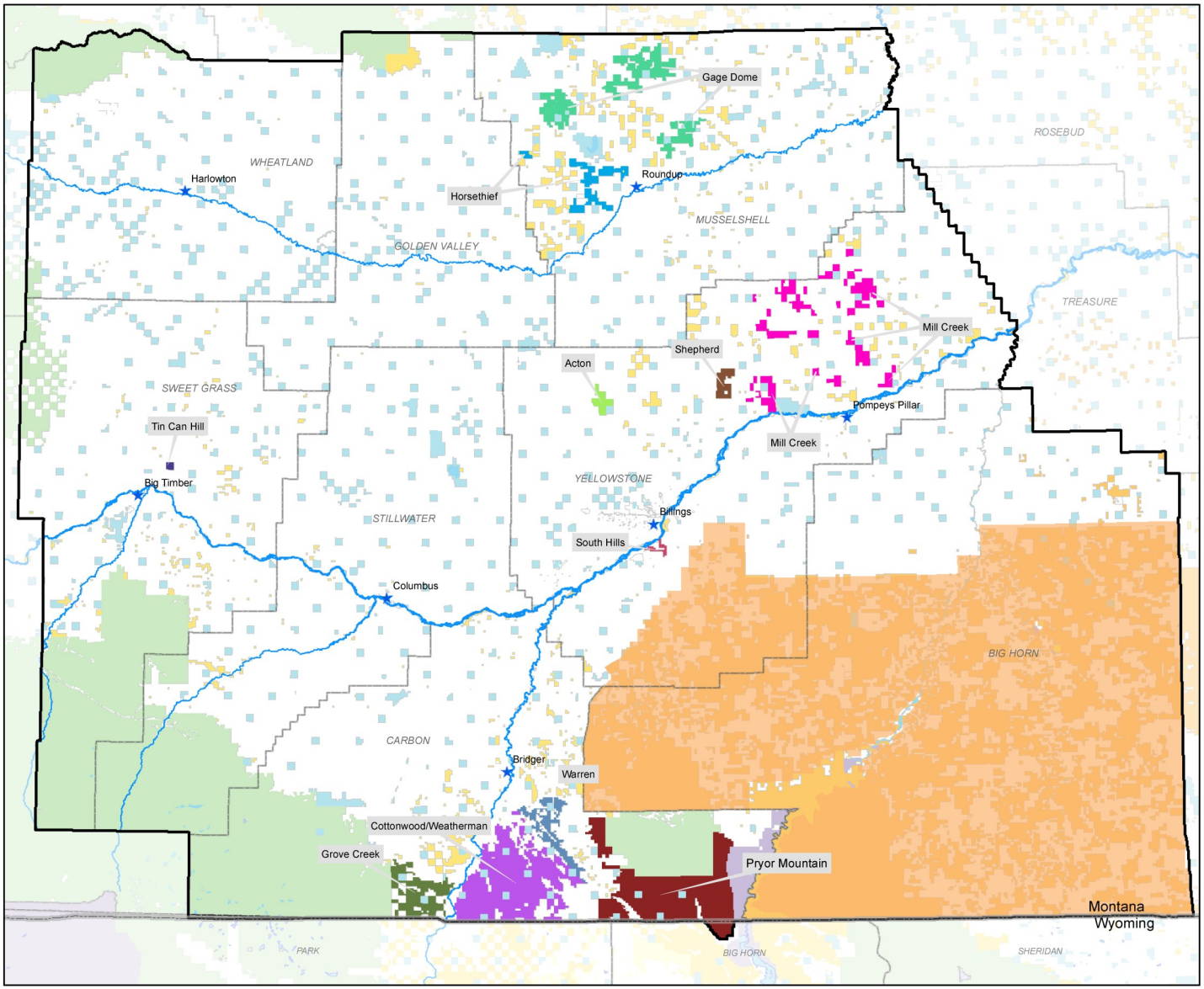
Map 3-25



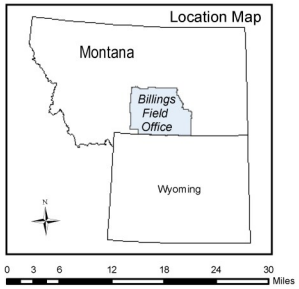
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- Planning Area Boundary
- County Boundaries
- Acton
- Cottonwood/Weatherman
- Gage Dome
- Grove Creek
- Horsethief
- Mill Creek
- Pryor Mountain
- Shepherd
- South Hills
- Tin Can Hill
- Warren
- Rivers
- Towns
- Bureau of Land Management
- Bureau of Reclamation
- National Park Service
- Divison of State Lands
- Bureau of Indian Affairs
- US Forest Service
- Water
- Private

Travel Management Areas Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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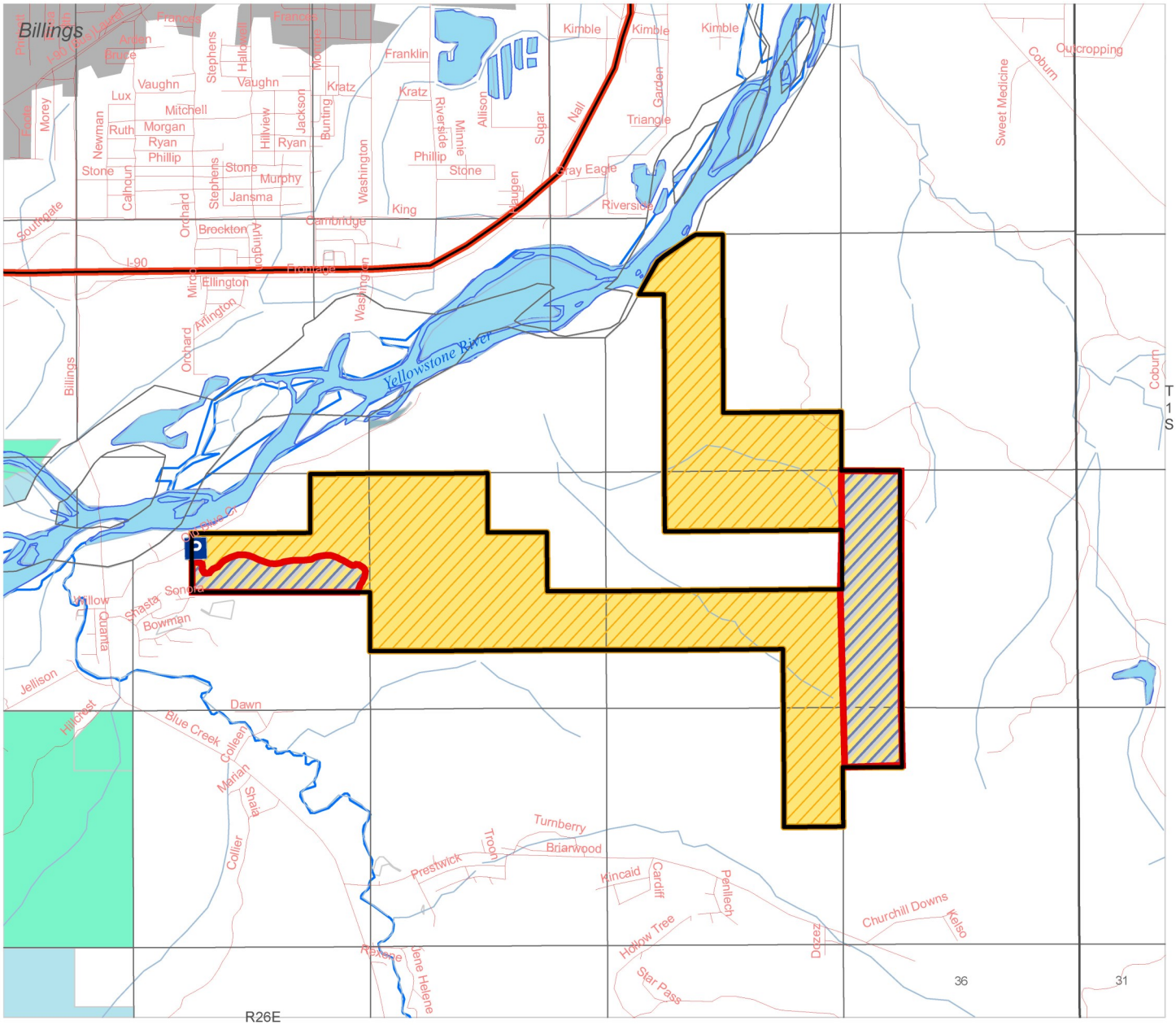
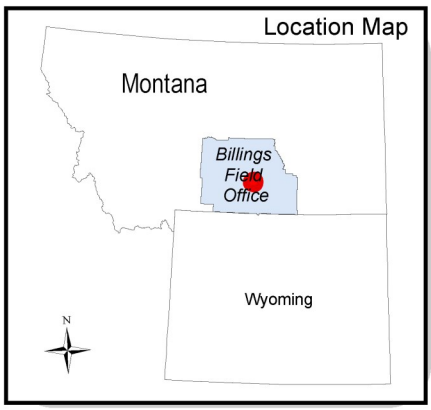
Map 3-26



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

South Hills Travel Management Area Approved RMP



0 0.125 0.25 0.5 0.75 1 1.25 Miles

Map scale 1:40,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

Legend

- SouthHillsTMA
- Area Closed to all Vehicle Use
- Open to motorcycle
- Public Lands Survey System
- Parking
- Streams
- Bureau of Land Management
- Local Government
- Division of State Lands
- State Parks and Recreation
- Private

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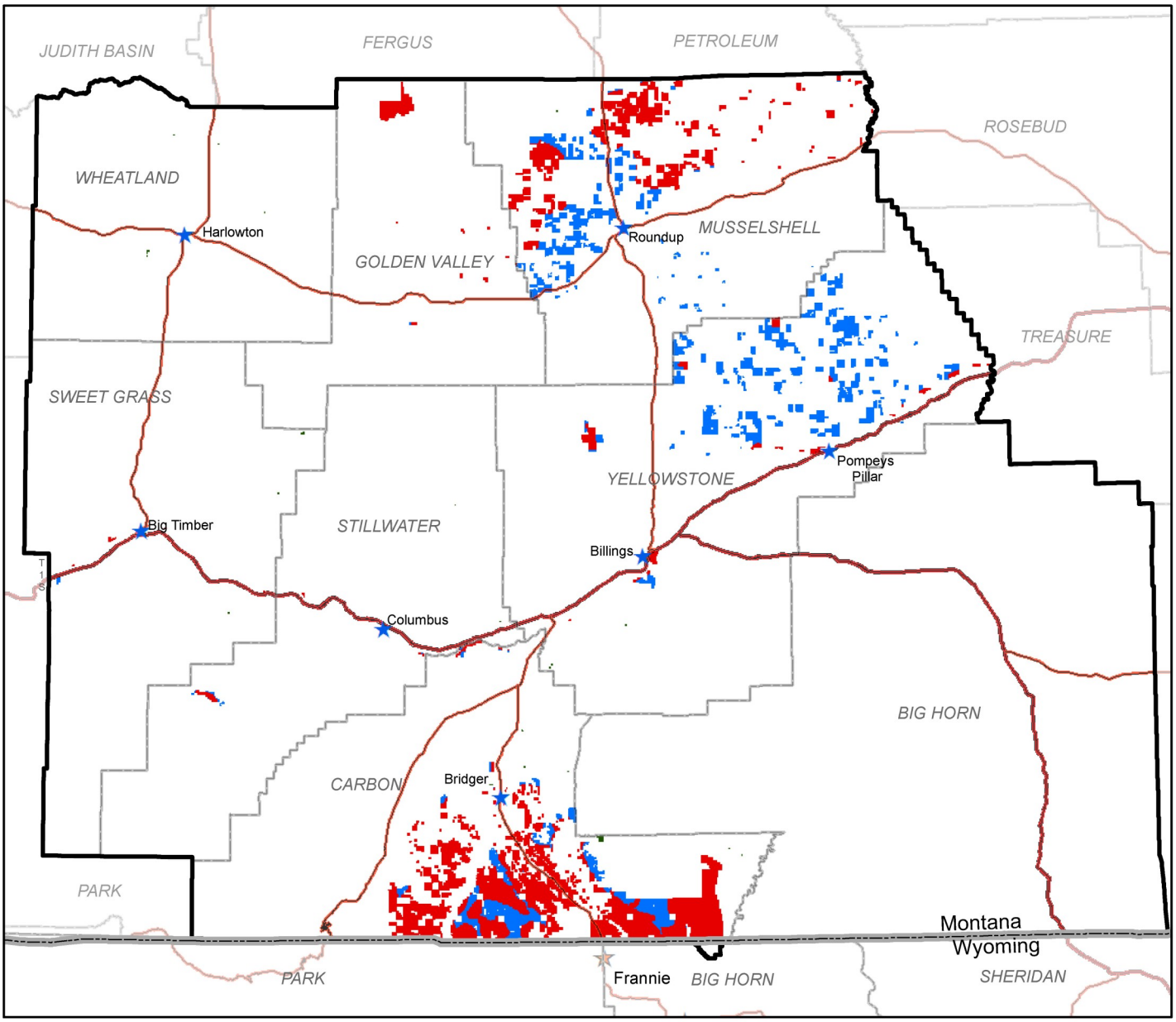
Map 3-27



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

Renewable Energy Approved RMP

0 5 10 20 30 40 Miles

Map scale 1:1,350,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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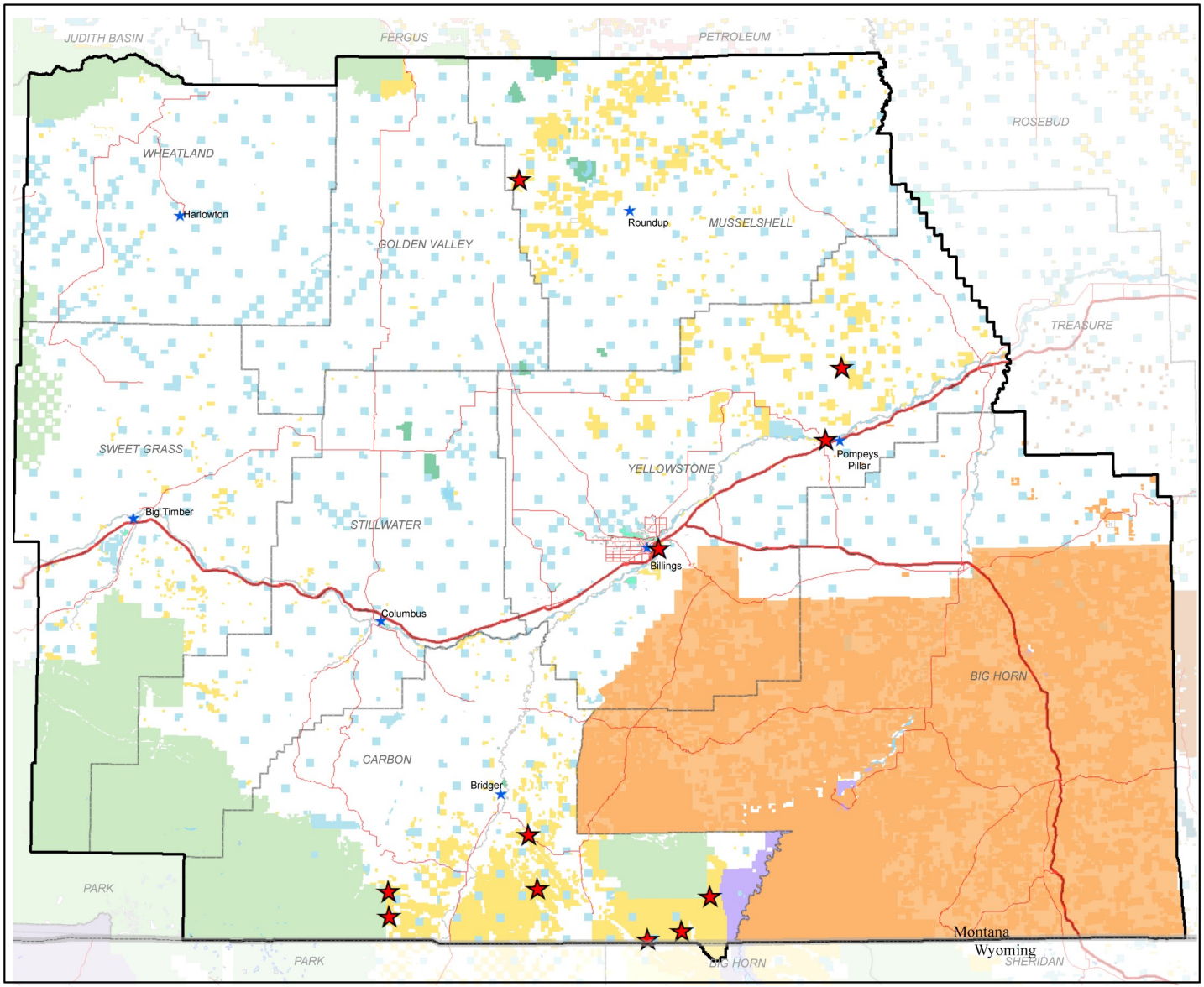
Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Exclusion Areas
- Avoidance Areas
- Open Areas
- Interstate
- Highway
- Towns

Map 3-28



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument RMP / EIS

Legend

- State Border
- Planning Area Boundary
- County Boundaries
- ACEC Sites
- Interstate
- Highway
- Towns
- Bureau of Land Management
- Division of State Lands
- BIA - Indian Trust Lands
- State Parks and Recreation
- US Forest Service
- Water
- Private

Areas of Critical Environmental Concern Approved RMP

0 2 4 8 12 16 20 Miles

Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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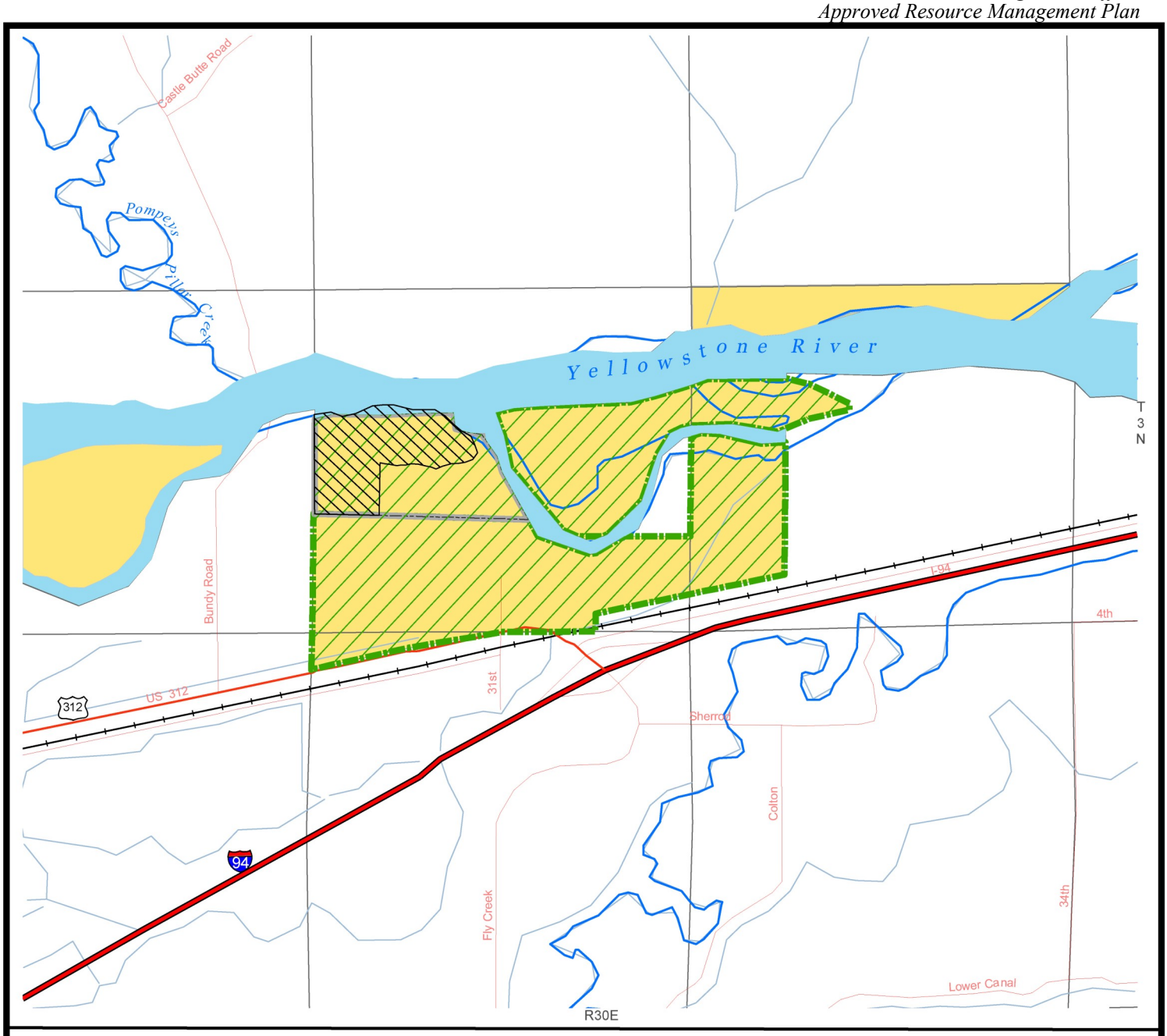
Map 3-29



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

Special Designations Pompeys Pillar National Monument and ACEC Approved RMP

0 0.1 0.2 0.3 0.4 0.5 Miles

Map scale 1:24,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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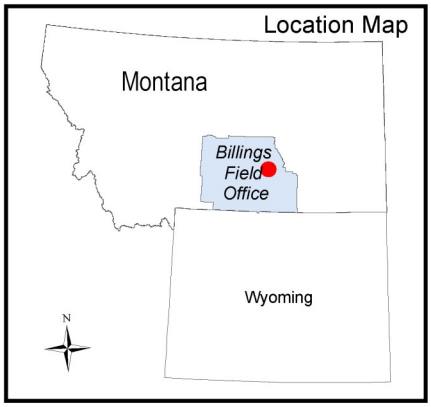
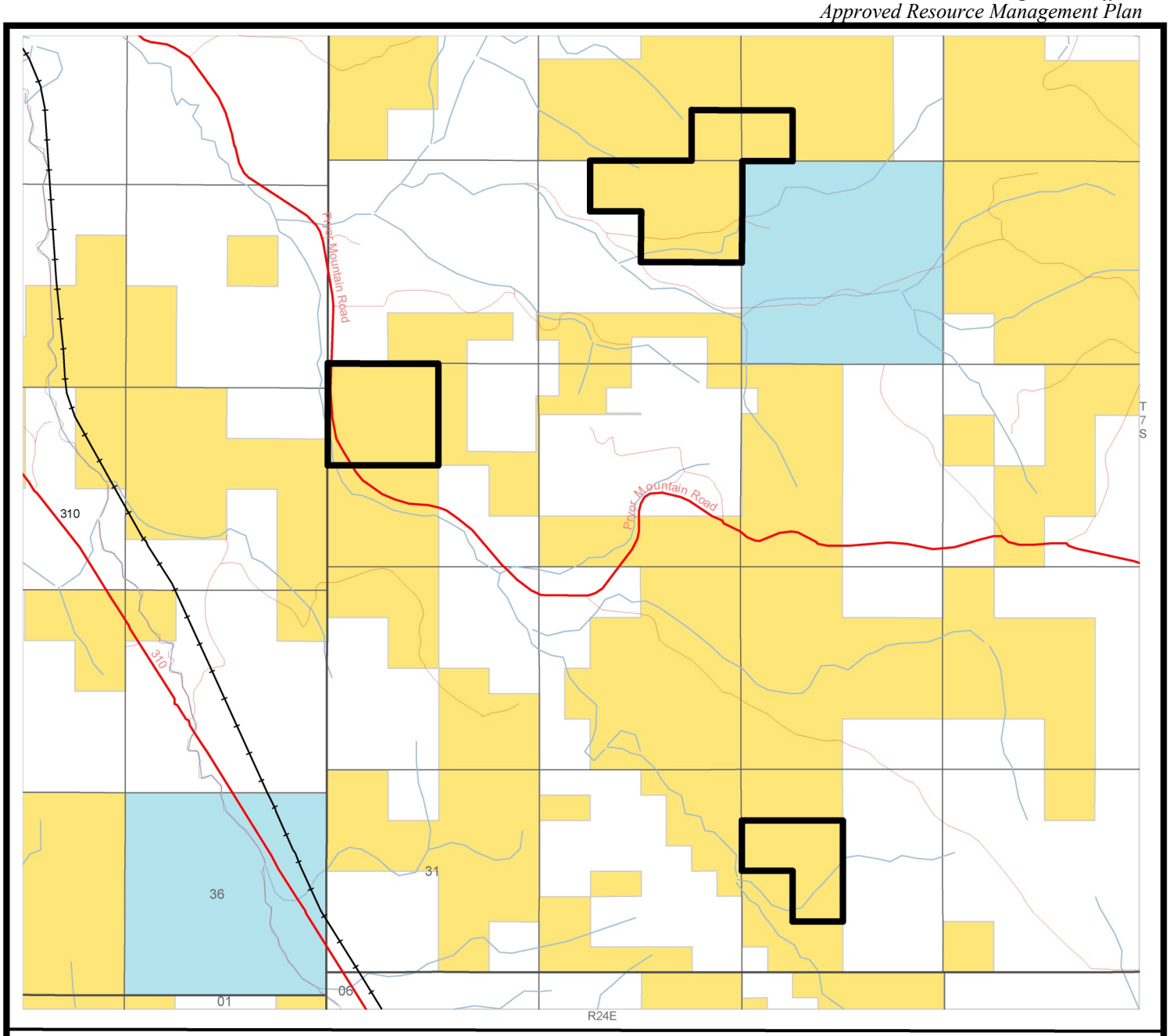


Legend

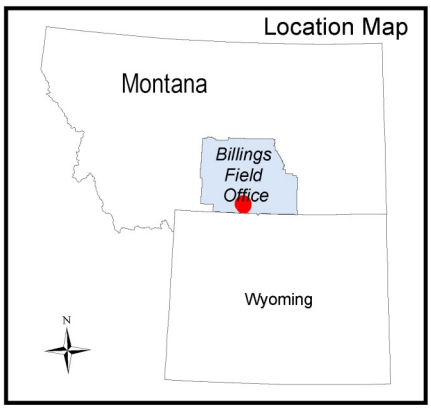
- Pompeys Pillar National Monument
- Pompeys Pillar ACEC
- Front County Zone
- General Management Zone
- Public Lands Survey System
- Roads
- Streams
- Bureau of Land Management
- Water
- Private

Map 3-30



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

Special Designations
Bridger Fossil Area ACEC
Approved RMP



0 0.15 0.3 0.45 0.6 0.75 Miles

Map scale 1:45,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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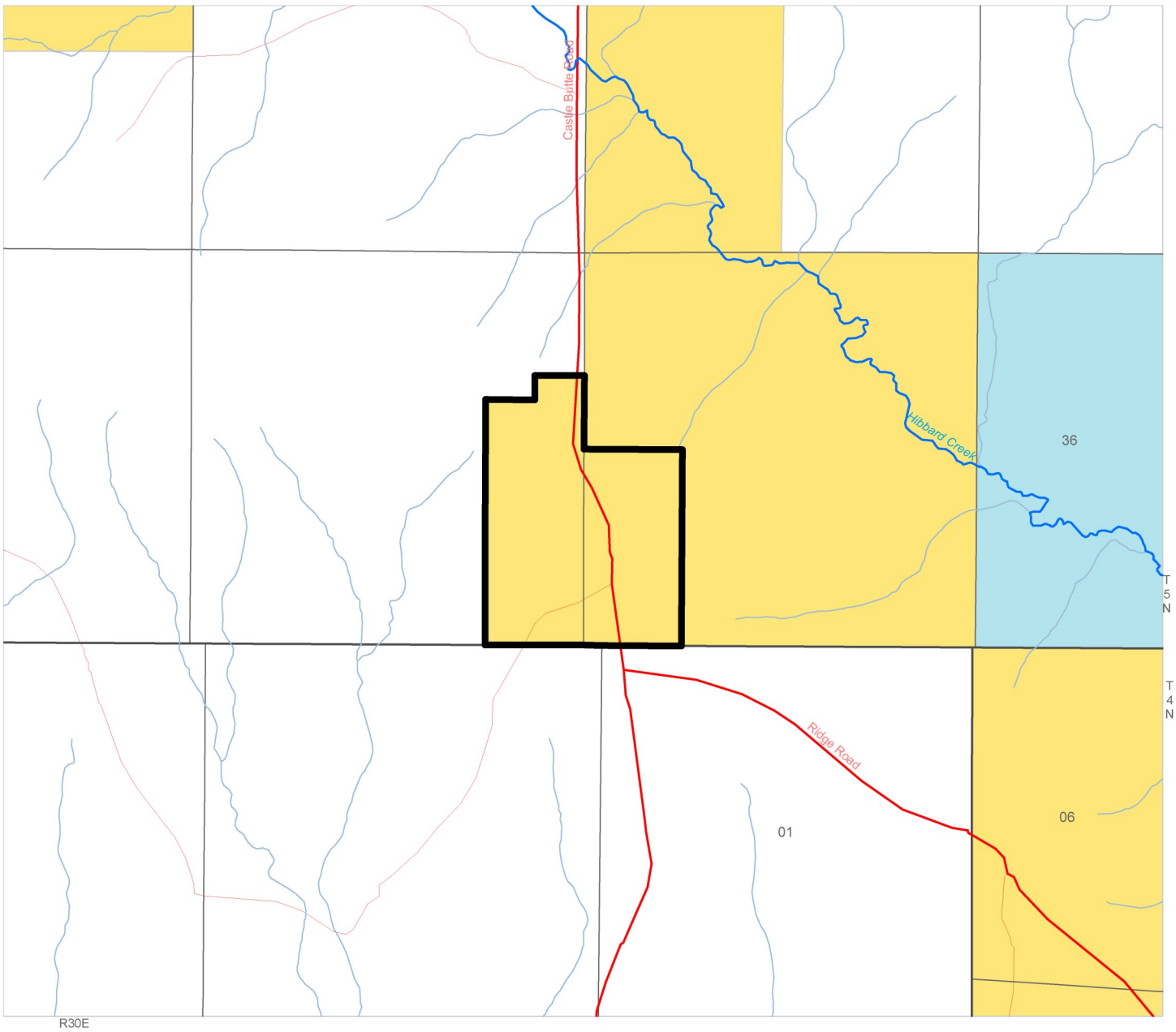
Legend

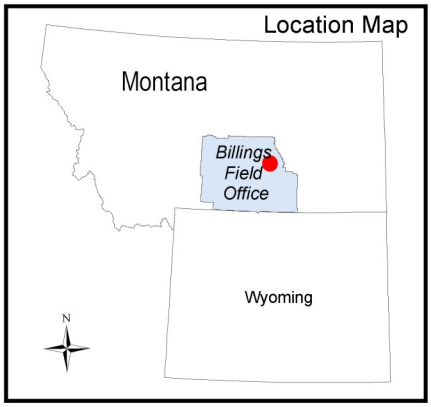
- Bridger Fossil Area ACEC
- Public Lands Survey System
- Roads
- Streams
- Bureau of Land Management
- Division of State Lands
- Private

Map 3-31



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

Special Designations
Castle Butte ACEC
Approved RMP



0 0.1 0.2 0.3 0.4 0.5 Miles

Map scale 1:24,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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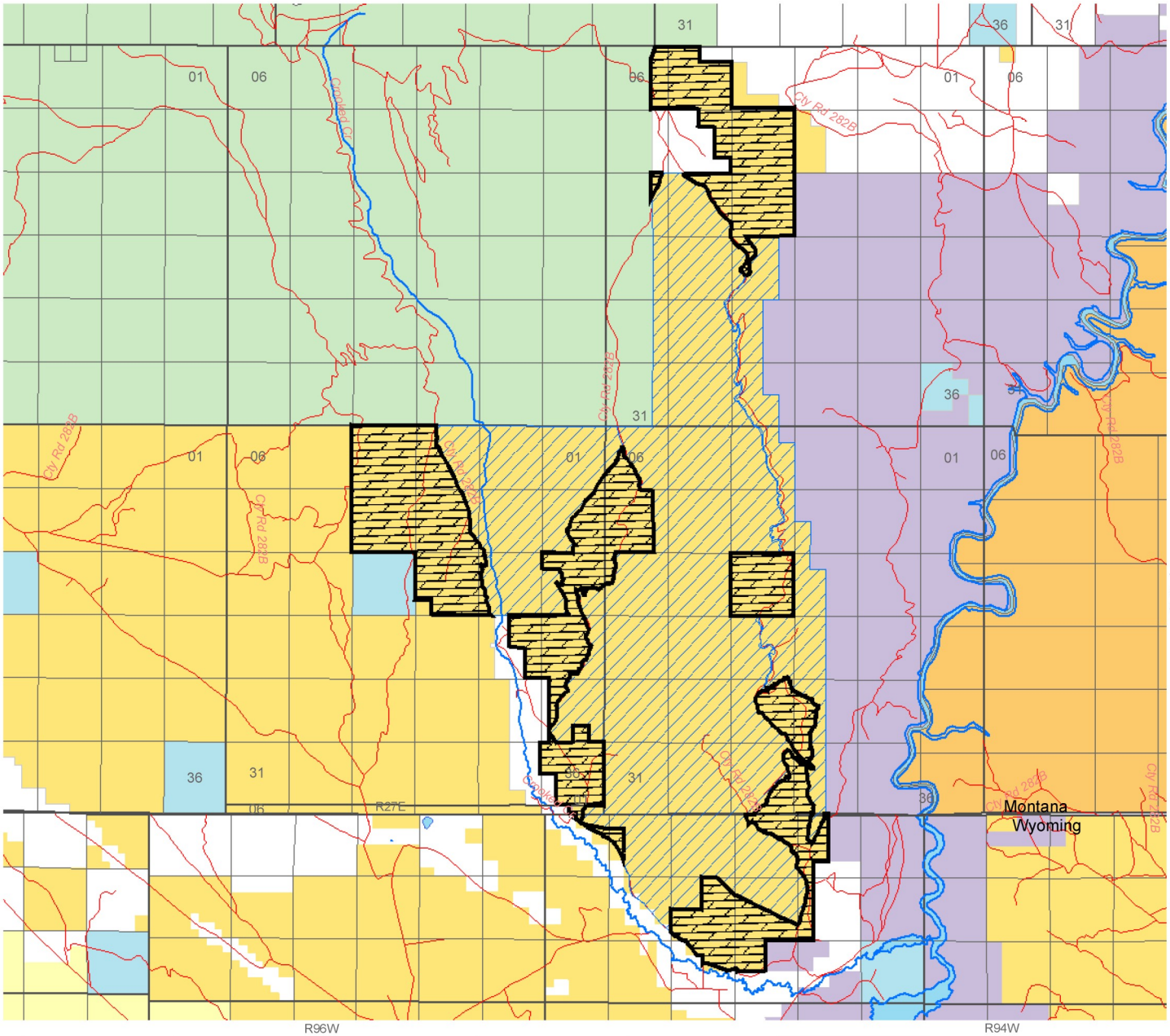
Legend

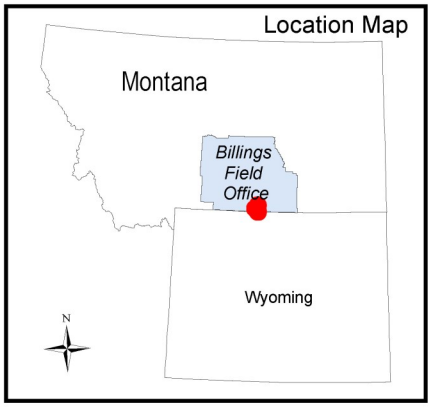
- Castle Butte ACEC
- Public Lands Survey System
- Roads
- Streams
- Bureau of Land Management
- Division of State Lands
- Private

Map 3-32



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

Special Designations East Pryor ACEC Approved RMP



0 0.6 1.2 1.8 2.4 3 Miles

Map scale 1:150,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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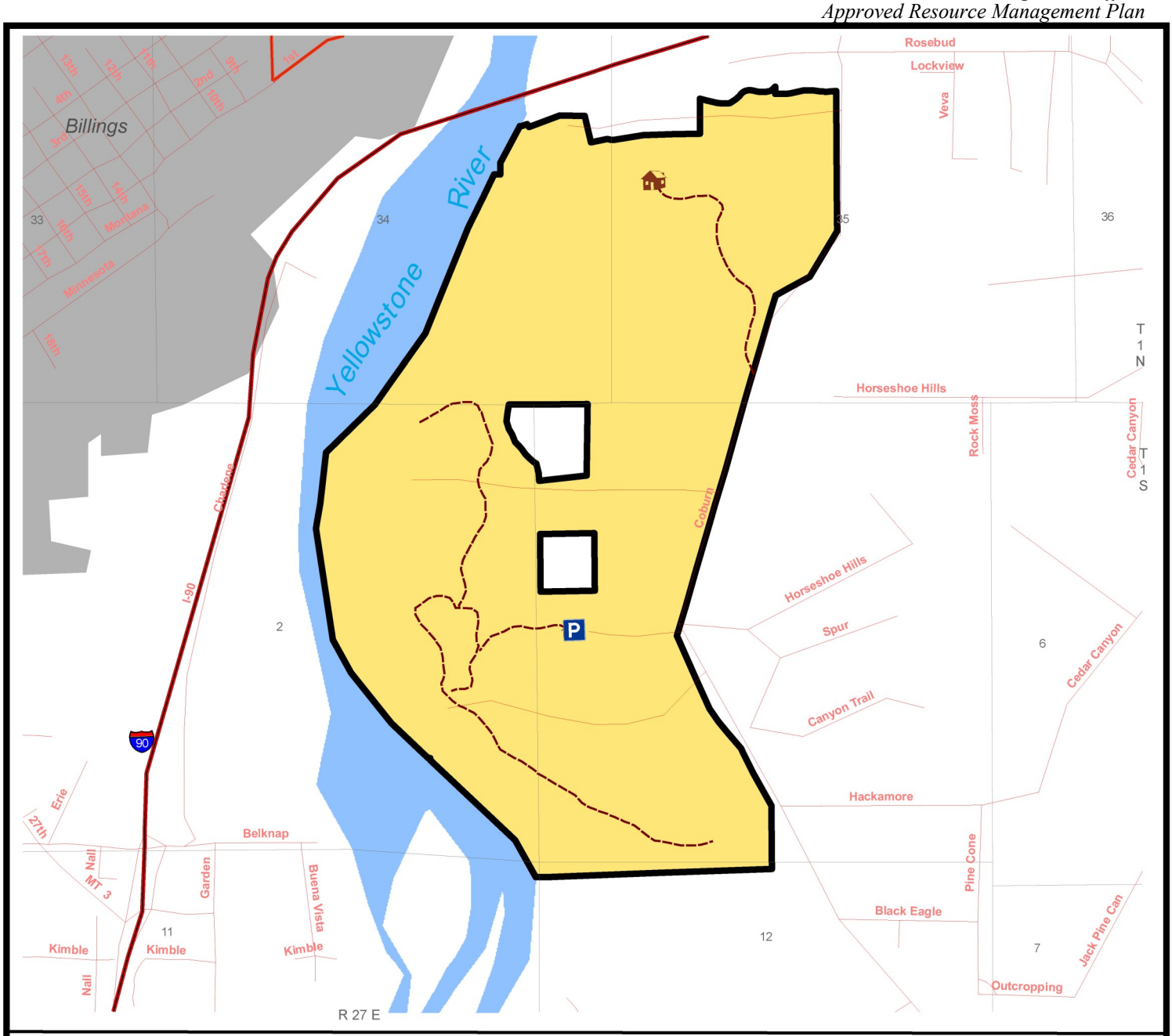
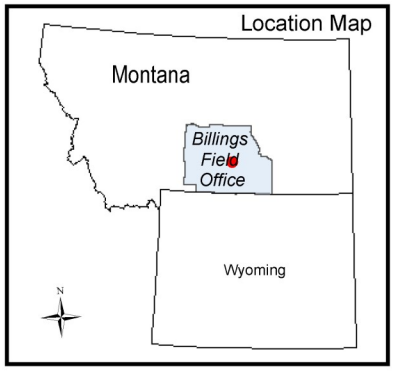
Legend

- East Pryor ACEC
- Wilderness Study Areas
- Roads
- Public Lands Survey System
- Streams
- Bureau of Reclamation
- BIA - Indian Trust Lands
- Bureau of Land Management
- US Forest Service
- Water
- National Park Service
- Division of State Lands

Map 3-33



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



Special Designations
Four Dances Natural Area ACEC
Approved RMP

0 0.05 0.1 0.2 0.3 0.4 0.5 Miles

Map scale 1:20,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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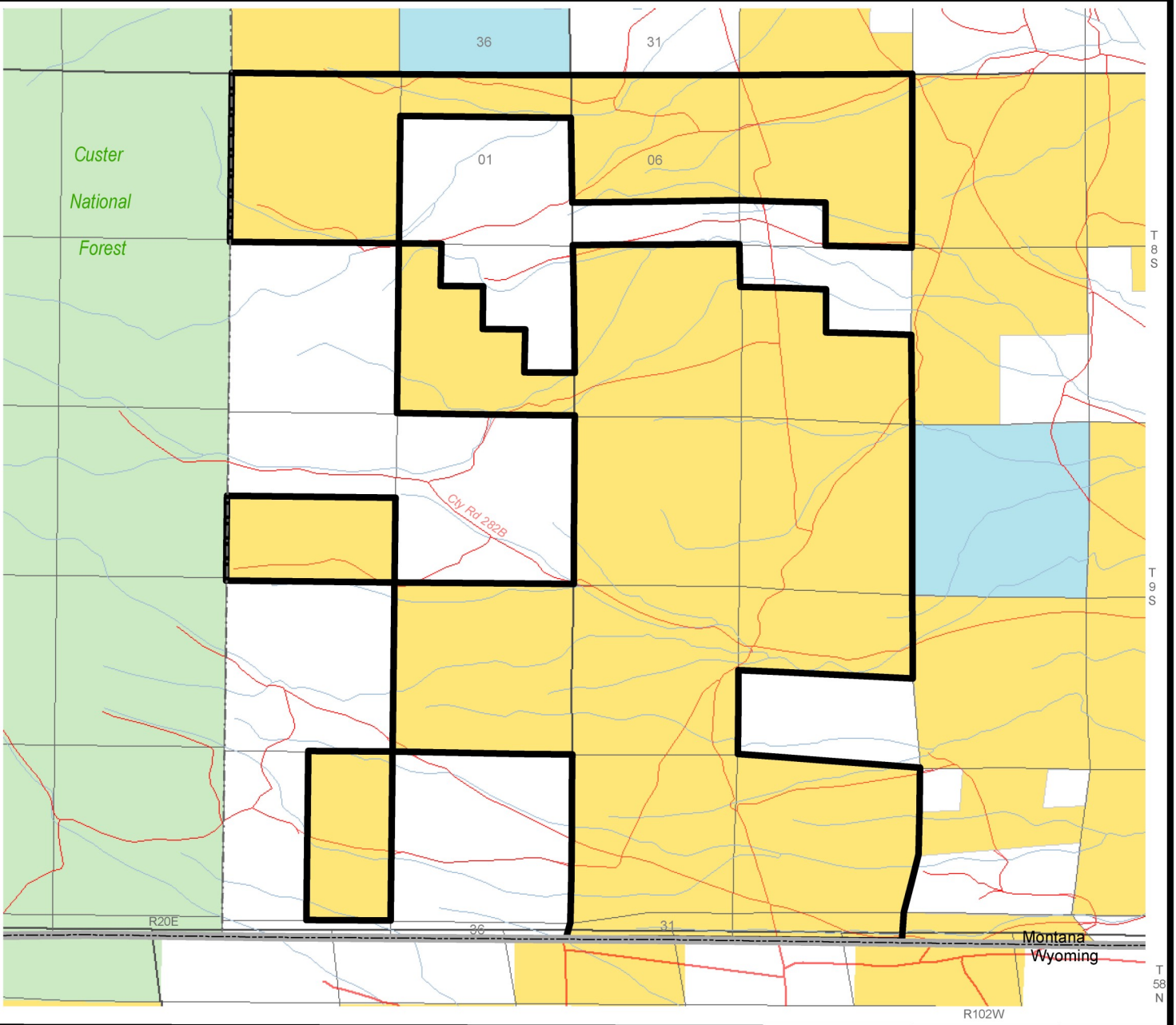
Legend

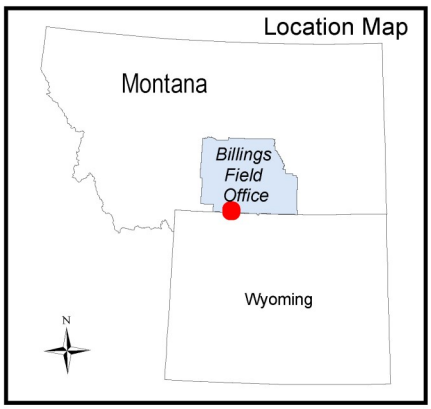
- Four Dances Natural Area ACEC
- Interstate
- Highway
- Cabin
- Parking
- Foot Trails
- Public Lands Survey System
- Bureau of Land Management
- Water

Map 3-34



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

Special Designations
Grove Creek ACEC
Approved RMP



0 0.2 0.4 0.6 0.8 1 Miles

Map scale 1:55,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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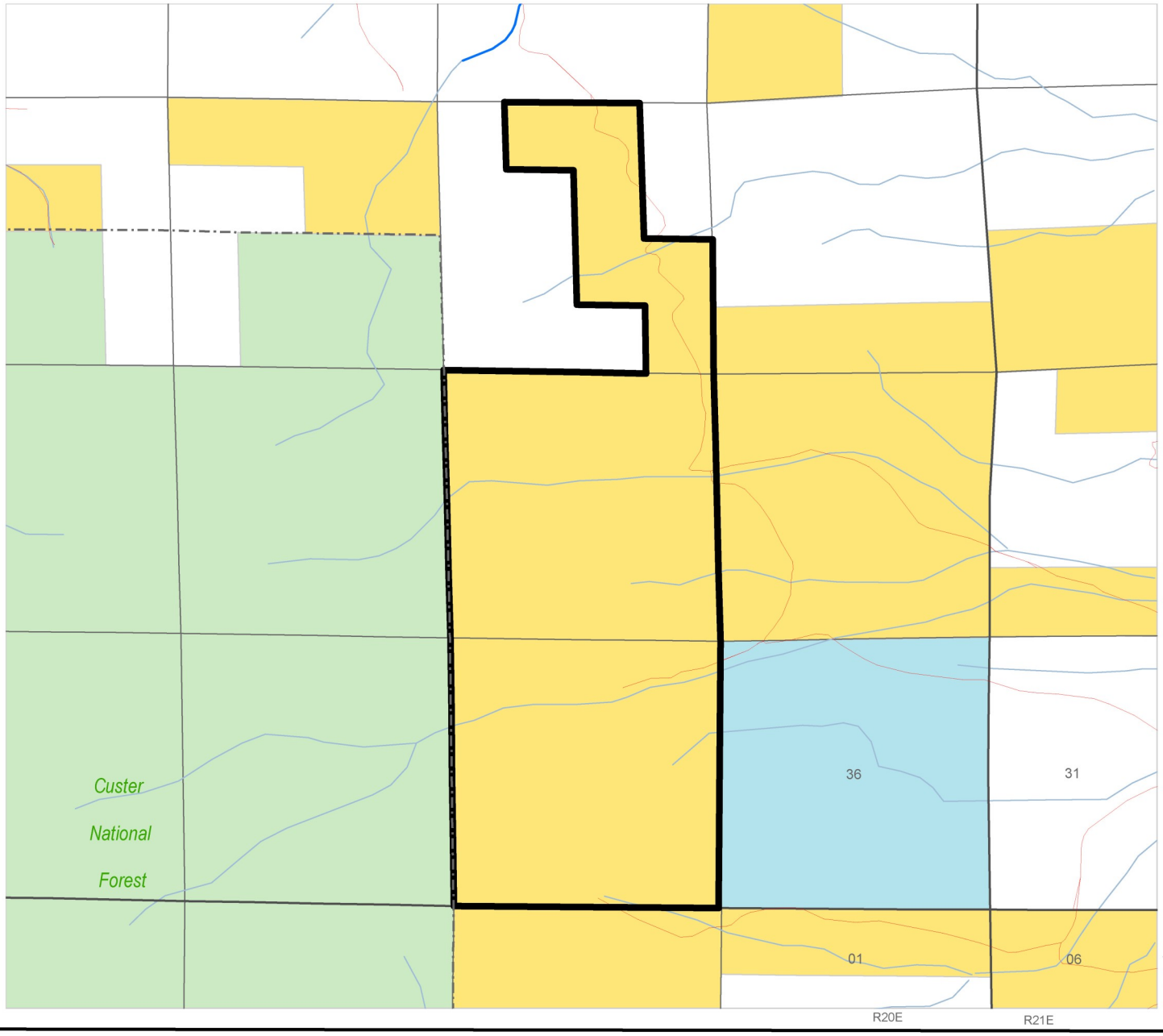
Legend

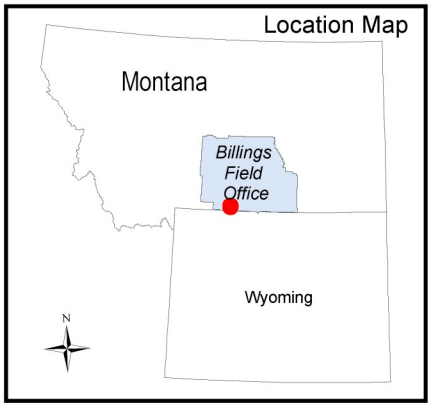
- State Border
- Grove Creek ACEC
- Public Lands Survey System
- Roads
- Streams
- Bureau of Land Management
- Division of State Lands
- US Forest Service
- Private

Map 3-35



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

Special Designations
Meeteetse Spires ACEC
Approved RMP



0 0.1 0.2 0.3 0.4 0.5
Miles
Map scale 1:35,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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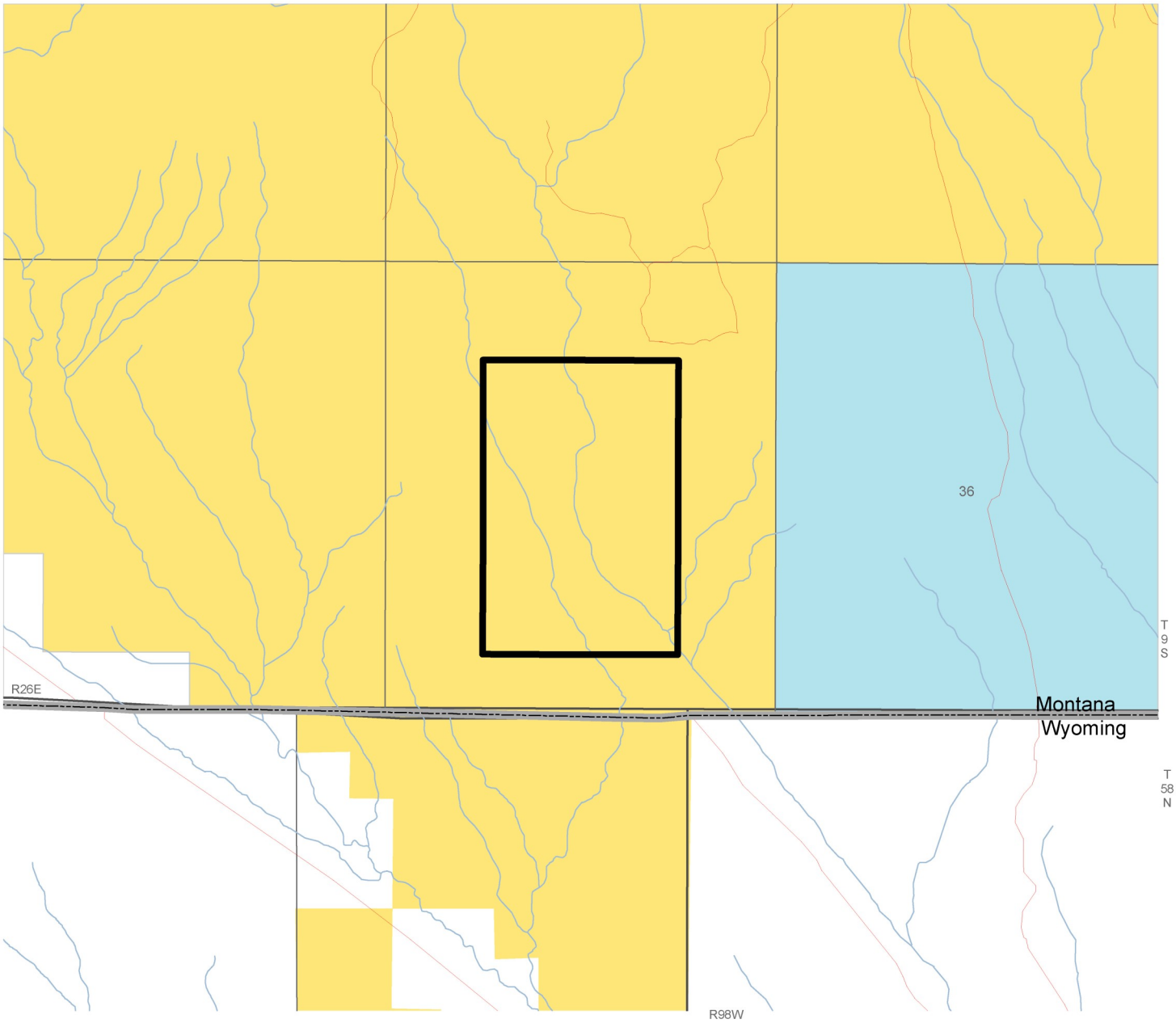
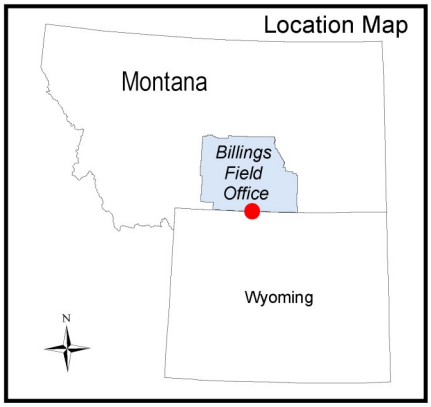
Legend
- Montana Wyoming State Border
- Meeteetse Spires ACEC
- Public Lands Survey System
- Roads
- Streams
- Bureau of Land Management
- Division of State Lands
- US Forest Service
- Private

Map 3-36



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

Special Designations
Petroglyph Canyon ACEC
Approved RMP



0 0.1 0.2 0.3 0.4 0.5 Miles

Map scale 1:24,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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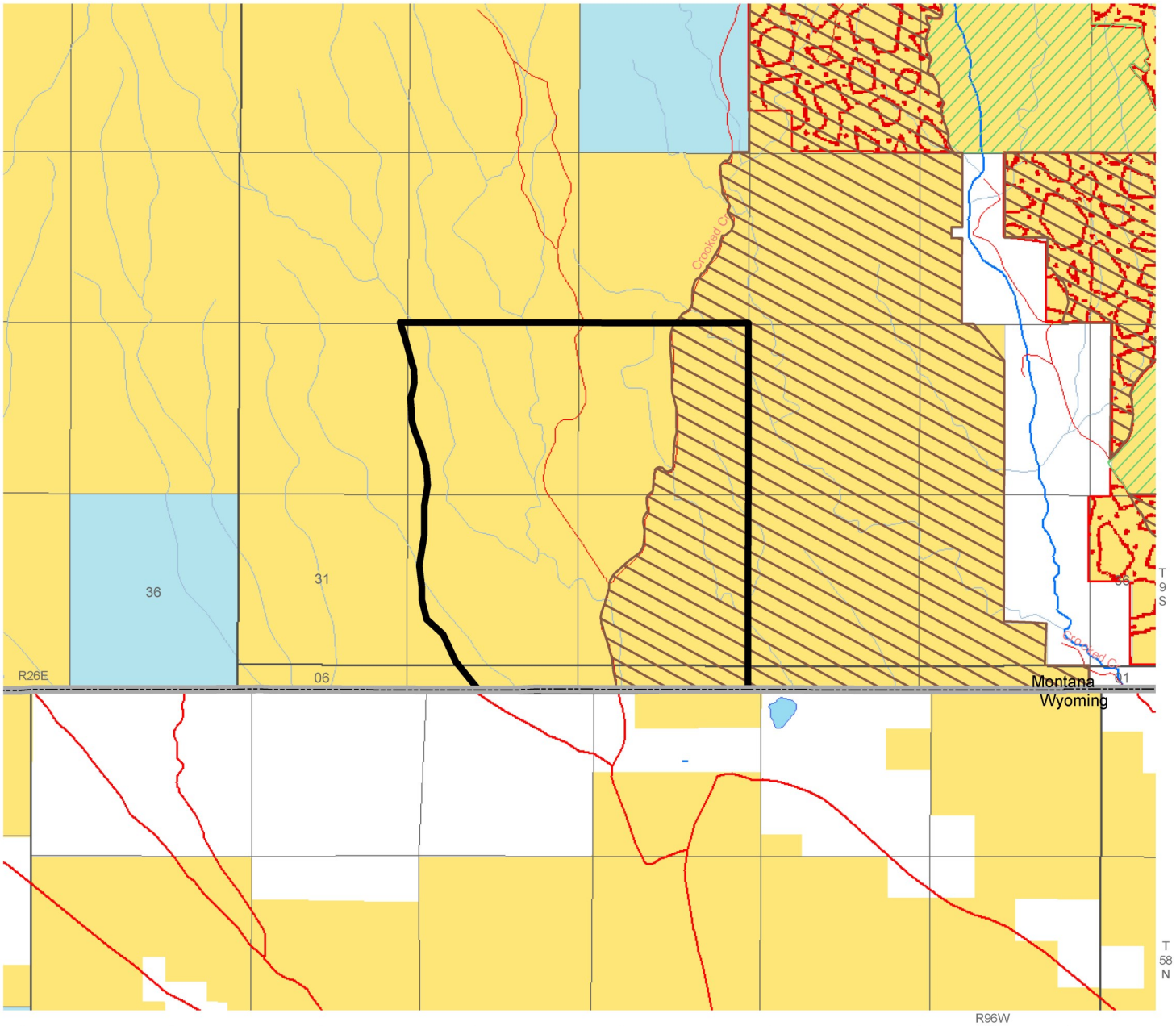
Legend

- State Border
- Petroglyph Canyon ACEC
- Public Lands Survey System
- Roads
- Streams
- Bureau of Land Management
- Division of State Lands
- Private

Map 3-37



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

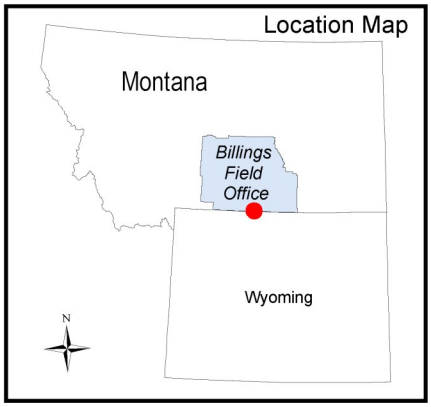
Special Designations
Pryor Foothills Research Natural Area ACEC
Approved RMP

0 0.2 0.4 0.6 0.8 1 Miles

Map scale 1:55,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection



Legend

- State Border
- Pryor Foothills Research Natural Area ACEC
- Lands with Wilderness Characteristics
- Wilderness Study Areas
- East Pryor ACEC
- Public Lands Survey System
- Roads
- Streams
- Bureau of Land Management
- State Lands
- Private

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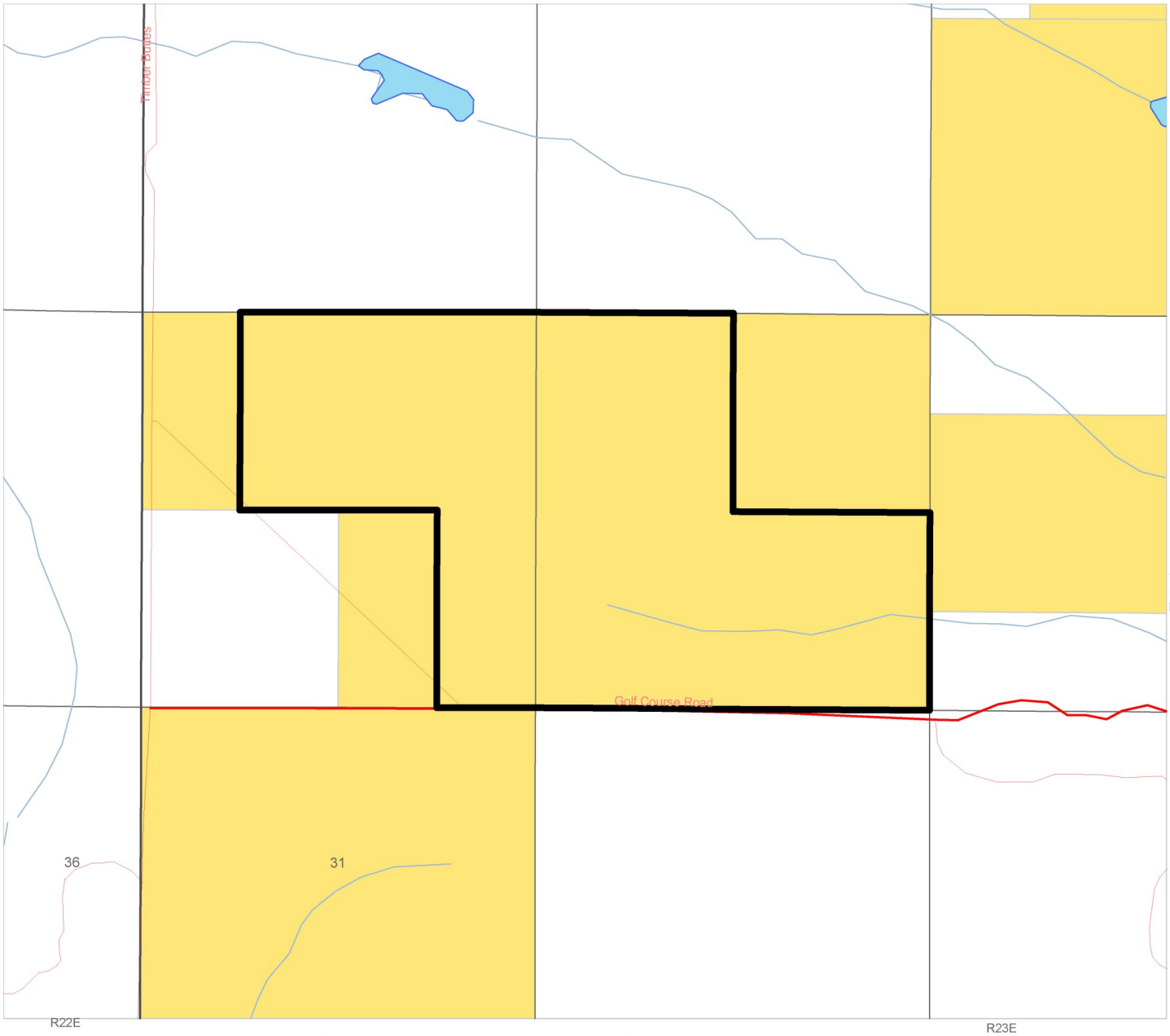
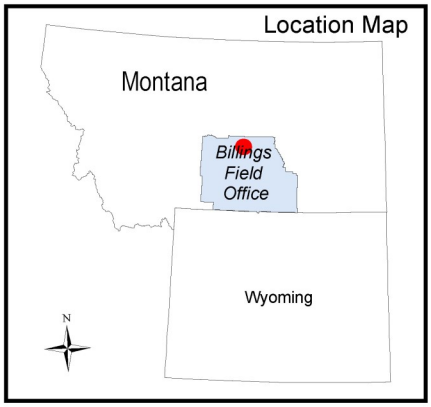
Map 3-38



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

Special Designations
Stark Site ACEC
Approved RMP



0 0.1 0.2 0.3 0.4 0.5 Miles

Map scale 1:24,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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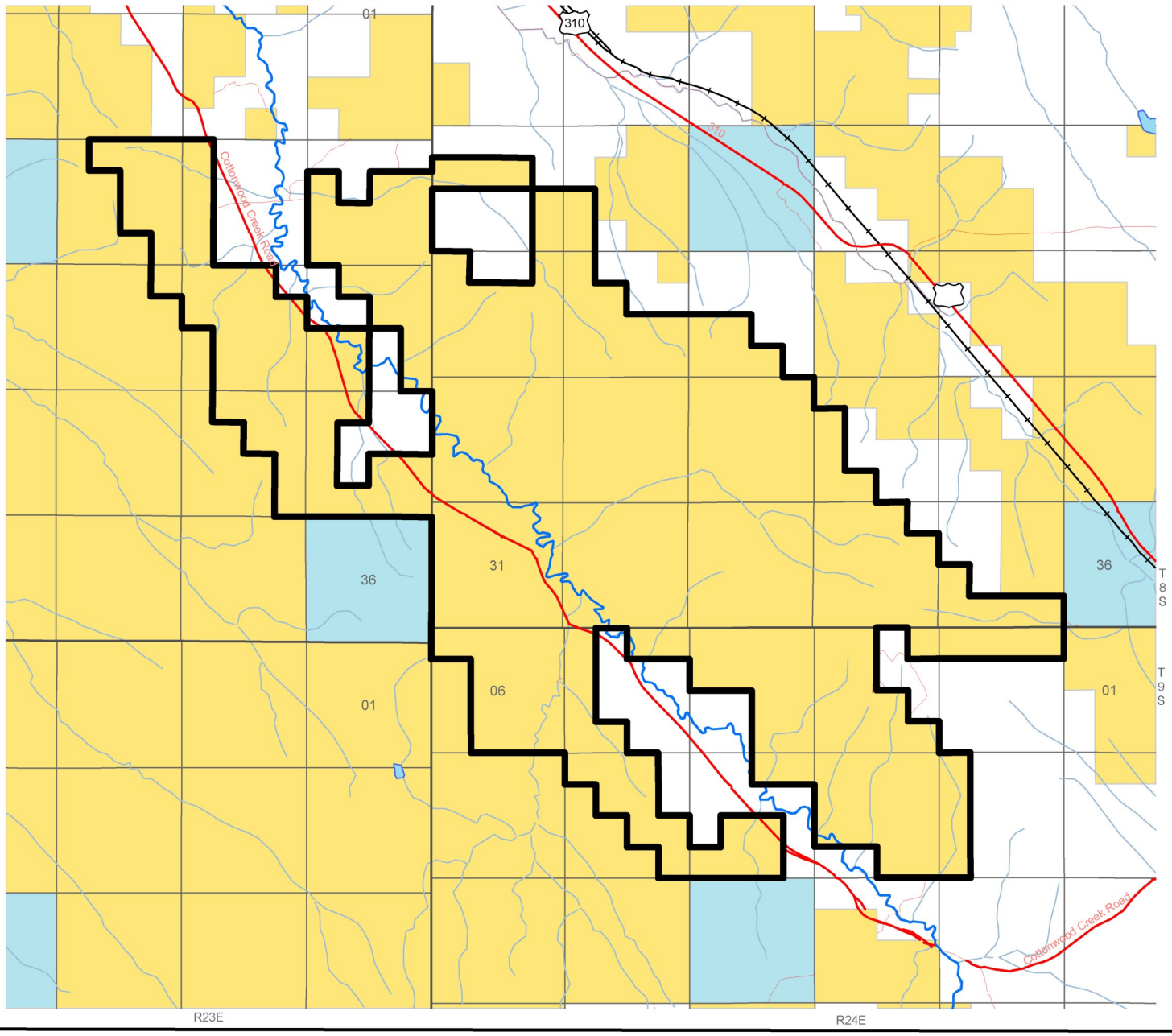
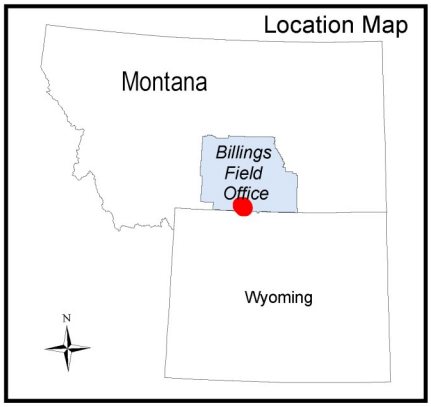
Legend

- Stark Site ACEC
- Public Lands Survey System
- Roads
- Streams
- Lakes
- Bureau of Land Management
- Private

Map 3-39



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



Special Designations
Weatherman Draw ACEC
Approved RMP

0 0.3 0.6 0.9 1.2 1.5 Miles

Map scale 1:75,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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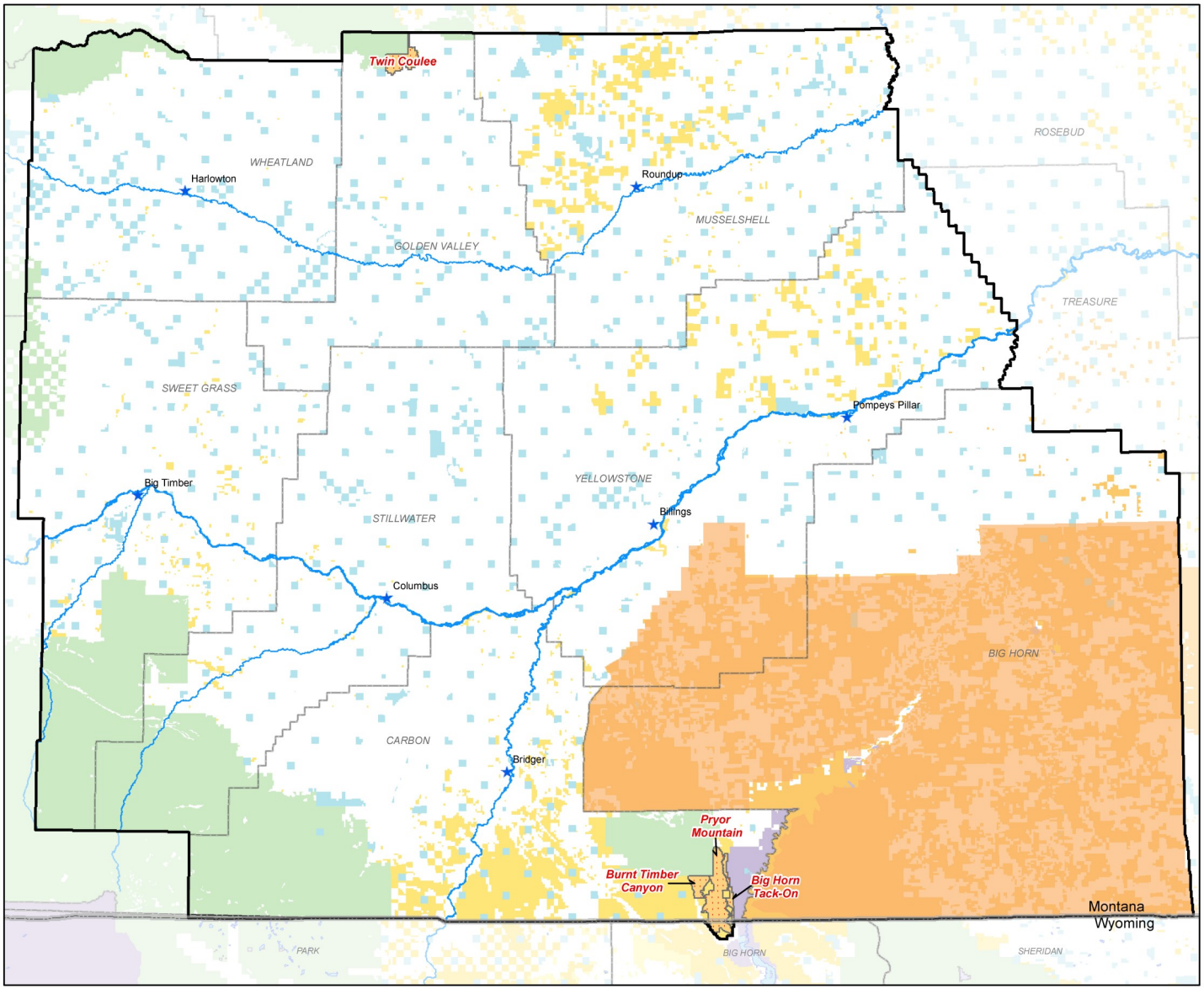
Legend

- Weatherman Draw ACEC
- Public Lands Survey System
- Roads
- Streams
- Bureau of Land Management
- Division of State Lands

Map 3-40



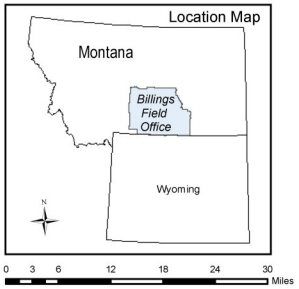
US DEPARTMENT OF THE INTERIOR
Bureau of Land Management

Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Wilderness Study Areas
- Towns
- Rivers
- Bureau of Land Management
- Bureau of Reclamation
- National Park Service
- Divison of State Lands
- Bureau of Indian Affairs
- US Forest Service

Wilderness Study Areas Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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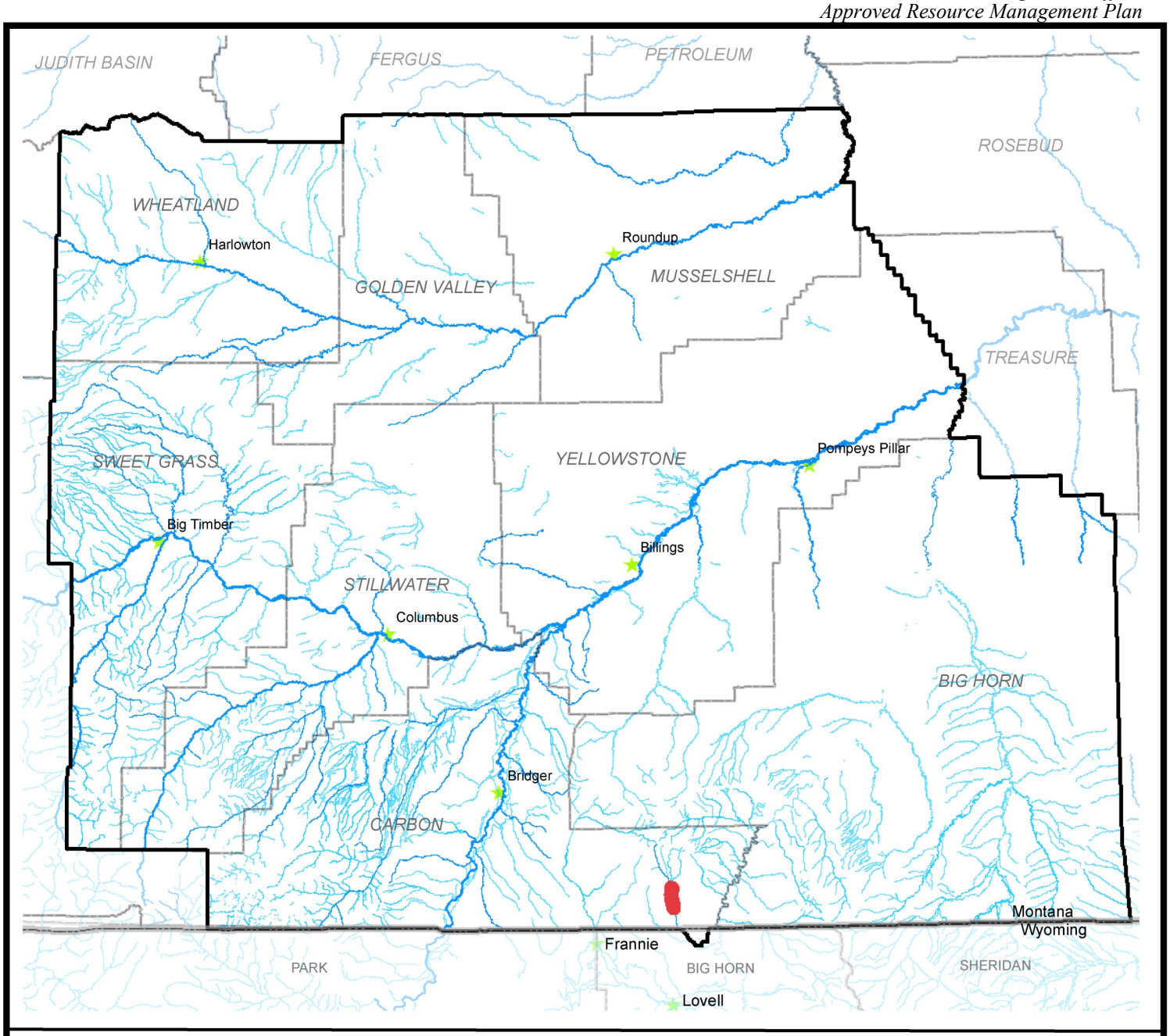
Map 3-41



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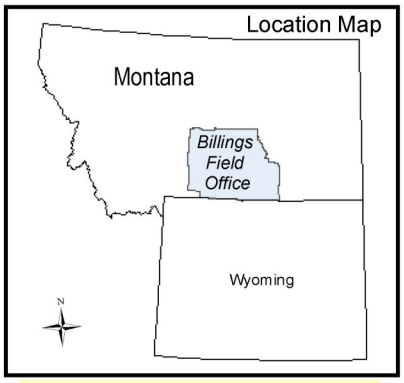
Bureau of Land Management
Billings & Pompeys Pillar
National Monument RMP / EIS



For display puroposed, the segments along the river have been enhanced.

Eligible Wild and Scenic Rivers Approved RMP

0 7.5 15 22.5 30 Miles

Map scale 1:1,350,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

Legend

- State Border
- Planning Area Boundary
- County Boundaries
- Eligible Wild and Scenic Rivers
- Rivers
- Towns

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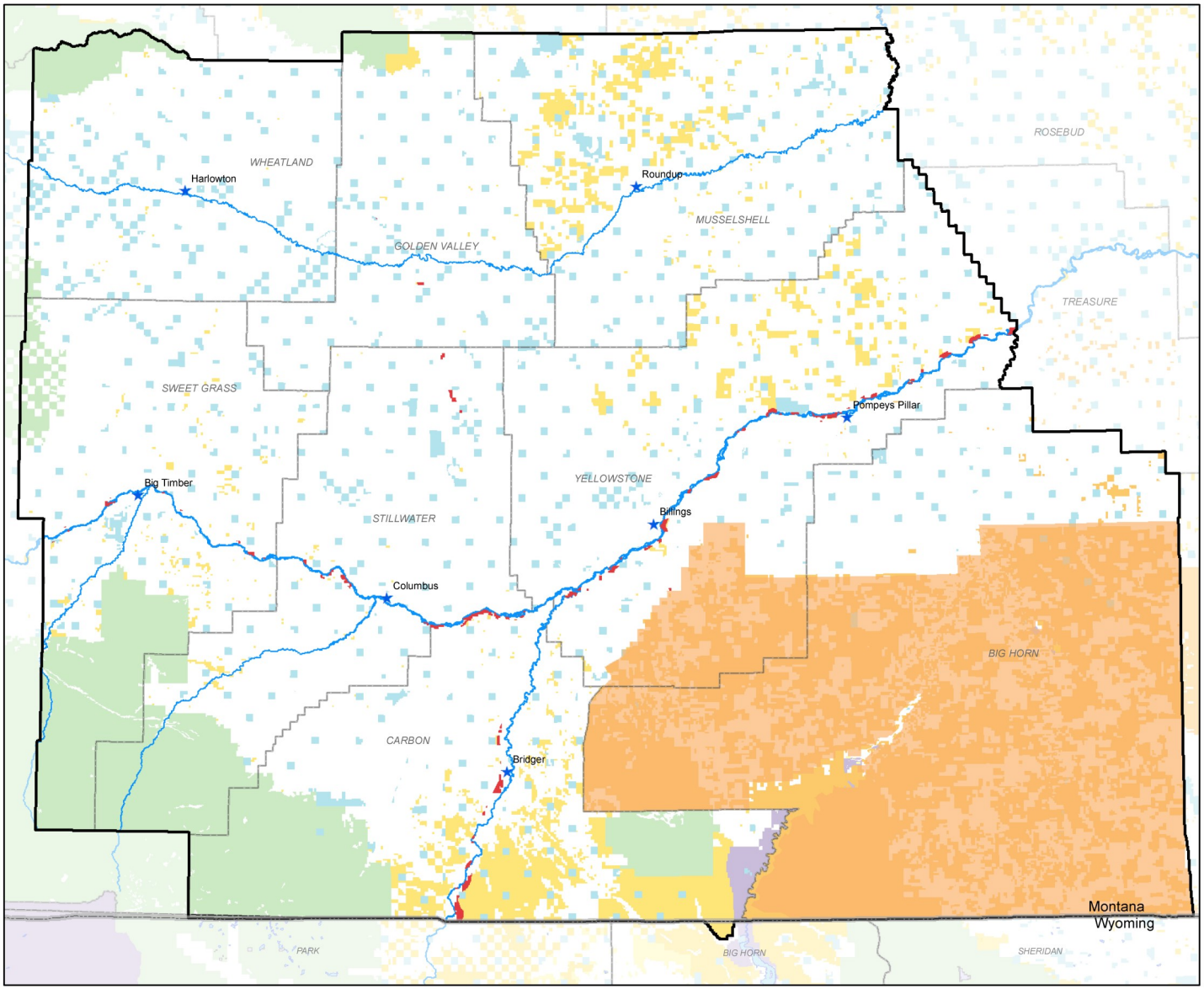
Map 3-42



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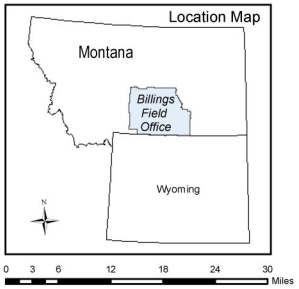
Billings & Pompeys Pillar
National Monument Draft RMP / EIS

Legend

- State Border
- County Boundaries
- Planning Area Boundary
- Management Corridors
- Rivers
- Towns
- Bureau of Land Management
- Bureau of Reclamation
- National Park Service
- Divison of State Lands
- Bureau of Indian Affairs
- US Forest Service

National Historic Trails Approved RMP



Map scale 1:900,000

Map generated by the Billings Field Office in August 2015

Albers Equal Area, NAD83 Projection

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Map 3-43

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Appendix B:
Greater Sage-Grouse: Applying Lek Buffers

Greater Sage-Grouse: Applying Lek Buffers

Buffer Distances and Evaluation of Impacts to Leks

The BLM will evaluate impacts to leks from actions requiring NEPA analysis. In addition to any other relevant information determined to be appropriate (e.g., state wildlife agency plans), the BLM will assess and address impacts from the following activities using the lek buffer-distances as identified in the USGS Report *Conservation Buffer Distance Estimates for Greater Sage-Grouse – A Review* (Open File Report 2014-1239). The BLM will apply the lek buffer-distances specified as the lower end of the interpreted range in the report unless justifiable departures are determined to be appropriate (see below). The lower end of the interpreted range of the lek buffer-distances is as follows:

- linear features (roads) within 3.1 miles of leks
- infrastructure related to energy development within 3.1 miles of leks.
- tall structures (e.g., communication or transmission towers, transmission lines) within 2 miles of leks.
- low structures (e.g., fences, rangeland structures) within 1.2 miles of leks.
- surface disturbance (continuing human activities that alter or remove the natural vegetation) within 3.1 miles of leks.
- noise and related disruptive activities including those that do not result in habitat loss (e.g., motorized recreational events) at least 0.25 miles from leks.

Justifiable departures to decrease or increase from these distances, based on local data, best available science, landscape features, and other existing protections (e.g., land use allocations, state regulations) may be appropriate for determining activity impacts. The USGS report recognizes that "because of variation in populations, habitats, development patterns, social context, and other factors, for a particular disturbance type, there is no single distance that is an appropriate buffer for all populations and habitats across the sage-grouse range." The USGS report also states that "various protection measures have been developed and implemented… [which have] the ability (alone or in concert with others) to protect important habitats, sustain populations, and support multiple-use demands for public lands." All variations in lek buffer-distances will require appropriate analysis and disclosure as part of activity authorization.

In determining lek locations, the BLM will use the most recent active or occupied lek data available from the state wildlife agency.

For Actions in General Habitat Management Area (GHMA)

The BLM will apply the lek buffer-distances identified above as required conservation measures to fully address the impacts to leks as identified in the NEPA analysis.

- Impacts should first be avoided by locating the action outside of the applicable lek buffer-distance(s) identified above. Impacts should first be avoided by locating the action outside of the applicable lek buffer-distance(s) identified above.
- The BLM may approve actions in GHMA that are within the applicable lek buffer distance identified above only if:
    - Based on best available science, landscape features, and other existing protections, (e.g., land use allocations, state regulations), the BLM determines that a lek buffer-distance other than the applicable distance identified above offers the same or a greater level of protection to Greater Sage-Grouse and its habitat, including conservation of seasonal habitat outside of the analyzed buffer area; or
    - The BLM determines that impacts to Greater Sage-Grouse and its habitat are minimized such that the project will cause minor or no new disturbance (ex. co-location with existing authorizations); and

- Any residual impacts within the lek buffer-distances are addressed through compensatory mitigation measures sufficient to ensure a net conservation gain, as outlined in the Mitigation Strategy

For Actions in Priority Habitat Management Area (PHMA)

The BLM will apply the lek buffer-distances identified above as required conservation measures to fully address the impacts to leks as identified in the NEPA analysis. Impacts should be avoided by locating the action outside of the applicable lek buffer-distance(s) identified above.

The BLM may approve actions in PHMA that are within the applicable lek buffer distance identified above only if:

- The BLM, with input from the state fish and wildlife agency, determines, based on best available science, landscape features, and other existing protections, that a buffer distance other than the distance identified above offers the same or greater level of protection to Greater Sage-Grouse and its habitat, including conservation of seasonal habitat outside of the analyzed buffer area.

Range improvements which do not impact GRSF, or, range improvements which provide a conservation benefit to GRSG such as fences for protecting important seasonal habitats, meet the lek buffer requirement.

The BLM will explain its justification for determining the approved buffer distances meet these conditions in its project decision.

Appendix C:
Greater Sage-Grouse Required Design Features

Greater Sage-Grouse Required Design Features

This appendix also includes the Required Design Features for Greater Sage-Grouse Habitat. Required Design Features (RDFs) are required for certain activities in all GRSG habitat. RDFs establish the minimum specifications for certain activities to help mitigate adverse impacts. However, the applicability and overall effectiveness of each RDF cannot be fully assessed until the project level when the project location and design are known. Because of site-specific circumstances, some RDFs may not apply to some projects (e.g., a resource is not present on a given site) and/or may require slight variations (e.g., a larger or smaller protective area). All variations in RDFs would require that at least one of the following be demonstrated in the NEPA analysis associated with the project/activity:

- A specific RDF is documented to not be applicable to the site-specific conditions of the project/activity (e.g.due to site limitations or engineering considerations). Economic considerations, such as increased costs, do not necessarily require that an RDF be varied or rendered inapplicable;
- An alternative RDF, state-implemented conservation measure, or a plan-level protection is determined to provide equal or better protection for GRSG or its habitat;
- A specific RDF will provide no additional protection to GRSG or its habitat.

Required Design Features for how to make a pond that won't produce mosquitoes that transmit West Nile virus (from Doherty [2007])

1. Increase the size of ponds to accommodate a greater volume of water than is discharged. This will result in un-vegetated and muddy shorelines that breeding *Cx. tarsalis* avoid (De Szalay and Resh 2000). This modification may reduce *Cx. tarsalis* habitat but could create larval habitat for *Culicoides sonorensis*, a vector of blue tongue disease, and should be used sparingly (Schmidtmann et al. 2000). Steep shorelines should be used in combination with this technique whenever possible (Knight et al. 2003).
2. Build steep shorelines to reduce shallow water (>60 centimeters [cm]) and aquatic vegetation around the perimeter of impoundments (Knight et al. 2003). Construction of steep shorelines also will create more permanent ponds that are a deterrent to colonizing mosquito species like *Cx. tarsalis* which prefer newly flooded sites with high primary productivity (Knight et al. 2003).
3. Maintain the water level below that of rooted vegetation for a muddy shoreline that is unfavorable habitat for mosquito larvae. Rooted vegetation includes both aquatic and upland vegetative types. Avoid flooding terrestrial vegetation in flat terrain or low lying areas. Aquatic habitats with a vegetated inflow and outflow separated by open water produce 5-10 fold fewer Culex mosquitoes than completely vegetated wetlands (Walton and Workman 1998). Wetlands with open water also had significantly fewer stage III and IV instars which may be attributed to increased predator abundances in open water habitats (Walton and Workman 1998).
4. Construct dams or impoundments that restrict down slope seepage or overflow by digging ponds in flat areas rather than damming natural draws for effluent water storage, or lining constructed ponds in areas where seepage is anticipated (Knight et al. 2003).
5. Line the channel where discharge water flows into the pond with crushed rock, or use a horizontal pipe to discharge inflow directly into existing open water, thus precluding shallow surface inflow and accumulation of sediment that promotes aquatic vegetation.
6. Line the overflow spillway with crushed rock, and construct the spillway with steep sides to preclude the accumulation of shallow water and vegetation.
7. Fence pond site to restrict access by livestock and other wild ungulates that trample and disturb shorelines, enrich sediments with manure and create hoof print pockets of water that are attractive to breeding mosquitoes.

Literature Cited

De Szalay, F.A. and V.H. Resh. 2000. Factors influencing macroinvertebrate colonization of seasonal wetlands: responses to emergent plant cover. Freshwater Biology. 45: 295-308.

Doherty, M.K. 2007. Mosquito populations in the Powder River Basin, Wyoming: a comparison of natural, agricultural and effluent coal bed natural gas aquatic habitats. M.S. Thesis. Montana State University, Bozeman, U.S.A.

Knight, R.L., W.E. Walton, G.F. Meara, W.K. Riesen and R. Wass. 2003. Strategies for effective mosquito control in constructed treatment wetlands. Ecological Engineering. 21: 211-232.

Schmidtmann, E.T., R.J. Bobian, R.P. Beldin. 2000. Soil chemistries define aquatic habitats with immature populations of the *Culicoides variipennis* complex (Diptera: *Ceratopogonidae*). Journal of Medical Entomology. 37: 38-64.

Walton, W.E., and P.D. Workman. 1998. Effect of marsh design on the abundance of mosquitoes in experimental constructed wetlands in Southern California. Journal of the American mosquito control Association 14:95-107.

Required Design Features for Fluid Mineral Development

Priority Habitat Management Areas (PHMA)

Roads

- Design roads to an appropriate standard no higher than necessary to accommodate their intended purpose.
- Locate roads to avoid important areas and habitats.
- Coordinate road construction and use among right-of-way (ROW) holders.
- Construct road crossing at right angles to ephemeral drainages and stream crossings.
- Establish speed limits on BLM system roads to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.
- Establish trip restrictions or minimization through use of telemetry and remote well control (e.g., Supervisory Control and Data Acquisition).
- Do not issue ROWs to counties on newly constructed energy development roads, unless for a temporary use consistent with all other terms and conditions included in this document.
- Restrict vehicle traffic to only authorized users on newly constructed routes (use signing, gates, etc.)
- Use dust abatement practices on roads and pads.
- Close and rehabilitate duplicate roads.

Operations

- Cluster disturbances, operations (fracture stimulation, liquids gathering, etc.), and facilities.
- Use directional and horizontal drilling to reduce surface disturbance.
- Place infrastructure in already disturbed locations where the habitat has not been restored.
- Consider using oak (or other material) mats for drilling activities to reduce vegetation disturbance and for roads between closely spaced wells to reduce soil compaction and maintain soil structure to increase likelihood of vegetation reestablishment following drilling.
- Apply a phased development approach with concurrent reclamation.
- Place liquid gathering facilities outside of priority areas. Have no tanks at well locations within priority areas (minimizes perching and nesting opportunities for ravens and raptors and truck traffic). Pipelines must be under or immediately adjacent to the road (Bui et al. 2010).
- Restrict the construction of tall facilities and fences to the minimum number and amount needed.
- Site and/or minimize linear ROWs to reduce disturbance to sagebrush habitats.
- Place new utility developments (power lines, pipelines, etc.) and transportation routes in existing utility or transportation corridors.
- Bury distribution power lines.
- Corridor power, flow, and small pipelines under or immediately adjacent to roads.
- Design or site permanent structures which create movement (e.g. a pump jack) to minimize impacts to sage-grouse.

- Cover (e.g., fine mesh netting or use other effective techniques) all drilling and production pits and tanks regardless of size to reduce sage-grouse mortality.
- Equip tanks and other above ground facilities with structures or devices that discourage nesting of raptors and corvids.
- Control the spread and effects of non-native plant species (e.g. by washing vehicles and equipment).
- Use only closed-loop systems for drilling operations and no reserve pits.
- Restrict pit and impoundment construction to reduce or eliminate threats from West Nile virus (Doherty 2007).
- Remove or re-inject produced water to reduce habitat for mosquitoes that vector West Nile virus. If surface disposal of produced water continues, use the following steps for reservoir design to limit favorable mosquito habitat:
- Overbuild size of ponds for muddy and non-vegetated shorelines.
- Build steep shorelines to decrease vegetation and increase wave actions.
- Avoid flooding terrestrial vegetation in flat terrain or low lying areas.
- Construct dams or impoundments that restrict down slope seepage or overflow.
- Line the channel where discharge water flows into the pond with crushed rock.
- Construct spillway with steep sides and line it with crushed rock.
- Treat waters with larvicides to reduce mosquito production where water occurs on the surface.
- The BLM would work with proponents to limit project-related noise where it would be expected to reduce functionality of habitats that support GRSG populations. The BLM would evaluate the potential for limitation of new noise sources on a case-by-case basis as appropriate.
- As additional research and information emerges, specific new limitations appropriate to the type of projects being considered would be evaluated, and appropriate limitations would be implemented where necessary to minimize potential for noise impacts on GRSG population behavioral cycles.
- As new research is completed, new specific limitations would be coordinated with the NDGF and partners. Noise levels at the perimeter of the lek should not exceed 10 dBA above ambient noise.
- Require noise shields when drilling during the lek, nesting, broodrearing, or wintering season.
- Fit transmission towers with anti-perch devices (Lammers and Collopy 2007).
- Require sage-grouse-safe fences.
- Locate new compressor stations outside PH and design them to reduce noise that may be directed towards PH.
- Clean up refuse.
- Locate man camps outside of PH.

Reclamation

- Include objectives for ensuring habitat restoration to meet sage-grouse habitat needs in reclamation practices/sites (Pyke 2011). Address post reclamation management in reclamation plan such that goals and objectives are to protect and improve sage-grouse habitat needs.
- Maximize the area of interim reclamation on long-term access roads and well pads including reshaping, topsoiling and revegetating cut and fill slopes.
- Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.
- Irrigate interim reclamation if necessary for establishing seedlings more quickly.
- Utilize mulching techniques to expedite reclamation and to protect soils.

General Sage-Grouse Habitat Management Areas (GHMA)

- Make applicable BMPs mandatory as Conditions of Approval (COA) within GH. BMPs are continuously improving as new science and technology become available and therefore are subject to change. At a minimum include the following BMPs:

Roads

- Design roads to an appropriate standard no higher than necessary to accommodate their intended purpose.
- Do not issue ROWs to counties on mining development roads, unless for a temporary use consistent with all other terms and conditions included in this document.

- Establish speed limits on BLM system roads to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.
- Coordinate road construction and use among ROW holders.
- Construct road crossing at right angles to ephemeral drainages and stream crossings.
- Use dust abatement practices on roads and pads.
- Close and reclaim duplicate roads, by restoring original landform and establishing desired vegetation.

Operations

- Cluster disturbances associated with operations and facilities as close as possible.
- Use directional and horizontal drilling to reduce surface disturbance.
- Clean up refuse.
- Restrict the construction of tall facilities and fences to the minimum number and amount needed.
- Cover (e.g., fine mesh netting or use other effective techniques) all pits and tanks regardless of size to reduce sage-grouse mortality.
- Equip tanks and other above ground facilities with structures or devices that discourage nesting of raptors and corvids.
- Use remote monitoring techniques for production facilities and develop a plan to reduce the frequency of vehicle use.
- Control the spread and effects of non-native plant species (Gelbard and Belnap 2003, Bergquist et al. 2007).
- Restrict pit and impoundment construction to reduce or eliminate augmenting threats from West Nile virus (Doherty 2007).

Reclamation

- Include restoration objectives to meet sage-grouse habitat needs in reclamation practices/sites. Address post reclamation management in reclamation plan such that goals and objectives are to protect and improve sage-grouse habitat needs.

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Blickley, J.L., D. Blackwood, and G.L. Patricelli. In preparation. Experimental evidence for avoidance of chronic anthropogenic noise by greater sage-grouse. University of California-Davis, California, USA.

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Required Design Features for Fire & Fuels Management

1. Where applicable, design fuels treatment objective to protect existing sagebrush ecosystems, modify fire behavior, restore native plants, and create landscape patters which most benefit sage-grouse habitat.
2. Provide training to fuels treatment personnel on sage-rouse biology, habitat requirements, and identification of areas utilized locally.
3. 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).
4. Ensure proposed sagebrush treatments are planned with interdisciplinary input from BLM and /or state wildlife agency biologist and that treatment acreage is conservative in the context of surrounding sage-grouse seasonal habitats and landscape.
5. Where appropriate, ensure that treatments are configured in a manner (e.g., strips) that promotes use by sage-grouse (See Connelly et al. 2000*)
6. Where applicable, incorporate roads and natural fuel breaks into fuel break design.
7. 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 plant species.
8. Design vegetation treatment in areas of high frequency to facilitate firefighting safety, reduce the risk of extreme fire behavior; and to reduce the risk and rate of fire spread to key and restoration habitats.
9. 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 second priority for restoration when the sites not adjacent to key habitat, but within two miles of key habitat. The third priority for annual grasslands habitat restoration projects are sites beyond two miles of key habitat. The intent is to focus restoration outward from existing, intact habitat.
10. As funding and logistics permit, restore annual grasslands to a species composition characterized by perennial grasses, forbs, and shrubs.
11. 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.
12. 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.
13. Protect wildland areas from wildfire originating on private lands, infrastructure corridors, and recreational areas.
14. 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.
15. Strategically place and maintain pre-treated strips/areas (e.g., mowing, herbicide application, and strictly managed grazed strips) to ail in controlling wildfire should wildfire occur near key habitats or important restoration areas (such as where investments in restoration have already been made).

Fire Management

1. Develop state-specific sage-grouse toolboxes containing maps, a list of resource advisors, contact information, local guidance, and other relevant information.
2. Provide localized maps to dispatch offices and extended attack incident commanders for use in prioritizing wildfire suppression resources and designing suppression tactics.
3. 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.
4. On critical fire weather days, pre-position additional fire suppression resources to optimize a quick and efficient response in sage-grouse habitat areas.
5. During periods of multiple fires, ensure line officers are involved in setting priorities.
6. To the extent possible, locate wildfire suppression facilities (i.e., base camps, spike camps, drop points, staging areas, heli-bases) 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.

7. Power-wash all firefighting vehicles, to the extent possible, including engines, water tenders, personnel vehicles, and all-terrain vehicles prior to deploying in or near sage-grouse habitat areas to minimize noxious weed spread.
8. Minimize unnecessary cross-country vehicle travel during fire operations in sage-grouse habitat.
9. Minimize burnout operations in key sage-grouse habitat areas by constructing direct fireline whenever safe and practical to do so.
10. Utilize retardant and mechanized equipment to minimize burned acreage during initial attack.
11. As safety allows, conduct mop-up where the black adjoins unburned islands, dog legs, or other habitat features to minimize sagebrush loss.

Literature Cited

Connelly, J.W., M.A Schroeder, A.R. Sands, and C.E. Braun 2000. Guidelines to Manage Sage-grouse Populations and Their Habitats. Wildlife Society Bulletin 28:967-985.

Required Design Features for Solid Minerals

Introduction

The following measures would be applied as RDFs for all solid minerals. They would also apply to locatable minerals consistent with applicable law. The RDFs or BMPs would be applied as appropriate in PH and GH, and to the extent allowable by law (i.e., to prevent unnecessary and undue degradation).

Roads

- Design roads to an appropriate standard no higher than necessary to accommodate their intended purpose.
- Locate roads to avoid important areas and habitats.
- Coordinate road construction and use among ROW holders.
- Construct road crossing at right angles to ephemeral drainages and stream crossings.
- Establish speed limits on BLM system roads to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds.
- Do not issue ROWs to counties on mining development roads, unless for a temporary use consistent with all other terms and conditions included in this document.
- Restrict vehicle traffic to only authorized users on newly constructed routes (e.g., use signing, gates, etc.)
- Use dust abatement practices on roads and pads.
- Close and reclaim duplicate roads, by restoring original landform and establishing desired vegetation.

Operations

- Cluster disturbances associated with operations and facilities as close as possible.
- Place infrastructure in already disturbed locations where the habitat has not been restored.
- Restrict the construction of tall facilities and fences to the minimum number and amount needed.
- Site and/or minimize linear ROWs to reduce disturbance to sagebrush habitats.
- Place new utility developments (power lines, pipelines, etc.) and transportation routes in existing utility or transportation corridors.
- Bury power lines.
- Cover (e.g., fine mesh netting or use other effective techniques) all pits and tanks regardless of size to reduce sage-grouse mortality.
- Equip tanks and other above ground facilities with structures or devices that discourage nesting of raptors and corvids.
- Control the spread and effects of non-native plant species (Gelbard and Belnap 2003, Bergquist et al. 2007).
- Restrict pit and impoundment construction to reduce or eliminate threats from West Nile virus (Doherty 2007).

- Remove or re-inject produced water to reduce habitat for mosquitoes that vector West Nile virus. If surface disposal of produced water continues, use the following steps for reservoir design to limit favorable mosquito habitat:
- Overbuild size of ponds for muddy and non-vegetated shorelines.
- Build steep shorelines to decrease vegetation and increase wave actions.
- Avoid flooding terrestrial vegetation in flat terrain or low lying areas.
- Construct dams or impoundments that restrict down slope seepage or overflow.
- Line the channel where discharge water flows into the pond with crushed rock.
- Construct spillway with steep sides and line it with crushed rock.
- Treat waters with larvicides to reduce mosquito production where water occurs on the surface.
- Require sage-grouse-safe fences around sumps.
- Clean up refuse (Bui et al. 2010).
- Locate man camps outside of PH.

Reclamation

- Include restoration objectives to meet sage-grouse habitat needs in reclamation practices/sites.
- Address post reclamation management in reclamation plan such that goals and objectives are to protect and improve sage-grouse habitat needs.
- Maximize the area of interim reclamation on long-term access roads and well pads including reshaping, topsoiling and revegetating cut and fill slopes.
- Restore disturbed areas at final reclamation to pre-disturbance landform and desired plant community.
- Irrigate interim reclamation as necessary during dry periods.
- Utilize mulching techniques to expedite reclamation.

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Bui, T.D., J.M. Marzluff, and B. Bedrosian. 2010. Common raven activity in relation to land use in western Wyoming: implications for greater sage-grouse reproductive success. Condor 112:65-78.

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Appendix D:
The Greater Sage-Grouse Monitoring Framework

The Greater Sage-Grouse Monitoring Framework

Developed by the Interagency GRSG Disturbance and Monitoring Subteam May 30, 2014

D.1 Introduction

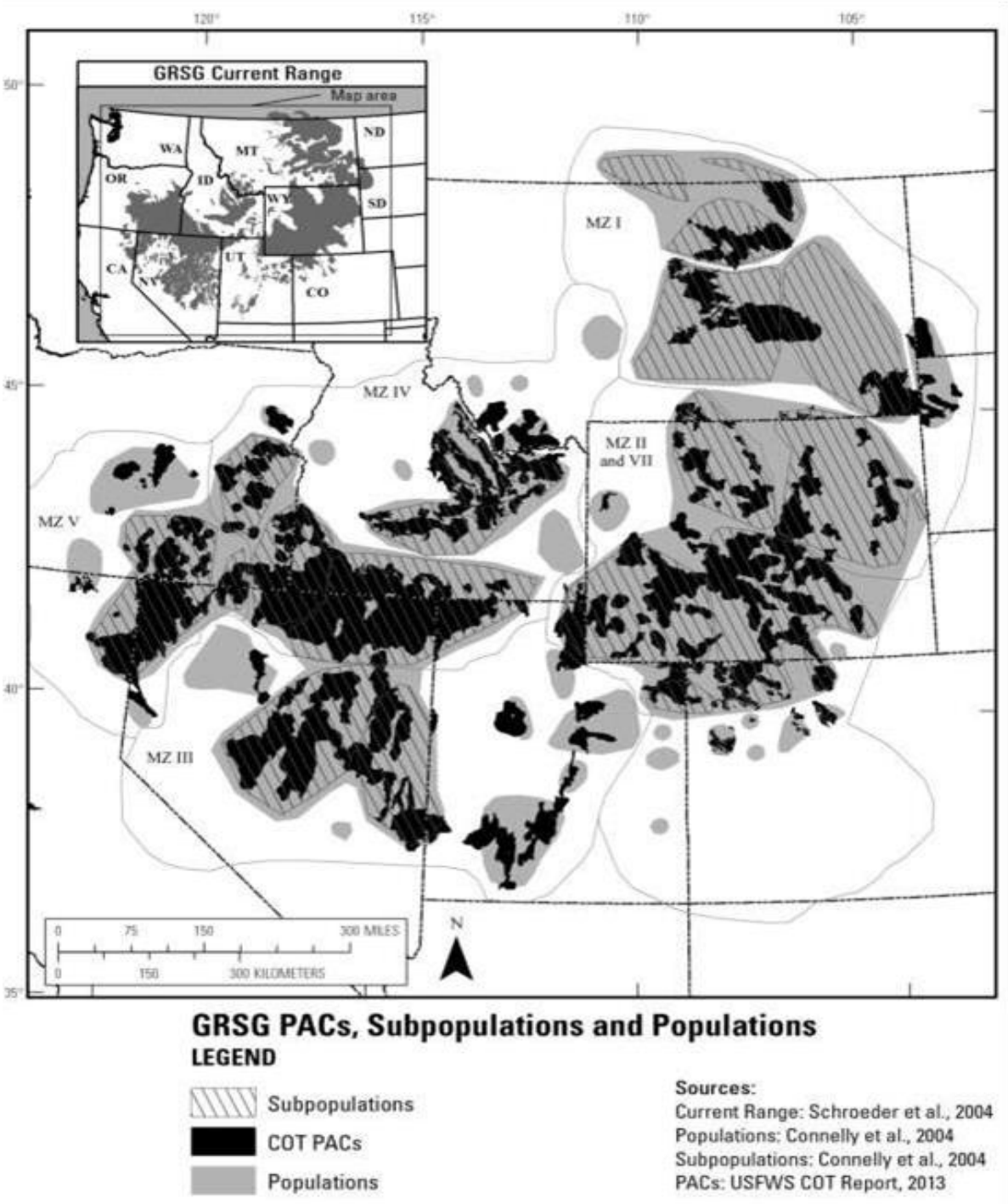
The purpose of this U.S. Bureau of Land Management (BLM) and U.S. Forest Service (USFS) Greater Sage-Grouse Monitoring Framework (hereafter, monitoring framework) is to describe the methods to monitor habitats and evaluate the implementation and effectiveness of the BLM's national planning strategy (attachment to BLM Instruction Memorandum 2012-044), the BLM resource management plans (RMPs), and the USFS's land management plans (LMPs) to conserve the species and its habitat. The regulations for the BLM (43 CFR 1610.4-9) and the USFS (36 CFR part 209, published July 1, 2010) require that land use plans establish intervals and standards, as appropriate, for monitoring and evaluations based on the sensitivity of the resource to the decisions involved. Therefore, the BLM and the USFS will use the methods described herein to collect monitoring data and to evaluate implementation and effectiveness of the Greater Sage-Grouse (GRSG) (hereafter, sage-grouse) planning strategy and the conservation measures contained in their respective land use plans (LUPs). A monitoring plan specific to the Environmental Impact Statement, land use plan, or field office will be developed after the Record of Decision is signed. For a summary of the frequency of reporting, see Attachment A, An Overview of Monitoring Commitments. Adaptive management will be informed by data collected at any and all scales.

To ensure that the BLM and the USFS are able to make consistent assessments about sage- grouse habitats across the range of the species, this framework lays out the methodology—at multiple scales—for monitoring of implementation and disturbance and for evaluating the effectiveness of BLM and USFS actions to conserve the species and its habitat. Monitoring efforts will include data for measurable quantitative indicators of sagebrush availability, anthropogenic disturbance levels, and sagebrush conditions. Implementation monitoring results will allow the BLM and the USFS to evaluate the extent that decisions from their LUPs to conserve sage-grouse and their habitat have been implemented. State fish and wildlife agencies will collect population monitoring information, which will be incorporated into effectiveness monitoring as it is made available.

This multi-scale monitoring approach is necessary, as sage-grouse are a landscape species and conservation is scale-dependent to the extent that conservation actions are implemented within seasonal habitats to benefit populations. The four orders of habitat selection (Johnson 1980) used in this monitoring framework are described by Connelly et al. (2003) and were applied specifically to the scales of sage-grouse habitat selection by Stiver et al. (in press) as first order (broad scale), second order (mid-scale), third order (fine scale), and fourth order (site scale). Habitat selection and habitat use by sage-grouse occur at multiple scales and are driven by multiple environmental and behavioral factors. Managing and monitoring sage-grouse habitats are complicated by the differences in habitat selection across the range and habitat use by individual birds within a given season. Therefore, the tendency to look at a single indicator of habitat suitability or only one scale limits managers' ability to identify the threats to sage-grouse and to respond at the appropriate scale. For descriptions of these habitat suitability indicators for each scale, see "Sage-Grouse Habitat Assessment Framework: Multi-scale Habitat Assessment Tool" (HAF; Stiver et al. 2015 in press).

Monitoring methods and indicators in this monitoring framework are derived from the current peer-reviewed science. Rangewide, best available datasets for broad- and mid-scale monitoring will be acquired. If these existing datasets are not readily available or are inadequate, but they are necessary to inform the indicators of sagebrush availability, anthropogenic disturbance levels, and sagebrush conditions, the BLM and the USFS will strive to develop datasets or obtain information to fill these data gaps. Datasets that are not readily available to inform the fine- and site-scale indicators will be developed. These data will be used to generate monitoring reports at the appropriate and applicable geographic scales, boundaries, and analysis units: across the range of sage-grouse as defined by Schroeder et al. (2004), and clipped by Western Association of Fish and Wildlife Agencies (WAFWA) Management Zone (MZ) (Stiver et al. 2006) boundaries and other areas as appropriate for size (e.g., populations based on Connelly et al. 2004). (Figure D-1, Map of Greater Sage-Grouse range, populations, subpopulations, and Priority Areas for Conservation as of 2013.) This broad- and mid-scale monitoring data and analysis will provide context for RMP/LMP areas; states; GRSG Priority Habitat, General Habitat, and other sage- grouse designated

Figure D-1: Map of Greater Sage-Grouse Range, Populations, Subpopulations, and Priority Areas for Conservation as of 2013.



management areas; and Priority Areas for Conservation (PACs), as defined in "Greater Sage-grouse (*Centrocercus urophasianus*) Conservation Objectives: Final Report" (Conservation Objectives Team [COT] 2013). Hereafter, all of these areas will be referred to as "sage-grouse areas."

This monitoring framework is divided into two sections. The broad- and mid-scale methods, described in Section D.2, provide a consistent approach across the range of the species to monitor implementation decisions and actions, mid-scale habitat attributes (e.g., sagebrush availability and habitat degradation), and population changes to determine the effectiveness of the planning strategy and management decisions. (Table D-1, Indicators for monitoring implementation of the national planning strategy, RMP/LMP decisions, sage-grouse habitat, and sage-grouse populations at the broad and mid scales.) For sage-grouse habitat at the fine and site scales, described in Section D.3, this monitoring framework describes a consistent approach (e.g., indicators and methods) for monitoring sage-grouse seasonal habitats. Funding, support, and dedicated personnel for broad- and mid-scale monitoring will be renewed annually through the normal budget process. For an overview of BLM and USFS multi-scale monitoring commitments, see Attachment A.

Table D-1: Indicators for monitoring implementation of the national planning strategy, RMP/LMP decisions, sage-grouse habitat, and sage-grouse populations at the broad and mid scales.

	Implementation	**Habitat**		**Population (State Wildlife Agencies)**
Geographic Scales		**Availability**	**Degradation**	**Demographics**
Broad Scale: From the range of sage-grouse to WAFWA Management Zones	BLM/USFS National Planning Strategy goal and objectives	Distribution and amount of sagebrush within the range	Distribution and amount of energy, mining and infrastructure facilities	WAFWA Management Zone population trend
Mid-scale: From WAFWA Management Zone to populations; PACs	RMP/LMP decisions	Mid-scale habitat indicators (HAF; Table 2 herein, e.g., percent of sagebrush per unit area)	Distribution and amount of energy, mining, and infrastructure facilities (Table 2 herein)	Individual population trend

D.2 Broad and Mid-Scales

First-order habitat selection, the broad scale, describes the physical or geographical range of a species. The first-order habitat of the sage-grouse is defined by populations of sage-grouse associated with sagebrush landscapes, based on Schroeder et al. 2004, and Connelly et al. 2004, and on population or habitat surveys since 2004. An intermediate scale between the broad and mid scales was delineated by WAFWA from floristic provinces within which similar environmental factors influence vegetation communities. This scale is referred to as the WAFWA Sage-Grouse Management Zones (MZs). Although no indicators are specific to this scale, these MZs are biologically meaningful as reporting units.

Second-order habitat selection, the mid-scale, includes sage-grouse populations and PACs. The second order includes at least 40 discrete populations and subpopulations (Connelly et al. 2004). Populations range in area from 150 to 60,000 mi2 and are nested within MZs. PACs range from 20 to 20,400 mi2 and are nested within population areas.

Other mid-scale landscape indicators, such as patch size and number, patch connectivity, linkage areas, and landscape matrix and edge effects (Stiver et al. in press) will also be assessed. The methods used to calculate these metrics will be derived from existing literature (Knick et al. 2011, Leu and Hanser 2011, Knick and Hanser 2011).

D.2.1 Implementation (Decision) Monitoring

Implementation monitoring is the process of tracking and documenting the implementation (or the progress toward implementation) of RMP/LMP decisions. The BLM and the USFS will monitor implementation of project-level

and/or site-specific actions and authorizations, with their associated conditions of approval/stipulations for sage-grouse, spatially (as appropriate) within Priority Habitat, General Habitat, and other sage-grouse designated management areas, at a minimum, for the planning area. These actions and authorizations, as well as progress toward completing and implementing activity-level plans, will be monitored consistently across all planning units and will be reported to BLM and USFS headquarters annually, with a summary report every 5 years, for the planning area. A national-level GRSG Land Use Plan Decision Monitoring and Reporting Tool is being developed to describe how the BLM and the USFS will consistently and systematically monitor and report implementation-level activity plans and implementation actions for all plans within the range of sage-grouse. A description of this tool for collection and reporting of tabular and spatially explicit data will be included in the Record of Decision or approved plan. The BLM and the USFS will provide data that can be integrated with other conservation efforts conducted by state and federal partners.

D.2.2 Habitat Monitoring

The U.S. Fish and Wildlife Service (USFWS), in its 2010 listing decision for the sage-grouse, identified 18 threats contributing to the destruction, modification, or curtailment of sage-grouse habitat or range (75 FR 13910 2010). The BLM and the USFS will, therefore, monitor the relative extent of these threats that remove sagebrush, both spatially and temporally, on all lands within an analysis area, and will report on amount, pattern, and condition at the appropriate and applicable geographic scales and boundaries. These 18 threats have been aggregated into three broad- and mid-scale measures to account for whether the threat predominantly removes sagebrush or degrades habitat. (Table D-2, Relationship between the 18 threats and the three habitat disturbance measures for monitoring.) The three measures are:

- Measure 1: Sagebrush Availability (percent of sagebrush per unit area)
- Measure 2: Habitat Degradation (percent of human activity per unit area)
- Measure 3: Energy and Mining Density (facilities and locations per unit area)

These three habitat disturbance measures will evaluate disturbance on all lands, regardless of land ownership. The direct area of influence will be assessed with the goal of accounting for actual removal of sagebrush on which sage-grouse depend (Connelly et al. 2000) and for habitat degradation as a surrogate for human activity. Measure 1 (sagebrush availability) examines where disturbances have removed plant communities that support sagebrush (or have broadly removed sagebrush from the landscape). Measure 1, therefore, monitors the change in sagebrush availability—or, specifically, where and how much of the sagebrush community is available within the range of sage-grouse. The sagebrush community is defined as the ecological systems that have the capability of supporting sagebrush vegetation and seasonal sage-grouse habitats within the range of sage-grouse (D.2.2.1 Sagebrush Availability (Measure 1)). Measure 2 (D.2.2.2 Habitat Degradation Monitoring (Measure 2)) and Measure 3 (D.2.2.3 Energy and Mining Density (Measure 3)) focus on where habitat degradation is occurring by using the footprint/area of direct disturbance and the number of facilities at the mid-scale to identify the relative amount of degradation per geographic area of interest and in areas that have the capability of supporting sagebrush and seasonal sage-grouse use. Measure 2 (habitat degradation) not only quantifies footprint/area of direct disturbance but also establishes a surrogate for those threats most likely to have ongoing activity. Because energy development and mining activities are typically the most intensive activities in sagebrush habitat, Measure 3 (the density of active energy development, production, and mining sites) will help identify areas of particular concern for such factors as noise, dust, traffic, etc. that degrade sage-grouse habitat.

The methods to monitor disturbance found herein differ slightly from methods used in Manier et al. 2013, which provided a baseline environmental report (BER) of datasets of disturbance across jurisdictions. One difference is that, for some threats, the BER data were for federal lands only. In addition, threats were assessed individually, using different assumptions from those in this monitoring framework about how to quantify the location and magnitude of threats. The methodology herein builds on the BER methodology and identifies datasets and procedures to use the best available data across the range of the sage-grouse and to formulate a consistent approach to quantify impact of the threats through time. This methodology also describes an approach to combine the threats and calculate each of the three habitat disturbance measures.

Table D-2: Relationship between the 18 threats and the three habitat disturbance measures for monitoring. Note: Data availability may preclude specific analysis of individual layers. See the detailed methodology for more information.

USFWS Listing Decision Threat	Sagebrush Availability	Habitat Degradation	Energy and Mining Density
Agriculture	X		
Urbanization	X		
Wildfire	X		
Conifer encroachment	X		
Treatments	X		
Invasive Species	X		
Energy (oil and gas wells and development facilities)		X	X
Energy (coal mines)		X	X
Energy (wind towers)		X	X
Energy (solar fields)		X	X
Energy (geothermal)		X	X
Mining (active locatable, leasable, and salable developments)		X	X
Infrastructure (roads)		X	
Infrastructure (railroads)		X	
Infrastructure (power lines)		X	
Infrastructure (communication towers)		X	
Infrastructure (other vertical structures)		X	
Other developed rights of ways		X	

D.2.2.1 Sagebrush Availability (Measure 1)

Sage-grouse populations have been found to be more resilient where a percentage of the landscape is maintained in sagebrush (Knick and Connelly 2011), which will be determined by sagebrush availability. Measure 1 has been divided into two sub measures to describe sagebrush availability on the landscape:

- Measure 1a: the current amount of sagebrush on the geographic area of interest, and
- Measure 1b: the amount of sagebrush on the geographic area of interest compared with
- the amount of sagebrush the landscape of interest could ecologically support.

Measure 1a (the current amount of sagebrush on the landscape) will be calculated using this formula: [the existing updated sagebrush layer] divided by [the geographic area of interest]. The appropriate geographic areas of interest for sagebrush availability include the species' range, WAFWA MZs, populations, and PACs. In some cases these

sage-grouse areas will need to be aggregated to provide an estimate of sagebrush availability with an acceptable level of accuracy.

Measure 1b (the amount of sagebrush for context within the geographic area of interest) will be calculated using this formula: [existing sagebrush divided by [pre Euro-American settlement geographic extent of lands that could have supported sagebrush]. This measure will provide information to set the context for a given geographic area of interest during evaluations of monitoring data. The information could also be used to inform management options for restoration or mitigation and to inform effectiveness monitoring.

The sagebrush base layer for Measure 1 will be based on geospatial vegetation data adjusted for the threats listed in Table D-2. The following subsections of this monitoring framework describe the methodology for determining both the current availability of sagebrush on the landscape and the context of the amount of sagebrush on the landscape at the broad and mid scales.

D.2.2.1.1Establishing the Sagebrush Base Layer

The current geographic extent of sagebrush vegetation within the rangewide distribution of sage- grouse populations will be ascertained using the most recent version of the Existing Vegetation Type (EVT) layer in LANDFIRE (2013). LANDFIRE EVT was selected to serve as the sagebrush base layer for five reasons: 1) it is the only nationally consistent vegetation layer that has been updated multiple times since 2001; 2) the ecological systems classification within LANDFIRE EVT includes multiple sagebrush type classes that, when aggregated, provide a more accurate (compared with individual classes) and seamless sagebrush base layer across jurisdictional boundaries; 3) LANDFIRE performed a rigorous accuracy assessment from which to derive the rangewide uncertainty of the sagebrush base layer; 4) LANDFIRE is consistently used in several recent analyses of sagebrush habitats (Knick et al. 2011, Leu and Hanser 2011, Knick and Hanser 2011); and 5) LANDFIRE EVT can be compared against the geographic extent of lands that are believed to have had the capability of supporting sagebrush vegetation pre-EuroAmerican settlement [LANDFIRE Biophysical Setting (BpS)]. This fifth reason provides a reference point for understanding how much sagebrush currently remains in a defined geographic area of interest compared with how much sagebrush existed historically (Measure 1b). Therefore, the BLM and the USFS have determined that LANDFIRE provides the best available data at broad and mid scales to serve as a sagebrush base layer for monitoring changes in the geographic extent of sagebrush. The BLM and the USFS, in addition to aggregating the sagebrush types into the sagebrush base layer, will aggregate the accuracy assessment reports from LANDFIRE to document the cumulative accuracy for the sagebrush base layer. The BLM—through its Assessment, Inventory, and Monitoring (AIM) program and, specifically, the BLM's landscape monitoring framework (Taylor et al. 2014)—will provide field data to the LANDFIRE program to support continuous quality improvements of the LANDFIRE EVT layer. The sagebrush layer based on LANDFIRE EVT will allow for the mid-scale estimation of the existing percent of sagebrush across a variety of reporting units. This sagebrush base layer will be adjusted by changes in land cover and successful restoration for future calculations of sagebrush availability (Measures 1a and 1b).

This layer will also be used to determine the trend in other landscape indicators, such as patch size and number, patch connectivity, linkage areas, and landscape matrix and edge effects (Stiver et al. in press). In the future, changes in sagebrush availability, generated annually, will be included in the sagebrush base layer. The landscape metrics will be recalculated to examine changes in pattern and abundance of sagebrush at the various geographic boundaries. This information will be included in effectiveness monitoring (D.2.4 Effectiveness Monitoring).

Within the USFS and the BLM, forest-wide and field office–wide existing vegetation classification mapping and inventories are available that provide a much finer level of data than what is provided through LANDFIRE. Where available, these finer-scale products will be useful for additional and complementary mid-scale indicators and local-scale analyses (D.3 Fine and Site Scales). The fact that these products are not available everywhere limits their utility for monitoring at the broad and mid-scale, where consistency of data products is necessary across broader geographies.

Data Sources for Establishing and Monitoring Sagebrush Availability

There were three criteria for selecting the datasets for establishing and monitoring the change in sagebrush availability (Measure 1):

- Nationally consistent dataset available across the range
- Known level of confidence or accuracy in the dataset
- Continual maintenance of dataset and known update interval

Datasets meeting these criteria are listed in Table D-3, Datasets for establishing and monitoring changes in sagebrush availability.

Table D-3: Datasets for establishing and monitoring changes in sagebrush availability.

Dataset	Source	Update Interval	Most Recent Version Year	Use
BioPhysical Setting v1.1	LANDFIRE	Static	2008	Denominator for sagebrush availability
Existing Vegetation Type v1.2	LANDFIRE	Static	2010	Numerator for sagebrush availability
Cropland Data Layer	National Agricultural Statistics Service	Annual	2012	Agricultural updates; removes existing sagebrush from numerator of sagebrush availability
National Land Cover Dataset Percent Imperviousness	Multi-Resolution Land Characteristics Consortium (MRLC)	5-Year	2011 (next available in 2016)	Urban area updates; removes existing sagebrush from numerator of sagebrush availability
Fire Perimeters	GeoMac	Annual	2013	< 1,000-acre fire updates; removes existing sagebrush from numerator of sagebrush availability
Burn Severity	Monitoring Trends in Burn Severity	Annual	2012 (2-year delay in data availability)	> 1,000-acre fire updates; removes existing sagebrush from numerator of sagebrush availability except for unburned sagebrush islands

LANDFIRE Existing Vegetation Type (EVT) Version 1.2
LANDFIRE EVT represents existing vegetation types on the landscape derived from remote sensing data. Initial mapping was conducted using imagery collected in approximately 2001. Since the initial mapping there have been two update efforts: version 1.1 represents changes before 2008, and version 1.2 reflects changes on the landscape before 2010. Version 1.2 will be used as the starting point to develop the sagebrush base layer.

Sage-grouse subject matter experts determined which of the ecological systems from the LANDFIRE EVT to use in the sagebrush base layer by identifying the ecological systems that have the capability of supporting sagebrush vegetation and that could provide suitable seasonal habitat for the sage-grouse. (Table D-4, Ecological systems in BpS and EVT capable of supporting sagebrush vegetation and capable of providing suitable seasonal habitat for Greater Sage-Grouse.) Two additional vegetation types that are not ecological systems were added to the EVT: *Artemisia tridentata* ssp. *vaseyana* Shrubland Alliance and *Quercus gambelii* Shrubland Alliance. These alliances have species composition directly related to the Rocky Mountain Lower Montane-Foothill Shrubland ecological system and the Rocky Mountain Gambel Oak- Mixed Montane Shrubland ecological system, both of which are ecological systems in LANDFIRE BpS. In LANDFIRE EVT, however, in some map zones, the Rocky Mountain Lower Montane-Foothill Shrubland ecological system and the Rocky Mountain Gambel Oak- Mixed Montane Shrubland ecological system were named *Artemisia tridentata* ssp. *vaseyana* Shrubland Alliance and *Quercus gambelii* Shrubland Alliance, respectively.

Table D-4: Ecological systems in BpS and EVT capable of supporting sagebrush vegetation and capable of providing suitable seasonal habitat for Greater Sage-Grouse.

Ecological System	**Sagebrush Vegetation that the Ecological System has the Capability of Producing**
Colorado Plateau Mixed Low Sagebrush Shrubland	*Artemisia arbuscula* ssp. *longiloba* *Artemisia bigelovii* *Artemisia nova* *Artemisia frigida* *Artemisia tridentata* ssp. *wyomingensis*
Columbia Plateau Low Sagebrush Steppe	*Artemisia arbuscula* *Artemisia arbuscula* ssp. *longiloba Artemisia nova*
Columbia Plateau Scabland Shrubland	*Artemisia rigida*
Columbia Plateau Steppe and Grassland	*Artemisia* spp.
Great Basin Xeric Mixed Sagebrush Shrubland	*Artemisia arbuscula* ssp. *longicaulis* *Artemisia arbuscula* ssp. *longiloba Artemisia nova* *Artemisia tridentata* ssp. *wyomingensis*
Inter-Mountain Basins Big Sagebrush Shrubland	*Artemisia tridentata* ssp. *tridentata* *Artemisia tridentata* ssp. *xericensis Artemisia tridentata* ssp. *vaseyana Artemisia tridentata* ssp. *wyomingensis*
Inter-Mountain Basins Big Sagebrush Steppe	*Artemisia cana* ssp. *cana* *Artemisia tridentata* ssp. *tridentata* *Artemisia tridentata* ssp. *xericensis* *Artemisia tridentata* ssp. *wyomingensis* *Artemisia tripartita* ssp. *tripartita Artemisia frigida*
Inter-Mountain Basins Curl-Leaf Mountain Mahogany Woodland and Shrubland	*Artemisia tridentata* ssp. *vaseyana* *Artemisia arbuscula* *Artemisia tridentata*
Inter-Mountain Basins Mixed Salt Desert Scrub	*Artemisia tridentata* ssp. *wyomingensis* *Artemisia spinescens*

Table D-4: Ecological systems in BpS and EVT capable of supporting sagebrush vegetation and capable of providing suitable seasonal habitat for Greater Sage-Grouse.

Ecological System	Sagebrush Vegetation that the Ecological System has the Capability of Producing
Inter-Mountain Basins Montane Sagebrush Steppe	*Artemisia tridentata* ssp. *vaseyana* *Artemisia tridentata* ssp. *wyomingensis* *Artemisia nova* *Artemisia arbuscula* *Artemisia tridentata* ssp. *spiciformis*
Inter-Mountain Basins Semi-Desert Shrub-Steppe	*Artemisia tridentata* *Artemisia bigelovii* *Artemisia tridentata* ssp. *wyomingensis*
Northwestern Great Plains Mixed Grass Prairie	*Artemisia cana* ssp. *cana* *Artemisia tridentata* ssp. *vaseyana* *Artemisia frigida*
Northwestern Great Plains Shrubland	*Artemisia cana* ssp. *cana* *Artemisia tridentata* ssp. *tridentata Artemisia tridentata* ssp. *wyomingensis*
Rocky Mountain Gambel Oak-Mixed Montane Shrubland	*Artemisia tridentata*
Rocky Mountain Lower Montane-Foothill Shrubland	*Artemisia nova* *Artemisia tridentata* *Artemisia frigida*
Western Great Plains Floodplain Systems	*Artemisia cana* ssp. *cana*
Western Great Plains Sand Prairie	*Artemisia cana* ssp. *cana*
Wyoming Basins Dwarf Sagebrush Shrubland and Steppe	*Artemisia arbuscula* ssp. *longiloba* *Artemisia nova* *Artemisia tridentata* ssp. *wyomingensis* *Artemisia tripartita* ssp. *rupicola*
Artemisia tridentata ssp. *vaseyana* Shrubland Alliance (EVT only)	*Artemisia tridentata* ssp. *vaseyana*
Quercus gambelii Shrubland Alliance (EVT only)	*Artemisia tridentata*

Accuracy and Appropriate Use of LANDFIRE Datasets
Because of concerns over the thematic accuracy of individual classes mapped by LANDFIRE, all ecological systems listed in Table D-4 will be merged into one value that represents the sagebrush base layer. With all ecological systems aggregated, the combined accuracy of the sagebrush base layer (EVT) will be much greater than if all categories were treated separately.

LANDFIRE performed the original accuracy assessment of its EVT product on a map zone basis. There are 20 LANDFIRE map zones that cover the historical range of sage-grouse as defined by Schroeder (2004). (See Attachment B, User and Producer Accuracies for Aggregated Ecological Systems within LANDFIRE Map Zones.) The aggregated sagebrush base layer for monitoring had user accuracies ranging from 57.1% to 85.7% and producer accuracies ranging from 56.7% to 100%.

LANDFIRE EVT data are not designed to be used at a local level. In reports of the percent sagebrush statistic for the various reporting units (Measure 1a), the uncertainty of the percent sagebrush will increase as the size of the reporting unit gets smaller. LANDFIRE data should never be used at the 30m pixel level (900m2 resolution of raster data) for any reporting. The smallest geographic extent for using the data to determine percent sagebrush is at the PAC level; for the smallest PACs, the initial percent sagebrush estimate will have greater uncertainties compared with the much larger PACs.

Agricultural Adjustments for the Sagebrush Base Layer
The dataset for the geographic extent of agricultural lands will come from the National Agricultural Statistics Service (NASS) Cropland Data Layer (CDL) (http://www.nass.usda.gov/research/Cropland/Release/index.htm). CDL data are generated annually, with estimated producer accuracies for "large area row crops ranging from the mid 80% to mid-90%," depending on the state (http://www.nass.usda.gov/research/Cropland/sarsfaqs2.htm#Section3_18.0). Specific information on accuracy may be found on the NASS metadata website (http://www.nass.usda.gov/research/Cropland/metadata/meta.htm). CDL provided the only dataset that matches the three criteria (nationally consistent, known level of accuracy, and periodically updated) for use in this monitoring framework and represents the best available agricultural lands mapping product.

The CDL data contain both agricultural classes and nonagricultural classes. For this effort, and in the baseline environmental report (Manier et al. 2013), nonagricultural classes were removed from the original dataset. The excluded classes are:

> Barren (65 & 131), Deciduous Forest (141), Developed/High Intensity (124), Developed/Low Intensity (122), Developed/Med Intensity (123), Developed/Open Space (121), Evergreen Forest (142), Grassland Herbaceous (171), Herbaceous Wetlands (195), Mixed Forest (143), Open Water (83 & 111), Other Hay/Non Alfalfa (37), Pasture/Hay (181), Pasture/Grass (62), Perennial Ice/Snow (112), Shrubland (64 & 152), Woody Wetlands (190).

The rule set for adjusting the sagebrush base layer for agricultural lands (and for updating the base layer for agricultural lands in the future) is that once an area is classified as agriculture in any year of the CDL, those pixels will remain out of the sagebrush base layer even if a new version of the CDL classifies that pixel as one of the nonagricultural classes listed above. The assumption is that even though individual pixels may be classified as a nonagricultural class in any given year, the pixel has not necessarily been restored to a natural sagebrush community that would be included in Table D-4. A further assumption is that once an area has moved into agricultural use, it is unlikely that the area would be restored to sagebrush. Should that occur, however, the method and criteria for adding pixels back into the sagebrush base layer would follow those found in the sagebrush restoration monitoring section of this monitoring framework (D.2.2.1.2 Monitoring Sagebrush Availability).

Urban Adjustments for the Sagebrush Base Layer
The National Land Cover Database (NLCD) (Fry et al. 2011) includes a percent imperviousness dataset that was selected as the best available dataset to be used for urban adjustments and monitoring. These data are generated on a 5-year cycle and are specifically designed to support monitoring efforts. Other datasets were evaluated and lacked the spatial specificity that was captured in the NLCD product. Any new impervious pixel in NLCD will be removed from the sagebrush base layer through the monitoring process. Although the impervious surface layer includes a number of impervious pixels outside of urban areas, this is acceptable for the adjustment and monitoring for two reasons. First, an evaluation of national urban area datasets did not reveal a layer that could be confidently used in conjunction with the NLCD product to screen impervious pixels outside of urban zones. This is because unincorporated urban areas were not being included, thus leaving large chunks of urban pixels unaccounted for in this rule set. Second, experimentation with setting a threshold on the percent imperviousness layer that would isolate rural features proved to be unsuccessful. No combination of values could be identified that would result in the consistent ability to limit impervious pixels outside urban areas. Therefore, to ensure consistency in the monitoring estimates, all impervious pixels will be used.

Fire Adjustments for the Sagebrush Base Layer
Two datasets were selected for performing fire adjustments and updates: GeoMac fire perimeters and Monitoring Trends in Burn Severity (MTBS). An existing data standard in the BLM requires that all fires of more than 10 acres are to be reported to GeoMac; therefore, there will be many small fires of less than 10 acres that will not be accounted for in the adjustment and monitoring attributable to fire. Using fire perimeters from GeoMac, all sagebrush pixels falling within the perimeter of fires less than 1,000 acres will be used to adjust and monitor the sagebrush base layer.

For fires greater than 1,000 acres, MTBS was selected as a means to account for unburned sagebrush islands during the update process of the sagebrush base layer. The MTBS program (http://www.mtbs.gov) is an ongoing, multiyear

project to map fire severity and fire perimeters consistently across the United States. One of the burn severity classes within MTBS is an unburned to low-severity class. This burn severity class will be used to represent unburned islands of sagebrush within the fire perimeter for the sagebrush base layer. Areas within the other severity classes within the fire perimeter will be removed from the base sagebrush layer during the update process. Not all wildfires, however, have the same impacts on the recovery of sagebrush habitat, depending largely on soil moisture and temperature regimes. For example, cooler, moister sagebrush habitat has a higher potential for recovery or, if needed, restoration than does the warmer, dryer sagebrush habitat. These cooler, moister areas will likely be detected as sagebrush in future updates to LANDFIRE.

Conifer Encroachment Adjustment for the Sagebrush Base Layer
Conifer encroachment into sagebrush vegetation reduces the spatial extent of sage-grouse habitat (Davies et al. 2011, Baruch-Mordo et al. 2013). Conifer species that show propensity for encroaching into sagebrush vegetation resulting in sage-grouse habitat loss include various juniper species, such as Utah juniper (*Juniperus osteosperma*), western juniper (*Juniperus occidentalis*), Rocky Mountain juniper (*Juniperus scopulorum*), pinyon species, including singleleaf pinyon (*Pinus monophylla*) and pinyon pine (*Pinus edulis*), ponderosa pine (*Pinus ponderosa*), lodgepole pine (*Pinus contorta*), and Douglas fir (*Pseudotsuga menziesii*) (Gruell et al. 1986, Grove et al. 2005, Davies et al. 2011).

A rule set for conifer encroachment was developed to adjust the sagebrush base layer. To capture the geographic extent of sagebrush that is likely to experience conifer encroachment, ecological systems within LANDFIRE EVT version 1.2 (NatureServe 2011) were identified if they had the capability of supporting both the conifer species (listed above) and sagebrush vegetation. Those ecological systems were deemed to be the plant communities with conifers most likely to encroach into sagebrush vegetation. (Table D-5, Ecological systems with conifers most likely to encroach into sagebrush vegetation.) Sagebrush vegetation was defined as including sagebrush species or subspecies that provide habitat for the Greater Sage-Grouse and that are included in the HAF. (See Attachment C, Sagebrush Species and Subspecies Included in the Selection Criteria for Building the EVT and BpS Layers.) An adjacency analysis was conducted to identify all sagebrush pixels that were directly adjacent to these conifer ecological systems, and these pixels were removed from the sagebrush base layer.

Table D-5: Ecological Systems with Conifers Most Likely to Encroach into Sagebrush Vegetation

EVT Ecological Systems	Coniferous Species and Sagebrush Vegetation that the Ecological System has the Capability to Produce
Colorado Plateau Pinyon-Juniper Woodland	*Pinus edulis* *Juniperus osteosperma* *Artemisia tridentata* *Artemisia arbuscula* *Artemisia nova* *Artemisia tridentata* ssp. *tridentata* *Artemisia tridentata* ssp. *wyomingensis* *Artemisia tridentata* ssp. *vaseyana* *Artemisia bigelovii* *Artemisia pygmaea*
Columbia Plateau Western Juniper Woodland and Savanna	*Juniperus occidentalis* *Pinus ponderosa* *Artemisia tridentata* *Artemisia arbuscula* *Artemisia rigida* *Artemisia tridentata* ssp. *vaseyana*
East Cascades Oak-Ponderosa Pine Forest and Woodland	*Pinus ponderosa* *Pseudotsuga menziesii* *Artemisia tridentata* *Artemisia nova*

Table D-5: Ecological Systems with Conifers Most Likely to Encroach into Sagebrush Vegetation

EVT Ecological Systems	Coniferous Species and Sagebrush Vegetation that the Ecological System has the Capability to Produce
Great Basin Pinyon-Juniper Woodland	*Pinus monophylla* *Juniperus osteosperma* *Artemisia arbuscula* *Artemisia nova* *Artemisia tridentata* *Artemisia tridentata* ssp. *vaseyana*
Northern Rocky Mountain Ponderosa Pine Woodland and Savanna	*Pinus ponderosa* *Artemisia tridentata* *Artemisia arbuscula* *Artemisia tridentata* ssp. *vaseyana*
Rocky Mountain Foothill Limber Pine-Juniper Woodland	*Juniperus osteosperma* *Juniperus scopulorum* *Artemisia nova* *Artemisia tridentata*
Rocky Mountain Poor-Site Lodgepole Pine Forest	*Pinus contorta* *Pseudotsuga menziesii* *Pinus ponderosa* *Artemisia tridentata*
Southern Rocky Mountain Pinyon-Juniper Woodland	*Pinus edulis* *Juniperus monosperma* *Artemisia bigelovii* *Artemisia tridentata* *Artemisia tridentata* ssp. *wyomingensis* *Artemisia tridentata* ssp.*vaseyana*
Southern Rocky Mountain Ponderosa Pine Woodland	*Pinus ponderosa* *Pseudotsuga menziesii* *Pinus edulis* *Pinus contorta* *Juniperus* spp. *Artemisia nova* *Artemisia tridentata* *Artemisia arbuscula* *Artemisia tridentata* ssp. *vaseyana*

Invasive Annual Grasses Adjustments for the Sagebrush Base Layer
There are no invasive species datasets from 2010 to the present (beyond the LANDFIRE data) that meet the three criteria (nationally consistent, known level of accuracy, and periodically updated) for use in the determination of the sagebrush base layer. For a description of how invasive species land cover will be incorporated in the sagebrush base layer in the future, see D.2.2.1.2 Monitoring Sagebrush Availability.

Sagebrush Restoration Adjustments for the Sagebrush Base Layer
There are no datasets from 2010 to the present that could provide additions to the sagebrush base layer from restoration treatments that meet the three criteria (nationally consistent, known level of accuracy, and periodically updated); therefore, no adjustments were made to the sagebrush base layer calculated from the LANDFIRE EVT (version 1.2) attributable to restoration activities since 2010. Successful restoration treatments before 2010 are assumed to have been captured in the LANDFIRE refresh.

D.2.2.1.2 Monitoring Sagebrush Availability

Sagebrush Availability Updates
Sagebrush availability will be updated annually by incorporating changes to the sagebrush base layer attributable to agriculture, urbanization, and wildfire. The monitoring schedule for the existing sagebrush base layer updates is as follows:

> ***Base 2010 Existing Sagebrush Layer*** = [Sagebrush EVT] minus [2006 Imperviousness Layer] minus [2009 and 2010 CDL] minus [2009/10 GeoMac Fires that are less than 1,000 acres] minus [2009/10 MTBS Fires that are greater than 1,000 acres, excluding unburned sagebrush islands within the perimeter] minus [Conifer Encroachment Layer]
>
> ***2012 Existing Sagebrush Update*** = [2010 Existing Sagebrush Base Layer] minus [2011 Imperviousness Layer] minus [2011 and 2012 CDL] minus [2011/12 GeoMac Fires < 1,000 acres] minus [2011/12 MTBS Fires that are greater than 1,000 acres, excluding unburned sagebrush islands within the perimeter]
>
> ***Monitoring Existing Sagebrush post 2012*** = [Previous Existing Sagebrush Update Layer] minus [Imperviousness Layer (if new data are available)] minus [Next 2 years of CDL] minus [Next 2 years of GeoMac Fires < 1,000 acres] minus [Next 2 years of MTBS Fires that are greater than 1,000 acres, excluding unburned sagebrush islands within the perimeter] plus [restoration/monitoring data provided by the field]

D.2.2.1.3 Monitoring Sagebrush Restoration
Restoration after fire, after agricultural conversion, after seedings of introduced grasses, or after treatments of pinyon pine and/or juniper are examples of updates to the sagebrush base layer that can add sagebrush vegetation back into sagebrush availability in the landscape. When restoration has been determined to be successful through rangewide, consistent, interagency fine- and site- scale monitoring, the polygonal data will be used to add sagebrush pixels back into the broad- and mid-scale sagebrush base layer.

Measure1b: Context for Monitoring the Amount of Sagebrush in a Geographic Area of Interest
Measure 1b describes the amount of sagebrush on the landscape of interest compared with the amount of sagebrush the landscape of interest could ecologically support. Areas with the potential to support sagebrush were derived from the BpS data layer that describes sagebrush pre-EuroAmerican settlement (v1.2 of LANDFIRE).

The identification and spatial locations of natural plant communities (vegetation) that are believed to have existed on the landscape (BpS) were constructed based on an approximation of the historical (pre-EuroAmerican settlement) disturbance regime and how the historical disturbance regime operated on the current biophysical environment. BpS is composed of map units that are based on NatureServe (2011) terrestrial ecological systems classification.

The ecological systems within BpS used for this monitoring framework are those ecological systems that are capable of supporting sagebrush vegetation and of providing seasonal habitat for sage-grouse (Table D-4). Ecological systems selected included sagebrush species or subspecies that are included in the HAF and listed in Attachment C.

The BpS layer does not have an associated accuracy assessment, given the lack of any reference data. Visual inspection of the BpS data, however, reveals inconsistencies in the labeling of pixels among LANDFIRE map zones. The reason for these inconsistencies is that the rule sets used to map a given ecological system will vary among map zones based on different physical, biological, disturbance, and atmospheric regimes of the region. These variances can result in artificial edges in the map. Metrics will be calculated, however, at broad spatial scales using BpS potential vegetation type, not small groupings or individual pixels. Therefore, the magnitude of these observable errors in the BpS layer will be minor compared with the size of the reporting units. Since BpS will be used to identify broad landscape patterns of dominant vegetation, these inconsistencies will have only a minor impact on the percent sagebrush availability calculation. As with the LANDFIRE EVT, LANDFIRE BpS data are not designed to be used at a local level. LANDFIRE data should never be used at the 30m pixel level for reporting.

In conclusion, sagebrush availability data will be used to inform effectiveness monitoring and initiate adaptive management actions as necessary. The 2010 estimate of sagebrush availability will serve as the base year, and an updated estimate for 2012 will be reported in 2014 after all datasets become available. The 2012 estimate will capture changes attributable to wildfire, agriculture, and urban development. Subsequent updates will always include new fire and agricultural data and new urban data when available. Restoration data that meet the criteria for adding sagebrush areas back into the sagebrush base layer will be factored in as data allow. Given data availability, there will be a 2-year lag (approximately) between when the estimate is generated and when the data used for the estimate become available (e.g., the 2014 sagebrush availability will be included in the 2016 estimate).

Future Plans
Geospatial data used to generate the sagebrush base layer will be available through the BLM's EGIS web portal and geospatial gateway or through the authoritative data source. Legacy datasets will be preserved so that trends may be calculated. Additionally, accuracy assessment data for all source datasets will be provided on the portal either spatially, where applicable, or through the metadata. Accuracy assessment information was deemed vital to help users understand the limitation of the sagebrush estimates; it will be summarized spatially by map zone and will be included in the portal.

LANDFIRE plans to begin a remapping effort in 2015. This remapping has the potential to improve the overall quality of data products greatly, primarily through the use of higher-quality remote sensing datasets. Additionally, the BLM and the Multi-Resolution Land Characteristics Consortium (MRLC) are working to improve the accuracy of vegetation map products for broad- and mid-scale analyses through the Grass/Shrub mapping effort. The Grass/Shrub mapping effort applies the Wyoming multi-scale sagebrush habitat methodology (Homer et al. 2009) to depict spatially the fractional percent cover estimates for five components rangewide and West-wide. These five components are percent cover of sagebrush vegetation, percent bare ground, percent herbaceous vegetation (grass and forbs combined), annual vegetation, and percent shrubs. A benefit of the design of these fractional cover maps is that they facilitate monitoring "within" class variation (e.g., examination of declining trend in sagebrush cover for individual pixels). This "within" class variation can serve as one indicator of sagebrush quality that cannot be derived from LANDFIRE's EVT information. The Grass/Shrub mapping effort is not a substitute for fine-scale monitoring but will leverage fine-scale data to support the validation of the mapping products. An evaluation will be conducted to determine if either dataset is of great enough quality to warrant replacing the existing sagebrush layers. At the earliest, this evaluation will occur in 2018 or 2019, depending on data availability.

D.2.2.2 Habitat Degradation Monitoring (Measure 2)
The measure of habitat degradation will be calculated by combining the footprints of threats identified in Table D-2. The footprint is defined as the direct area of influence of "active" energy and infrastructure; it is used as a surrogate for human activity. Although these analyses will try to summarize results at the aforementioned meaningful geographic areas of interest, some may be too small to report the metrics appropriately and may be combined (smaller populations, PACs within a population, etc.). Data sources for each threat are found in Table D-6, Geospatial data sources for habitat degradation. Specific assumptions (inclusion criteria for data, width/area assumptions for point and line features, etc.) and methodology for each threat, and the combined measure, are detailed below. All datasets will be updated annually to monitor broad- and mid- scale year-to-year changes and to calculate trends in habitat degradation to inform adaptive management. A 5-year summary report will be provided to the USFWS.

D.2.2.2.1 Habitat Degradation Datasets and Assumptions

Energy (oil and gas wells and development facilities)
This dataset will compile information from three oil and gas databases: the proprietary IHS Enerdeq database, the BLM Automated Fluid Minerals Support System (AFMSS) database, and the proprietary Platts (a McGraw-Hill Financial Company) GIS Custom Data (hereafter, Platts) database of power plants. Point data from wells active within the last 10 years from IHS and producing wells from AFMSS will be considered as a 5-acre (2.0ha) direct area of influence centered on the well point, as recommended by the BLM WO-300 (Minerals and Realty Management). Plugged and abandoned wells will be removed if the date of well abandonment was before the first day of the reporting year (i.e., for the 2015 reporting year, a well must have been plugged and abandoned by 12/31/2014 to be removed). Platts oil and gas power plants data (subset to operational power plants) will also be included as a 5-acre (2.0ha) direct area of influence.

Table D-6: Geospatial Data Sources for Habitat Degradation (Measure 2)

Geospatial data sources for habitat degradation (Measure 2)				
Degradation Type	**Subcategory**	**Data Source**	**Direct Area of Influence**	**Area Source**
Energy (oil & gas)	Wells	IHS; BLM (AFMSS)	5.0ac (2.0ha)	BLM WO-300
	Power Plants	Platts (power plants)	5.0ac (2.0ha)	BLM WO-300
Energy (coal)	Mines	BLM; USFS; Office of Surface Mining Reclamation and Enforcement; USGS Mineral Resources Data System	Polygon area (digitized)	Esri/ Google Imagery
	Power Plants	Platts (power plants)	Polygon area (digitized)	Esri Imagery
Energy (wind)	Wind Turbines	Federal Aviation Administration	3.0ac (1.2ha)	BLM WO-300
	Power Plants	Platts (power plants)	3.0ac (1.2ha)	BLM WO-300
Energy (solar)	Fields/Power Plants	Platts (power plants)	7.3ac (3.0ha)/MW	NREL
Energy (geothermal)	Wells	IHS	3.0ac (1.2ha)	BLM WO-300
	Power Plants	Platts (power plants)	Polygon area (digitized)	Esri Imagery
Mining	Locatable Developments	InfoMine	Polygon area (digitized)	Esri Imagery
Infrastructure (roads)	Surface Streets (Minor Roads)	Esri StreetMap Premium	40.7ft (12.4m)	USGS
	Major Roads	Esri StreetMap Premium	84.0ft (25.6m)	USGS
	Interstate Highways	Esri StreetMap Premium	240.2ft (73.2m)	USGS
Infrastructure (railroads)	Active Lines	Federal Railroad Administration	30.8ft (9.4m)	USGS
Infrastructure (power lines)	1-199kV Lines	Platts (transmission lines)	100ft (30.5m)	BLM WO-300
	200-399 kV Lines	Platts (transmission lines)	150ft (45.7m)	BLM WO-300
	400-699kV Lines	Platts (transmission lines)	200ft (61.0m)	BLM WO-300
	700+kV Lines	Platts (transmission lines)	250ft (76.2m)	BLM WO-300
Infrastructure (communication)	Towers	Federal Communications Commission	2.5ac (1.0ha)	BLM WO-300

Additional Measure: Reclaimed Energy-related Degradation
This dataset will include those wells that have been plugged and abandoned. This measure thereby attempts to measure energy-related degradation that has been reclaimed but not necessarily fully restored to sage-grouse habitat. This measure will establish a baseline by using wells that have been plugged and abandoned within the last 10 years from the IHS and AFMSS datasets. Time lags for lek attendance in response to infrastructure have been documented to be delayed 2–10 years from energy development activities (Harju et al. 2010). Reclamation actions may require 2 or more years from the Final Abandonment Notice. Sagebrush seedling establishment may take 6 or more years from the point of seeding, depending on such variables as annual precipitation, annual temperature, and soil type and

depth (Pyke 2011). This 10-year period is conservative and assumes some level of habitat improvement 10 years after plugging. Research by Hemstrom et al. (2002), however, proposes an even longer period—more than 100 years—for recovery of sagebrush habitats, even with active restoration approaches. Direct area of influence will be considered 3 acres (1.2ha) (J. Perry, personal communication, February 12, 2014). This additional layer/measure could be used at the broad and mid-scale to identify areas where sagebrush habitat and/or potential sagebrush habitat is likely still degraded. This layer/measure could also be used where further investigation at the fine or site scale would be warranted to: 1) quantify the level of reclamation already conducted, and 2) evaluate the amount of restoration still required for sagebrush habitat recovery. At a particular level (e.g., population, PACs), these areas and the reclamation efforts/success could be used to inform reclamation standards associated with future developments. Once these areas have transitioned from reclamation standards to meeting restoration standards, they can be added back into the sagebrush availability layer using the same methodology as described for adding restoration treatment areas lost to wildfire and agriculture conversion (Monitoring Sagebrush Restoration in D.2.2.1.2 Monitoring Sagebrush Availability). This dataset will be updated annually from the IHS dataset.

Energy (coal mines)
Currently, there is no comprehensive dataset available that identifies the footprint of active coal mining across all jurisdictions. Therefore, point and polygon datasets will be used each year to identify coal mining locations. Data sources will be identified and evaluated annually and will include at a minimum: BLM coal lease polygons, U.S. Energy Information Administration mine occurrence points, U.S. Office of Surface Mining Reclamation and Enforcement coal mining permit polygons (as available), and U.S. Geological Survey (USGS) Mineral Resources Data System mine occurrence points. These data will inform where active coal mining may be occurring. Additionally, coal power plant data from Platts power plants database (subset to operational power plants) will be included. Aerial imagery will then be used to digitize manually the active coal mining and coal power plants surface disturbance in or near these known occurrence areas. While the date of aerial imagery varies by scale, the most current data available from Esri and/or Google will be used to locate (generally at 1:50,000 and below) and digitize (generally at 1:10,000 and below) active coal mine and power plant direct area of influence. Coal mine location data source and imagery date will be documented for each digitized coal polygon at the time of creation. Subsurface facility locations (polygon or point location as available) will also be collected if available, included in density calculations, and added to the active surface activity layer as appropriate (if an actual direct area of influence can be located).

Energy (wind towers)
This dataset will be a subset of the Federal Aviation Administration (FAA) Digital Obstacles point file. Points where "Type_" = "WINDMILL" will be included. Direct area of influence of these point features will be measured by converting to a polygon dataset as a direct area of influence of 3 acres (1.2ha) centered on each tower point. See the BLM's "Wind Energy Development Programmatic Environmental Impact Statement" (BLM 2005). Additionally, Platts power plants database will be used for transformer stations associated with wind energy sites (subset to operational power plants), also with a 3-acre (1.2ha) direct area of influence.

Energy (solar energy facilities)
This dataset will include solar plants as compiled with the Platts power plants database (subset to operational power plants). This database includes an attribute that indicates the operational capacity of each solar power plant. Total capacity at the power plant was based on ratings of the in-service unit(s), in megawatts. Direct area of influence polygons will be centered over each point feature representing 7.3ac (3.0ha) per megawatt of the stated operational capacity, per the report of the National Renewable Energy Laboratory (NREL), "Land-Use Requirements for Solar Power Plants in the United States" (Ong et al. 2013).

Energy (geothermal energy facilities)
This dataset will include geothermal wells in existence or under construction as compiled with the IHS wells database and power plants as compiled with the Platts database (subset to operational power plants). Direct area of influence of these point features will be measured by converting to a polygon dataset of 3 acres (1.2ha) centered on each well or power plant point.

Mining (active developments; locatable, leasable, saleable)
This dataset will include active locatable mining locations as compiled with the proprietary InfoMine database. Aerial imagery will then be used to digitize manually the active mining surface disturbance in or near these known

occurrence areas. While the date of aerial imagery varies by scale, the most current data available from Esri and/or Google will be used to locate (generally at 1:50,000 and below) and digitize (generally at 1:10,000 and below) active mine direct area of influence. Mine location data source and imagery date will be documented for each digitized polygon at the time of creation. Currently, there are no known compressive databases available for leasable or saleable mining sites beyond coal mines. Other data sources will be evaluated and used as they are identified or as they become available. Point data may be converted to polygons to represent direct area of influence unless actual surface disturbance is available.

Infrastructure (roads)
This dataset will be compiled from the proprietary Esri StreetMap Premium for ArcGIS. Dataset features that will be used are: Interstate Highways, Major Roads, and Surface Streets to capture most paved and "crowned and ditched" roads while not including "two-track" and 4-wheel-drive routes. These minor roads, while not included in the broad- and mid-scale monitoring, may support a volume of traffic that can have deleterious effects on sage-grouse leks. It may be appropriate to consider the frequency and type of use of roads in a NEPA analysis for a proposed project. This fine- and site-scale analysis will require more site-specific data than is identified in this monitoring framework. The direct area of influence for roads will be represented by 240.2ft, 84.0ft, and 40.7ft (73.2m, 25.6m, and 12.4m) total widths centered on the line feature for Interstate Highways, Major Roads, and Surface Streets, respectively (Knick et al. 2011). The most current dataset will be used for each monitoring update. Note: This is a related but different dataset than what was used in BER (Manier et al. 2013). Individual BLM/USFS planning units may use different road layers for fine- and site-scale monitoring.

Infrastructure (railroads)
This dataset will be a compilation from the Federal Railroad Administration Rail Lines of the USA dataset. Non-abandoned rail lines will be used; abandoned rail lines will not be used. The direct are of influence for railroads will be represented by a 30.8ft (9.4m) total width (Knick et al. 2011) centered on the non-abandoned railroad line feature.

Infrastructure (power lines)
This line dataset will be derived from the proprietary Platts transmission lines database. Linear features in the dataset attributed as "buried" will be removed from the disturbance calculation. Only "In Service" lines will be used; "Proposed" lines will not be used. Direct area of influence will be determined by the kV designation: 1–199 kV (100ft/30.5m), 200–399 kV (150ft/45.7m), 400–699 kV (200ft/61.0m), and 700-or greater kV (250ft/76.2m) based on average right-of-way and structure widths, according to BLM WO-300 (Minerals and Realty Management).

Infrastructure (communication towers)
This point dataset will be compiled from the Federal Communications Commission (FCC) communication towers point file; all duplicate points will be removed. It will be converted to a polygon dataset by using a direct area of influence of 2.5 acres (1.0ha) centered on each communication tower point (Knick et al. 2011).

Infrastructure (other vertical structures)
This point dataset will be compiled from the FAA's Digital Obstacles point file. Points where "Type_" = "WINDMILL" will be removed. Duplicate points from the FCC communication towers point file will be removed. Remaining features will be converted to a polygon dataset using a direct area of influence of 2.5 acres (1.0ha) centered on each vertical structure point (Knick et al. 2011).

Other developed rights-of-ways
Currently, no additional data sources for other rights-of-way have been identified; roads, power lines, railroads, pipelines, and other known linear features are represented in the categories described above. The newly purchased IHS data do contain pipeline information; however, this database does not currently distinguish between above-ground and underground pipelines. If additional features representing human activities are identified, they will be added to monitoring reports using similar assumptions to those used with the threats described above.

D.2.2.2.2 Habitat Degradation Threat Combination and Calculation
The threats targeted for measuring human activity (Table D-2) will be converted to direct area of influence polygons as described for each threat above. These threat polygon layers will be combined and features dissolved to create one overall polygon layer representing footprints of active human activity in the range of sage-grouse. Individual

datasets, however, will be preserved to indicate which types of threats may be contributing to overall habitat degradation.

This measure has been divided into three sub measures to describe habitat degradation on the landscape. Percentages will be calculated as follows:

1) Measure 2a. Footprint by geographic area of interest: Divide area of the active/direct footprint by the total area of the geographic area of interest (% disturbance in geographic area of interest).
2) Measure 2b. Active/direct footprint by historical sagebrush potential: Divide area of the active footprint that coincides with areas with historical sagebrush potential (BpS calculation from habitat availability) within a given geographic area of interest by the total area with sagebrush potential within the geographic area of interest (% disturbance on potential historical sagebrush in geographic area of interest).
3) Measure 2c. Active/direct footprint by current sagebrush: Divide area of the active footprint that coincides with areas of existing sagebrush (EVT calculation from habitat availability) within a given geographic area of interest by the total area that is current sagebrush within the geographic area of interest (% disturbance on current sagebrush in geographic area of interest))

D.2.2.3 Energy and Mining Density (Measure 3)

The measure of density of energy and mining will be calculated by combining the locations of energy and mining threats identified in Table D-2. This measure will provide an estimate of the intensity of human activity or the intensity of habitat degradation. The number of energy facilities and mining locations will be summed and divided by the area of meaningful geographic areas of interest to calculate density of these activities. Data sources for each threat are found in Table D-6. Specific assumptions (inclusion criteria for data, width/area assumptions for point and line features, etc.) and methodology for each threat, and the combined measure, are detailed below. All datasets will be updated annually to monitor broad- and mid-scale year-to-year changes and 5-year (or longer) trends in habitat degradation.

Energy and Mining Density Datasets and Assumptions

Energy (oil and gas wells and development facilities)
(See Section D.2.2.2 Habitat Degradation Monitoring (Measure 2).

Energy (coal mines)
(See Section D.2.2.2 Habitat Degradation Monitoring (Measure 2)).

Energy (wind energy facilities)
(See Section D.2.2.2 Habitat Degradation Monitoring (Measure 2)).

Energy (solar energy facilities)
(See Section D.2.2.2 Habitat Degradation Monitoring (Measure 2)).

Energy (geothermal energy facilities)
(See Section D.2.2.2 Habitat Degradation Monitoring (Measure 2)).

Mining (active developments; locatable, leasable, saleable)
(See Section D.2.2.2 Habitat Degradation Monitoring (Measure 2).

Energy and Mining Density Threat Combination and Calculation

Datasets for energy and mining will be collected in two primary forms: point locations (e.g., wells) and polygon areas (e.g., surface coal mining). The following rule set will be used to calculate density for meaningful geographic areas of interest including standard grids and per polygon:

1. Point locations will be preserved; no additional points will be removed beyond the methodology described above. Energy facilities in close proximity (an oil well close to a wind tower) will be retained.

2. Polygons will not be merged, or features further dissolved. Thus, overlapping facilities will be retained, such that each individual threat will be a separate polygon data input for the density calculation.
3. The analysis unit (polygon or 640-acre section in a grid) will be the basis for counting the number of mining or energy facilities per unit area. Within the analysis unit, all point features will be summed, and any individual polygons will be counted as one (e.g., a coal mine will be counted as one facility within population). Where polygon features overlap multiple units (polygons or pixels), the facility will be counted as one in each unit where the polygon occurs (e.g., a polygon crossing multiple 640-acre sections would be counted as one in each 640-acre section for a density per 640-acre- section calculation).
4. In methodologies with different-sized units (e.g., MZs, populations, etc.) raw facility counts will be converted to densities by dividing the raw facility counts by the total area of the unit. Typically this will be measured as facilities per 640 acres.
5. For uniform grids, raw facility counts will be reported. Typically this number will also be converted to facilities per 640 acres.
6. Reporting may include summaries beyond the simple ones above. Zonal statistics may be used to smooth smaller grids to help display and convey information about areas within meaningful geographic areas of interest that have high levels of energy and/or mining activity.
7. Additional statistics for each defined unit may also include adjusting the area to include only the area with the historical potential for sagebrush (BpS) or areas currently sagebrush (EVT).

Individual datasets and threat combination datasets for habitat degradation will be available through the BLM's EGIS web portal and geospatial gateway. Legacy datasets will be preserved so that trends may be calculated.

D.2.3 Population (Demographics) Monitoring

State wildlife management agencies are responsible for monitoring sage-grouse populations within their respective states. WAFWA will coordinate this collection of annual population data by state agencies. These data will be made available to the BLM according to the terms of the forthcoming Greater Sage-Grouse Population Monitoring Memorandum of Understanding (MOU) (2014) between WAFWA and the BLM. The MOU outlines a process, timeline, and responsibilities for regular data sharing of sage-grouse population and/or habitat information for the purposes of implementing sage-grouse LUPs/amendments and subsequent effectiveness monitoring. Population areas were refined from the "Greater Sage-grouse (*Centrocercus urophasianus*) Conservation Objectives: Final Report" (COT 2013) by individual state wildlife agencies to create a consistent naming nomenclature for future data analyses. These population data will be used for analysis at the applicable scale to supplement habitat effectiveness monitoring of management actions and to inform the adaptive management responses.

D.2.4 Effectiveness Monitoring

Effectiveness monitoring will provide the data needed to evaluate BLM and USFS actions toward reaching the objective of the national planning strategy (BLM IM 2012-044)—to conserve sage-grouse populations and their habitat—and the objectives for the land use planning area. Effectiveness monitoring methods described here will encompass multiple larger scales, from areas as large as the WAFWA MZ to the scale of this LUP. Effectiveness data used for these larger-scale evaluations will include all lands in the area of interest, regardless of surface ownership/management, and will help inform where finer-scale evaluations are needed, such as population areas smaller than an LUP or PACs within an LUP (described in Section D.3 Fine and Site Scales). Data will also include the trend of disturbance within these areas of interest to inform the need to initiate adaptive management responses as described in the land use plan.

Effectiveness monitoring reported for these larger areas provides the context to conduct effectiveness monitoring at finer scales. This approach also helps focus scarce resources to areas experiencing habitat loss, degradation, or population declines, without excluding the possibility of concurrent, finer-scale evaluations as needed where habitat or population anomalies have been identified through some other means.

To determine the effectiveness of the sage-grouse national planning strategy, the BLM and the USFS will evaluate the answers to the following questions and prepare a broad- and mid-scale effectiveness report:

1. Sagebrush Availability and Condition:
    a. What is the amount of sagebrush availability and the change in the amount and condition of sagebrush?

   b. What is the existing amount of sagebrush on the landscape and the change in the amount relative to the pre-EuroAmerican historical distribution of sagebrush (BpS)?
   c. What is the trend and condition of the indicators describing sagebrush characteristics important to sage-grouse?
2. Habitat Degradation and Intensity of Activities:
   a. What is the amount of habitat degradation and the change in that amount?
   b. What is the intensity of activities and the change in the intensity?
   c. What is the amount of reclaimed energy-related degradation and the change in the amount?
3. What is the population estimation of sage-grouse and the change in the population estimation?
4. How are the BLM and the USFS contributing to changes in the amount of sagebrush?
5. How are the BLM and the USFS contributing to disturbance?

The compilation of broad- and mid-scale data (and population trends as available) into an effectiveness monitoring report will occur on a 5-year reporting schedule (see Attachment A), which may be accelerated to respond to critical emerging issues (in consultation with the USFWS and state wildlife agencies). In addition, effectiveness monitoring results will be used to identify emerging issues and research needs and inform the BLM and the USFS adaptive management strategy (see the adaptive management section of this Environmental Impact Statement).

To determine the effectiveness of the sage-grouse objectives of the land use plan, the BLM and the USFS will evaluate the answers to the following questions and prepare a plan effectiveness report:

1. Is this plan meeting the sage-grouse habitat objectives?
2. Are sage-grouse areas within the LUP meeting, or making progress toward meeting, land health standards, including the Special Status Species/wildlife habitat standard?
3. Is the plan meeting the disturbance objective(s) within sage-grouse areas?
4. Are the sage-grouse populations within this plan boundary and within the sage-grouse areas increasing, stable, or declining?

The effectiveness monitoring report for this LUP will occur on a 5-year reporting schedule (see Attachment A) or more often if habitat or population anomalies indicate the need for an evaluation to facilitate adaptive management or respond to critical emerging issues. Data will be made available through the BLM's EGIS web portal and the geospatial gateway.

D.2.4.1 Methods

At the broad and mid scales (PACs and above) the BLM and the USFS will summarize the vegetation, disturbance, and (when available) population data. Although the analysis will try to summarize results for PACs within each sage-grouse population, some populations may be too small to report the metrics appropriately and may need to be combined to provide an estimate with an acceptable level of accuracy. Otherwise, they will be flagged for more intensive monitoring by the appropriate landowner or agency. The BLM and the USFS will then analyze monitoring data to detect the trend in the amount of sagebrush; the condition of the vegetation in the sage-grouse areas (MacKinnon et al. 2011); the trend in the amount of disturbance; the change in disturbed areas owing to successful restoration; and the amount of new disturbance the BLM and/or the USFS has permitted. These data could be supplemented with population data (when available) to inform an understanding of the correlation between habitat and PACs within a population. This overall effectiveness evaluation must consider the lag effect response of populations to habitat changes (Garton et al. 2011).

Calculating Question 1, National Planning Strategy Effectiveness: The amount of sagebrush available in the large area of interest will use the information from Measure 1a (D.2.2.1 Sagebrush Availability (Measure 1)) and calculate the change from the 2012 baseline to the end date of the reporting period. To calculate the change in the amount of sagebrush on the landscape to compare with the historical areas with potential to support sagebrush, the information from Measure 1b (D.2.2.1 Sagebrush Availability (Measure 1)) will be used. To calculate the trend in the condition of sagebrush at the mid-scale, three sources of data will be used: the BLM's Grass/Shrub mapping effort (Future Plans in Section D.2.2.1 Sagebrush Availability (Measure 1)); the results from the calculation of the landscape indicators, such as patch size (described below); and the BLM's Landscape Monitoring Framework (LMF) and sage-grouse intensification effort (also described below). The LMF and sage-grouse intensification effort data are collected in a statistical sampling framework that allows calculation of indicator values at multiple scales.

Beyond the importance of sagebrush availability to sage-grouse, the mix of sagebrush patches on the landscape at the broad and mid-scale provides the life requisite of space for sage-grouse dispersal needs (see the HAF). The configuration of sagebrush habitat patches and the land cover or land use between the habitat patches at the broad and mid scales also defines suitability. There are three significant habitat indicators that influence habitat use, dispersal, and movement across populations: the size and number of habitat patches, the connectivity of habitat patches (linkage areas), and habitat fragmentation (scope of unsuitable and non-habitats between habitat patches). The most appropriate commercial software to measure patch dynamics, connectivity, and fragmentation at the broad and mid scales will be used, along with the same data layers derived for sagebrush availability.

The BLM initiated the LMF in 2011 in cooperation with the Natural Resources Conservation Service (NRCS). The objective of the LMF effort is to provide unbiased estimates of vegetation and soil condition and trend using a statistically balanced sample design across BLM lands. Recognizing that sage-grouse populations are more resilient where the sagebrush plant community has certain characteristics unique to a particular life stage of sage-grouse (Knick and Connelly 2011, Stiver et al. *in press*), a group of sage-grouse habitat and sagebrush plant community subject matter experts identified those vegetation indicators collected at LMF sampling points that inform sage-grouse habitat needs. The experts represented the Agricultural Research Service, BLM, NRCS, USFWS, WAFWA, state wildlife agencies, and academia. The common indicators identified include: species composition, foliar cover, height of the tallest sagebrush and herbaceous plant, intercanopy gap, percent of invasive species, sagebrush shape, and bare ground. To increase the precision of estimates of sagebrush conditions within the range of sage-grouse, additional plot locations in occupied sage-grouse habitat (Sage-Grouse Intensification) were added in 2013. The common indicators are also collected on sampling locations in the NRCS National Resources Inventory Rangeland Resource Assessment
(http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/nra/nri/?&cid=stelprdb10416 20).

The sage-grouse intensification baseline data will be collected over a 5-year period, and an annual sage-grouse intensification report will be prepared describing the status of the indicators. Beginning in year 6, the annual status report will be accompanied with a trend report, which will be available on an annual basis thereafter, contingent on continuation of the current monitoring budget. This information, in combination with the Grass/Shrub mapping information, the mid- scale habitat suitability indicator measures, and the sagebrush availability information will be used to answer Question 1 of the National Planning Strategy Effectiveness Report.

Calculating Question 2, National Planning Strategy Effectiveness: Evaluations of the amount of habitat degradation and the intensity of the activities in the area of interest will use the information from Measure 2 (D.2.2.2 Habitat Degradation Monitoring (Measure 2)) and Measure 3 (Section D.2.2.3 Energy and Mining Density (Measure 3)). The field office will collect data on the amount of reclaimed energy-related degradation on plugged and abandoned and oil/gas well sites. The data are expected to demonstrate that the reclaimed sites have yet to meet the habitat restoration objectives for sage-grouse habitat. This information, in combination with the amount of habitat degradation, will be used to answer Question 2 of the National Planning Strategy Effectiveness Report.

Calculating Question 3, National Planning Strategy Effectiveness: The change in sage-grouse estimated populations will be calculated from data provided by the state wildlife agencies, when available. This population data (Section D.2.3 Population (Demographics) Monitoring) will be used to answer Question 3 of the National Planning Strategy Effectiveness Report.

Calculating Question 4, National Planning Strategy Effectiveness: The estimated contribution by the BLM or the USFS to the change in the amount of sagebrush in the area of interest will use the information from Measure 1a (Section D.2.2.1 Sagebrush Availability (Measure 1)). This measure is derived from the national datasets that remove sagebrush (Table D-1). To determine the relative contribution of BLM and USFS management, the current Surface Management Agency geospatial data layer will be used to differentiate the amount of change for each management agency for this measure in the geographic areas of interest. This information will be used to answer Question 4 of the National Planning Strategy Effectiveness Report.

Calculating Question 5, National Planning Strategy Effectiveness: The estimated contribution by the BLM or the USFS to the change in the amount of disturbance in the area of interest will use the information from Measure 2a (Section D.2.2.2 Habitat Degradation Monitoring (Measure 2)) and Measure 3 (Section D.2.2.3 Energy and Mining Density (Measure 3)). These measures are all derived from the national disturbance datasets that degrade habitat

(Table D-6). To determine the relative contribution of BLM and USFS management, the current Surface Management Agency geospatial data layer will be used to differentiate the amount of change for each management agency for these two measures in the geographic areas of interest. This information will be used to answer Question 5 of the National Planning Strategy Effectiveness Report.

Answers to the five questions for determining the effectiveness of the national planning strategy will identify areas that appear to be meeting the objectives of the strategy and will facilitate identification of population areas for more detailed analysis. Conceptually, if the broad-scale monitoring identifies increasing sagebrush availability and improving vegetation conditions, decreasing disturbance, and a stable or increasing population for the area of interest, there is evidence that the objectives of the national planning strategy to maintain populations and their habitats have been met. Conversely, where information indicates that sagebrush is decreasing and vegetation conditions are degrading, disturbance in sage-grouse areas is increasing, and/or populations are declining relative to the baseline, there is evidence that the objectives of the national planning strategy are not being achieved. Such a determination would likely result in a more detailed analysis and could be the basis for implementing more restrictive adaptive management measures.

With respect to the land use plan area, the BLM and the USFS will summarize the vegetation, disturbance, and population data to determine if the LUP is meeting the plan objectives. Effectiveness information used for these evaluations includes BLM/USFS surface management areas and will help inform where finer-scale evaluations are needed, such as seasonal habitats, corridors, or linkage areas. Data will also include the trend of disturbance within the sage-grouse areas, which will inform the need to initiate adaptive management responses as described in the land use plan.

Calculating Question 1, Land Use Plan Effectiveness: The condition of vegetation and the allotments meeting land health standards (as articulated in "BLM Handbook 4180-1, Rangeland Health Standards") in sage-grouse areas will be used to determine the LUP's effectiveness in meeting the vegetation objectives for sage-grouse habitat set forth in the plan. The field office/ranger district will be responsible for collecting this data. In order for this data to be consistent and comparable, common indicators, consistent methods, and an unbiased sampling framework will be implemented following the principles in the BLM's AIM strategy (Taylor et al. 2014; Toevs et al. 2011; MacKinnon et al. 2011), in the BLM's Technical Reference "Interpreting Indicators of Rangeland Health" (Pellant et al. 2005), and in the HAF (Stiver et al. 2015. *in press*) or other approved WAFWA MZ–consistent guidance to measure and monitor sage- grouse habitats. This information will be used to answer Question 1 of the Land Use Plan Effectiveness Report.

Calculating Question 2, Land Use Plan Effectiveness: Sage-grouse areas within the LUP that are achieving land health stands (or, if trend data are available, that are making progress toward achieving them)—particularly the Special Status Species/wildlife habitat land health standard— will be used to determine the LUP's effectiveness in achieving the habitat objectives set forth in the plan. Field offices will follow directions in "BLM Handbook 4180-1, Rangeland Health Standards," to ascertain if sage-grouse areas are achieving or making progress toward achieving land health standards. One of the recommended criteria for evaluating this land health standard is the HAF indicators.

Calculating Question 3, Land Use Plan Effectiveness: The amount of habitat disturbance in sage- grouse areas identified in this LUP will be used to determine the LUP's effectiveness in meeting the plan's disturbance objectives. National datasets can be used to calculate the amount of disturbance, but field office data will likely increase the accuracy of this estimate. This information will be used to answer Question 3 of the Land Use Plan Effectiveness Report.

Calculating Question 4, Land Use Plan Effectiveness: The change in estimated sage-grouse populations will be calculated from data provided by the state wildlife agencies, when available, and will be used to determine LUP effectiveness. This population data (Section D.2.3 Population (Demographics) Monitoring) will be used to answer Question 4 of the Land Use Plan Effectiveness Report.

Results of the effectiveness monitoring process for the LUP will be used to inform the need for finer-scale investigations, initiate adaptive management actions as described in the land use plan, initiate causation determination, and/or determine if changes to management decisions are warranted. The measures used at the broad

and mid scales will provide a suite of characteristics for evaluating the effectiveness of the adaptive management strategy.

D.3 Fine and Site Scales

Fine-scale (third-order) habitat selected by sage-grouse is described as the physical and geographic area within home ranges during breeding, summer, and winter periods. At this level, habitat suitability monitoring should address factors that affect sage-grouse use of, and movements between, seasonal use areas. The habitat monitoring at the fine and site scale (fourth order) should focus on indicators to describe seasonal home ranges for sage-grouse associated with a lek or lek group within a population or subpopulation area. Fine- and site-scale monitoring will inform LUP effectiveness monitoring (see Section D.2.4 Effectiveness Monitoring) and the hard and soft triggers identified in the LUP's adaptive management section.

Site-scale habitat selected by sage-grouse is described as the more detailed vegetation characteristics of seasonal habitats. Habitat suitability characteristics include canopy cover and height of sagebrush and the associated understory vegetation. They also include vegetation associated with riparian areas, wet meadows, and other mesic habitats adjacent to sagebrush that may support sage-grouse habitat needs during different stages in their annual cycle.

As described in the Conclusion (D.4 Conclusion), details and application of monitoring at the fine and site scales will be described in the implementation-level monitoring plan for the land use plan. The need for fine- and site-scale-specific habitat monitoring will vary by area, depending on proposed projects, existing conditions, habitat variability, threats, and land health. Examples of fine- and site-scale monitoring include: habitat vegetation monitoring to assess current habitat conditions; monitoring and evaluation of the success of projects targeting sage-grouse habitat enhancement and/or restoration; and habitat disturbance monitoring to provide localized disturbance measures to inform proposed project review and potential mitigation for project impacts. Monitoring plans should incorporate the principles outlined in the BLM's AIM strategy (Toevs et al. 2011) and in "AIM-Monitoring: A Component of the Assessment, Inventory, and Monitoring Strategy" (Taylor et al. 2014). Approved monitoring methods are:

- "BLM Core Terrestrial Indicators and Methods" (MacKinnon et al. 2011);
- The BLM's Technical Reference "Interpreting Indicators of Rangeland Health" (Pellant et al. 2005); and,
- "Sage-Grouse Habitat Assessment Framework: Multiscale Assessment Tool" (Stiver et al. 2015 *in press*).

Other state-specific disturbance tracking models include: the BLM's Wyoming Density and Disturbance Calculation Tool (http://ddct.wygisc.org/) and the BLM's White River Data Management System in development with the USGS. Population monitoring data (in cooperation with state wildlife agencies) should be included during evaluation of the effectiveness of actions taken at the fine and site scales.

Fine- and site-scale sage-grouse habitat suitability indicators for seasonal habitats are identified in the HAF. The HAF has incorporated the Connelly et al. (2000) sage-grouse guidelines as well as many of the core indicators in the AIM strategy (Toevs et al. 2011). There may be a need to develop adjustments to height and cover or other site suitability values described in the HAF; any such adjustments should be ecologically defensible. To foster consistency, however, adjustments to site suitability values at the local scale should be avoided unless there is strong, scientific justification for making those adjustments. That justification should be provided. WAFWA MZ adjustments must be supported by regional plant productivity and habitat data for the floristic province. If adjustments are made to the site-scale indicators, they must be made using data from the appropriate seasonal habitat designation (breeding/nesting, brood-rearing, winter) collected from sage-grouse studies found in the relevant area and peer-reviewed by the appropriate wildlife management agency(ies) and researchers.

When conducting land heath assessments, the BLM should follow, at a minimum, "Interpreting Indicators of Rangeland Health" (Pellant et. al. 2005) and the "BLM Core Terrestrial Indicators and Methods" (MacKinnon et al. 2011). For assessments being conducted in sage-grouse designated management areas, the BLM should collect additional data to inform the HAF indicators that have not been collected using the above methods. Implementation of the principles outlined in the AIM strategy will allow the data to be used to generate unbiased estimates of

condition across the area of interest; facilitate consistent data collection and rollup analysis among management units; help provide consistent data to inform the classification and interpretation of imagery; and provide condition and trend of the indicators describing sagebrush characteristics important to sage-grouse habitat (see Section D.2.4 Effectiveness Monitoring).

D.4 Conclusion

This Greater Sage-Grouse Monitoring Framework was developed for all of the Final Environmental Impact Statements involved in the sage-grouse planning effort. As such, it describes the monitoring activities at the broad and mid scales and provides a guide for the BLM and the USFS to collaborate with partners/other agencies to develop the land use plan- specific monitoring plan.

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Attachment A: AN OVERVIEW OF MONITORING COMMITMENTS

	Broad and Mid-scales					Fine & Site Scales
	Implementation	**Vegetation**	**Disturbance**	**Population**	**Effectiveness**	
How will the data be used?	Track and document implementation of land use plan decisions and inform adaptive management	Track changes in land cover (sagebrush) and inform adaptive management	Track changes in disturbance (threats) to sage-grouse habitat and inform adaptive management	Track trends in sage-grouse populations (and/or leks; as determined by state wildlife agencies) and inform adaptive management	Characterize the relationship among disturbance, implementation actions, and sagebrush metrics and inform adaptive management	Measure seasonal habitat, connectivity at the fine scale, calculate disturbance, and inform adaptive management
Who is collecting the data?	BLM FO and USFS Forest	NOC and NIFC	National data sets (NOC), BLM FOs and USFS Forests as applicable	State wildlife agencies through WAFWA	Comes from other broad- and mid-scale monitoring types, analyzed by the NOC	BLM FO and SO, USFS Forests and RO (with partners)
How often are the data collected, reported, and made available to USFWS?	Collected and reported annually; summary report every 5 years	Updated and changes reported annually; summary report every 5 years	Collected and changes reported annually; summary report every 5 years	State data reported annually per WAFWA MOU; summary report every 5 years	Collected and reported every 5 years (coincident with LUP evaluations)	Collection and trend analysis ongoing, reported every 5 years or as needed to inform adaptive management
What is the spatial scale?	Summarized by LUP with flexibility for reporting by other units	Summarized by PACs (size dependent) with flexibility for reporting by other units	Summarized by PACs (size dependent) with flexibility for reporting by other units	Summarized by PACs (size dependent) with flexibility for reporting by other units	Summarized by MZ and LUP with flexibility for reporting by other units (e.g., PAC)	Variable (e.g., projects and seasonal habitats)
What are the potential personnel and budget impacts?	Additional capacity or re-prioritization of ongoing monitoring work and budget realignment	At a minimum, current skills and capacity must be maintained; data management costs are TBD	At a minimum, current skills and capacity must be maintained; data management and data layer purchase cost are TBD	No additional personnel or budget impacts for BLM or USFS	Additional capacity or re-prioritization of ongoing monitoring work and budget realignment	Additional capacity or re-prioritization of ongoing monitoring work and budget realignment
Who has primary and secondary responsibilities for reporting?	1) BLM FO & SO; USFS Forest & RO 2) BLM & FS Planning	1) NOC 2) WO	1) NOC 2) BLM SO, USFS RO & appropriate programs	1) WAFWA & state wildlife agencies 2) BLM SO, USFS RO, NOC	1) Broad and mid-scale at the NOC, LUP at BLM SO, USFS RO	1) BLM FO & USFS Forests 2) BLM SO & FS RO
What new processes/ tools will be needed?	National implementation data sets and analysis tools	Updates to national land cover data	Data standards and roll-up methods for these data	Standards in population monitoring (WAFWA)	Reporting methodologies	Data standards data storage; and reporting

FO (field office); NIFC (National Interagency Fire Center); NOC (National Operations Center); RO (regional office); SO (state office); TBD (to be determined); WO (Washington Office)

Attachment B - User and Producer Accuracies for Aggregated Ecological Systems within LANDFIRE Map Zones

LANDFIRE Map Zone Name	User Accuracy	Producer Accuracy	% of Map Zone within Historical Schroeder
Wyoming Basin	76.9%	90.9%	98.5%
Snake River Plain	68.8%	85.2%	98.4%
Missouri River Plateau	57.7%	100.0%	91.3%
Grand Coulee Basin of the Columbia Plateau	80.0%	80.0%	89.3%
Wyoming Highlands	75.3%	85.9%	88.1%
Western Great Basin	69.3%	75.4%	72.9%
Blue Mountain Region of the Columbia Plateau	85.7%	88.7%	72.7%
Eastern Great Basin	62.7%	80.0%	62.8%
Northwestern Great Plains	76.5%	92.9%	46.3%
Northern Rocky Mountains	72.5%	89.2%	42.5%
Utah High Plateaus	81.8%	78.3%	41.5%
Colorado Plateau	65.3%	76.2%	28.8%
Middle Rocky Mountains	78.6%	73.3%	26.4%
Cascade Mountain Range	57.1%	88.9%	17.3%
Sierra Nevada Mountain Range	0.0%	0.0%	12.3%
Northwestern Rocky Mountains	66.7%	60.0%	7.3%
Southern Rocky Mountains	58.6%	56.7%	7.0%
Northern Cascades	75.0%	75.0%	2.6%
Mogollon Rim	66.7%	100.0%	1.7%
Death Valley Basin	0.0%	0.0%	1.2%

There are two anomalous map zones with 0% user and producer accuracies, attributable to no available reference data for the ecological systems of interest.

User accuracy is a map-based accuracy that is computed by looking at the reference data for a class and determining the percentage of correct predictions for these samples. For example, if I select any sagebrush pixel on the classified map, what is the probability that I'll be standing in a sagebrush stand when I visit that pixel location in the field? **Commission Error** equates to including a pixel in a class when it should have been excluded (i.e., commission error = 1 – user's accuracy).

Producer accuracy is a reference-based accuracy that is computed by looking at the predictions produced for a class and determining the percentage of correct predictions. In other words, if I know that a particular area is sagebrush (I've been out on the ground to check), what is the probability that the digital map will correctly identify that pixel as sagebrush? **Omission Error** equates to excluding a pixel that should have been included in the class (i.e., omission error = 1 – producer's accuracy).

Attachment C. Sagebrush Species and Subspecies Included in the Selection Criteria for Building the EVT and BpS Layers

- *Artemisia arbuscula* subspecies *longicaulis*
- *Artemisia arbuscula* subspecies *longiloba*
- *Artemisia bigelovii*
- *Artemisia nova*
- *Artemisia papposa*
- *Artemisia pygmaea*
- *Artemisia rigida*
- *Artemisia spinescens*
- *Artemisia tripartita* subspecies *rupicola*
- *Artemisia tripartita* subspecies *tripartita*
- *Tanacetum nuttallii*
- *Artemisia cana* subspecies *bolanderi*
- *Artemisia cana* subspecies *cana*
- *Artemisia cana* subspecies *viscidula*
- *Artemisia tridentata* subspecies *wyomingensis*
- *Artemisia tridentata* subspecies *tridentata*
- *Artemisia tridentata* subspecies *vaseyana*
- *Artemisia tridentata* subspecies *spiciformis*
- *Artemisia tridentata* subspecies *xericensis*
- *Artemisia tridentata* variety *pauciflora*
- *Artemisia frigida*
- *Artemisia pedatifida*

Appendix E:
Greater Sage-Grouse (GRSG) Disturbance Caps

Greater Sage-Grouse (GRSG) Disturbance Caps

In the USFWS's 2010 listing decision for sage-grouse, the USFWS identified 18 threats contributing to the destruction, modification, or curtailment of the sage-grouse's habitat or range (75 FR 13910 2010. The 18 threats have been aggregated into three measures:

Sagebrush Availability (percent of sagebrush per unit area)
Habitat Degradation (percent of human activity per unit area)
Density of Energy and Mining (facilities and locations per unit area)

Habitat Degradation and Density of Energy and Mining will be evaluated under the Disturbance Cap and Density Cap respectively and are further described in this appendix. The three measures, in conjunction with other information, will be considered during the NEPA process for projects authorized or undertaken by the BLM.

Disturbance Cap:

This land use plan has incorporated a 3% anthropogenic disturbance cap within Greater Sage-Grouse (GRSG) Priority Habitat Management Areas (PHMAs) and the subsequent land use planning actions if the cap is met:

> *If the 3% anthropogenic disturbance cap is exceeded on lands (regardless of land ownership) within GRSG Priority Habitat Management Areas (PHMA) in any given Biologically Significant Unit (BSU), then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the 1872 hard rock mining law, valid existing rights, etc.) will be permitted by BLM within GRSG PHMAs in any given BSU until the disturbance has been reduced to less than the cap.*
>
> *If the 3% disturbance cap is exceeded on all lands (regardless of land ownership) or if anthropogenic disturbance and habitat loss associated with conversion to agricultural tillage or fire exceed 5% within a proposed project analysis area in a Priority Habitat Management Areas, then no further anthropogenic disturbance will be permitted by BLM until disturbance in the proposed project analysis area has been reduced to maintain the area under the cap (subject to applicable laws and regulations, such as the 1872 hard rock Mining Law, valid existing rights, etc.). If the BLM determines that the State of Montana's GRSG Habitat Conservation Program contains comparable components to those found in the State of Wyoming's Density and Disturbance model (an all lands approach for calculating anthropogenic disturbances, a clear methodology for measuring the density of operations, and a fully operational Density Disturbance Calculation Tool), the 3% disturbance cap will be converted to a 5% cap.*

The disturbance cap applies to the PHMA within both the Biologically Significant Units (BSU) and at the project authorization scale. For the BSUs, west-wide habitat degradation (disturbance) data layers (Table E-1) will be used at a minimum to calculate the amount of disturbance and to determine if the disturbance cap has been exceeded as the land use plans (LUP) are being implemented. Locally collected disturbance data will be used to determine if the disturbance cap has been exceeded for project authorizations, and may also be used to calculate the amount of disturbance in the BSUs.

Although locatable mine sites are included in the degradation calculation, mining activities under the 1872 mining law may not be subject to the 3% disturbance cap. Details about locatable mining activities will be fully disclosed and analyzed in the NEPA process to assess impacts to sage-grouse and their habitat as well as to BLM goals and objectives, and other BLM programs and activities.

Formulas for calculations of the amount of disturbance in the PHMA in a BSU and or in a proposed project area are as follows:

- For the BSUs:
  % Degradation Disturbance = (combined acres of the 12 degradation threats[1]) ÷ (acres of all lands within the PHMAs in a BSU) x 100.

- For the Project Analysis Area:
  % Degradation Disturbance = (combined acres of the 12 degradation threats[1] plus the 7 site scale threats[2] and acres of habitat loss[1]) ÷ (acres of all lands within the PHMA in the project analysis area) x 100.

The denominator in the disturbance calculation formula consists of all acres of lands classified as PHMA within the analysis area (BSU or project area). Areas that are not sage-grouse seasonal habitats, or are not currently supporting sagebrush cover (e.g., due to wildfire), are not excluded from the acres of PHMA in the denominator of the formula. Information regarding sage-grouse seasonal habitats, sagebrush availability, and areas with the potential to support sage-grouse populations will be considered along with other local conditions that may affect sage-grouse during the analysis of the proposed project area.

Density Cap:

This land use plan has also incorporated a cap on the density of energy and mining facilities at an average of one facility per 640 acres in the PHMA in a project authorization area. If the disturbance density in the PHMA in a proposed project area is on average less than 1 facility per 640 acres, the analysis will proceed through the NEPA process incorporating mitigation measures into an alternative. If the disturbance density is greater than an average of 1 facility per 640 acres, the proposed project will either be deferred until the density of energy and mining facilities is less than the cap or co-located it into existing disturbed area (subject to applicable laws and regulations, such as the 1872 Mining Law, valid existing rights, etc.). Facilities included in the density calculation (Table E-3) are:

- Energy (oil and gas wells and development facilities)
- Energy (coal mines)
- Energy (wind towers)
- Energy (solar fields)
- Energy (geothermal)
- Mining (active locatable, leasable, and saleable developments)

<u>Project Analysis Area Method for Permitting Surface Disturbance Activities</u>:

- Determine potentially affected occupied leks by placing a four mile boundary around the proposed area of physical disturbance related to the project. All occupied leks located within the four mile project boundary and within PHMA will be considered affected by the project.
- Next, place a four mile boundary around each of the affected occupied leks.
- The PHMA within the four mile lek boundary and the four mile project boundary creates the project analysis area for each individual project. If there are no occupied leks within the four-mile project boundary, the project analysis area will be that portion of the four-mile project boundary within the PHMA.
- Digitize all existing anthropogenic disturbances identified in Table E-1, the 7 additional features that are considered threats to sage-grouse (Table E-2), and areas of sagebrush loss. Using 1 meter resolution NAIP imagery is recommended. Use existing local data if available.
- Calculate percent existing disturbance using the formula above. If existing disturbance is less than 3% anthropogenic disturbance or 5% total disturbance, proceed to next step. If existing disturbance is greater than 3% anthropogenic disturbance or 5% total disturbance, defer the project.
- Add proposed project disturbance footprint area and recalculate the percent disturbance. If disturbance is less than 3% anthropogenic disturbance or 5% total disturbance, proceed to next step. If disturbance is greater than 3% anthropogenic disturbance or 5% total disturbance, defer project.

[1] See Table E-1.
[2] See Table E-2.

- Calculate the disturbance density of energy and mining facilities (listed above). If the disturbance density is less than 1 facility per 640 acres, averaged across project analysis area, proceed to the NEPA analysis incorporating mitigation measures into an alternative. If the disturbance density is greater than 1 facility per 640 acres, averaged across the project analysis area, either defer the proposed project or co-locate it into existing disturbed area.
- If a project that would exceed the degradation cap or density cap cannot be deferred due to valid existing rights or other existing laws and regulations, fully disclose the local and regional impacts of the proposed action in the associated NEPA.

Table E-1: Anthropogenic disturbance types for disturbance calculations. Data sources are described for the west-wide habitat degradation estimates (Table copied from the GRSG Monitoring Framework)

Degradation Type	Subcategory	Data Source	Direct Area of Influence	Area Source
Energy (oil & gas)	Wells	IHS; BLM (AFMSS)	5.0ac (2.0ha)	BLM WO-300
	Power Plants	Platts (power plants)	5.0ac (2.0ha)	BLM WO-300
Energy (coal)	Mines	BLM; USFS; Office of Surface Mining Reclamation and Enforcement; USGS Mineral Resources Data System	Polygon area (digitized)	Esri/ Google Imagery
	Power Plants	Platts (power plants)	Polygon area (digitized)	Esri Imagery
Energy (wind)	Wind Turbines	Federal Aviation Administration	3.0ac (1.2ha)	BLM WO-300
	Power Plants	Platts (power plants)	3.0ac (1.2ha)	BLM WO-300
Energy (solar)	Fields/Power Plants	Platts (power plants)	7.3ac (3.0ha)/MW	NREL
Energy (geothermal)	Wells	IHS	3.0ac (1.2ha)	BLM WO-300
	Power Plants	Platts (power plants)	Polygon area (digitized)	Esri Imagery
Mining	Locatable Developments	InfoMine	Polygon area (digitized)	Esri Imagery
Infrastructure (roads)	Surface Streets (Minor Roads)	Esri StreetMap Premium	40.7ft (12.4m)	USGS
	Major Roads	Esri StreetMap Premium	84.0ft (25.6m)	USGS
	Interstate Highways	Esri StreetMap Premium	240.2ft (73.2m)	USGS
Infrastructure (railroads)	Active Lines	Federal Railroad Administration	30.8ft (9.4m)	USGS
Infrastructure (power lines)	1-199kV Lines	Platts (transmission lines)	100ft (30.5m)	BLM WO-300
	200-399 kV Lines	Platts (transmission lines)	150ft (45.7m)	BLM WO-300
	400-699kV Lines	Platts (transmission lines)	200ft (61.0m)	BLM WO-300
	700+kV Lines	Platts (transmission lines)	250ft (76.2m)	BLM WO-300
Infrastructure (communication)	Towers	Federal Communications Commission	2.5ac (1.0ha)	BLM WO-300

Table E-2: The seven site scale features considered threats to sage-grouse included in the disturbance calculation for project authorizations.

1. Coalbed Methane Ponds
2. Meteorological Towers
3. Nuclear Energy Facilities
4. Airport Facilities and Infrastructure
5. Military Range Facilities & Infrastructure
6. Hydroelectric Plants
7. Recreation Areas Facilities and Infrastructure

Definitions:

1. **Coalbed Methane and other Energy-related Retention Ponds –** The footprint boundary will follow the fenceline and includes the area within the fenceline surrounding the impoundment. If the pond is not fenced, the impoundment itself is the footprint. Other infrastructure associated with the containment ponds (roads, well pads, etc.) will be captured in other disturbance categories.
2. **Meteorological Towers** – This feature includes long-term weather monitoring and temporary meteorological towers associated with short-term wind testing. The footprint boundary includes the area underneath the guy wires.
3. **Nuclear Energy Facilities** – The footprint boundary includes visible facilities (fence, road, etc.) and undisturbed areas within the facility's perimeter.
4. **Airport Facilities and Infrastructure (public and private)** –The footprint boundary of will follow the boundary of the airport or heliport and includes mowed areas, parking lots, hangers, taxiways, driveways, terminals, maintenance facilities, beacons and related features. Indicators of the boundary, such as distinct land cover changes, fences and perimeter roads, will be used to encompass the entire airport or heliport.
5. **Military Range Facilities & Infrastructure** – The footprint boundary will follow the outer edge of the disturbed areas around buildings and includes undisturbed areas within the facility's perimeter.
6. **Hydroelectric Plants** – The footprint boundary includes visible facilities (fence, road, etc.) and undisturbed areas within the facility's perimeter.
7. **Recreation Areas & Facilities –** This feature includes all sites/facilities larger than 0.25 acres in size. The footprint boundary will include any undisturbed areas within the site/facility.

Table E-3: Relationship between the 18 threats and the three habitat disturbance measures for monitoring and disturbance calculations.

USFWS Listing Decision Threat	Sagebrush Availability	Habitat Degradation	Energy and Mining Density
Agriculture	X		
Urbanization	X		
Wildfire	X		
Conifer encroachment	X		
Treatments	X		
Invasive Species	X		
Energy (oil and gas wells and development facilities)		X	X
Energy (coal mines)		X	X
Energy (wind towers)		X	X
Energy (solar fields)		X	X
Energy (geothermal)		X	X
Mining (active locatable, leasable, and saleable developments)		X	X
Infrastructure (roads)		X	
Infrastructure (railroads)		X	
Infrastructure (power lines)		X	
Infrastructure (communication towers)		X	
Infrastructure (other vertical structures)		X	
Other developed rights-of-way		X	

Appendix F:
Greater Sage-Grouse - Mitigation and Mitigation Measures

F. Greater Sage-Grouse - Mitigation and Mitigation Measures

MITIGATION

General

In undertaking BLM/USFS management actions, and, consistent with valid existing rights and applicable law, in authorizing third party actions that result in habitat loss and degradation, the BLM/USFS will require and ensure mitigation that provides a net conservation gain to the species including accounting for any uncertainty associated with the effectiveness of such mitigation. This will be achieved by avoiding, minimizing, and compensating for impacts by applying beneficial mitigation actions. Mitigation will follow the regulations from the White House Council on Environmental Quality (CEQ) (40 CFR 1508.20; e.g. avoid, minimize, and compensate), hereafter referred to as the mitigation hierarchy. If impacts from BLM/USFS management actions and authorized third party actions that result in habitat loss and degradation remain after applying avoidance and minimization measures (i.e. residual impacts), then compensatory mitigation projects will be used to provide a net conservation gain to the species. Any compensatory mitigation will be durable, timely, and in addition to that which would have resulted without the compensatory mitigation (see glossary).

The BLM/USFS, via the WAFWA Management Zone Greater Sage-Grouse Conservation Team, will develop a WAFWA Management Zone Regional Mitigation Strategy that will inform the NEPA decision making process including the application of the mitigation hierarchy for BLM/USFS management actions and third party actions that result in habitat loss and degradation. A robust and transparent Regional Mitigation Strategy will contribute to greater sage-grouse habitat conservation by reducing, eliminating, or minimizing threats and compensating for residual impacts to greater sage-grouse and its habitat.

The BLM's Regional Mitigation Manual MS-1794 serves as a framework for developing and implementing a Regional Mitigation Strategy. The following sections provide additional guidance specific to the development and implementation of a WAFWA Management Zone Regional Mitigation Strategy.

Developing a WAFWA Management Zone Regional Mitigation Strategy

The BLM/USFS, via the WAFWA Management Zone Greater Sage-Grouse Conservation Team, will develop a WAFWA Management Zone Regional Mitigation Strategy to guide the application of the mitigation hierarchy for BLM/USFS management actions and third party actions that result in habitat loss and degradation. The Strategy should consider any State-level greater sage-grouse mitigation guidance that is consistent with the requirements identified in this Appendix. The Regional Mitigation Strategy should be developed in a transparent manner, based on the best science available and standardized metrics.

As described in Chapter 2, the BLM/USFS will establish a WAFWA Management Zone Greater Sage-Grouse Conservation Team (hereafter, Team) to help guide the conservation of greater sage-grouse, within 90 days of the issuance of the Record of Decision. The Strategy will be developed within one year of the issuance of the Record of Decision.

The Regional Mitigation Strategy should include mitigation guidance on avoidance, minimization, and compensation, as follows:

- Avoidance
    - Include avoidance areas (e.g. right-of-way avoidance/exclusion areas, no surface occupancy areas) already included in laws, regulations, policies, and/or land use plans (e.g. Resource Management Plans, Forest Plans, State Plans); and,
    - Include any potential, additional avoidance actions (e.g. additional avoidance best management practices) with regard to greater sage-grouse conservation.

- Minimization
    - Include minimization actions (e.g. required design features, best management practices) already included in laws, regulations, policies, land use plans, and/or land-use authorizations; and,
    - Include any potential, additional minimization actions (e.g. additional minimization best management practices) with regard to greater sage-grouse conservation.
- Compensation
    - Include discussion of impact/project valuation, compensatory mitigation options, siting, compensatory project types and costs, monitoring, reporting, and program administration. Each of these topics is discussed in more detail below.
        - Residual Impact and Compensatory Mitigation Project Valuation Guidance
            - A common standardized method should be identified for estimating the value of the residual impacts and value of the compensatory mitigation projects, including accounting for any uncertainty associated with the effectiveness of the projects.
            - This method should consider the quality of habitat, scarcity of the habitat, and the size of the impact/project.
            - For compensatory mitigation projects, consideration of durability (see glossary), timeliness (see glossary), and the potential for failure (e.g. uncertainty associated with effectiveness) may require an upward adjustment of the valuation.
            - The resultant compensatory mitigation project will, after application of the above guidance, result in proactive conservation measures for Greater Sage-grouse (consistent with BLM Manual 6840 – Special Status Species Management, section .02).
        - Compensatory Mitigation Options
            - Options for implementing compensatory mitigation should be identified, such as:
                - Utilizing certified mitigation/conservation bank or credit exchanges.
                - Contributing to an existing mitigation/conservation fund.
                - Authorized-user conducted mitigation projects.
            - For any compensatory mitigation project, the investment must be additional (i.e. additionality: the conservation benefits of compensatory mitigation are demonstrably new and would not have resulted without the compensatory mitigation project).
        - Compensatory Mitigation Siting
            - Sites should be in areas that have the potential to yield a net conservation gain to the greater sage-grouse, regardless of land ownership.
            - Sites should be durable (see glossary).
            - Sites identified by existing plans and strategies (e.g. fire restoration plans, invasive species strategies, healthy land focal areas) should be considered, if those sites have the potential to yield a net conservation gain to greater sage-grouse and are durable.
        - Compensatory Mitigation Project Types and Costs
            - Project types should be identified that help reduce threats to greater sage-grouse (e.g. protection, conservation, and restoration projects).
            - Each project type should have a goal and measurable objectives.
            - Each project type should have associated monitoring and maintenance requirements, for the duration of the impact.
            - To inform contributions to a mitigation/conservation fund, expected costs for these project types (and their monitoring and maintenance), within the WAFWA Management Zone, should be identified.
        - Compensatory Mitigation Compliance and Monitoring
            - Mitigation projects should be inspected to ensure they are implemented as designed, and if not, there should be methods to enforce compliance.
            - Mitigation projects should be monitored to ensure that the goals and objectives are met and that the benefits are effective for the duration of the impact.
        - Compensatory Mitigation Reporting
            - Standardized, transparent, scalable, and scientifically-defensible reporting requirements should be identified for mitigation projects.

        - Reports should be compiled, summarized, and reviewed in the WAFWA Management Zone in order to determine if greater sage-grouse conservation has been achieved and/or to support adaptive management recommendations.
    - Compensatory Mitigation Program Implementation Guidelines
        - Guidelines for implementing the State-level compensatory mitigation program should include holding and applying compensatory mitigation funds, operating a transparent and credible accounting system, certifying mitigation credits, and managing reporting requirements.

Incorporating the Regional Mitigation Strategy into NEPA Analyses
The BLM/USFS will include the avoidance, minimization, and compensatory recommendations from the Regional Mitigation Strategy in one or more of the NEPA analysis' alternatives for BLM/USFS management actions and third party actions that result in habitat loss and degradation and the appropriate mitigation actions will be carried forward into the decision.

Implementing a Compensatory Mitigation Program
The BLM/USFS need to ensure that compensatory mitigation is strategically implemented to provide a net conservation gain to the species, as identified in the Regional Mitigation Strategy. In order to align with existing compensatory mitigation efforts, this compensatory mitigation program will be managed at a State-level (as opposed to a WAFWA Management Zone, a Field Office, or a Forest), in collaboration with our partners (e.g. Federal, Tribal, and State agencies).

To ensure transparent and effective management of the compensatory mitigation funds, the BLM/USFS will enter into a contract or agreement with a third-party to help manage the State-level compensatory mitigation funds, within one year of the issuance of the Record of Decision. The selection of the third-party compensatory mitigation administrator will conform to all relevant laws, regulations, and policies. The BLM/USFS will remain responsible for making decisions that affect Federal lands.

MITIGATION MEASURES

Introduction

The following Mitigation Measures and Conservation Actions are a compilation of Best Management Practices (BMPs), Required Design Features (RDFs), and/or operating procedures used by the BLM to meet statutory requirements for environmental protection and comply with resource specific Goals and Objectives set forward in this land use plan. The BLM will apply mitigation measures and conservation actions to modify the operations of authorized lands uses or activities to meet these obligations. Additional direction regarding mitigation can be found in the Interim Policy, Draft - Regional Mitigation Manual Section - 1794 (IM 2013-142) or subsequent decision documents.

These measures and actions will be applied to avoid, minimize, rectify, reduce, and compensate for impacts if an evaluation of the authorization area indicates the presence of resources of concern which include, but are not limited to air, water, soils, cultural resources, national historic trails, recreation values and important wildlife habitat in order to reduce impacts associated with authorized land uses or activities such as road, pipeline, or powerline construction, fluid and solid mineral development, range improvements, and recreational activities. The mitigation measures and conservation actions for authorizations will be identified as part of the National Environmental Policy Act (NEPA) process, through interdisciplinary analysis involving resource specialists, project proponents, government entities, landowners or other Surface Management Agencies. Those measures selected for implementation will be identified in the Record of Decision (ROD) or Decision Record (DR) for those authorizations and will inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered public lands and minerals to mitigate impacts from those authorizations. Because these actions create a clear obligation for the BLM to ensure any proposed mitigation action adopted in the environmental review process is performed, there is assurance that mitigation will lead to a reduction of environmental impacts in the implementation stage and include binding mechanisms for enforcement (CEQ Memorandum for Heads of Federal Departments and Agencies 2011).

Because of site-specific circumstances and localized resource conditions, some mitigation measures and conservation actions may not apply to some or all activities (e.g., a resource or conflict is not present on a given site) and/or may require slight variations from what is described in this appendix. The BLM may add additional measures as deemed necessary through the environmental analysis and as developed through coordination with other federal, state, and local regulatory and resource agencies. Application of mitigation measures and conservation actions is subject to valid existing rights, technical and economic feasibility.

Implementation and effectiveness of mitigation measures and conservation actions would be monitored to determine whether the practices are achieving resource objectives and accomplishing desired goals. Timely adjustments would be made as necessary to meet the resource goals and objectives.

The list included in this appendix is not limiting, but references the most frequently used sources. The BLM may add additional site-specific restrictions as deemed necessary by further environmental analysis and as developed through coordination with other federal, state, and local regulatory and resource agencies. Because mitigation measures and conservation actions change or are modified, based on new information, the guidelines will be updated periodically. As new publications are developed; the 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. The EIS for this RMP does not decide or dictate the exact wording or inclusion of these mitigation measures and conservation actions. Rather, they are used in the RMP and EIS process as a tool to help demonstrate at the Land Use Plan scale how they will be applied in considering subsequent activity plans and site-specific authorizations. These mitigation measures and conservation actions and their wording are matters of policy. As such, specific wording is subject to change, primarily through administrative review, not through the RMP and EIS process. Any further changes that may be made in the continuing refinement of these mitigation measures and conservation actions and any development of program-specific standard procedures will be handled in another forum, including appropriate public involvement and input.

GENERAL MITIGATION MEASURES and CONSERVATION ACTION RESOURCES

Best Management Practices

Air Resource BMPs
Developed by: Bureau of Land Management
Publication reference: BLM/WO Updated May 9, 2011
Available from: Online
at: http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/technical_information.html
Description: Identifies a range of typical Best Management Practices for protecting air resources during oil and gas development and production operations.

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 Montana Department of Transportation (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, notice of intent (NOI), and stormwater pollution prevention plan (SWPPP). Construction phase includes the finalization of the SWPPP, NOI, and the implementation of BMPs. Post-construction phase includes monitoring, maintenance, and removal activities.

Fluid Minerals BMPs
Developed by: Bureau of Land Management
Publication reference: BLM/WO/ST-06/021+3071
Available from:
Online at: http://www.blm.gov/bmp/
Online at: http://www.mt.blm.gov/oilgas/operations/goldbook/goldbook1.html
Online at: http://www.mt.blm.gov/oilgas/operations/goldbook/Stand_Enviro_Color.pdf
Online at: http://www.mt.blm.gov/oilgas/operations/color.pdf
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.

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 August 2002
Available from: Montana Department of Natural Resources and Conservation, 2705 Spurgin Road, Missoula MT 59801-3199, (406)542-4300, or local MT DNRC field office.
Description: The Montana Guide to the Streamside Management Zone Law is a field guide to compliance with State of Montana Law 77-5-301[1] MCA.) Complementary BMPs are found in the Water Quality BMPS for Montana Forests (also referenced in this appendix). Provides definitions, stream classifications, and guidelines on the seven forest practices prohibited by Montana law in SMZs (broadcast burning, operation of wheeled or tracked vehicles except on established roads, the forest practice of clearcutting, the construction of roads except when necessary to cross a stream or wetland; the handling, storage, application, or disposal of hazardous or toxic materials in a manner that pollutes streams, lakes, or wetlands, or that may cause damage or injury to humans, land, animals, or plants; the side casting of road material into a stream, lake, wetland, or watercourse; and the deposit of slash in streams, lakes, or other water bodies.

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.

Montana Placer Mining BMPs
Developed by: Montana Bureau of Mines and Geology
Publication reference: Special Publication 106, October 1993
Available from: Montana Bureau of Mines and Geology, Main Hall, Montana College of Mineral Science and Technology, Butte MT 59701
Description: Provides guidelines for planning, erosion control, and reclamation in arid to semi-arid, alpine, and subalpine environments, to prevent or decrease environmental damage and degradation of water quality.

Water Quality BMPs for Montana Forests
Developed by: Montana State University Extension Service
Publication reference: Logan, R. 2001. Water Quality BMPs – Best Management Practices for Montana Forests. EB158, MSU Extension Forestry, Missoula, MT. 58 pp.
Available from: MSU Extension Forestry, 32 Campus Dr., Missoula MT 59812, OR MSU Extension Publications, PO Box 172040 Bozeman MT 59717
Description: Discusses methods for managing forest land while protecting water quality and forest soils. 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 Law (Streamside Management Zones). Includes definitions, basic biological information, and BMPs for Streamside Management Zones; road design, use, planning and locating, construction, drainage, and closure; stream crossings, soil, timber harvesting methods, reforestation, winter planning, and clean-up.

Wind Energy BMPs
Developed by: Bureau of Land Management
Publication reference: Wind Energy Development Programmatic EIS
Available from: FEIS Chapter 2 (section 2.2.3.2) at http://windeis.anl.gov/
Description: As part of the proposed action, BLM developed BMPs for each major step of the wind energy development process, including site monitoring and testing, plan of development preparation, construction, operation, and decommissioning. General BMPs are available for each step, and certain steps also include specific BMPs to address the following resource issues: wildlife and other ecological resources, Visual resources, Roads, Transportation, Noise, Noxious Weeds and Pesticides, Cultural/Historic Resources, Paleontological Resources, Hazardous Materials and Waste Management, Storm Water, Human Health and Safety, monitoring program, air emissions and excavation and blasting activities.

Communication Tower BMPs
Developed by: United States Fish and Wildlife Service
Publication reference: Service Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers
Available from: http://www.fws.gov/habitatconservation/com_tow_guidelines.pdf
Description: These guidelines were developed by Service personnel from research conducted in several eastern, midwestern, and southern States, and have been refined through Regional review. They are based on the best information available at this time, and are the most prudent and effective measures for avoiding bird strikes at towers.

- Any company/applicant/licensee proposing to construct a new communications tower should be strongly encouraged to collocate 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.

- 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.
- 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.
- 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 ofthreatened or endangered species. Towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.
- 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.
- 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 ofthe 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).
- 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.
- 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.
- 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.
- Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site.
- 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.
- Towers no longer in use or determined to be obsolete should be removed within 12 months of cessation of use.

GRAZING MANAGEMENT BEST MANAGEMENT PRACTICES (Guidelines)
Guidelines for grazing management are the types of grazing management methods and practices determined to be appropriate to ensure that rangeland health standards can be met or significant progress can be made toward meeting the 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. Standards for Rangeland Health and Guidelines for Livestock Grazing Management for the Billings Field Office can be found
at: http://www.blm.gov/style/medialib/blm/mt/blm_programs/grazing.Par.83445.File.dat/MCSG.pdf

BLM BMPs
The website below provides an introduction to BLM BMPs with links to BLM contacts, General BMP Information, BMP Frequently Asked Questions, BMP Technical Information, Oil and Gas Exploration—The Gold Book, Specific Resource BMPs, and, other BLM links.

- http://www.blm.gov/bmp/

Visual Resources
The website below provides 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 element of form, line, color, and texture.

- http://www.blm.gov/pgdata/content/wo/en/prog/Recreation/recreation_national/RMS.html

Renewable Energy Development
The following resources provide information on BMPs related to renewable energy development.

- Wind Energy Development Programmatic Environmental Impact Statement: http://windeis.anl.gov/documents/fpeis/index.cfm
- BLM Instruction Memorandum 2009-043, Rights-of-Way, Wind Energy: http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2009/IM_2009-043.htm
- Solar Energy Development Programmatic Environmental Impact Statement: http://www.solareis.anl.gov/

Healthy Watersheds
The website below provides conservation approaches and tools designed to ensure healthy watersheds remain intact. It also provides site-specific examples.

- http://www.epa.gov/owow/nps/

Storm Water BMPs
The website below provides BMPs designed to meet the minimum requirements for six control measures specified by the EPA's Phase II Stormwater Program.

- http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm

Pasture, Rangeland, and Grazing Operations BMPs
The website below provides BMPs compiled by the EPA to prevent or reduce impacts associated with livestock grazing.

http://www.epa.gov/oecaagct/anprgbmp.html

National Range and Pasture Handbook
The website below provides procedures in support of NRCS policy for the inventory, analysis, treatment, and management of grazing land resources.

- http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/landuse/rangepasture/?cid=stelprdb1043084

Montana Nonpoint Source Management Program
The website below provides links to information on funding for implementing nonpoint source controls, examples of control projects, and Montana's current Nonpoint Source Management Plan. This plan identifies and provides details for BMPs to improve and maintain water quality.

- http://www.deq.mt.gov/wqinfo/nonpoint/nonpointsourceprogram.mcpx

The following would be applied, if warranted, to any BLM authorized activity:

- The total disturbance area would be minimized and to the extent possible.
- Surface disturbances would be co-located in areas of previous or existing disturbance to the extent technically feasible.
- Linear facilities would be located in the same trenches (or immediately parallel to) and when possible, installed during the same period of time.
- Plans of development would be required for major ROWs, renewable energy and minerals development. Such plans would identify measures for reducing impacts.
- Where the federal government owns the surface and the mineral estate is in nonfederal ownership, the BLM would apply appropriate fluid mineral BMPs to surface development.
- Remove facilities and infrastructure when use is completed.
- Vegetation would be removed only when necessary. Mowing would be preferred. If mowed, when possible work would be performed when vegetation is dormant.
- Two-track (primitive) roads would be used when possible.
- Utilization of the Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development (i.e., The Gold Book) shall be utilized for the design of roads, utilities, and oil and gas operations.
- Directional drilling, drilling multiple wells from the same pad, co-mingling, recompletion, or the use of existing well pads would be employed to the extent technically feasible to minimize surface impacts from oil and gas development.
- Utilities would be ripped or wheel-trenched whenever practical.
- Remote telemetry would be used to reduce vehicle traffic to the extent technically feasible (e.g., monitoring oil and gas operations).
- Perennial streams would be crossed using bore crossing (directional drill) or other environmentally sound method.
- For activities resulting in major surface-disturbance as determined by the AO, a mitigation monitoring and reporting strategy would be developed and implemented (see the Reclamation Appendix for further guidance).
- Operations would avoid sensitive resources including riparian areas, wetlands, floodplains, waterbodies and areas subject to erosion and soil degradation.
- The BLM would, on a case-by-case basis, use temporary or permanent enclosures (e.g., in woody draw or riparian areas) to promote species diversity, recruitment, and structure.
- Accelerated erosion, soil loss, and impacts to water quality would be reduced by diverting stormwater and trapping sediment during activity.
- Pitless or aboveground closed-loop drilling technology would be used to the extent technically feasible. Recycle drilling mud and completion fluids for use in future drilling activities.
- Where needed, pits would be lined with an impermeable liner. Pits would not be placed in fill material or natural watercourses, and pits may not be cut or trenched.
- Fertilizer would not be applied within 500 feet of wetlands and waterbodies.
- Vehicle and equipment servicing and refueling activities would take place 500 feet from the outer edge of riparian areas, wet areas, and drainages.
- Activity may be restricted during wet or frozen conditions. Mechanized equipment use would be avoided if the equipment causes rutting to a depth of 4 inches or greater.
- Vehicle wash stations would be used prior to entering or leaving disturbance to reduce the transport and establishment of invasive species.
- Invasive species plant parts would not be transported off site without appropriate disposal measures.
- Use alternative energy (solar or wind power) to power new water source developments.

- Overhead power lines, where authorized would follow the recommendations in the most recent guidance from the Avian Power Line Interaction Committee (1994, as amended 2006, 2012).
- Weed management prescriptions would be included in all new treatment projects and incorporated into existing contracts, agreements, task forces, designated weed-free management areas, and land use authorizations that resulted in ground-disturbing activities.
- Whenever possible, ROWs would be constructed within or next to compatible ROW's, such as roads, pipelines, communications sites, and railroads.
- The operator shall be responsible for locating and protecting existing pipelines, power lines, communication lines, and other related infrastructure.
- Potential changes in climate would be considered when proposing restoration seedings when using native plants. Collection from the warmer component of the species current range would be considered when selecting native species.

Appendix G:
Adaptive Management Strategy for GRSG Habitat Management

Adaptive Management Strategy for GRSG Habitat Management

Adaptive management is a decision process that promotes flexible resource management decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood. Careful monitoring of these outcomes both advances scientific understanding and helps with adjusting resource management directions as part of an iterative learning process. Adaptive management also recognizes the importance of natural variability in contributing to ecological resilience and productivity. It is not a 'trial and error' process, but rather emphasizes learning while doing. Adaptive management does not represent an end in itself, but rather a means to more effective decisions and enhanced benefits.

In relation to the BLM National Greater Sage-grouse Planning Strategy, adaptive management will help identify if sage grouse conservation measures contain the needed level of certainty for effectiveness. Principles of adaptive management are incorporated into the conservation measures in the plan to ameliorate threats to a species, thereby increasing the likelihood that the conservation measure and plan will be effective in reducing threats to that species. The following provides the BLM's adaptive management strategy.

This ROD/ARMP contains a monitoring framework plan (Appendix D, GRSG Monitoring Framework) that includes an effectiveness monitoring component. The BLM intends to use the data collected from the effectiveness monitoring to identify any changes in habitat condition related to the goals and objectives of the plan and other range-wide conservation strategies (US Department of the Interior 2004; Striver et al. 2006; US Fish and Wildlife Service 2013). The information collected through the Monitoring Framework Plan outlined in the GRSG Monitoring Framework Appendix will be used by the BLM to determine when adaptive management hard and soft triggers (discussed below) are met. The GRSG adaptive management plan provides regulatory assurance that the means of addressing and responding to unintended negative impacts to greater sage-grouse and its habitat before consequences become severe or irreversible.

The hard and soft trigger data will be analyzed as soon as it becomes available after the signing of the ROD and then at a minimum, analyzed annually thereafter.

Adaptive Management Triggers

Adaptive management triggers are essential for identifying when potential management changes are needed in order to continue meeting GRSG conservation objectives. The BLM will use soft and hard triggers.

Soft Triggers:

Soft triggers are indicators that management or specific activities may not be achieving the intended results of conservation action. The soft trigger is any negative deviation from normal trends in habitat or population in any given year, or if observed across two to three consecutive years. Metrics include, but are not limited to, annual lek counts, wing counts, aerial surveys, habitat monitoring, and DDCT evaluations. BLM field offices, local Montana Fish, Wildlife and Parks (FWP) offices, and GRSG working groups will evaluate the metrics. The purpose of these strategies is to address localized GRSG population and habitat changes by providing the framework in which management will change if monitoring identifies negative population and habitat anomalies.

Each major project (EIS level) will include adaptive management strategies in support of the population management objectives for GRSG set by the State of Montana, and will be consistent with this GRSG Adaptive Management Plan. These adaptive management strategies will be developed in partnership with the State of Montana, project proponents, partners, and stakeholders, incorporating the best available science.

If the BLM finds that the State of Montana is implementing a GRSG Habitat Conservation Program that is effectively conserving the GRSG, the BLM will review the management goals and objectives to determine if they

are being met and whether amendment of the BLM plan is appropriate to achieve consistent and effective conservation and GRSG management across all lands regardless of ownership.

In making amendments to this plan, the BLM will coordinate with the USFWS as BLM continues to meet its objective of conserving, enhancing and restoring GRSG habitat by reducing, minimizing or eliminating threats to that habitat.

Soft Triggers Response:

Soft triggers require immediate monitoring and surveillance to determine causal factors and may require curtailment of activities in the short- or long-term, as allowed by law. The project level adaptive management strategies will identify appropriate responses where the project's activities are identified as the causal factor. The BLM and the adaptive management group will implement an appropriate response strategy to address causal factors not addressed by specific project adaptive management strategies, not attributable to a specific project, or to make adjustments at a larger regional or state-wide level.

Hard Triggers:

Hard triggers are indicators that management is not achieving desired conservation results. Hard triggers would be considered an indicator that the species is not responding to conservation actions, or that a larger-scale impact is having a negative effect.

Hard triggers are focused on three metrics: 1) number of active leks, 2) acres of available habitat, and 3) population trends based on annual lek counts.

Within the context of normal population variables, hard triggers shall be determined to take effect when two of the three metrics exceeds 60% of normal variability for the BSU in a single year, or when any of the three metrics exceeds 40% of normal variability for a three year time period within a five-year range of analysis. A minimum of three years is used to determine trends, with a five- year period preferred to allow determination of three actual time periods (Y1-2-3, Y2-3-4, Y3-4-5). Baseline population estimates are established by pre-disturbance surveys, reference surveys and account for regional and statewide trends in population levels. Population count data in Montana are maintained by Montana Fish, Wildlife, and Parks (MTFWP). Estimates of population are determined based upon survey protocols determined by MTFWP, and are implemented consistently throughout the state. Population counts are tracked for individual leks and are then summarized for each Priority Habitat Management Area (PHMA).

Hard Trigger Response:

Hard triggers represent a threshold indicating that immediate action is necessary to stop a severe deviation from GRSG conservation objectives set forth in the BLM plan. As such, the ROD/ARMP includes a "hard-wired" plan-level response; that is, it provides that, upon reaching the trigger, a more restrictive alternative, or an appropriate component of a more restrictive alternative analyzed in the PRMP/FEIS will be implemented without further action by the BLM. Specific "hard-wired" changes in management are identified in Table G-1, Specific Management Responses.

In addition to the specific changes identified in Table G-1, the BLM will review available and pertinent data, in coordination with GRSG biologists and managers from multiple agencies including the USFWS, NRCS, and the State of Montana, to determine the causal factor(s) and implement a corrective strategy. The corrective strategy will include the changes identified in Table G-1 and could also include the need to amend or revise the RMP to address the situation and modify management accordingly.

When a hard trigger is hit in a BSU including those that cross state lines, the WAFWA Management Zone Greater Sage-Grouse Conservation Team will convene to determine the causal factor, put project-level responses in place, as appropriate and discuss further appropriate actions to be applied. (BSU is the total of all the PHMA within a GRSG population delineated in the COT report.) Adoption of any further actions at the plan level may require initiating a plan amendment process.

Table G-1: Specific Management Responses

Program	Adaptive Management Response
GRSG Management	Areas within and adjacent to PHMA where a hard trigger has been reached will be the top priority for regional mitigation habitat restoration and fuels reduction treatments.
Vegetation Management	PHMA will be the top priority for regional mitigation, habitat restoration and fuels reduction treatments.
Wildland Fire Management	Reassess GRSG habitat needs to determine if priorities for at risk habitats, fuels management areas, preparedness, suppression and restoration have changed.
Livestock Grazing	For areas not achieving the GRSG habitat objectives due to grazing, apply adjustments to livestock grazing to achieve objectives.
Rights of Way – Existing Corridors	Retain the corridors as mapped, but limit the size of new lines within the corridors to same as existing structures, or not larger than 138kV.
Wind Energy Development	No change from ROD/ARMP.
Industrial Solar	No change from ROD/ARMP.
Comprehensive Travel and Transportation Management	If travel management planning has not been completed within GRSG habitat, PHMA areas where the hard trigger was met would be the highest priority for future travel management planning efforts. If travel management has been completed within GRSG habitat in the PHMA where the hard trigger was met, re-evaluate designated routes to determine their effects on GRSG. If routes are found to be causing population-level impacts, revise their designation status to reduce the effect.
Fluid Minerals	No change from ROD/ARMP.
Locatable Minerals	No change from ROD/ARMP.
Salable Minerals	No change from ROD/ARMP.
Non-energy Leasable Minerals	No change from ROD/ARMP. Not known to exist in the planning area (see Chapter 1).

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Appendix H:
Best Management Practices

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H. 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).

H.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

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.

H.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, MY 59801-3199 or local MY 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/

H.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

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. Preventions measures are found in Table 2-7, on page 2-24 of the Final

Programmatic EIS (June 2007) and ROD (September 2007). (PEIS)

H.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, Avian Power Line Interaction Committee www.aplic.org, Edison Electric www.eei.org, California Energy Commission 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."

H.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 (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 (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 (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).

H.6 Fluid Minerals

Best Management Practices for Oil and Gas Development on Public Lands

Available from: 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; 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.

H.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 remining 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.

H.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.

H.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.

H.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

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:

H.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 CO2.
- 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 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 specials 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 sate-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 outlines 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), 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. 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, case 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.

H.12 BLM 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 PElS (BLM 2005). The PElS 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 PElS. 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,[1] Wild and Scenic Rivers, and National Historic and Scenic Trails) and Areas of Critical Environmental Concern (ACECs).[2] 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.
- 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 wi1l 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 PElS 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 PElS 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 PElS may be consulted in determining site-specific requirements. Public involvement will be incorporated into all

[1] 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).
[2] Although the MPDS developed for this PElS (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.

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 PElS to the extent that the proposed project falls within the scope of the PElS analyses.

- Site-specific environmental analyses will tier from the PElS and identity and assess any cumulative impacts that are beyond the scope of the cumulative impacts addressed in the PElS.
- 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(l9) (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 identity 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 I: Incorporating GRSG RMP Decisions into Grazing Authorizations

Incorporating GRSG RMP Decisions into Grazing Authorizations

Purpose

The purpose is to provide recommended language; outline the process for prioritizing the review and processing of grazing permits/leases to determine if modification is necessary (prior to renewal and in accordance with prioritization criteria); provide direction for including specific management thresholds and defined responses that will allow adjustments to livestock grazing within the terms and conditions of permits; and provide a process for prioritizing compliance monitoring within Sagebrush Focal Areas (SFAs) and Priority Habitat Management Areas (PHMAs).

Background

The BLM manages approximately 18,000 livestock grazing permits and leases on the public lands. Livestock grazing is an integral part of the BLM multiple-use mission and is authorized by the Taylor Grazing Act (1934), the Federal Land Policy Management Act (1976) and the Public Rangeland Improvement Act (1978). By statute and regulation, grazing leases and permits are normally issued for 10-year periods. Annually, a range of 1,200 to 3,200 grazing permits expire and the BLM receives 500 to 1,500 grazing permit/lease transfer requests.

The BLM currently issues permits/leases in accordance with:

- All applicable law, regulation, policy (NEPA, consultation, proposed/final grazing decision-also known as a fully processed permit); or
- Various appropriation authorities enacted between 1999 and 2014 extending terms and conditions of expiring or transferred permits/leases that the BLM is unable to fully process before their expiration; or
- Section 402(c)(2) of FLPMA (as amended by Public Law 113-291, enacted December 19, 2014).

Congress has acted to ensure that grazing permittees could continue to graze if the BLM is unable to complete the environmental analysis mandated by the NEPA and other applicable laws. Since 1999, a provision ("the rider") has been included in the Interior Appropriations bill that, in various forms, GHMAly authorizes the BLM to renew grazing permits and leases under their same terms and conditions until it fully processes the permit renewal in compliance with NEPA, ESA, and other legal or regulatory requirements. The most recent rider is contained in Section 411, Public Law 113-76.[1] The FLPMA amendment to Section 402 (c) allows BLM to renew grazing permits and leases under the same terms and conditions. This relieves the BLM's renewal processing workload, allowing the BLM to prioritize permit processing based on sensitivity of the resources at issue.[2]

The BLM may modify terms and conditions of a permit or lease at any time following completion of appropriate analysis and consultation, cooperation, and coordination with the affected lessees or permittees, the State having

[1] The Consolidated Appropriations Act, 2014 includes the provision Section 411 which states: "Section 415 of division E of Public Law 112–74 is amended by striking ''and 2013'' and inserting ''through 2015.'' The terms and conditions of section 325 of Public Law 108-108 (117 stat. 1307), regarding permits at the Department of the Interior and the Forest Service, shall remain in effect through fiscal year 2015. A grazing permit or lease issued by the Secretary of the Interior for lands administered by the Bureau of Land Management that is the subject of a request for a grazing preference transfer shall be issued, without further processing, for the remaining time period in the existing permit or lease using the same mandatory terms and conditions. If the authorized officer determines a change in the mandatory terms and conditions is required, the new permit must be processed as directed in section 325 of Public Law 108-108." Where a FO is unable to fully process a permit renewal in compliance with all applicable laws prior to the permit expiration, Section 411 extends the authority to renew the grazing permit with the same terms and conditions as the expiring permit. Section 325 provides the process for authorizing grazing until a permit or lease is issued in compliance with all applicable law and regulatory processes.

[2] The newly amended section 402(c) of FLPMA provides permanent authority to BLM to renew expiring permits. That section states, "The terms and conditions in a grazing permit or lease that has expired, or was terminated due to a grazing preference transfer, shall be continued under a new permit or lease until the date on which the Secretary concerned completes any environmental analysis and documentation for the permit or lease required under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) and other applicable laws."

lands or responsible for managing resources within the area, and the interested public.[3] Under 43 C.F.R. 4160.1, the BLM must serve a proposed decision on any affected applicant, permittee or lessee, any agent and lien holder of record. Copies of the decisions are provided to the interested publics.

Recommended Language to be incorporated as Livestock Grazing Management Actions within the GRSG ADPPs:

- The BLM will prioritize the review of grazing permits/leases, including those prior to renewal to determine if modification is necessary, and processing of grazing permits and leases, in Sagebrush Focal Areas (SFAs) followed by PHMAs outside of the SFAs. In setting workload priorities, precedence will be given to existing permits/leases in areas not meeting Land Health Standards, with focus on those containing riparian areas, including wet meadows. The BLM may use other criteria for prioritization to respond to urgent natural resource conditions (ex., fire) and legal obligations.
- The NEPA analysis for renewals and modifications of livestock grazing permits/leases that include lands within PHMAs will include specific management thresholds based on GRSG Habitat Objectives Table and Land Health Standards (43 CFR 4180.2) and defined responses that will allow the authorizing officer to make adjustments to livestock grazing without conducting additional NEPA.
- Allotments within PHMAs, and focusing on those containing riparian areas, including wet meadows, will be prioritized for field checks to help ensure compliance with the terms and conditions within the grazing permits. Field checks could include monitoring for actual use, utilization, and use supervision.
- At the time a permittee or lessee voluntarily relinquishes a permit or lease, the BLM will consider whether the public lands where that permitted use was authorized should remain available for livestock grazing or be used for other resource management objectives.

Addressing GRSG RMP Amendments/Revisions Objectives in Grazing Permits/Leases

BLM will develop criteria to prioritize the workload to process permits/leases (either fully processed or reauthorized based on the Appropriations rider, or issued under Section 402(c)(2) of FLPMA) and determine whether modification is necessary prior to renewal within PHMAs, beginning with those in SFAs. In setting priorities, those containing riparian areas and areas not meeting Land Health Standards (43 C.F.R. 4180) will take precedence. Potential criteria for prioritizing permit modifications could include:

- Are there riparian areas or wet meadows in the permit/lease area?
- Was current livestock grazing identified as a causal factor for not meeting Land Health Standards?
- Since the last allotment/watershed evaluation, is there current monitoring information to determine that the watershed/allotment is currently achieving or making significant progress towards achieving land health standards?
- Does the permit have terms and conditions adequate to ensure proper grazing practices to meet GRSG habitat objectives found in the Special Status Species section of the land use plan?
- Is there data that indicates that the GRSG habitat objectives, including the Habitat Objectives table, found in the Special Status Species section of the land use plan are being met?
- Is there a request from the permittee to modify the terms and conditions of his/her permit?

Additionally, if an existing permit/lease within PHMAs requires modification because current grazing is a significant causal factor for not meeting the Land Health Standards, the BLM will prepare the appropriate NEPA analysis and issue the proposed/final grazing decision under 43 C.F.R. Subpart 4160, subject to administrative appeal and potential judicial challenge.

[3] 43 CFR 4130.3-3 states: Following consultation, cooperation and coordination with the affected lessees or permittees, the State having lands or responsible for managing resources within the area, and the interested public, the authorized officer may modify terms and conditions of the permit or lease when the active grazing use or related management practices are not meeting the land use plan, allotment management plan or other activity plan, or management objectives, or is not in conformance with the provisions of subpart 4180 (Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration).

The NEPA analysis for renewals and modifications of livestock grazing permits/leases that include lands within SFAs and PHMAs will include specific management thresholds based on GRSG Habitat Objectives Table and Land Health Standards (43 CFR 4180.2) and defined responses that will allow the authorizing officer to make adjustments to livestock grazing without conducting additional NEPA. Adjustments to meet seasonal Sage-Grouse habitat requirements could include:

- Season or timing of use;
- Numbers of livestock (includes temporary non-use or livestock removal);
- Distribution of livestock use;
- Intensity of use; and
- Type of livestock (e.g., cattle, sheep, horses, llamas, alpacas and goats).

Compliance Monitoring

The BLM will monitor grazing permits/leases renewed or modified in accordance with the direction contained in this guidance as follows: Allotments within SFAs, followed by those in other PHMA, and focusing on those with riparian areas, will be prioritized for monitoring to ensure compliance with the terms and conditions in the permits. The BLM will collect, at a minimum, the following monitoring data:

- Vegetation Condition
- Actual Use
- Utilization
- Use Supervision

Concerning Voluntary Relinquishments

All ADPPs will include the following language:

At the time a permittee or lessee voluntarily relinquishes a permit or lease, the BLM will consider whether the public lands where that permitted use was authorized should remain available for livestock grazing or be used for other resource management objectives.

For completing this, BLM offices should use WO IM 2013-184 Relinquishment of Grazing Permitted Use or the most recent policy guidance.

Range Allotments

Allotment Number	Public Acres	Public AUMs	Manage-ment Status[1]	Livestock Kind[2]	Land Health Status[3] Determination/ Standard/ Causal Factor/ Year	Threatened, Endangered, and Special Status Species[5]	Sage Grouse Status[4]
1	38313	50 AUMS 120 AML	M	C WH/B	Not Meeting / 1,2,5/wild horses/ 2004	FM, PB, TBEB, MP, PF, YCT, DR, DM, MPP, LB, OEP, PC, SHOSH, SM, WM, YB	None
955	40	6	C	C	None	WO, GB	None
960	1533	213	M	C	None	BTPD, GSG	RHMA
970	640	146	C	C	None		None
978	40	6	C	C	None	GB	None
1460	1493	192	M	C	None	TBEB, GSG, RHW	None
1555	320	72	C	C	Meeting 2009	BTPD, WTPD, BO, GSG	PHMA
3114	40	4	C	C	None	GSG	RHMA
3155	320	45	M	C	None	BTPD	None
3195	474	81	C	C	None	TBEB, RHW	None
4100	230	48	C	C	SPT /1,5/ weeds/ 2008	BTPD, GSG, MS	GHMA
4101	6013	1253	I	C	Meeting 2002	BTPD, BO, GE, GSG, MP	PHMA
4103	50	15	C	C	SPT/1,5/weeds/2009	GSG, GSHL	None
4104	540	63	C	C	Meeting 2010	GSG	None
4105	20216	614	I	C	Meeting 2002	FM, PB, TBEB, BGG, BRSP, CCL, GSG, MP, ST, LS, YCT, GSHL, DR, DD, DM, GEM, MPP, OEP, SC, SH, WRM, YB	PHMA
4106	200	36	C	C	Meeting 2009	GSHL, YB	None
4107	120	20	C	C	Meeting 2008		None
4108	20	5	C	C	Meeting 2008		None
4109	880	210	C	C	Meeting 2009	BTPD, GSG, MS	GHMA
4110	320	21	C	C	Meeting 2007	TBEB, MP, DM, GEM, WRM, YB	None
4111	1475	228	I	C	Meeting 2009	GSG, GSHL, MS	PHMA

Allotment Number	Public Acres	Public AUMs	Manage-ment Status[1]	Livestock Kind[2]	Land Health Status[3] Determination/ Standard/ Causal Factor/ Year	Threatened, Endangered, and Special Status Species[5]	Sage Grouse Status[4]
4112	520	40	C	C	Meeting 2006	GSG, GSHL	PHMA
4113	3331	453	I	C	Meeting 2011	BO, GSG, DM	PHMA
4114	1000	161	M	C	Meeting 2009	WTPD, BTPD, BO, GSG	PHMA
4115	17101	1767	M	C	Meeting 2002	TBEB, BGG, BRSP, GSG, BO, ST, LS, MP, YCT, GSHL, DD, NA, SC, SMBU, SH	PHMA
4116	200	37	C	C	Meeting 2011		None
4117	20	5	C	C	Meeting 2008		None
4118	1088	110	M	C	Meeting 2007	GSG	PHMA
4119	1320	309	M	C	Meeting 2007	GSG, GSHL	PHMA
4120	505	76	M	C	SPT/1,5/weeds/2009	GSG, GSHL	PHMA
4122	520	132	C	C	Meeting 2000		None
4123	80	16	C	C	Meeting 2009		None
4124	280	34	M	C	Meeting 2002	BGG, BRSP, GSG, BO	PHMA
4125	468	76	C	C	Meeting 2002		None
4126	1338	218	M	C	Meeting 2003	TBEB, GSHL, GM, PC	None
4127	320	32	C	C	Meeting 2008	GSG, PS	PHMA
4128	240	37	C	C	SPT/1,5/weeds/2008	GSG	GHMA
4129	880	146	M	C	Meeting 2007	GSG, MS, PS	PHMA
4131	1894	275	M	C	Meeting 2007	BGG, GSG, PS	PHMA
4132	960	107	M	C	Meeting 2002	BGG, GSG, BRSP, LS, ST, LBC, YCT, GSHL	PHMA
4133	1380	196	M	C	Meeting 2002	BGG, BRSP, GSG, LBC, ST, LS	PHMA
4134	720	7	C	C	Meeting 2003		None
4135	4943	432	I	C	Meeting 2011	BGG, BOB, BO, GSG, ST	PHMA
4136	80	28	C	C	Meeting 2002	BO, GSG	PHMA
4137	963	288	M	C	Meeting 2003	FH, GE, GSG	PHMA
4138	40	7	C	C	Meeting 2009		None
4140	1635	456	C	C	Meeting 1999	GE, GSG	PHMA
4141	480	127	M	C	Meeting 2009	BTPD, GSG	GHMA

Allotment Number	Public Acres	Public AUMs	Manage-ment Status[1]	Livestock Kind[2]	Land Health Status[3] Determination/ Standard/ Causal Factor/ Year	Threatened, Endangered, and Special Status Species[5]	Sage Grouse Status[4]
4142	40	12	C	C	Meeting 2004	BE	GHMA
4143	608	158	M	C	Meeting 2002	GSG	PHMA
4144	2658	443	M	C	Meeting 2010	GSG	GHMA
4145	160	55	C	C	Meeting 2000		None
4147	40	4	C	C	Fail/1,5/livestock/2009	GSG	PHMA
4148	840	77	I	C	None	CL, GB, WO, GSG, BLFG	PHMA
4150	890	94	C	C	Meeting 2002	GSG	PHMA
4151	160	46	M	C	Meeting 2002	GSG	PHMA
4152	1818	169	M	C	Meeting 2002	BTPD, BE, GSG, SA, SS	RHMA
4153	160	30	C	C	Meeting 2003	GSG	RHMA
4154	200	30	C	C	Meeting 2003	BTPD, BE, GSG, RHW, SA, SS	RHMA
4156	369	58	C	C	Meeting 2009	GB, PF	None
4157	160	16	C	C	Meeting 2011		None
4158	240	37	C	C	Meeting 2006	BTPD	None
4159	640	94	M	C	Meeting 2004		None
4160	1440	388	I	C	Fail/1,5/livestock/2002	BTPD, GSG	RHMA
4161	3275	281	I	C	Meeting 2011	GSG	PHMA
4162	80	16	C	C	Meeting 2003	YBC	None
4163	40	8	C	C	Meeting 2003	YBC	None
4165	640	180	M	C	SPT/1,5/livestock/2008		None
4166	120	24	C	C	Meeting 2001		None
4167	7515	427	I	C	SPT/1,5/livestock/2005	BRSP, GE, GSG, LS, GSHL, YB	PHMA
4168	40	5	C	C	Meeting 2009	GB, WO, NG	None
4169	265	44	C	C	Meeting 2008	GSG	None
4170	320	47	C	C	Meeting 2010	GSG	RHMA
4171	290	57	C	C	Meeting 2011		None
4172	40	4	C	C	None	BE	None
4173	40	5	C	C	None	GB, WO	None
4175	40	8	C	C	None	GSG	PHMA
4803	35	9	C	C	Meeting 2011	GSG, GSHL	None

Allotment Number	Public Acres	Public AUMs	Manage-ment Status[1]	Livestock Kind[2]	Land Health Status[3] Determination/ Standard/ Causal Factor/ Year	Threatened, Endangered, and Special Status Species[5]	Sage Grouse Status[4]
4804	300	20	M	C	Meeting 2011	GSG	PHMA
4808	472	111	C	C	Meeting 2009	GE, GSG	PHMA
4903	6734	1752	M	C	Meeting 2008	FH, GE, GSG	PHMA
4904	40	10	C	C	Meeting 2009	GSG	PHMA
4905	2160	508	M	C	Meeting 2006	GSG, GSHL	PHMA
4907	2562	528	I	C	SPT/1,5/livestock/2010	BTPD, BRSP, GE, GSG, ML, MP	PHMA
4908	160	62	M	C	Meeting 2007	GSG	GHMA
4911	960	275	C	C	Meeting 2009	BTPD, GE, GSG	PHMA
4912	40	6	C	C	Meeting 2007		None
4913	187	31	C	C	Meeting 2008	BRSP, GE, GSG, LS, ST, LIB	PHMA
4914	80	17	C	C	Meeting 2010	GSG	PHMA
4915	80	12	C	C	Meeting 2002	BTPD, GSG	PHMA
4916	40	9	C	C	Meeting 2006	GSG	PHMA
4917	200	48	C	C	Meeting 2008	BTPD, BO, GSG	GHMA
4919	40	12	M	C	Meeting 2002	BTPD, GE, GSG, GSHL	GHMA
4920	1120	133	M	C	Meeting 2009	BTPD, GE, GSG, GSHL	GHMA
4921	833	234	I	C	Meeting 2002	BTPD, GSG	PHMA
4922	317	102	M	C	Meeting 2008	GSG	PHMA
4924	1320	305	M	C	Meeting 1999	BTPD, BO, GSG	PHMA
4926	1021	304	M	C	Fails/1,5/livestock/2009	BTPD, GE, GSG	PHMA
4929	600	168	M	C	Meeting 2009	GSG	PHMA
4930	200	45	M	C	Meeting 2009	GSG	GHMA
4931	702	208	M	C	Meeting 2002	GSG	GHMA
4932	160	37	M	C	Meeting 2006	GSG	GHMA
4933	320	74	M	C	Meeting 2009		None
4934	2073	516	M	C	Meeting 2006	TBEB, GSG	GHMA
4935	800	230	M	C	Meeting 2009		None
4936	680	69	M	C	SPT/1,5/weeds/2008		None
4937	640	210	M	C	STP/1/livestock/2005	GSG	PHMA
4938	160	39	M	C	Meeting 2000	GSG	PHMA

Allotment Number	Public Acres	Public AUMs	Manage-ment Status[1]	Livestock Kind[2]	Land Health Status[3] Determination/ Standard/ Causal Factor/ Year	Threatened, Endangered, and Special Status Species[5]	Sage Grouse Status[4]
4939	1400	315	I	C	SPT/1,5/livestock/2008		None
4940	2840	580	M	C	Meeting 2010		None
4941	2212	649	M	C	Meeting 2010	BTPD, BO, GSG, MP	PHMA
4942	70	12	C	C	Meeting 2003	SS	None
4943	1759	489	M	C	Meeting 2009	GSG	PHMA
4944	160	47	M	C	Meeting 2008	TBEB, GSG	None
4945	1911	531	I	C	Meeting 2009	GSG	GHMA
4947	7454	1825	M	C	Meeting 2009	GSG	PHMA
4948	640	178	M	C	Meeting 2009	GSG	GHMA
4949	5135	1298	M	C	Meeting 2008	BTPD, BRSP, BO, GE, GSG, ML, MP	PHMA
4950	967	259	I	C	STP/1/livestock/2005	GSG	PHMA
4951	1800	415	I	C	SPT/1,5/livestock/2008	GSG	PHMA
4952	160	41	M	C	Meeting 2008		None
4953	655	167	M	C	Meeting 2002		None
4954	1170	305	I	C	Meeting 2000	GSG	GHMA
4955	40	10	C	C	SPT/1/livestock/2009	GSG	GHMA
4968	1280	369	M	C	Meeting 2006	GSG	PHMA
4969	960	264	I	C	None	GSG	GHMA
4970	640	137	M	C	Meeting 2003	GSG	PHMA
4971	2561	731	I	C	Meeting 2002	BO, BRSP, CCL, GE, GSG, LBC, ML, RHW, ST	PHMA
4972	5776	1626	M	C	Meeting 2011	BTPD, FH, GSG	PHMA
4974	1180	401	M	C	Meeting 1999	BTPD, GSG, FH	GHMA
4975	800	288	I	C	Meeting 2008	FH, GSG, ML	PHMA
4976	320	114	M	C	Meeting 2006	FH, GSG	GHMA
4978	40	12	C	C	Meeting 2000	GSG	GHMA
4979	640	245	M	C	Meeting 2002	BRSP, CCL, GSG, LBC, ML, RHW, ST	PHMA
4980	320	125	M	H	Meeting 1998	GSG	GHMA
4981	6520	1344	I	C	Meeting 2004	BTPD, BO, FH, GSG, ML	PHMA
4982	320	96	M	C	Meeting 2001	GSG	GHMA

Allotment Number	Public Acres	Public AUMs	Manage-ment Status[1]	Livestock Kind[2]	Land Health Status[3] Determination/ Standard/ Causal Factor/ Year	Threatened, Endangered, and Special Status Species[5]	Sage Grouse Status[4]
4983	200	47	M	C	Meeting 2002	GE, GSG	PHMA
4984	664	257	M	C	Meeting 2006	GSG	GHMA
4985	160	50	C	C	Meeting 2008	BRSP, CCL , GSG, ML, LBC, RHW, ST	GHMA
4986	40	9	C	C	Meeting 2002	WHNS	None
4987	40	9	C	C	Meeting 2009	GSG, WHNS	PHMA
4988	2986	734	I	C	Meeting 2002	BTPD, BO, FH, GSG, ML	PHMA
4989	1011	193	C	C	Meeting 1999	BTPD, GSG	PHMA
4991	800	169	M	C	Meeting 2002	GSG	PHMA
4992	492	174	M	C	Meeting 2002	GE, GSG	PHMA
4994	520	102	C	C	SPT/1/weeds/2009	BTPD, GE, GSG	PHMA
4995	240	55	C	C	Meeting 2009	BTPD, BO ,GSG	PHMA
4996	480	94	C	C	Meeting 2009	BTPD, GE, GSG	PHMA
4997	120	22	C	C	Meeting 2002	GSG	PHMA
4998	200	48	C	C	Meeting 2002	GSG, WHNS	PHMA
4999	40	4	C	C	Meeting 2007	GSG	PHMA
5000	158	41	C	C	Meeting 2000	BTPD, GSG	PHMA
5002	512	110	C	C	Meeting 2007	GSG	PHMA
5004	80	24	C	C	Meeting 2009	GSG	PHMA
5006	160	36	C	C	Meeting 2004	BRSP, CCL, GSG, LS, ST	PHMA
5007	80	12	C	I	Meeting 2004	BTPD, BRSP, CCL, GSG, ST	PHMA
5008	160	17	C	C	Meeting 2009	BE, GSG	PHMA
5012	160	36	C	C	Meeting 2009	BTPD, GSG	PHMA
5020	640	150	C	C	Meeting 2009	BRSP, GSG, LS, ST	PHMA
5200	200	40	C	C	SPT/1,5/weeds/2008	GE, GSHL	GHMA
5201	40	7	C	C	None		None
5202	17447	1430	I	C	Meeting 2003	BRSP, GE, GSG, LS	PHMA
5203	9552	1021	I	C	Meeting 2004	CL, GB, WO, GE, GSG, LS, PS, BLFG, SHOSH	PHMA
5204	1340	88	M	C	Meeting 2009	BRSP, GSG, ST	PHMA
5205	32	5	C	C	Meeting 2008	GSG	PHMA
5206	200	20	C	S	SPT/1,5/weeds/2008	GSHL	None

Allotment Number	Public Acres	Public AUMs	Manage-ment Status[1]	Livestock Kind[2]	Land Health Status[3] Determination/ Standard/ Causal Factor/ Year	Threatened, Endangered, and Special Status Species[5]	Sage Grouse Status[4]
5207	80	7	C	C	Meeting 2002	GE, GSG, GSHL	PHMA
5208	720	132	C	C	Meeting 2009	GSG	PHMA
5209	1115	127	M	C	Meeting 2003	GSG	PHMA
5210	10272	748	I	C	SPT/1,2/livestock/2006	BRSP, GE, GSG, LS, ST	PHMA
5212	40	13	C	S	Fails/1/livestock/2008	GSG	GHMA
5213	5940	481	M	C	SPT/1,5/livestock/1999	GSG, GSHL, MS, PS	PHMA
5214	1970	151	M	C	SPT/1/livestock/2009	BTPD, GSG	PHMA
5215	480	60	C	C	Fails/1,5/livestock/2009	GSG, GSHL	PHMA
5217	6961	442	M	C	Meeting 2002	WTPD, BO, GSG, GM, OEP	PHMA
5219	200	24	C	C	Meeting 2008	GE, GSG, GSHL	PHMA
5220	80	16	C	H	Meeting 2009	WO	None
5221	520	68	M	C	SPT/1,5/livestock/2003	GSG	PHMA
5222	80	16	C	C	Meeting 2000	GSHL	None
5223	35	12	C	C	Meeting 2006	GSG	None
5224	1395	90	M	C	Meeting 2004	GSG	PHMA
5225	15294	1295	I	C	Meeting 2003	GB, WO, BRSP, GE, GSG, LS, LBC, PF, ST, GSHL, BLFG,SHOSH	PHMA
5228	240	30	C	C	Meeting 2004	GSHL	None
5229	1837	201	C	C	Meeting 2002	BRSP, GE, GSG, LS, LBC	PHMA
5231	160	40	C	H	Meeting 2004		None
5232	1040	120	I	C	Meeting 2007	GSG	GHMA
5233	255	52	M	C	None	BRSP, GSG, LBC	PHMA
5235	6369	425	I	C	Meeting 2004	GE, GSG, LS, GSHL, MS, DM	PHMA
5300	5240	856	I	C	Meeting 2006	BTPD, GSG	RHMA
5302	2147	344	I	C	Meeting 2006	BTPD, BO, GSG, GSHL, MS	RHMA
5304	3035	351	I	C	Meeting 2010	BTPD, BE, SA, SS	None
5307	960	130	M	C	Meeting 1999	GSG	None
5308	380	134	C	C	Meeting 2001		None
5309	400	78	C	C	Meeting 2009	BTPD, BO, GSG	RHMA
5310	839	146	C	C	Meeting 2003	BTPD, BE, GSG, SA, SS	RHMA

Allotment Number	Public Acres	Public AUMs	Manage-ment Status[1]	Livestock Kind[2]	Land Health Status[3] Determination/ Standard/ Causal Factor/ Year	Threatened, Endangered, and Special Status Species[5]	Sage Grouse Status[4]
5311	3275	455	I	C	Meeting 2006	BE, GSG	RHMA
5312	2480	300	M	C	Meeting 2006	TBEB, GSG	RHMA
5314	1910	610	M	C	Meeting 2009	BTPD, GSG	RHMA
5318	1355	175	M	C	Meeting 2008	GSG	None
5320	1577	222	I	C	Meeting 2006	BTPD	None
5322	638	89	M	C	Meeting 2006	BTPD, GSG	RHMA
5324	80	15	C	C	Meeting 2011	GSG	None
5326	480	70	M	C	Meeting 2004	BTPD, BE, GSG, SA, SS	RHMA
5329	120	12	C	C	Meeting 2006	BTPD, BE, GSG	RHMA
5330	184	24	C	C	Meeting 2011		None
5331	200	36	M	C	Meeting 2010	BTPD, GSG	None
5332	960	248	M	C	Meeting 2002		None
5333	160	37	M	C	Meeting 2001		None
5335	320	36	C	C	Meeting 2008		None
5337	1082	111	M	C	Meeting 2006	TBEB, RHW	None
5338	1033	166	M	C	Meeting 2006	BTPD, GSG	RHMA
5339	1600	266	M	C	Meeting 2002		RHMA
5340	640	92	M	C	Meeting 2003	GE, GSG	RHMA
5341	4000	542	M	C	Meeting 2006	BTPD, BE, GSG, SA, SS	None
5342	80	15	C	C	Fails/1,5/livestock/2009	BE, BO	None
5344	640	45	M	C	SPT/1/OHV/2009	GSG	None
5345	1465	79	C	C	Meeting 2010	GSG	RHMA
5346	320	50	C	C	Meeting 2001		None
5347	320	55	C	C	Meeting 2000	GSG	RHMA
5348	1916	384	M	C	Meeting 2000		None
5349	136	16	C	C	Meeting 2000		None
5350	1980	273	I	C	Meeting 2006	BTPD, BE, BO, GSG	RHMA
5353	1258	180	C	C	Meeting 2006	GE, GSG	RHMA
5354	40	21	C	C	Meeting 2006	BTPD, GSG, LS	RHMA
5355	1760	313	M	C	Meeting 2007	BTPD, GSG	RHMA
5356	3559	483	I	C	Meeting 2010	BTPD, GSG	RHMA

Allotment Number	Public Acres	Public AUMs	Manage-ment Status[1]	Livestock Kind[2]	Land Health Status[3] Determination/ Standard/ Causal Factor/ Year	Threatened, Endangered, and Special Status Species[5]	Sage Grouse Status[4]
5357	37	8	C	C	Meeting 2008		None
5361	320	48	M	C	Meeting 2008	BTPD, GSG	RHMA
5362	560	72	M	C	SPT/1,5/livestock/2010	BE, GSG, SA, SS	RHMA
5363	320	53	M	C	Meeting 2006	GSG	RHMA
5370	4039	679	M	C	Meeting 2006	BTPD, GSG	RHMA
5371	980	169	M	C	Meeting 2006	BTPD, GSG	RHMA
5372	640	100	M	C	Meeting 2006	GSG	None
5375	68	24	C	C	Meeting 2008	GSG, GSHL	RHMA
5377	233	34	C	C	Meeting 2002	GSG	RHMA
5378	1280	213	M	C	Meeting 2002		RHMA
5379	1708	290	M	C	Meeting 2003	BTPD, GSG, GSHL	RHMA
5380	1672	347	M	C	Meeting 2003	BTPD, BE, GSG, SA, GSHL, SS	RHMA
5403	80	17	C	C	Fail/1/livestock/2010	BE, GE	None
5404	40	10	C	C	Meeting 2004		None
5405	132	30	C	C	Meeting 2010		None
5407	80	12	C	C	Meeting 2000	BOB	None
5409	896	184	C	C	Meeting 2006	GSG	GHMA
5414	388	75	M	C	Meeting 2009	CL, GB, WO	None
5416	80	23	C	C	Meeting 2004		None
5417	80	16	C	C	Meeting 2004		None
5418	40	8	C	C	Meeting 2006		None
5419	120	24	C	C	Meeting 2000		None
5424	78	12	C	C	Meeting 2010		None
5426	97	15	C	C	Meeting 2003	BE, GSHL	None
5427	119	24	C	C	Meeting 2008	GSG, PF	GHMA
5432	40	10	C	C	Meeting 2008		None
5434	160	50	C	C	Meeting 2008	GB, BOB, GSG	GHMA
5435	80	15	C	C	SPT/1,5/weeds/2008	BE, BOB	None
5437	308	60	C	C	Meeting 2001	GB, WO, GSG	None
5438	40	13	C	C	Meeting 2008		None
5439	360	24	C	C	Meeting 2009	CL, GB, WO	None

Allotment Number	Public Acres	Public AUMs	Manage-ment Status[1]	Livestock Kind[2]	Land Health Status[3] Determination/ Standard/ Causal Factor/ Year	Threatened, Endangered, and Special Status Species[5]	Sage Grouse Status[4]
5440	60	10	C	C	SPT/1,5/weeds/2008	BE, BOB	None
5441	40	8	C	C	SPT/1,5/weeds/2008		None
5444	120	29	C	C	Meeting 2006		None
5446	40	8	C	C	Meeting 2006		None
5449	40	10	C	C	Meeting 2007	BE	None
5451	414	62	C	C	Fail/1,5/livestock/2009	BE, GE	None
5453	215	49	C	C	Meeting 2008	GSG	GHMA
5454	320	36	C	C	Meeting 2003	GSG, YBC	GHMA
5458	80	20	C	C	Meeting 2002		None
5460	80	17	C	C	Meeting 2008	BOB	None
5461	480	24	C	C	Meeting 2001	GB, WO	None
5466	826	72	C	C	Meeting 2011	GB, WO	None
5467	40	14	C	Y	Fail/1,5/weeds and fire/2007		None
5470	160	36	C	C	Meeting 2008	GSG	GHMA
5471	674	120	C	C	Meeting 2009		None
5472	40	6	C	C	Meeting 2008		NONE
5474	533	163	C	C	Meeting 2009	GSG	GHMA
5476	160	20	C	C	Meeting 2003	FM, GB, WO	None
5477	640	114	C	C	Meeting 2009	GSG, PF	GHMA
5483	91	8	C	C	Meeting 2009		None
5485	80	11	C	C	Meeting 2008	GB, PF	None
5486	40	9	C	C	Meeting 2008	BASP, LBC	None
5488	481	70	C	C	SPT/1,5/weeds/2008		None
5490	567	103	C	C	Meeting 2009	BE, GE, PF	None
5492	1197	266	C	C	Meeting 2003	GB, WO, YCT	None
5498	240	24	C	C	Meeting 2010		None
5500	81	18	C	C	Meeting 2009		None
5501	560	14	C	C	Meeting 2009	CL, GB, WO	None
5502	40	6	C	C	SPT/1,5/weeds and fire/2008	GB, WO	None
5503	520	63	C	C	Meeting 2009	GB, WO	None
5504	87	8	C	C	Meeting 2001		None

Allotment Number	Public Acres	Public AUMs	Manage-ment Status[1]	Livestock Kind[2]	Land Health Status[3] Determination/ Standard/ Causal Factor/ Year	Threatened, Endangered, and Special Status Species[5]	Sage Grouse Status[4]
5505	120	24	C	C	Meeting 2002	GB	None
5508	40	7	C	C	SPT/1,5/weeds/2008	BE, BOB, PF	None
5510	160	35	C	C	Meeting 2004	WO	None
5511	40	15	C	C	Meeting 2004		GHMA
5512	80	17	C	C	Meeting 2008		None
5515	80	20	C	C	Meeting 2008		None
5516	337	58	C	C	Meeting 2001		None
5517	1040	180	C	C	SPT/1,5/OHV/2010	YCT, GSHL, MS, SS, WHNS	None
5520	609	120	C	C	Meeting 2010	BE	None
5521	160	32	C	C	Meeting 2001		None
5522	843	133	C	C	Meeting 1999	GB, WO, BOB, GSG	None
5523	480	88	C	C	Meeting 2009		None
5524	160	34	C	C	Meeting 2008	GSG	GHMA
5525	40	9	C	C	Meeting 2006	GSG	GHMA
5532	107	42	C	C	Meeting 2008	GSG	GHMA
5533	72	28	C	C	Meeting 2004	BOB, GSG, PF	GHMA
5534	360	58	C	H	Meeting 2009		None
5535	40	8	C	C	Meeting 2004		None
5537	30	5	C	C	Meeting 2006	YBC	None
5539	40	8	C	C	Meeting 2008		None
5540	40	13	C	C	Meeting 2008	BOB, GSG, PF	None
5543	345	75	C	C	Meeting 2010	GB, WO, GSG	None
5544	160	20	C	C	Meeting 2002	GSG	GHMA
5545	685	215	C	C	Meeting 2000		None
5546	80	16	C	C	SPT/1,5/weeds & livestock/2008	MS	None
5547	2867	566	M	C	Meeting 2002	GE, GSG	PHMA
5548	710	139	I	C	Meeting 2009	GB	None
5549	40	12	C	C	Meeting 2008	FH, GSG	GHMA
5550	140	23	C	C	Meeting 2003	GB, WO	None
5552	802	167	C	C	SPT/1,5/weeds & fire/ 2008	GB, WO	None
5553	79	20	C	C	Meeting 2008	MS	None

Allotment Number	Public Acres	Public AUMs	Manage-ment Status[1]	Livestock Kind[2]	Land Health Status[3] Determination/ Standard/ Causal Factor/ Year	Threatened, Endangered, and Special Status Species[5]	Sage Grouse Status[4]
5555	303	66	C	C	Meeting 2009		None
5556	120	10	C	C	Meeting 2003	BE	None
5557	240	14	C	C	Meeting 2003	CL, GB, WO	None
5558	320	62	C	C	Meeting 2010	GB	None
5559	141	19	C	C	Meeting 2006	GSG	GHMA
5560	120	24	C	C	Meeting 2008		None
5562	240	46	C	C	Meeting 2004	GB, PF	None
5565	25	6	C	C	Meeting 2010	GSG	GHMA
5566	40	8	C	H	Meeting 2008	GSG	GHMA
5567	40	24	C	C	Meeting 2004		None
5568	40	5	C	C	None		None
5569	80	24	C	C	Meeting 2006	GSG	GHMA
5571	80	10	C	C	Meeting 2006	BE	None
5572	640	97	C	C	Meeting 2008	GSG	GHMA
5573	110	36	C	C	Meeting 1999	GSG	GHMA
5580	280	39	C	C	Meeting 2002		None
5581	160	26	C	C	SPT/1,5/weeds & fire/ 2008	GB	None
5582	40	10	C	C	Fail/3/unknown/2009	GSG	GHMA
5585	480	50	C	C	Meeting 2003	GB, YCT	None
5586	40	8	C	C	Meeting 2008		None
9648	40	7	C	C	Meeting 2009	GSG	GHMA
9652	40	14	C	C	Meeting 2008	LBC, MP	None
9654	40	13	C	C	Meeting 2006		None
9660	39	13	C	C	SPT/1,5/fire/2008	BE	None
9661	440	139	C	C	Meeting 2008		None
9667	160	26	C	C	Meeting 2010	GSG	GHMA
9678	205	35	C	C	Meeting 2008		None
9680	320	64	C	C	Meeting 2008	TBEB	None
9682	80	13	C	C	Meeting 2010		None
9686	40	6	C	C	Meeting 2006		None
9712	200	62	C	C	SPT/1,5/weeds/2009	GSG, WHNS	GHMA

Allotment Number	Public Acres	Public AUMs	Manage-ment Status[1]	Livestock Kind[2]	Land Health Status[3] Determination/ Standard/ Causal Factor/ Year	Threatened, Endangered, and Special Status Species[5]	Sage Grouse Status[4]
9719	160	22	C	C	Fails/2/livestock/2009	SS	None
9720	40	12	C	C	Meeting 2008	BE	None
9734	213	64	C	C	Meeting 2006		None
9736	80	21	C	C	Meeting 2001	SS	None
9737	80	16	C	C	Meeting 2009		None
9740	65	13	C	C	Meeting 2009		None
9744	520	121	M	C	Meeting 2008		None
9765	200	44	C	C	Meeting 2004	WO	None
9768	40	8	C	C	Meeting 2008	WO	None
9781	162	38	C	C	Meeting 2001	LBC	None
9789	31	8	C	C	Meeting 2008		None
9791	1042	336	M	C	Meeting 2009	BTPD, GE, GSG	PHMA
9792	38	10	C	C	Meeting 2008	LBC, MP	None
9805	160	64	C	C	Meeting 2001		None
9824	80	15	C	C	Meeting 2008	GSHL	None
9837	80	18	C	C	Meeting 2000		None
9840	169	37	C	C	Meeting 2008		None
9843	241	33	C	C	Meeting 2009		None
9844	240	54	C	C	Meeting 2009	GSG	PHMA
9845	320	102	C	C	Meeting 2010		None
1003*	20968	1642	M	C	None	WTPD, BRSP, GE, GSG, ST, PS	PHMA
1005*	5413	455	M	C	Fail/1,2,3,4/livestock/2011	WTPD, GSG, LS, PS, DD, GEM MC, OEP, SMBU, SH	PHMA
1011*	2660	140	C	C	None	PB, TBEB, WTPD, BGG, BRSP, GSG, LS, MP, ST, GSHL, SH, DM	PHMA

*Allotments administered by the Cody Field Office, but contain public lands located in Montana

1. **Management Status**
"I" means that the allotment is in an "Improve Status". Major goals and objectives are for improvement of ecological conditions.
"M" means that the allotment is in a "Maintain Status". Major goals and objectives are to maintain current acceptable ecological conditions.
"C" means that the allotment is in a "Custodial Status". Custodial allotments are typically small, isolated and unfenced parcels of public land with little or no management opportunity.

2. **Livestock Kind**

"C" = Cattle
"H" = Horses
"I" = Indigenous
"S" = Sheep
"Y" = Yearling (cattle)
"WH/B" = Wild Horse and Burro

3. **Land Health Status**

This column lists the results of the most recent monitoring data collected on the grazing allotment, and the year the determination was made.

Determination

Meeting- All standards for rangeland health are being achieved.
SPT- All standards other than those listed are achieving standards. The standard(s) listed is making significant progress towards meeting standards.
Fail- All standards other than those listed are achieving standards. The standard(s) listed are failing to achieve the standard.
None- No monitoring data has been collected on this allotment.

Standards

Montana standards for rangeland health

1. Upland health
2. Riparian and wetlands
3. Water quality
4. Air quality
5. Habitat
6. Air quality

Wyoming standards for rangeland health

1. Soil health
2. Riparian and wetland vegetation
3. Upland vegetation
4. Habitat
5. Water quality

Causal Factor

The influence(s) occurring or that has occurred on an allotment which has led to one or more of the standards not being achieved.

4. **Sage Grouse Status**

This column lists the Greater sage-grouse management status that an allotment occurs in. Allotments were categorized by the management status that afforded the most protection to the Greater sage-grouse. No consideration was made for percent acreage within a management category. For example, if an allotment had 1% of its public lands in a PHMA, and 99% of its public lands in GHMA habitat. The allotment was considered a PHMA.
PHMA = Priority Habitat Management Area
RHMA = Restoration Area
GHMA = General Habitat Management Area
None = No Greater sage-grouse habitat occurs on public lands

5. **Threatened, Endangered, Candidate, & Special Status Species**

This column lists the symbol for threatened, endangered, candidate, and special status species which occur on public lands within the grazing allotments. The common name, scientific name, and symbol used in the table above. The symbols used for these tables are not the official species codes. Rows that do not contain an entry do not have threatened, endangered, candidate, or special status species identified on public lands.

Common Name	Scientific Name	Symbol		Common Name	Scientific Name	Symbol
Baird's sparrow	*Ammodramus bairdii*	BASP		Miner's candle	*Cryptantha scoparia*	MC
Bald Eagle	*Haliaeetus leucocephalus*	BE		Mountain plover	*Charadrius montanus*	MP
Beartooth large-flowered goldenweed	*Pyrrocoma carthamoides Var. subsquarrosa*	BLFG		Nama	*Nama densum*	NA
Black-tailed prairie dog	*Cynomys ludovicianus*	BTPD		Northern goshawk	*Accipiter gentiles*	NG
Blue-gray gnatcatcher	*Polioptial caerulea*	BGG		Obscure evening-primrose	*Camissonia andina*	OEP
Bobolink	*Dolichonyx orysivorus*	BOB		Pallid bat	*Antrozous pallidus*	PB
Brewer's sparrow	*Spizella breweri*	BRSP		Peregrine falcon	*Falco peregrinus*	PF
Burrowing owl	*Athene cuncularia*	BO		Plains spadefoot	*Spea bombifrons*	PS
Canada lynx	*Lynx canadensis*	CL		Platte Cinquefoil	*Potentilla plattensis*	PC
Chestnut-collared longspur	*Calcarius ornatus*	CCL		Red-headed woodpecker	*Melanerpes erythrocephalus*	RHW
Daggett rockcress	*Arabis demissa var. languida*	DR		Sage thrasher	*Oreoscoptes montanus*	ST
Dwarf mentzelia	*Mentzelia pumila*	DM		Sauger	*Stizostendion canadense*	SA
Ferruginous hawk	*Buteo regalis*	FH		Shoshonea	*Shoshonea pulvinata*	SHOSH
Fringed myotis	*Myotis thysanodes*	FM		Small Camissonia	*Camissonia parvula*	SC
Geyer's Milkvetch	*Astragalus geyeri*	GEM		Smooth Buckwheat	*Stenogonum salsuginosum*	SMBU
Golden eagle	*Aquila chrysaetos*	GE		Spiney Softshell	*Apalone spinifera*	SS
Gray's milkvetch	*Astragalus grayi*	GM		Spiny hopsage	*Grayia spinosa*	SH
Greater sage-grouse	*Centrocercus urophasinus*	GSG		Sweetwater milkvetch	*Astragalus aretioides*	SM
Greater Short Horned Lizzard	*Phrynosoma hernandesi*	GSHL		Torrey's desert dandelion	*Malacothrix torreyi*	DD
Grizzly bear	*Ursus arctos horribilis*	GB		Western hog nosed snake	*Heterodon nasicus*	WHNS
Indian breadroot	*Pediomelum hypogaeum*	LIB		White-tailed prairie dog	*Cynomys leucurus*	WTPD
Lesica's Bladderpod	*Physaria lesicii*	LB		Windriver Milkvetch	*Astragalus oreganus*	WM
Loggerhead shrike	*Lanius ludovicianus*	LS		Wolvorine	*Gulo gulo*	WO
Long-billed curlew	*Numenius americanus*	LBC		Yellow beeplant	*Cleome lutea*	YB
Mat Prickley Phlox	*Leptodactylon caespitosum*	MPP		Yellow-billed cuckoo	*Coccyzus americanus*	YBC
McCown's longspur	*Calcarius mccownii*	ML		Yellowstone cutthroat trout	*Oncorhynchus clarki bouvieri*	YCT
Milk Snake	*Lampropeltis triangulum*	MS				

Appendix J:
Fluid Minerals

Procedures in Oil and Gas Recovery and Operations and Summary of the Billings Reasonably Foreseeable Development Scenario

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J. Fluid Minerals: Procedures in Oil and Gas Recovery and Operations and Summary of the Billings Reasonably Foreseeable Development Scenario

J.1 Geophysical Operations

Oil and gas reservoirs are discovered by either direct or indirect exploration methods. Direct methods include mapping of surface geology, observing oil or gas seeps, and gathering information on hydrocarbon shows observed in drilling wells. Indirect methods include various types of geophysical exploration such as seismic, gravity, and magnetic surveys, which use remote data gathering techniques to delineate subsurface structures or lithologic changes that are not directly observable, but that may contain or trap oil and gas. Data is often acquired using equipment mounted on surface vehicles or aircraft. Information from geophysical exploration can lead oil companies or others to request that lands be offered for lease, or assist in the selection of drill sites on existing leases. However, a federal oil and gas lease is not required in order to conduct geophysical operations. Existing road systems are used where available. Roads may be cleared of vegetation and loose rocks to improve access for trucks if the permit allows that action.

Blading and road construction for seismic operations are not usually allowed so that environmental impacts are minimized. In areas with rugged terrain or without access roads, and during certain seasons of the year, seismic work is conducted by helicopter rather than by ground vehicles. Other geophysical operations that do not cause additional surface disturbance include remote sensing, and gravity, and aeromagnetic surveying.

J.1.1 Geophysical Permitting Procedures and Regulations

Geophysical operations on and off an oil and gas lease are reviewed by the Federal Surface Management Agency (SMA), which can include the BLM, Bureau of Reclamation, or U.S. Forest Service (USFS). Close cooperation between the operator and the managing agency during geophysical operations minimizes surface impacts and protects other resources.

J.1.1.1 Notification Process

Geophysical operations on public lands are reviewed by the BLM. Geophysical exploration on public lands requires review and approval following the procedures in 43 CFR Subparts 3150, 3151, and 3154. In the Billings Field Office, the Field Manager is authorized to approve geophysical operations. The responsibilities of the geophysical operator and the Field Manager during geophysical operations are described below.

J.1.1.2 Geophysical Operator

The operator is required to file a Notice of Intent to Conduct Oil and Gas Exploration Operations (form 3150-4) for operations on public lands administered by the BLM. Maps (preferably 1:24,000 scale topographic maps) showing the location of the proposed lines, access routes and ancillary facilities must accompany the Notice of Intent. When the Notice of Intent is filed, the authorized officer may request a prework conference or field inspection. Special requirements or procedures that are identified by the authorized officer are included in the Terms and Conditions for Notice of Intent to Conduct Geophysical Exploration (form 3150-4 and a copy of the state requirements). Any changes in the original Notice of Intent must be submitted in writing to the authorized officer. Written approval must be secured before activities proceed.

Bonding of the operator is required. A copy of proof of satisfactory bonding shall accompany the Notice of Intent. Proper bonding may include a $5,000 individual, $25,000 statewide, or $50,000 nationwide geophysical exploration bond. In lieu of an exploration bond, a statewide or nationwide oil and gas bond may be used if it contains a rider for geophysical exploration. The operator is required to comply with applicable federal, state, and local laws such as Federal Land Policy and Management Act of 1976, the National Historic Preservation Act of 1966, and the Endangered Species Act of 1973, as amended. Earth-moving equipment shall not be used without prior approval. Operators may be required to submit an archeological evaluation and the agency provide NEPA documentation for cultural and wildlife resources if dirt work or other surface disturbance is contemplated, or if there is reason to

believe that these resources may be adversely affected. When geophysical operations have been completed including any required reclamation or rehabilitation, the operator is required to file a Notice of Completion (form 3150-5) including certification that all terms and conditions of the approved Notice of Intent have been fulfilled. The operator must also submit a map that shows the actual line location, access route, and other survey details.

J.1.1.3 BLM Field Manager (authorized officer)

The authorized officer is required to contact the operator within five working days after receiving the Notice of Intent to explain the terms of the notice, including the "Terms and Conditions for Notice of Intent to Conduct Geophysical Exploration," current laws, and BLM administrative requirements. At the time of the prework conference or field inspection, written instructions or orders are given to the operator. The authorized officer is responsible for the examination of resource values to determine appropriate surface protection and reclamation measures. Compliance inspections during the operation ensure that stipulations are followed. The authorized officer is required to make a final inspection following filing of the Notice of Completion Compliance inspections upon completion of work ensure that required reclamation is properly completed. When reclamation is approved, obligation against the operator's bond is released. The BLM has 30 days after receipt of the Notice of Completion to notify the operator whether the reclamation is satisfactory or if additional reclamation work is needed. Bonding liability will automatically terminate within 90 days after receipt of the Notice of Completion unless the authorized officer notifies the operator of the need for additional reclamation work.

J.1.1.4 State Standards

Geophysical operators register with the state through the County Clerk and Recorder's office. State regulations include requirements for permitting geophysical activities such as shothole locations, drilling techniques, plugging techniques, bonding, and reclamation.

J.1.1.5 Mitigation

When a geophysical Notice of Intent is received, restrictions may be placed on the application to protect resource values or to mitigate impacts. Many of these requirements may be the same as the oil and gas lease stipulations adopted in the RMP. Other less restrictive measures may be used when impacts to resource values will be less severe. This is due in part to the temporary nature of geophysical exploration. Seasonal restrictions may be imposed to reduce conflicts with wildlife, watershed damage, and hunting activity. The decisions concerning the level of protection required are made on a case-by-case basis when a Notice of Intent is received.

J.2 Leasing Process

Federal oil and gas leasing authority is found in the 1920 Mineral Leasing Act, as amended, for public lands and the 1947 Acquired Lands Leasing Act, as amended, for acquired lands. Leasing of federal oil and gas is affected by other acts such as National Environmental Policy Act of 1969, the Wilderness Act of 1964, National Historic Preservation Act of 1966, the Endangered Species Act of 1973, Federal Land Policy and Management Act of 1976, and the Federal Onshore Oil and Gas Leasing Reform Act of 1987. Regulations governing federal oil and gas leasing are contained in 43 CFR Part 3100 with additional requirements and clarification found in Onshore Operating Orders and Washington office manuals, handbooks and instruction memorandums.

The 1920 Mineral Leasing Act provides that all public lands are open to oil and gas leasing unless a specific order has been issued to close an area. Leasing procedures for oil, conventional gas, and coal bed natural gas are the same.

The lease grants the right to explore, extract, remove, and dispose of oil and gas deposits that may be found in the leased lands. The lessee may exercise the rights conveyed by the lease subject to the lease terms and attached stipulations, if any.

Lease rights may be subject to lease stipulations and permit approval requirements. Stipulations and permit requirements describe how standard lease rights are modified. Lease constraints or requirements may also be applied to applications for permit to drill on existing leases provided the constraints or requirements are within the authority reserved by the terms and conditions of the lease. The stipulations and conditions of approval must be in accordance with laws, regulations, and lease terms. The lease stipulations and permit conditions of approval allow for management of federal oil and gas resources in concert with other resources and land uses. The BLM planning

process is the mechanism used to evaluate and determine where and how federal oil and gas resources will be made available for leasing. In areas where oil and gas development may conflict with other resources, the areas may be closed to leasing. Areas where oil and gas development could coexist with other land uses or resources will be open to leasing. Leases in these areas will be issued with standard lease terms or with added stipulations based upon decisions in the land use document. Added stipulations are a part of the lease only when environmental and planning records demonstrate the necessity for the stipulations (modifications of the lease).

Currently, leases are issued as either competitive leases or noncompetitive leases with 10-year terms. Competitive leases will be sold to the highest qualified bidder at oral auctions that are held at least quarterly. Tracts that receive no bid at the sale are available for the filing of noncompetitive offers for two years following the sale. All offers filed the day after the sale (referred to as day-after-the-sale filings) are considered simultaneously filed. This means that if there is more than one offer filed for a specific parcel the day after the sale, a drawing must be held to determine the priority on multiple offers. Noncompetitive offers filed after that time are on a first-come first-served basis. If there are no offers filed for a parcel for the two-year period after the sale, the lands must be nominated again for competitive leasing. Rental payments for these leases will be $1.50 per acre for the first 5 years and $2.00 per acre. If the lessee establishes hydrocarbon production, the leases can be held for as long as oil or gas is produced in paying quantities. The royalty rate for leases issued following the 1987 Oil and Gas Leasing Reform Act is 12½ percent, of which one-half of the royalty collected is disbursed to the State of Montana for collections from public domain lands (acquired lands have various disbursements). Minimum royalty is the same amount as the rental. Future interest leases are available for entire or fractional mineral estates that have not reverted to federal ownership. These are minerals that are reserved by the grantor for a specific period of time in warranty deeds to the United States. Any future interest leases may be obtained only through the competitive bidding process and are made effective the date of vesting of the minerals with the United States.

J.2.1 Resource Management Plan Maintenance

New information may lead to changes in existing 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. Identification of new areas or removal of old areas that no longer have those resource values will result in the use of the same lease stipulation identified in this plan. These areas will be added to the existing data inventory without a plan amendment. In cases where the changes constitute a change in resource allocation outside the scope of this plan, a plan amendment would be required.

J.2.2 Lease Stipulations

Certain resources in the planning area require protection from impacts associated with oil and gas activities. The specific resource and the method of protection are contained in lease stipulations. Lease stipulations are usually no surface occupancy, controlled surface use, or timing limitation. A notice may also be included with a lease to provide guidance regarding resources or land uses. While the actual wording of the stipulations may be adjusted at the time of leasing, the protection standards described will be maintained.

J.2.3 Controlled Surface Use

Use or occupancy is allowed (unless restricted by another stipulation), but identified resource values require special operational constraints that may modify the lease rights. Controlled surface use is used for operating guidance, not as a substitute for the no surface occupancy or timing stipulations.

J.2.4 No Surface Occupancy (NSO)

Use or occupancy of the land surface for fluid mineral exploration or development is prohibited in order to protect identified resource values. The no surface occupancy stipulation includes stipulations which may have been worded as “No Surface Use and Occupancy,” “No Surface Disturbance,” “Conditional No Surface Occupancy,” and “Surface Disturbance or Occupancy Restriction (by location).”

J.2.5 Timing Limitation (Seasonal Restriction)

Prohibits surface use during specified times to protect identified resource values. This stipulation does not apply to the operation and maintenance of production facilities unless the findings of analysis demonstrate the continued need for such mitigation and that less stringent, project-specific mitigation measures would be insufficient.

J.2.6 Waivers, Exceptions, Modifications

Lessees must honor lease stipulations when an Application for Permit to Drill or other surface disturbing operations are proposed to explore and develop a lease, unless the BLM grants a waiver, exception, or modification to a lease stipulation. This RMP establishes the guidelines by which future waivers, exceptions, or modifications are granted within the Billings Field Office. Substantial modification or waiver subsequent to lease issuance is subject to public review for at least a 30-day period.

> **Exception:** A case-by case exemption from a lease stipulation. The stipulation continues to apply to all other sites within the leasehold to which the restrictive criteria apply.
>
> **Modification:** Fundamental changes to the provisions of a lease stipulation, either temporarily or for the term of the lease. Therefore, a modification may include an exemption from or alteration to a stipulated requirement. Depending on the specific modification, the stipulation may or may not apply to all other sites within the leasehold to which the restrictive criteria apply.
>
> **Waiver:** Permanent exemption from a lease stipulation. The stipulation no longer applies anywhere within the leasehold.

J.3 Permitting

A federal lessee or operator is governed by procedures set forth in the Code of Federal Regulations at 43 CFR Part 3160, Onshore Oil and Gas Order No. 1, "Approval of Operations on Onshore Federal and Indian Oil and Gas Leases, " issued under 43 Code of Federal Regulations (CFR) 3164 and other orders and notices.

The lessee may conduct lease operations after lease issuance. However, proposed drilling and associated activities must be approved in advance before beginning operations. Therefore, before beginning construction or the drilling of a well, the lessee or operator must file an Application for Permit to Drill (APD) with the BLM Miles City DO. A copy of the application will be posted in the DO and Billings Field Office (FO), and if applicable, in the office of the Surface Management Agency (SMA) for a minimum of 30 days for review by the public. After 30 days, the application can be approved in accordance with (a) lease stipulations, (b) Onshore Oil and Gas Orders, and (c) Onshore Oil and Gas regulations (43 CFR Part 3160) if it is administratively and technically complete.

Evidence of bond coverage for lease operations must be submitted with the application. Bond amount must not be less than a $10,000.00 lease bond, a $25,000.00 statewide bond or a $150,000.00 nationwide bond.

Pre-drill on-site inspections will be conducted for all wells. The inspection makes possible selection of the most feasible well site and access road from environmental, geological, and engineering points of view. The purpose of the field inspection is to evaluate the operator's plan, assess the situation for possible impacts, and to formulate resource protection stipulations. Surface use and reclamation requirements are developed during the on-site inspection that is usually conducted within 15 days after receipt of the Notice of Staking (NOS) or APD. For operations proposed on privately-owned surface, if the operator after a good-faith effort is unable to reach an agreement with the private surface owner, the operator must post a bond to cover loss of crops and damages to tangible improvements prior to approval of the APD.

Normally, site-specific mitigations in the form of conditions of approval are added to the APD for protection of surface and subsurface (including groundwater) resource values in the vicinity of the proposed activity. The BLM is responsible for preparing environmental documentation necessary to satisfy the National Environmental Policy Act (NEPA) requirements and provide any mitigation measures needed to protect the affected resource values.

Conditions of approval implement the lease stipulations and are part of the permit when environmental and field reviews demonstrate the necessity for operating constraints or requirements. A surface restoration plan is part of an approved permit, either an APD or Sundry Notice that includes other surface-disturbing activities. The authorized officer will act on the application in one of two ways:

Within 30 days after the operator has submitted a complete application including incorporating any changes that resulted from the onsite inspection the BLM will:

1. Approve the application subject to reasonable conditions of approval if the requirements of the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), Endangered Species Act (ESA), or other applicable law have been completed and, if on FS lands, FS has approved the Surface Use Plan of Operations; or
2. Notify the operator that it is deferring action on the permit. The notice of deferral must specify:
    a. Any action the operator could take that would enable BLM to issue a final decision on the application, with FS concurrence if appropriate. Actions may include but are not limited to; assistance with data gathering or assistance with preparation of analyses and documents;
    b. And if necessary, a list of actions that BLM or the FS, if appropriate, need to take, including completing requirements of NEPA or other applicable law and a schedule for completing these actions.

The operator has 2 years from the date of the notice of deferral to take the action specified in the notice. If all analyses required by NEPA, NHPA, ESA and other applicable laws have been prepared, BLM and with FS concurrence, if appropriate, shall make a decision on the permit within 10 days of receiving a report from the operator addressing all of the issues or actions specified in the deferral notice and certifying that all required actions have been taken. If the operator has not completed the actions specified in the notice, BLM may deny the permit at any time later than 2 years from the operator's receipt of the deferral notice."

For drilling operations on lands with state or private mineral ownership, the lessee must meet the requirements of the mineral owner and the state regulatory agency. The BLM does not have jurisdiction over nonfederal minerals; however, the BLM has surface management responsibility in situations of BLM surface over nonfederal mineral ownership.

When final approval is given by the BLM, the operator may begin construction and drilling operations Approval of an APD is valid for two years and the operator can request a two year extension. If construction does not begin within two years, the permit must be reviewed prior to approving another APD.

A Sundry Notice is used to approve other surface and subsurface lease operations. When a well is no longer useful, the well is plugged and the surface reclaimed. A Sundry Notice is also used to approve well plugging and reclamation operations, although verbal approval for plugging may be given for a well that was drilled but not completed for production.

The period of bond liability is terminated after all wells covered by the bond are properly plugged and the surface reclaimed. The lands may then become available for future leasing.

J.4 Application for Permit to Drill

Applications for Permit to Drill are approved for the Billings Field Office by the supervisor of the Miles City DO. The approved APD includes Conditions of Approval, and Informational Notices that cite the regulatory requirements from the Code of Federal Regulations, Onshore Operating Orders and other guidance.

J.5 Conditions of Approval

Conditions of approval are mitigation measures that implement restrictions in light of site-specific conditions. General guidance for conditions of approval and surface operating standards is found in the BLM and USFS brochure entitled "Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development" (USDI, BLM P-417) and BLM Manual 9113 entitled "Roads". The BLM commonly applies best management practices when approving APDs. The sources of many of these may be found in RMP Appendix B.

The following mitigation measures may be applied to approved permits to drill as conditions of approval. The listing is not all-inclusive, but presents some possible conditions of approval that may be used in the planning area. The wording of the condition of approval may be modified or additional conditions of approval may be developed to address specific conditions.

In addition to the best management practices identified in Appendix B, the BLM will also develop site-specific practices on a case-by-case basis as needed.

J.6 Construction

Construction of the access road and the well site is necessary before drilling operations begin. The extent of surface disturbance necessary for construction depends on the terrain, depth of the well, drill rig size, circulating system, and safety standards.

The depth of the drill test determines the size of drill rig needed, and therefore, the size of the work area necessary, the need for all-weather roads, water requirements, and other needs. The terrain influences the construction problems and the amount of surface area to be disturbed. Reserve pit size may vary because of well depth, drill rig size, or circulating system.

Access roads to well sites in the planning area usually consist of running surfaces 14 to 24 feet wide that are ditched on one or both sides. Many of the roads constructed will follow existing roads or trails. New roads might be necessary because existing roads are not at an acceptable standard. For example, a road may be too steep so that realignment is necessary.

Roads can be permanent or temporary, depending on the success of the well. The initial construction can be for a temporary road; however, it is designed so that it can become permanent if the well produces. Not all temporary roads constructed are immediately rehabilitated when the drilling stops. A temporary road is often used as access to other drill sites. The main roads and temporary roads require graveling to be maintained as all-weather roads. This is especially important in the spring. Access roads may be required to cross public lands to a well site located on private or state lands. The portion of the access road on public land would require a BLM right-of-way.

The amount of level surface required for safely assembling and operating a drilling rig varies with the type of rig, but averages 300 feet by 400 feet. Approximately 3-1/2 acres would be impacted by well site construction. The area is cleared of large vegetation, boulders, or debris. Then the topsoil is removed and saved for reclamation. A level area is then constructed for the well site, which includes the reserve pit. Bulldozers and motor scrapers are typically used to construct the well pad. The well pad is flat (to accommodate the drill rig and support equipment) and large enough to store all the equipment and supplies without restricting safe work areas. The drill rig must be placed on “cut” material rather than on “fill” material to provide a stable foundation for the rig. The degree of cutting and filling depends on terrain; that is, the flatter the site, the less dirt work is required.

Hillside locations are common, and the amount of dirt work varies with the steepness. A typical well pad will require a cut 10 feet deep against the hill and a fill 8 feet high on the outside. It is normal to have more cut than fill to allow for compaction, and any excess material is then stockpiled. Eventually, when the well is plugged and abandoned, excavated material is put back in its original place.

Reserve pits are normally constructed on the well pad. Usually the reserve pit is excavated in “cut” material on the well pad. The reserve pit is designed to hold water, drill cuttings, and used drilling fluids. Generally, reserve pits are rectangular in shape and 8 to 12 feet deep, however, the size and number of pits depends on the depth of the well, circulating system and anticipated down hole problems, such as excess water flows. The reserve pit can be lined with a synthetic liner to contain pit contents and reduce pit seepage. Not all reserve pits are lined; however, BLM can require a synthetic liner stipulations and conditions attached to the approved APD and the drilling equipment is moved to another location.

If the well is a producer, casing is set and cemented in place.

Directional drilling may be used where the drill site cannot be located directly over the drilling target. There are limits to both the degree that the well bore can be deviated from the vertical and the horizontal distance the well can be drilled away from the well site.

Horizontal wells are drilled similarly to directional wells, except that the bottomhole location of the well is not a single point, but rather a lateral horizontal section. They are drilled to increase the recovery oil and gas reserves from vertically fractured reservoirs, or reservoirs with directional permeability.

J.7 Environment and Safety

During drilling and production operations for any well, the BLM will enforce the provisions of the regulations, Onshore Oil and Gas Operating Orders, and Notice to Lessees NTL-MSO-1-92, Report of Undesirable Events, to ensure operations are carried in a manner that protects the mineral resources, other natural resources, and environmental quality. Regulations at 43 CFR § 3162.5 require that the operator exercise due care and diligence to assure that leasehold operations do not result in undue damage to surface or subsurface resources or surface improvements. All produced water must be disposed of by methods approved by the BLM. Upon completion of operations the operator shall reclaim the surface in a manner approved of by the BLM. All spills or leakages of oil, gas, produced water, toxic liquids, blowouts, fires, personal injuries, and fatalities must be reported by the operator. The operator is required to exercise care in taking measures approved by the BLM to control and remove pollutants and extinguish fires. An operator's compliance with the regulations at 43 CFR § 3162.5 does not relieve him of the obligation to comply with any other law or regulations. Finally, the regulations authorize the BLM to require an operator to file a contingency plan describing procedures to be implemented to protect life, property, and the environment.

J.8 Informational Notice

The following items are from the federal oil and gas regulations (43 CFR 3160, Onshore Orders Numbers 1 and 2, NTLs, and other guidance). This is not a complete list of requirements but an abstract of some major requirements.

1. ***General Requirements***

   a. The lessee or designated operator shall comply with applicable laws and regulations; the lease terms, onshore oil and gas orders, NTLs; and other orders and instructions of the AO. Any deviation from the terms of the approved APD requires prior approval from the BLM (43 CFR 3162.1(a))

   b. If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (caused by a contraction in the unit or other lease or unit boundary change), the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental or other financial obligations determined by the AO.

2. ***Drilling Operations (Onshore Order No. 2)***

   a. Onshore Order No. 2 requires surface casing shall have centralizers on the bottom three joints of the casing (a minimum of one centralizer per joint, starting with the shoe joint) (BLM 1988).

   b. If drill stem tests are run, the MCFO shall be notified at least 6 hours prior to testing. All applicable safety precautions outlined in Onshore Order No. 2 shall be observed (BLM 1988).

   c. All indications of usable water (10,000 parts per million or less total dissolved solids) shall be reported to the MCFO prior to running the next string of casing or before plugging orders are requested, whichever occurs first.

3. ***Well Abandonment (43 CFR 3162.3-4, Onshore Order No. 1, Sec. V)***

   a. Approval for abandonment shall be obtained prior to beginning plugging operations. Initial approval for plugging operations may be verbal, but shall be followed up in writing within 30

days. Subsequent and final abandonment notifications are required and shall be submitted on SNs and Reports on Wells, Form 3160.5, in triplicate.

4. Reports and Notifications (43 CFR 3162.4-1, 3162.4-3)

a. Within 30 days of completion of the well as a dry hole or producer, a copy of all logs, core descriptions, core analyses, well-test data, geologic summaries, sample descriptions, or data obtained and compiled during the drilling, workover, or completion operations shall be filed with Well Completion or Recompletion Report and Log, Form 3160-4, in duplicate.

b. In accordance with 43 CFR 3162.4-3, this well shall be reported on MMS Form 4054, "Oil and Gas Operations Report, starting with the month in which any operations commence, including drilling, and continuing each month until the well is physically plugged and abandoned.

c. Notify this office within 5 business days of production start-up if either of the below conditions occur:

i. the well is placed on production ("placed on production" means shipment or sales of hydrocarbons from temporary tanks, production into permanent facilities, or measurement through permanent facilities); or

ii. the well resumes production after being off production for more than 90 days.

Notification may be written or verbal with written follow-up within 15 days and must include the following information:

a. operator name, address, and telephone number;

b. well name and number, county and state;

c. well location, "1/4-1/4, Section, Township, Range, P.M.";

d. date well begins or resumes production;

e. the nature of the well's production (crude oil, or crude oil casing gas, or natural gas and entrained liquid hydrocarbons);

f. the federal or Indian lease number;

g. as appropriate, the Unit Agreement name, number, and Participating Area name; and

h. as appropriate, the Communitization Agreement

5. Environmental Obligations and Disposition of Production (43 CFR 3162.5-1, 3162.7-1 and 40 CFR 302.4)

a. With BLM approval, water produced from newly completed wells may be temporarily disposed of into unlined pits for up to 90 days. During this initial period, application for the permanent disposal method shall be made to this office in accordance with Onshore Order No. 7 (BLM 1993). If underground injection is proposed, a USEPA or state permit shall also be obtained.

b. Spills, accidents, fires, injuries, blowouts, and other undesirable events must be reported to this office within the timeframes in NTL-3A (BLM 1979b).

c. Gas may be vented or flared during emergencies, well evaluation, or initial production tests for a time period of up to 30 days or the production of 50 million cubic feet (mmcf) of gas, whichever occurs first. After this period, approval from this office shall be obtained to flare or vent gas in accordance with NTL-4A (BLM 1980b).

6. Well Identification (43 CFR 3162.6)

Each drilling, producing, or abandoned well shall be identified with the operator's name, the lease serial number, the well number, and the surveyed description of the well (either footages or the quarter-quarter section, the section, township, and range). All markings shall be legible and in a conspicuous place.

7. Site Security (43 CFR 3162.7.5)

a. Oil storage facilities shall be clearly identified with a sign, and tanks must be individually identified (43 CFR 3162.6 (c)).

b. Site security plans shall be completed within 60 days of production startup (43 CFR 3162.7-5(c)).

c. Site facility diagrams shall be filed in this office within 60 days after facilities are installed or modified (43 CFR 3162.7-5(d)(1)).

8. Confidentiality (43 CFR 3162.8)

All submitted information not marked "CONFIDENTIAL INFORMATION" will be available for public inspection upon request.

J.9 Production and Development

J.9.1 Production

Production begins when a well yields oil or gas in commercial quantities. If formation pressure is sufficient to raise oil to the surface, the well is completed as a flowing well. A pumping unit is installed if the formation pressure is not sufficient to bring the oil to the surface. When the well is completed as a free-flowing well, an assembly of valves and special connections known as a "Christmas tree" (so called because of its many branch like fittings) is installed on top of the casing to regulate the flow of the well. Later, when the natural pressure declines, the Christmas tree can give way to a simple wellhead arrangement of valves and a pumping unit to lift the oil artificially. Many pumping units are "beam" style pumps that are powered by electric motors or gasoline engines. Most gas wells produce by natural flow and do not require pumping. Surface facilities at a flowing well are usually in a small area containing a gas well Christmas tree, a dehydrator, a produced water pit, and a meter house. Separators, condensate tanks, and compressors may be included. Some gas wells require continuous water pumping as water entering the well chokes off the gas flow.

J.9.2 Development

New field development may be analyzed under NEPA by means of an environmental assessment (EA) or environmental impact statement (EIS) usually after the second or third confirmation well is drilled. The operator should then have an idea of the extent of drilling and disturbance required to extract and produce the oil and gas. When an oil or gas discovery is made, a well spacing pattern must be established before development drilling begins. Development can take years and include from one or two wells to more than a hundred wells per field. However, the reasonably foreseeable development scenario for this planning document should only forecasts two additional wells per field. Roads to producing wells are upgraded to all-weather roads as necessary. Pipelines, electrical transmission lines, separators, dehydrators, sump pits, and compressor stations soon follow. Sometimes oil and gas processing facilities are built in or adjacent to the field.

J.9.2.1 Further Seismic Testing

More detailed seismic work can be done to achieve better definition of the petroleum reservoir. Diagonal seismic lines can be required to tie the previous seismic work to the discovery well. The discovery well can be used to conduct studies to correct the previous seismic work and provide more accurate subsurface data.

J.9.2.2 Spacing Requirements

A well spacing pattern must be established before development drilling begins. Information considered in establishment of a spacing pattern includes data from the discovery well on porosity, permeability, pressure, composition, and depth of formations in the reservoir; well production rates and type (predominantly oil or gas); and the economic effect of the proposed spacing on recovery. The state of Montana establishes well spacing patterns for both exploratory and development wells which the BLM generally adopts. The state specifies the minimum distance from lease lines or government survey lines for the bottom-hole location of the well bore depending upon depth of the well. The spacing regulations determine the acres assigned to each well. Spacing unit size is established to provide for the most efficient and economic recovery of oil or gas from a reservoir. Normal well spacing ranges from 40 acres to 640 acres (refer to Billings/Pompeys Pillar RFD for Oil and Gas). Wells deeper than 11,000 feet

can be no closer than 1,650 feet to other producing wells below 11,000 feet. Only one producing well per formation is allowed in each 40, 80, 160, 320, and 640-acre unit.

J.9.2.3 Drilling of Development Wells

The procedures used in drilling development wells are the same as those used for wildcat wells, but usually with less subsurface sampling, testing, and evaluation. The rate at which development wells are drilled in a field depends on factors such as whether the field is developed on a lease basis or unitized basis, the probability of profitable production, the availability of drilling equipment, lease requirements, and the degree to which limits of the field are known. Some fields go through several development phases, the first resulting from the original discovery and others from later discovery. A field can be considered fully developed and produce for several years, and then a well may be drilled to a deeper or shallower pay zone. Discovery of a new pay zone in an existing field is a "pool" discovery (as distinguished from a new field discovery). A pool discovery may lead to the drilling of additional wells, often from the same drilling pad as existing wells.

J.9.2.4 Inspections

Geophysical operations and lease operations are inspected to determine compliance with approved permits, to resolve conflicts or correct problems and to determine effectiveness and need of lease stipulations. All inspections are documented. Operators are required to correct problems or violations.

J.9.2.5 Surface Requirements

Field development activities that cause surface disturbance include access roads, well sites, production facility sites, flow line and utility line routes and waste disposal sites. Surface uses in a gas field will be less than in an oil field, because gas wells are usually drilled on larger spacing units. The spacing pattern of 640 acres per well, which is common in gas fields, will require only one well per section and might require only ½ mile of access roads and pipelines. Production facilities include separation and storage equipment. Separation equipment is required when production includes a combination of oil, gas, or water and storage equipment is required for holding liquids prior to sales.

J.9.2.6 Flow Lines

Oil and gas are transferred from the well to storage facilities through small diameter (<6 inches) flow lines. Flow lines can be on the surface, buried or elevated Produced water, gas, or polymerized liquid is transferred from storage facilities to injection wells for secondary recovery.

J.9.2.7 Separating, Treating, and Storage

Any water or gas associated with produced oil is separated from the oil before it is placed in storage tanks. The treating facilities are located at a storage tank battery. Low-pressure petroleum that must be pumped from the well is treated in a single separation. High pressure, flowing petroleum can require several stages or separation, with a pressure reduction accompanying each stage.

Produced gas is sold when there is sufficient volume, necessary transportation, a market, and it is economical. Generally, if the volume of produced gas is too low for sales, it is used as fuel for well pump engines and heating fuel for the treaters. If the volume of produced gas exceeds fuel requirements on the lease but gas sales are not possible, the gas can be flared or vented into the atmosphere when authorized by permit in accordance with state and federal regulations. When water is produced with the hydrocarbons, it is separated before the gas is removed. In primary operations, where natural pressures or gravity causes the petroleum in the reservoir to flow to the wellbores, the degree of mixing is high enough to require chemical and heat treatment to separate the oil and water. In secondary production, where water injection or other methods are used to force additional petroleum to the wellbore, the oil and water often are not highly emulsified. In this case, the oil and water can be separated by gravity in a tall settling tank. Produced water can be disposed of by injection into the subsurface, surface evaporation or beneficial purposes such as water for livestock or irrigation.

Produced water from oil and gas operations is normally disposed of by subsurface injection or in surface pits. Regardless of the method of disposal, it must be acceptable to the BLM, in accordance with the requirements of Onshore Oil and Gas Order No. 7, titled "Disposal of Produced Water." Disposal of produced water by injection wells requires permits from the Montana Board of Oil and Gas Conservation. When produced water is disposed underground, it is introduced or injected under pressure into a subsurface horizon containing water of equal or

poorer quality. Produced water may be injected into the producing zone from which it originated to stimulate oil production. Dry holes or depleted wells are commonly converted for saltwater disposal and occasionally new wells are drilled for this purpose. The law and regulations require that all injection wells be permitted under the Underground Injection Control program.

Under the Underground Injection Control approval process, the disposal well must be pressure tested to ensure the integrity of the casing. The disposal zone must also be isolated by use of tubing and mechanical plug called a packer. The packer seals off the inside of the casing and only allows the injected water to enter the disposal zone. The tubing and packer are also pressure tested to ensure their integrity. These pressure tests confirm isolation of the disposal zone from possible usable water zones. The oil is transported to storage tanks through flow lines after separation from any water or gas. Storage tanks are usually located on the lease either at the producing well or at a central production facility. The number and size of tanks are dependent upon the type and amount of production on the lease.

J.9.3 Abandonment

When drilling wells are unsuccessful or production wells are no longer useful, the well is plugged, equipment is removed from the well site or production facility site, and the site is abandoned. The well bore is secured by placing cement plugs to isolate hydrocarbon-producing formations from contaminating other mineral or water bearing formations. The site and roads are then restored as near as possible to original contours. Topsoil is replaced and the recontoured areas are seeded. Reclamation of access roads and well sites on privately owned surface is completed according to the surface owner's requirements.

Rehabilitation requirements generally are made a part of the Application for Permit to Drill. Upon completion of abandonment and rehabilitation operations, the lessee or operator notifies the Miles City DO that the location is ready for inspection. Final abandonment will not be approved until the required surface reclamation work has been completed to the satisfaction of the BLM or surface owner. The period of bond liability for the well site is terminated after approval of final abandonment. Reclamation of the reserve pit is part of the well site reclamation process. Reserve pit reclamation includes removal of fluids to a disposal well or commercial pit and burial of solids in the pit. Solids should not be buried until dry and then covered with a minimum of 6 feet of native soil. Any pit liner may be buried in place. Methods such as solidification or dewatering may be used to help dry the solids.

J.10 Regulations, Laws, and Special Procedures

J.10.1 Unit and Communitization Agreements

Unit and communitization agreements can be formed in the interest of conservation and to allow for the orderly development of oil and gas reserves. A unit agreement provides for the recovery of oil and gas from the lands as a single consolidated entity without regard to separate lease ownerships. An exploratory unit is used for the discovery and development of the field in an orderly and efficient manner. Paying and nonpaying well determinations are made for each well drilled. If the well is nonpaying as defined by the agreement, the production is allocated on a lease basis. If the well is a paying unit well, a participating area is formed and the production is allocated to all interest owners in the participating area based on surface area. A secondary unit is formed after the field has been defined and enhanced recovery techniques are being utilized. Secondary recovery techniques include water injection, natural gas injection, or carbon dioxide injection. Injection is initiated to maintain the reservoir pressure to maintain oil production. The agreement provides for the allocation of production among all the interest owners.

A communitization agreement combines two or more leases (federal, state, or fee) that otherwise could not be independently developed in conformity with established well spacing patterns. The leases within the spacing unit share in the costs and benefits of the well drilled in the spacing unit. Therefore, unit and communitization agreements can lessen the amount of damage to the environment and save dollars by eliminating unnecessary wells, roads, pipelines, and lease equipment.

J.10.2 Split Estate

Part of the area included in the planning area contains lands known as split estate lands. These are lands where the surface ownership is different from the mineral ownership. Management of federal oil and gas resources on these lands is somewhat different from management on lands where both surface and mineral ownership is federal. On

split estate lands where the surface ownership is private, the BLM places necessary restrictions and requirements on its leases and permit approvals and works in cooperation with the surface owner. BLM has established policies for the management of federal oil and gas resources in accordance with federal laws and regulations.

The BLM does not have the legal authority to regulate how private surface is managed. BLM does have the statutory authority to require measures by lessees to avoid or minimize adverse impacts that may result from federally authorized mineral lease activities. These measures, in the form of lease stipulations or permit conditions of approval, are intended to protect or preserve the privately owned resources and prevent adverse impacts to adjoining lands, not to dictate management to the surface owner. The term split estate can also refer to lands where the surface ownership is federal and the mineral ownership is private. In this situation, BLM is the surface owner, and works in cooperation with the proponent and the state regulatory agency that approves private mineral applications. BLM has responsibilities in this situation under the previously mentioned statutes; however, BLM does not have the authority to approve or disapprove the mineral owner's actions. The mineral estate owner usually has the right to enter the land and use the surface that is necessary and reasonable for mineral development through either a reserved or an outstanding right contained in the deed.

J.11 Summary – Billings/Pompeys Pillar Reasonably Foreseeable Development Scenario

J.11.1 Summary

The Billings Resource Management Plan will guide management for the approximately 434,158 acres of federally managed surface and about 690,000 subsurface (oil and gas mineral estate) acres administered by the Billings Field Office (BiFO) in western Big Horn, Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland and Yellowstone counties. Conventional oil and natural gas occurrence and development potential ranges from Low to Moderate across the entire field office area. The occurrence potential for coal bed natural gas (CBNG), and gas from organic shales ranges from Low to High. Development potential for CBNG ranges from Low to Moderate; development potential for gas from organic shales ranges from Low to Moderate.

The BLM administers approximately 690,000 acres of federal minerals (for fluid minerals) within the Billings Field Office. The RFD forecasts the following level of development in the entire Billings FO planning area.

The expected Billings FO total wells drilled per year equals 20 per year with three to four federal wells per year over a 20-year span. These wells could be in one of the three areas identified in the table below. The RFD scenario classified moderate potential lands as having the potential for one to five wells drilled per township per year. Low potential lands have the potential for less than one well per year per township.

Table J-1. RFD Projected Forecast Drilling Depths, and Forecast Surface Disturbance by Basin

Location	Common Drilling Depth in Feet	Likely Product	Size of Drill Site in Acres	Access and Ancillary Facilities in Acres
Central Montana Uplift and Bull Mountain Basin	5,000	Oil with associated gas; CBNG	2	1.5
Big Horn Basin	7,000	Oil with associated gas; Gas; CBNG	3	1.5
Crazy Mountain Basin	8,000 – 10,000	Gas	4	1.5

The RFD scenario identified these areas and contains more information about them. Total annual disturbance for federal wells is approximately 13.5 acres to 27 acres of short-term disturbance (several years) and 5.5 to 15.5 acres of long-term disturbance for federal wells drilled in the Billings FO.

A complete copy of the Billings RMP RFD can be found at http://www.blm.gov/mt/st/en/fo/billings_field_office/rmp/docs.html. This information is presented only as a summary.

J.11.2 Background

The Billings Field Office is located in south-central Montana. There has been a long history of exploration and development within this area. The following information describes the historic activities associated with drilling in the area, with subsequent information, charts and graphs indicating the cumulative number of wells drilled, and notable dates.

J.11.2.1 Drilling and Development History

The first drilling in Montana occurred near the 'Cruse' oil seeps, in Carbon County, in about 1890. Drilling occurred along strike (northwest-southeast) to the Beartooth Mountain front. Only small volumes of low gravity oil were reportedly produced.

The Elk Basin area in Carbon County experienced early development, as an extension of the Wyoming portion of the field. The first drilling occurred about 1915; this activity pre-dated the Mineral Leasing Act of 1920. At that time, oil was developed as a placer mineral on mining claims located under the General Mining Act of 1872, as amended by the Petroleum Placers Act of 1897. Many of these petroleum placers went to patent (became private land).

Further drilling occurred as operators attempted to expand the known producing area along the axis of the Elk Basin anticline. The field limits were extended to the northwest, with the later discoveries at Elk Basin Northwest, Clarks Fork, the Clarks Fork North and Clarks Fork South fields. In the same time frame (1910s-1920s), exploration occurred at the Dry Creek Dome in central Carbon County. Natural gas was discovered there in 1919, and extended into Golden Dome in 1962.

In Big Horn County, the Soap Creek Oil Field was discovered in 1920, and expanded by new drilling as recent as 2005. The Hardin Gas Field was discovered in 1928, and expanded by new drilling into the 1930s, with the most recent well drilled in 1975.

Early prospecting for oil was concentrated around geologic structures that were exposed at the surface. These structures, often called "Sheepherder Anticlines", were believed to be indicators of potential oil reservoirs within subsurface structures. Most of the early exploration and development occurred in proximity to these exposed anticlines and domes. Many oil and gas fields are still identified by these surface structures (i.e., Golden Dome, Gage Dome, and Dean Dome). Often, the earliest wells drilled within these structures were not drilled deep enough, and did not achieve a discovery.

Many other anticlines were 'breached' by erosion that exposed the reservoir rock, leaving only stained or bleached rock as indications of the past presence of oil. This is the case on the east flank of Red Dome, in Carbon County. Here, the Triassic Chugwater Formation red beds have zones of sandstones that are gray; the oil, while it was in the rock, prevented the oxidation of the iron in the rock matrix and cement.

The first drilling in Musselshell County was not successful, but by 1920, oil was discovered in the Heath Lime, at Devil's Basin field. By the end of 1921, oil had been discovered in the Soap Creek field in Big Horn County and the Lake Basin field in Stillwater County. Mosser Dome field in southwestern Yellowstone County opened in 1936.

In the 1940s, additional oil fields were discovered in Musselshell County, including Gage Dome, Ragged Point, Big Wall and Melstone. All were surface structures ('Sheepherder Anticlines'), with the oil found in Mississippian carbonate rocks (Amsden, Kibbey, Heath and Tyler Formations). New fields were discovered in surface structures (Ivanhoe, Stensvad, Delphia, Hawk Creek, Hiawatha, Keg Coulee, Pole Creek, Mason Lake), and existing fields were expanded, into the 1960s. Similarly, exploration of the surface structure at Wolf Springs resulted in a oil discovery in Yellowstone County in 1955 and at Weed Creek in 1967.

The first gas production in Sweet Grass County occurred when the Six Shooter Dome field was discovered in 1947. First production in Golden Valley County occurred with the discovery of gas in the Big Coulee field, in 1948. Later that year, oil was discovered in Golden Valley's Woman's Pocket and Devil's Pocket fields.

In 1953, the Ash Creek field in southern Big Horn County was discovered, with oil produced from the Upper Cretaceous Shannon Formation. The Mackay Dome and Roscoe Dome fields, in southern Stillwater and Carbon Counties, respectively, were discovered in the late 1950s. Both produce from Lower Cretaceous sandstones.

In the 1970s, the Rapelje gas field in Stillwater County was discovered.

Two oil price shocks in the 1970s resulted in a quadrupling of the price of oil over a four-year period, from around $3.00 per barrel in mid-1973, to over $12.00 per barrel in 1977. The Islamic Revolution in Iran in 1979 sent oil prices still higher, with the price peaking at over $38.00 per barrel in 1981.

The rapid increase in the price of oil resulted in a rush of new prospect generation. Even prospects that had a low probability of finding product were drilled. Conservation and new discoveries led to in an increased supply while demand was falling, resulting in a price collapse, with oil in Montana falling below $10.00 per barrel in early 1986. For the rest of the 1980s, the BLM allowed operators to leave their wells 'shut in' (in a non-producing status). This policy allowed operators to maintain their wells without having to operate them at an economic loss.

In 1992, the BLM terminated the above policy, and issued new regulations that provided for a reduced royalty rate for oil properties that averaged less than 15 barrels of oil per well per day (so-called 'stripper wells/properties). The royalty rate reduction (RRR) was intended to reduce operators' operating costs, and encourage the greatest ultimate recovery of oil. The BLM anticipated that operators would take advantage of this incentive and work over existing wells to restore or increase production within these properties. The RRR would be recalculated every year, and could fall further if the average production rate continued to decrease. The regulation was in effect for about 14 years, and terminated effective February 1, 2006 (when the oil price exceeded the threshold established in the regulation).

J.11.2.2 Federal Surface and Mineral Ownership within the Billings Field Office

Charts J-1 and J-2, below, provide the distribution of surface and mineral ownership, by county, within the Billings Field Office. Chart J-3 presents surface and mineral ownership by Federal Agency. The data are from LR 2000, as of May 20, 2009.

Chart J-1: Surface, Oil & Gas Mineral Ownership, and acres of O&G leases by County (All Surface Management Agencies)

County	Federal Surface Ownership	Federal Oil & Gas Mineral Ownership	O&G Leases	Leased Acres[2]	Percent of O&G Leased
Big Horn[1]	0.00	3,989.29	5	3,934.47	98.6%
Carbon	552,535.16	609,950.40	99	53,575.45	8.7%
Golden Valley	31,644.63	66,550.80	17	18,062.96	27.1%
Musselshell	100,458.12	140,922.31	79	56,641.02	40.2%
Stillwater	192,196.58	243,221.64	32	24,232.23	10.0%
Sweet Grass	297,308.04	356,378.33	25	19,772.71	5.5%
Wheatland	63,604.24	84,463.43	3	1,022.52	1.2%
Yellowstone	69,725.38	105,708.45	20	9,023.20	8.5%
Totals	**1,307,472.15**	**1,611,184.65**	**280**	**186,264.56**	**11.5%**

Footnotes:
1. Big Horn County includes only the portion within the Billings Field Office (west of R. 39 E.)
2. Including leases sold at the Montana Competitive Oil and Gas Lease Sale held on January 27, 2009

Chart J-2: Surface, Oil & Gas Mineral Ownership and acres of O&G leases by County, Managed by the Billings Field Office

County	BLM-Managed Surface	BLM-Managed Oil & Gas Mineral Ownership	O&G Leases	Leased Acres[2]	Percent of O&G Leased
Big Horn[1]	0.00	3,989.29	5	3,934.47	98.6%
Carbon	205,156.46	260,531.10	97	51,228.80	19.7%
Golden Valley	7,844.19	42,750.36	17	18,062.96	42.3%
Musselshell[3]	92,632.23	129,108.14	793	56,401.02	43.7%
Stillwater	5,519.49	55,944.07	29	19,994.23	35.7%
Sweet Grass	15,833.58	73,584.22	25	19,772.71	26.8%
Wheatland	1,194.91	22,054.10	3	1,022.52	4.6%
Yellowstone	69,725.38	105,708.45	20	9,023.20	8.5%
Totals	**397,906.24**	**689,680.44**	**275**	**179,439.91**	**26.0%**

Footnotes
1. Big Horn County includes only the portion within the Billings Field Office (west of R. 39 E.)
2. Including leases sold at the Montana Competitive Oil and Gas Lease Sale held on January 27, 2009;
3. There are two Federal O&G leases that include both BLM and FWS surface

Chart J-3: Total Surface and Oil and Gas Mineral Ownership (in acres) by County, by Surface Management Agency

	BLM		FS		FWS		BIA		NPS	
County	**Surface**	**Oil & Gas Mineral Ownership**	**Surface**	**Oil & Gas Mineral Ownership**	**Surface**	**Oil & Gas Mineral Ownership**	**Surface**	**Oil & Gas Mineral Ownership**	**Surface**	**Oil & Gas Mineral Ownership**
Big Horn[1]	0	0	0	0	0	0	0	3,989.29		
Carbon	205,156.46	260,531.10	323,682.62	323,683.22					23,696.08	25,736.08
Golden Valley	7,844.19	42,750.36	23,800.44	23,800.44						
Musselshell	92,632.23	129,108.14	0	0	7,825.89	11,814.17				
Stillwater	5,519.49	55,944.07	185,604.65	185,885.13						
Sweet Grass	15,833.58	73,584.22	281,474.46	282,794.11	1,072.44	1,392.44				
Wheatland	1,194.91	22,054.10	62,409.33	62,409.33						
Yellowstone	69,725.38	105,708.45	0	0						
Totals	**397,906.24**	**689,680.44**	**876,971.50**	**878,572.23**	**8,898.33**	**13,206.61**	**0**	**3,989.29**	**23,696.08**	**25,736.08**

Footnotes
1. Big Horn County includes only the portion within the Billings Field Office (west of R. 39 E.).

Appendix K:
Biological Opinion

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: 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/mt

In Reply Refer To:

6860 (MT010.JP)

JUNE 9, 2015

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

May 2015

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ACRONYMS

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.

K.1.1 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
Mammals				
Black-footed ferret	*Mustela nigripes*	Endangered and Nonessential Experimental population	No	Prairie habitats with large prairie dog colonies.
Canada Lynx	*Lynx canadensis*	Threatened, Critical Habitat	Yes**	Mesic coniferous forests that have cold, snowy winters and provide a prey base of snowshoe hare
Grizzly Bear	*Ursus arctos horribilis*	Threatened	Yes	Remote forested habitats
Birds				
Red Knot	*Calidris canutus rufa*	Threatened	No	Wetlands and shorelines
Whooping crane	*Grus americana*	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.4.1.1.1 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.4.1.1.2 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/mi2 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.

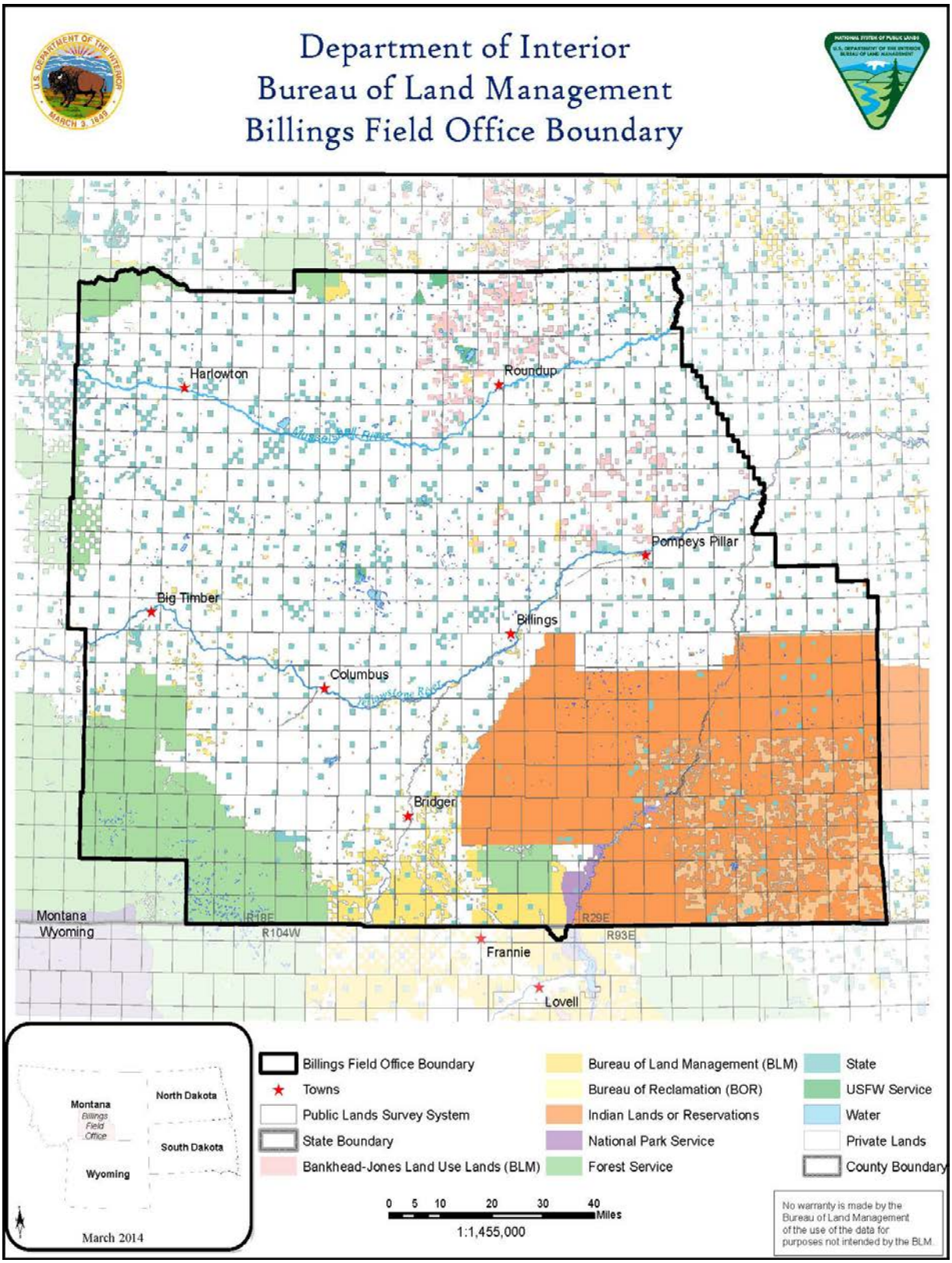
Conservation recommendations serve several purposes. They can: 1) present ways the BLM can assist species conservation in furtherance of statutory responsibilities; 2) minimize or avoid the

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.

Figure 1: Billings Field Office Planning Area Boundary Map



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

Colony ID	Colony* Size (acres)		
	1975-1977 (Acres)	**2003 (Acres)**	**2005 (Acres)**
6	2.5	10	14.6
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	-	-
Total Colonies	**15 colonies**	**6 colonies**	**10 colonies**
Total Acres	**692**	**120**	**253**

*"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 direct 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 in cluding 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 3and 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 19th 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, 7th 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.

<u>Riparian/Wetland Conservation Measures related to whooping crane and red knot habitat:</u>

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.10.1.2 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.

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.10.1.3 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 July1 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

- **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 person, 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 Species

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 TMA (1,357 acres), Pryor Mountain TMA (81,227 acres), Horsethief TMA (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 TMA (81,227 acres), Horsethief TMA (12,261 acres), South Hills TMA (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 TMA. 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 TMAs) 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 (TMAs)
  - Establish 11 Travel Management Areas (TMAs) to minimize impacts and provide a spectrum of motorized and non-motorized recreational opportunities.
  - Motorized and mechanized travel in TMAs 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 TMAs 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 TMA.

  - 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 TMA (note: not every route designation code may appear in each TMA). 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 TMAs 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 TMA (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 TMA to provide recreational opportunities and access while protecting sage grouse habitat.
  - The following routes would be designated in the Gage Dome/Colony Road TMA:
    - Open (additional mgmt): 67 miles
    - Admin Use Only: 29 miles
- Horsethief TMA (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 TMA was expanded to include Stark Site ACEC.
  - The following routes would be designated in the Horsethief TMA:
    - 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 TMA (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 TMA:
    - Open (seas/cond restriction) 6.8 miles
    - Admin Use Only: 1 mile
    - Closed: 0.8 mile
- Shepherd Ah-Nei TMA (4,680 acres)
  - This TMA 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 TMA:
    - 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 TMA (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 TMA:
    - Open: 8 miles
    - Open (additional mgmt): 61 miles
    - Admin Use Only: 67 miles
    - Closed: 5 miles
- South Hills TMA (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 TMA:
    - 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 TMA(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 TMA:

    - Open (seasonal restrictions): 1.5 miles
    - Admin Use Only: 0.5 miles
    - Closed: 1 mile
- Cottonwood/Weatherman Draw TMA (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 TMA:
    - 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 TMA (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 TMA:
    - Open: 1 mile
    - Open (additional mgmt): 9 miles
    - Admin Use Only: 23 miles
- Pryor Mountain TMA (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 Mountain TMA:
    - 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 TMA (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 TMA:
    - 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 dispersement 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 (TMAs), 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 (381acres): 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 TMA).
- 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 TMA).
- 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 TMA).
- 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 TMA).
- 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 TMA).
- 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 TMA).
- 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 TMA).
- 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 TMA).
- 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 TMA).
- 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 Mountain TMA. 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 Mountain TMA).
- 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

Resource Program	Black-footed Ferret	Canada Lynx	Grizzly Bear	Whooping Crane	Red Knot
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
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	NLAA-b	NLAA-b	NLAA-b	NLAA-d	NLAA-d

Resource Program	Black-footed Ferret	Canada Lynx	Grizzly Bear	Whooping Crane	Red Knot
Access					
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	*Mustela nigripes*	NLAA
Canada Lynx	*Lynx canadensis*	NLAA
Grizzly Bear	*Ursus arctos horribilis*	NLAA
Whooping Crane	*Grus americana*	NLAA
Red Knot	*Calidris canutus rufa*	NLAA

NLAA = may effect, but is not likely to adversely affect.

NLLV = may impact individuals, but not likely to adversely impact population viability

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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.

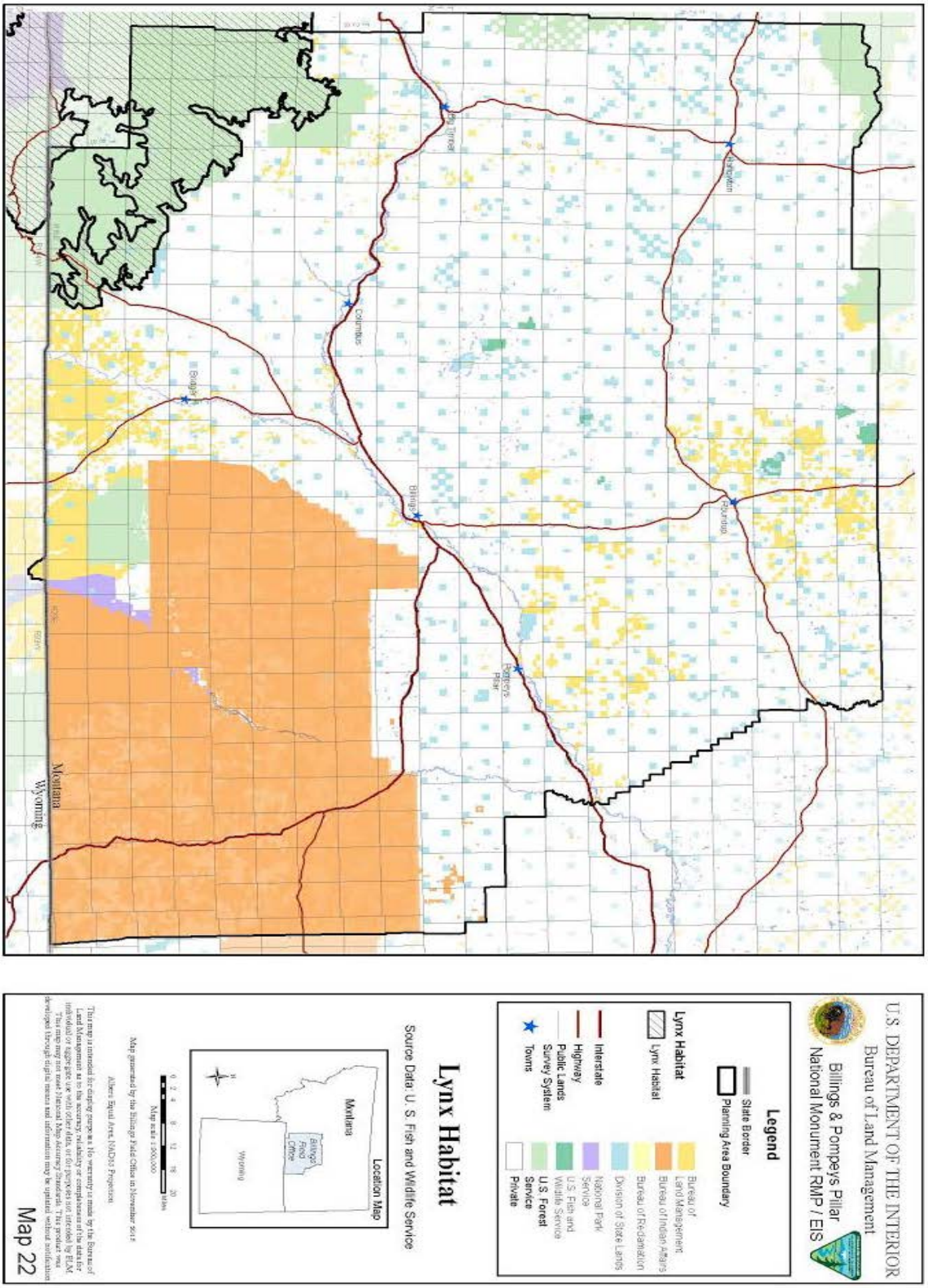


Figure 3: Grizzly Bear Habitat – Billings Field Office

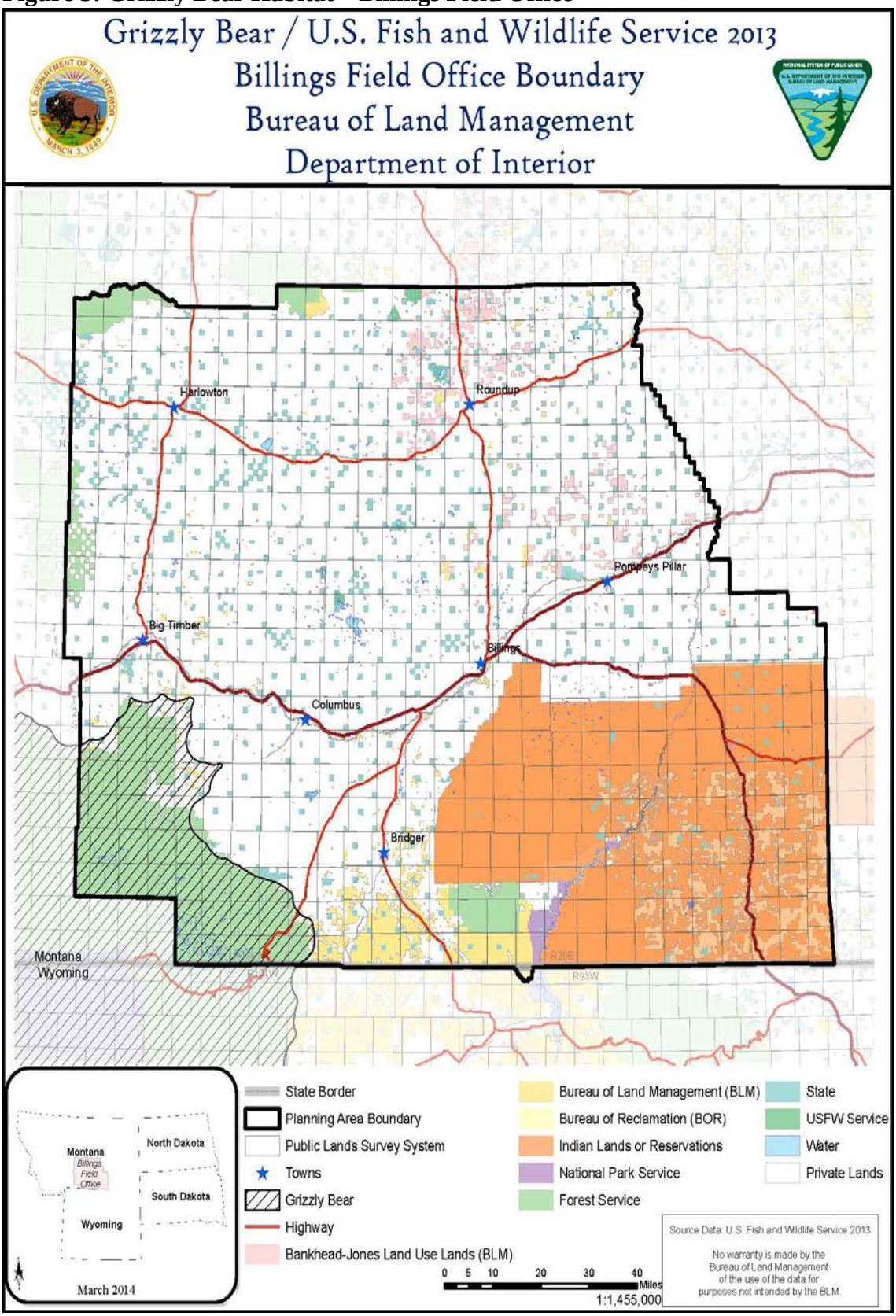


Figure 4: Yellowstone Grizzly Bear DPS Boundary and Suitable Habitat

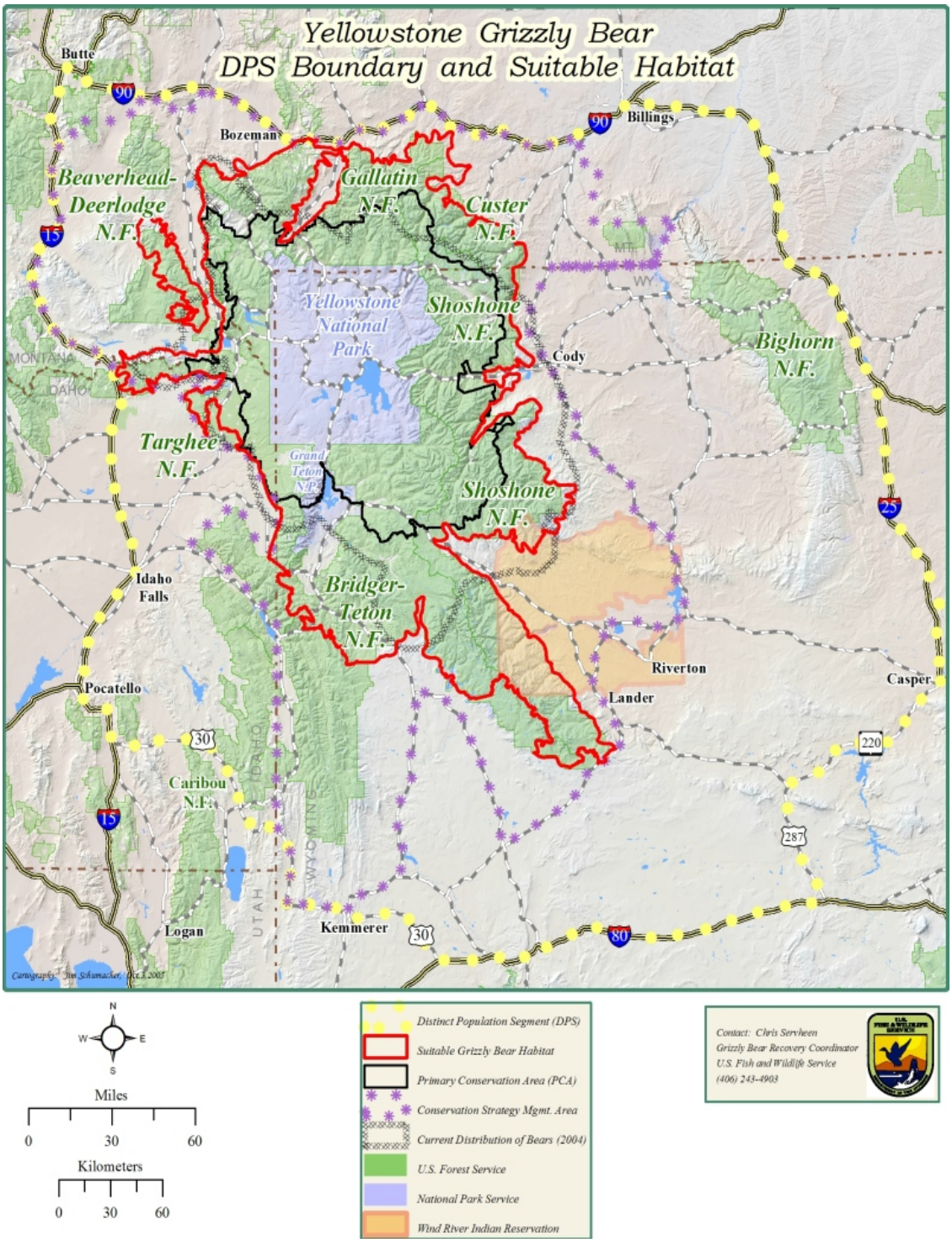
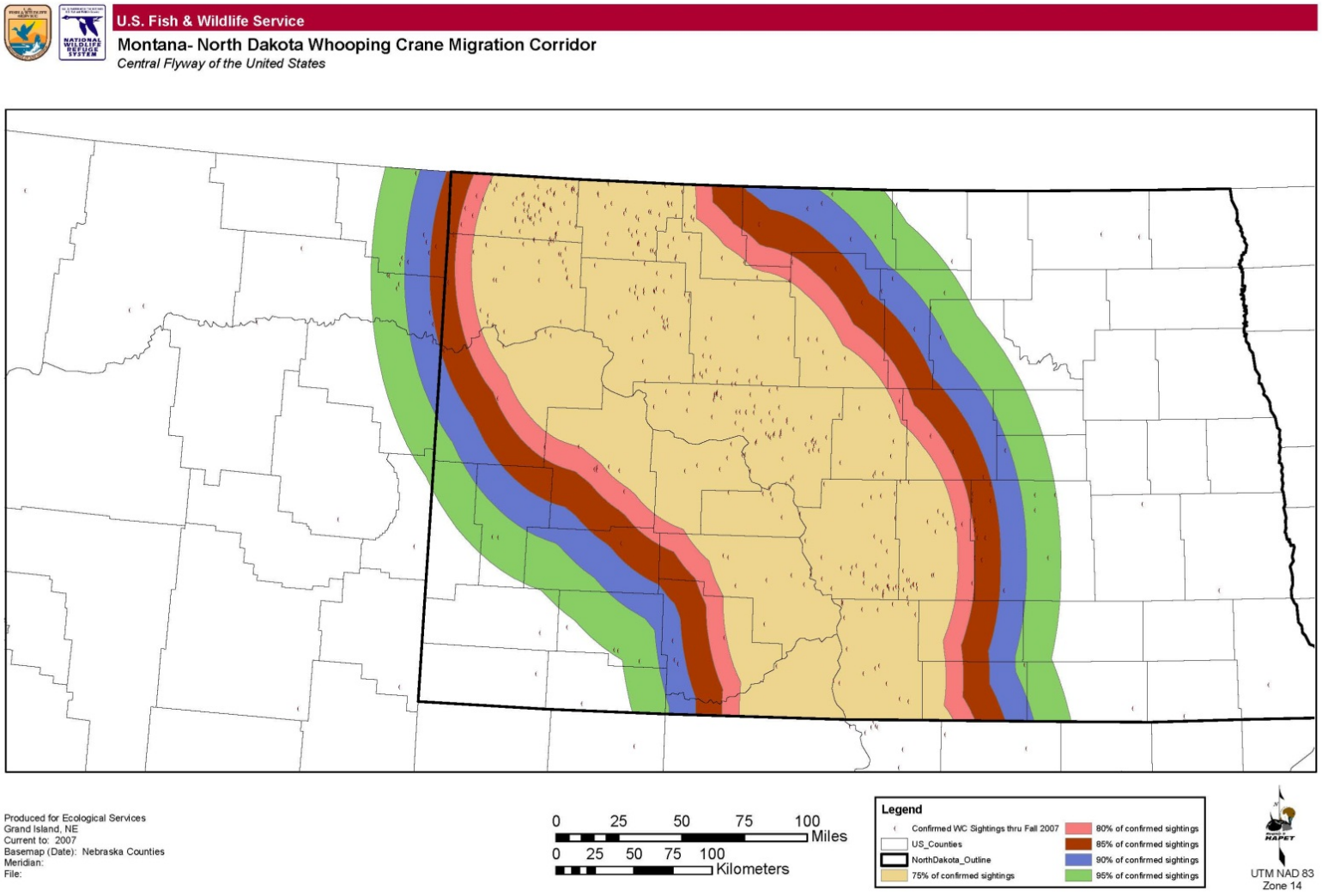


Figure 5: Whooping Crane Migration Corridor



Appendix L:
Wildlife Resources

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Appendix L –Wildlife Resources

L.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
Mammals		
White-tailed prairie dog	None	Sensitive
Black-tailed prairie dog	None	Sensitive
*Black-footed ferret**	Endangered	
Gray wolf	Threatened (experimental pop.)	
Grizzly Bear	Threatened	
Canada Lynx	Threatened	
Wolverine	Candidate	
Townsend's big-eared bat		Sensitive
Spotted bat		Sensitive
Fringe-tailed myotis bat		Sensitive
Long-legged myotis bat		Sensitive
Long-eared myotis bat		Sensitive
Pallid bat		Sensitive
Birds		
Whooping crane	Endangered	
Mountain plover	Proposed	Sensitive
Greater sage-grouse	Candidate	Sensitive
BLM sensitive raptors (peregrine falcon, burrowing owl, ferruginous hawk, Swainson's hawk)	None	Sensitive
Migratory birds	None	*Sensitive*
Reptiles/Amphibians		
Greater short-horned lizard		Sensitive
Milk snake		Sensitive
Northern leopard frog		Sensitive
Spiny softshell turtle		Sensitive
Western hog-nosed snake		Sensitive
Fish		
Yellowstone Cutthroat Trout		Sensitive
Sauger		

Special Status Plants in the Billings Field Office Planning Area

Common Name[1]	Scientific Name[1]	Global/State Status
Nodding rock cress	Arabis demissa v. languid (Boechera demissa)	G5S1S3
Cushion milkvetch	Astragalus aretioides (Orophaca aretioides)	G4S2
Geyer's milkvetch	Astragalus geyeri	G4S2
Gray's milkvetch	Astragalus grayi	G4?S2
Oregon milkvetch	Astragalus oreganus	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

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.

G1 S1 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.

G2 S2 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.

G3 S3 Potentially at risk because of limited and/or declining numbers, range, and/or habitat, even though it may be abundant in some areas.

G4 S4 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.

G5 S5 Common, widespread, and abundant (although it may be rare in parts of its range). Not vulnerable in most of its range.

Sub-rank

T# Rank of a subspecies or variety. Appended to the global rank of the full species, e.g. G4T3

? Inexact Numeric Rank - Denotes uncertainty; inexactness.

[1]Species nomenclature consistent with the USDA PLANTS database (USDA 2009).

L.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:

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Species	Status[1]	Resource Management Plan Planning Areas			
		Billings and Pompey's Pillar National Monument	HiLine	Lewistown	Miles City
Black-footed Ferret (*Mustela nigripes*)	LE/XN	x	x	x	x
Whooping Crane (*Grus americana*)	LE		x		x
Least Tern (*Sterna antillarum*)	LE		x		x
Pallid Sturgeon (*Scaphirhynchus albus*)	LE		x	x	x
Grizzly Bear (*Ursus arctos horribilis*)	LT	x	x		
Piping Plover (*Charadrius melodus*)	LT CH		x		x
Canada Lynx (*Lynx Canadensis*)	LT CH	x		x	
Red Knot (*Calidris canutus rufa*)	LT	x	x		x
Northern Long-eared Bat (*Myotis septentrionalis*)	P				x
Greater sage-grouse (*Centrocercus urophasianus*)	C	x	x	x	x
Sprague's Pipit (*Anthus spragueii*)	C	x	x	x	x
Whitebark Pine (*Pinus albicaulis*)	C	x	x	x	

[1] 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.

2

United States Department of the Interior
Fish and Wildlife Service

Ecological Services
Montana Field Office
585 Shepard Way
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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	*Mustela nigripes*	E/XN	Big Horn, Carbon, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland, Yellowstone
Grizzly Bear	*Ursus arctos horribilis*	T	Carbon, Stillwater, Sweet Grass
Canada Lynx	*Lynx canadensis*	T, CH	Carbon, Stillwater, Sweet Grass
Whooping Crane	*Grus americana*	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 (*Centrocercus urophasianus*)	Feb. 26, 2010
Northern Leopard Frog (*Lithobates pipiens*)	July 1, 2010
Mountain Plover (*Charadrius montanus*)	July 31, 2010
Sprague's Pipit (*Anthus spragueii*)	Sept. 1, 2010
White-tailed Prairie Dog (*Cynomys leucurus*)	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

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 6th 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	*Botaurus lentiginosus*	Marbled Godwit	*Limosa fedoa*
Baird's Sparrow	*Ammodramus bairdii*	McCown's Longspur	*Calcarius mccownii*
Bald Eagle	*Haliaeetus leucocephalus*	Mountain Plover	*Charadrius montanus*
Black Rosy-Finch	*Leucosticte atrata*	Nelson's Sharp-tailed Sparrow	*Ammodramus nelsoni*
Black Swift	*Cypseloides niger*	Olive-sided Flycatcher	*Contopus cooperi*
Black Tern	*Chlidonias niger*	Peregrine Falcon	Falco peregrinus
Black-billed Cuckoo	*Coccyzus erythropthalmus*	Pinyon Jay	*Gymnorhinus cyanocephalus*
Buff-breasted Sandpiper	*Tryngites subruficollis*	Prairie Falcon	*Falco mexicanus*
Burrowing Owl	*Athene cunicularia*	Red-headed Woodpecker	*Melanerpes erythrocephalus*
Calliope Hummingbird	*Stellula calliope*	Sage Sparrow	*Amphispiza belli*
Cassin's Finch	*Carpodacus cassinii*	Sage Thrasher	*Oreoscoptus montanus*
Chestnut-collared Longspur	*Calcarius ornatus*	Short-billed Dowitcher	*Limnodromus griseus*
Dickcissel	*Spiza maericana*	Short-eared Owl	*Asio flammeus*
Ferruginous Hawk	*Buteo regalis*	Smith's Longspur	*Calcarius pictus*
Flammulated Owl	*Otus flammeolus*	Solitary Sandpiper	*Tringa solitaria*
Golden Eagle	*Aquila chrysaetos*	Sprague's Pipit	*Anthus spragueii*
Grasshopper Sparrow	*Ammodramus savannarum*	Swainson's Hawk	*Buteo swainsoni*
Horned Grebe	*Podiceps auritus*	Upland Sandpiper	*Bartramia longicauda*
Hudsonian Godwit	*Limosa haemastica*	White-headed Woodpecker	*Picoides albolarvatus*
Least Bittern	*Ixobrychus exilis*	Williamson's Sapsucker	*Saphyrapicus thyroides*
Lewis's Woodpecker	*Melanerpes lewis*	Yellow Rail	*Coturnicops noveboracensis*
Loggerhead Shrike	*Lanius ludovicianus*	Yellow-billed Cuckoo	*Coccyzus americanus*
Long-billed Curlew	*Numenius americanus*		

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.

L.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 signigicant 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

Action	Dates	Responsible Entity
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
Inventory and Monitoring		
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 next 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

Protection Measure	**Dates**
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.

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L.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.

L.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.

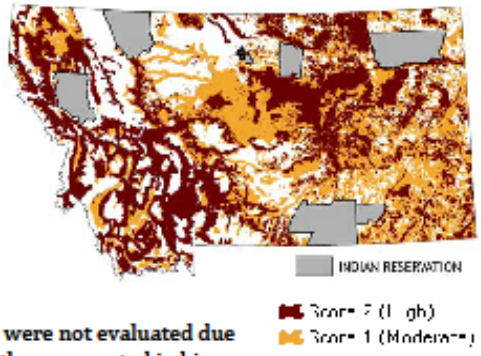
Attached are descriptions of the assessment process used by MTFWP. In the future, changes, revisions, or elimination of this data will be coordinated and agreed upon with MTFWP.

TERRESTRIAL

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.

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

TERRESTRIAL

Montana Fish, Wildlife & Parks
Crucial Areas Assessment

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

DATE MODIFIED: April 7, 2010 – V 1.0

Full documentation @ http://fwp.mt.gov/fishAndWildlife/conservationInAction/crucialAreas.html

Appendix M:
Coal Resources: Coal Development Potential and Unsuitability Criteria

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M. Coal Resources: Coal Development Potential and Unsuitability Criteria

M.1 Coal Resource Objectives and Planned Actions

The Billings Field Office planning area will be open for federal coal exploration license applications. Licenses to mine federal coal for domestic use will be available as long as production does not annually exceed 20 tons. Federal coal leasing by application (LBA) will remain available for both underground and surface mining considerations. The unsuitability criteria will be applied to the lease application area and a plan amendment to the current RMP will be prepared if necessary. Prior to approving exploration licenses, licenses to mine (domestic), and coal lease applications, a project-specific environmental review document will be prepared to assess impacts and develop mitigation measures.

The federal coal leasing decisions that were made in the previous RMP will be brought forward and adopted in this RMP:

- All federal coal that is minable by underground methods is suitable for further consideration for leasing or exchange, pending further study. Within the planning area, potential coal resource underground mining development areas occur in the Bull Mountain Coal Field located in Musselshell and Yellowstone counties and in the Red Lodge-Bearcreek Coal Field located in Carbon County. The coal unsuitability criteria will not be applied to the lands comprising the coal application area until a site-specific mine plan is filed that details the proposed locations of surface facilities.

- Within the planning area, surface coal mining development areas occur within the Bull Mountain Coal Field and are suitable for further consideration for leasing or exchange, pending further study. Within this area, federal coal with a strip ratio less than 10:1, that can be mined by surface methods must first be screened to determine their development potential, surface owner opposition to mining, the presence of unacceptable environmental conflicts (unsuitability criteria), and multiple use conflicts in accordance with the four coal screens. The application of the coal screens also includes the consideration of the unsuitability criteria.

In 1984, surface owners of land overlying federal coal in the Bull Mountain Coal Field in the Mammoth and McCleary beds (South Divide Resource Area) were consulted to determine their preference for or against leasing their land for surface mining. Due to the significant amount of time that has elapsed since the consultation was conducted, it was decided not to include that data in the RMP (see Chapter 3 – Coal of the PRMP/FEIS).

Federal coal lease applications and exchange proposals will be considered on a case-by-case basis. The coal screening process will be applied to future lease application areas that have surface mine development potential.

M.2 Decision Rationale

This action was selected because it will enable the BLM to comply with the multiple use mandates established by FLPMA and the 43 CFR 1600 regulations governing multiple use planning. Furthermore, it will allow the BLM to comply fully with the Surface Mining Coal Reclamation Act (SMCRA) and the 43 CFR 3400 regulations established to govern the federal coal management program. Although development of federal coal resources by surface mining methods will be allowed in the Bull Mountain Coal Field, underground mining will be encouraged, because it is less environmentally disruptive. The decision to implement a 10:1 (overburden thickness to coal thickness) stripping ratio cutoff limit was based on the premise that it may limit the size of the surface mine.

M.3 Coal Screens and Unsuitability Criteria

The principle coal resource-related decision required in developing a land use plan (LUP) is the identification of areas that could be acceptable for further consideration for coal leasing. 43 CFR 3420.1 4(e) states:

"The major land use planning decision concerning coal resource development shall be the identification of areas acceptable for further consideration for leasing which shall be identified by the screening procedures."

Four coal screens were applied to areas within the planning area that contain federal coal that could be potentially developed by surface mining methods. The four coal screens (43 CFR 3420.1-4) are explained below:

- **Identification of Area with Coal Development Potential** – Areas being considered for development must have a coal resource that has the potential to be developed by surface mining methods. Areas could be eliminated from further consideration if they do not contain a coal resource with development potential;

- **Surface Owner Consultation** – Surface owners in areas that have the potential to be developed must by consulted to determine their view of surface mining. Negative surface owner consent could result in lands being eliminated from further consideration for development;

- **Application of Unsuitability Criteria** – A list of 20 coal unsuitability criteria are applied to areas that have coal development potential. Areas can be eliminated from further consideration for development if they fail to meet any of the 20 unsuitability criteria; and

- **Multiple Use Conflict Analysis** – The value of other federal resources that are present in coal development areas must be also be considered. Areas with coal development potential may be eliminated from further consideration based on multiple use considerations if other federal resource values are determined to be superior to the coal resource.

Once the coal screens have been applied to prospective coal resource areas via the LUP, the unsuitability criteria are generally reviewed and possibly readjusted during the environmental review process for subsequent coal lease applications.

Provided below is a description of the 20 unsuitability criteria for assessing lands suitable for all or certain stipulated methods of coal mining:

Criterion Number 1: All federal lands included in the following land systems or categories shall be considered unsuitable: National Park System, National Wildlife Refuge System, National System of Trails, National Wilderness Preservation System, National Wild and Scenic Rivers System, National Recreation Areas, lands acquired with money derived from the Land and Water Conservation Fund, National Forests, and federal lands in incorporated cities, towns and villages.

> Exceptions: (i) A lease may be issued within the boundaries of any National Forest if the Secretary finds no significant recreational, timber, economic or other values which may be incompatible with the lease; and (A) surface operations and impacts are incident to an underground coal mine or (B) where the Secretary of Agriculture determines, with respect to lands which do not have significant forest cover within those National Forests west of the 100th meridian, that surface mining may be in compliance with the Multiple-Use Sustained-Yield Act of 1960, the Federal Coal Leasing Amendments Act of 1976, and the Surface Mining Control and Reclamation Act of 1977. (ii) A lease may be issued within the Custer National Forest with the consent of the Department of Agriculture as long as no surface coal mining operations are permitted.
>
> Exemptions: The application of this criterion to lands within the listed land systems and categories is subject to valid existing rights, and does not apply to surface coal mining operations existing on August 3, 1977.

Criterion Number 2: Federal lands that are within rights-of-way or easements or within surface leases for residential, commercial, industrial, or public purposes on federally owned surface shall be considered unsuitable.

> Exceptions: A lease may be issued, and mining operations approved in such areas if the surface management agency determines that:
>
> i. All or certain types of coal development (e.g., underground mining) will not interfere with the purpose of the right-of-way or easement; or
>
> ii. The right-of-way or easement was granted for mining purposes; or
>
> iii. The right-of-way or easement was issued for a purpose for which it is not being used; or
>
> iv. The parties involved in the right-of-way or easement agree, in writing, to leasing; or

v. It is impractical to exclude such areas due to the location of coal and method of mining and such areas or uses can be protected through appropriate stipulations.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 3: The terms used in this criterion have the meaning set out in the Office of Surface Mining Reclamation and Enforcement regulations at Chapter VII of Title 30 of the Code of Federal Regulations. Federal lands affected by section 522(e) (4) and (5) of the Surface Mining Control Act of 1977 shall be considered unsuitable. This Includes lands within 100 feet of the outside line of the right-of-way of a public road or within 100 feet of a cemetery, or within 300 feet of a public building, school, church, community or institutional building, or public park, or within 300 feet of an occupied dwelling.

Exceptions: A lease may be issued for lands:

i. Used as mine access roads or haulage roads that join the right-of-way for a public road;

For which the Office of Surface Mining Reclamation and Enforcement has issued a permit to have public roads relocated;

If, after public notice and opportunity for public hearing in the locality, a written finding is made by the authorized officer that the interests of the public and the landowners affected by mining within 100 feet of a public road will be protected;

For which owners of occupied buildings have given written permission to mine within 300 feet of their dwellings.

Exemptions: The application of this criterion is subject to valid existing rights, and does not apply to surface coal mining operations existing on August 3, 1977.

Criterion Number 4: Federal lands designated as wilderness study areas shall be considered unsuitable while under review by the Administration and the Congress for possible wilderness designation. For any federal land which is to be leased or mined prior to completion of the wilderness inventory by the surface management agency, the environmental assessment or impact statement on the lease sale or mine plan shall consider whether the land possesses the characteristics of a wilderness study area. If the finding is affirmative, the land shall be considered unsuitable, unless issuance of noncompetitive coal leases and mining on leases is authorized under the Wilderness Act and the Federal land Policy and Management Act of 1976.

Exemption: The application of this criterion to lands for which the Bureau of Land Management is the surface management agency and lands in designated wilderness areas in National Forests is subject to valid existing rights.

Criterion Number 5: Scenic federal lands designated by visual resource management analysis as Class I (an area of outstanding scenic quality or high visual sensitivity) but not currently on the National Register of Natural Landmarks shall be considered unsuitable.

Exception: A lease may be issued if the surface management agency determines that surface coal mining operations will not significantly diminish or adversely affect the scenic quality of the designated area.

> Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977: or which include operations on which a permit has been issued.

Criterion Number 6: Federal lands under permit by the surface management agency, and being used for scientific studies involving food or fiber production, natural resources or technology demonstrations and experiments shall be considered unsuitable for the duration of the study, demonstration, or experiment, except where mining could be conducted in such a way as to enhance or not jeopardize the purposes of the study, as determined by the surface management agency, or where the principal scientific user or agency gives written concurrence to all or certain methods of mining.

> Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 7: All publicly or privately owned places which are included in the National Register of Historic Places shall be considered unsuitable. This shall include any areas that the surface management agency determines, after consultation with the Advisory Council on Historic Preservation and the State Historic Preservation Officer, are necessary to protect the inherent values of the property that made it eligible for listing in the National Register.

> Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 8: Federal lands designated as natural areas or as National Natural Landmarks shall be considered unsuitable.

> Exceptions: A lease may be issued and mining operation approved in an area or site if the surface management agency determines that:
>
> ii. The use of appropriate stipulated mining technology will result in no significant adverse impact to the area or site; or
>
> The mining of the coal resource under appropriate stipulations will enhance information recovery (e.g. paleontological sites).

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which includes operations on which a permit has been issued.

Criterion Number 9: Federally designated critical habitat for listed threatened or endangered plant and animal species, and habitat for federal threatened or endangered species which is determined by the Fish and Wildlife Service and the surface management agency to be of essential value and where the presence of threatened or endangered species has been scientifically documented, shall be considered unsuitable.

Exception: A lease may be issued and mining operations approved if, after consultation with the Fish and Wildlife Service, the Service determines that the proposed activity is not likely to jeopardize the continued existence of the listed species and/or its critical habitat.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 10: Federal lands containing habitat determined to be critical or essential for plant or animal species listed by a state pursuant to state law as endangered or threatened shall be considered unsuitable.

Exception: A lease may be issued and mining operations approved if, after consultation with the state, the surface management agency determines that the species will not be adversely affected by all or certain stipulated methods of coal mining.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 11: A bald or golden eagle nest or site on federal lands that is determined to be active and an appropriate buffer zone of land around the nest site shall be considered unsuitable. Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with the Fish and Wildlife Service.

Exceptions: A lease may be issued if:

iii. It can be conditioned in such a way, either in manner or period of operation, that eagles will not be disturbed during breeding season; or

iv. The surface management agency, with the concurrence of the Fish and Wildlife Service, determines that the golden eagle nest(s) will be moved;

v. Buffer zones may be decreased if the surface management agency determines that the active eagle nests will not be adversely affected.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 12: Bald and golden eagle roost and concentration areas on federal lands used during migration and wintering shall be considered unsuitable.

Exception: A lease may be issued if the surface management agency determines that all or certain stipulated methods of coal mining can be conducted in such a way, and during such periods of time, to ensure that eagles shall not be adversely disturbed.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 13: Federal lands containing a falcon (excluding kestrel) cliff nesting site with an active nest and a buffer zone of federal land around the nest site shall be considered unsuitable. Consideration of availability of habitat for prey species and of terrain shall be included in the determination of buffer zones. Buffer zones shall be determined in consultation with the Fish and Wildlife Service.

Exception: A lease may be issued where the surface management agency, after consultation with the Fish and Wildlife Service, determines that all or certain stipulated methods of coal mining will not adversely affect the falcon habitat during the periods when such habitat is used by the falcons.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 14: Federal lands which are high priority habitat for migratory bird species of high federal interest on a regional or national basis, as determined jointly by the surface management agency and the Fish and Wildlife Service, shall be considered unsuitable.

Exception: A lease may be issued where the surface management agency, after consultation with the Fish and Wildlife Service, determines that all or certain stipulated methods of coal mining will not adversely affect the migratory bird habitat during the periods when such habitat is used by the species.

Exemption: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 15: Federal lands which the surface management agency and the state jointly agree are habitat for resident species of fish and wildlife and plants of high interest to the state and which are essential for maintaining these priority wildlife species shall be considered unsuitable.

Examples of such lands which serve a critical function for the species involved include:

vi. Active dancing and strutting grounds for sage grouse, sharp-tailed grouse, and prairie chicken;

Winter ranges crucial for deer, antelope, and elk;

Migration corridors for elk;

Extremes of range for plant species; and

A lease may be issued if, after consultation with the state, the surface management agency determines that all or certain stipulated methods of coal mining will not have a significant long-term impact on the species being protected.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 16: Federal lands in riverine, coastal, and special floodplains (l00-year recurrence interval) on which the surface management agency determines that mining could not be undertaken without substantial threat of loss of life or property shall be considered unsuitable for all or certain stipulated methods of coal mining.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 17: Federal lands which have been committed by the surface management agency to use as municipal watersheds shall be considered unsuitable.

Exception: A lease may he issued where the surface management agency in consultation with the municipality (incorporated entity) or the responsible governmental unit determines, as a result of studies, that all or certain stipulated methods of coal mining will not adversely affect the watershed to any significant degree.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 18: Federal lands with National Resource Waters, as identified by states in their water quality management plans, and a buffer zone of federal lands ¼ mile from the outer edge of the far banks of the water, shall be unsuitable.

Exception: The buffer zone may be eliminated or reduced in size where the surface management agency determines that it is not necessary to protect the National Resource Waters.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Criterion Number 19: Federal lands identified by the surface management agency, in consultation with the state in which they are located, as alluvial valley floors according to the definition in §3400.0-5(a) of this title, the standards in 30 CFR Part 822, the final alluvial valley floor guidelines of the Office of Surface Mining Reclamation and Enforcement when published, and approved state programs under the Surface Mining Control and Reclamation Act of 1977, where mining would interrupt, discontinue or preclude farming, shall be considered unsuitable. Additionally, when mining federal land outside an alluvial valley floor would materially damage the quantity or quality of water in surface or underground water systems that would supply alluvial valley floors, the land shall be considered unsuitable.

Exemptions: This criterion does not apply to surface coal mining operations which produced coal in commercial quantities in the year preceding August 3, 1977, or which had obtained a permit to conduct surface coal mining operations.

Criterion Number 20: Federal lands in a state to which is applicable a criterion (i) proposed by that state or Indian tribe located in the planning area, and (ii) adopted by rulemaking by the Secretary, shall be considered unsuitable.

Exceptions: A lease may be issued when:

vii. Such criterion is adopted by the Secretary less than 6 months prior to the publication of the draft comprehensive land use plan or land use analysis plan, or supplement to a comprehensive land use plan, for the area in which such land is included; or

After consultation with the state, the surface management agency determines that all or certain stipulated methods of coal mining will not adversely affect the value which the criterion would protect.

Exemptions: This criterion does not apply to lands: to which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Underground mining exemption from criteria:

a) Federal lands with coal deposits that would be mined by underground mining methods shall not be assessed as unsuitable where there would be no surface coal mining operations, as defined in §3400.0-5 of this title, on any lease, if issued.

b) Where underground mining will include surface operations and surface impacts on federal lands to which a criterion applies, the lands shall be assessed as unsuitable unless the surface management agency finds that a relevant exception or exemption applies. Source: 43 CFR 3461.1, BLM, 1987

M.4 Coal Beds and Coal Fields

Coal beds are present at various stratigraphic intervals within the coal fields that are located in the planning area, including the Cretaceous Eagle, Judith River, Hell Creek and the Paleocene Fort Union Formations (Map 47). The Judith River and Hell Creek Formations contain coal which is generally thin (less than 2 feet thick) and often has a high content of volcanic ash, lowering its quality. These formations crop out (are present at the surface) in western Musselshell and Yellowstone counties and in northern Carbon County. Due to the lack of geologic data, the development potential for coal beds occurring in these two formations is unknown.

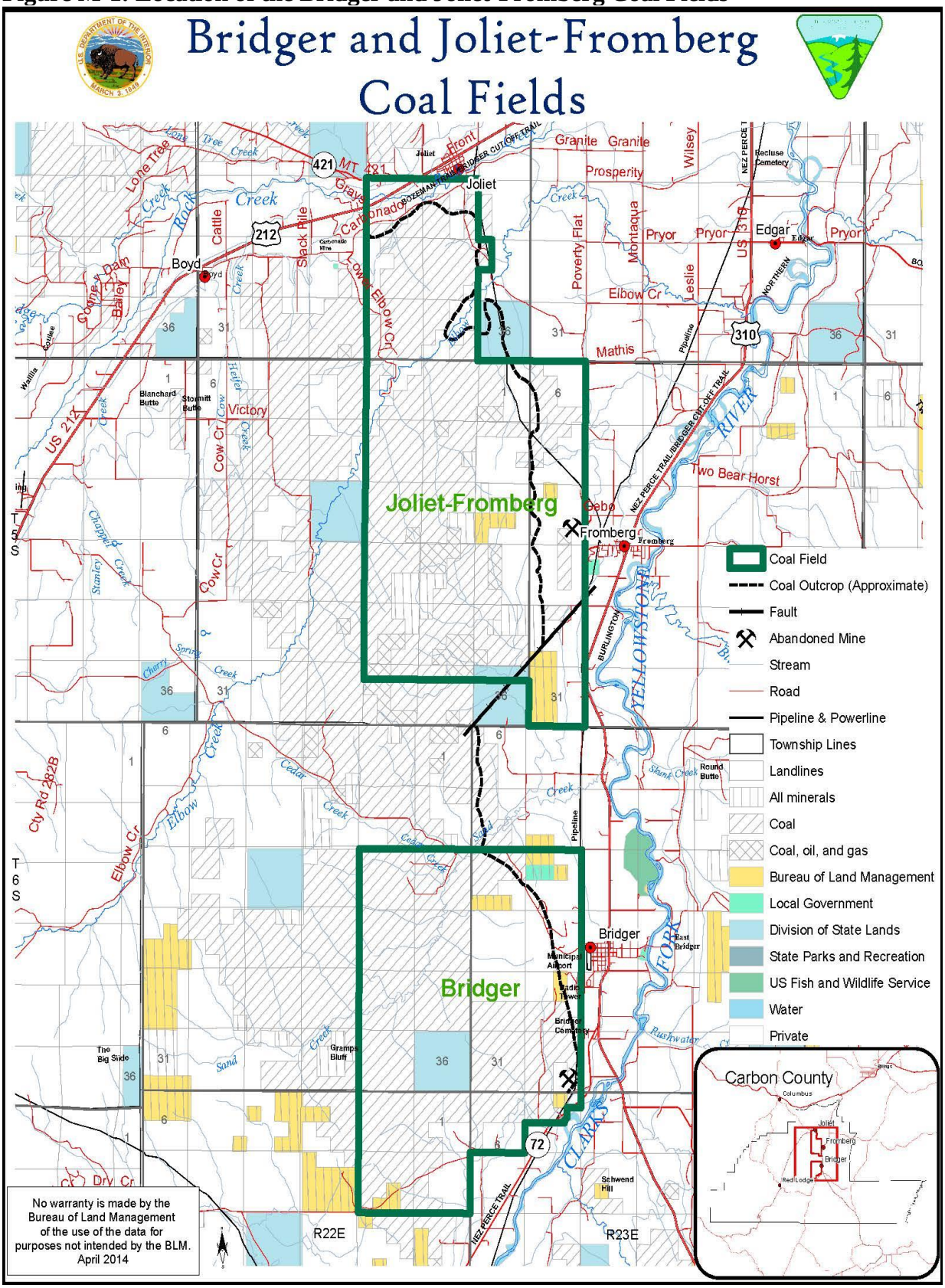
Within the planning area, coal has been historically mined from beds occurring in the Eagle and Fort Union Formations. The only coal that is currently being produced in the planning area is from the Fort Union Formation in the Bull Mountain coal field near Roundup, Montana. Following, is a description of the geology, historical production, and coal resource development potential of the coal fields which occur in the planning area. The coal resource estimates stated in this document are just "estimates."

M.4.1 Bridger and Joliet-Fromberg Coal Fields

The coal-bearing Eagle Formation crops out over a large area in the planning area, forming rimrocks along the Yellowstone and Clarks Fork River valleys. In the southern part of the planning area (Carbon County), coal occurs in the middle (shale) member of the Eagle Formation. Coal resources occur in an area bounded on the north by Rock Creek and on the south and east by the Clarks Fork River (see Figure M-1). Shale or "bone" (shaley coal) partings within the Eagle Formation coal horizon separate the coal into as many as three distinct beds. The position of these partings within the coal horizon influenced how the coal was mined and impacted its overall quality.

The Fromberg fault offsets the Eagle Formation outcrop effectively dividing the coal resource into two separate coalfields; the Bridger and Joliet/Fromberg (Cannon, 1986). Underground mines were opened in this area in the late 1800s. The primary coal bed crops out along an approximate north-south line from Joliet to a point about two miles southwest of Fromberg, where it has been displaced by the fault (Figure M-1). The coal bed is subbituminous to bituminous in grade and ranges in thickness from 12 to 65 inches, with partings of shale or carbonaceous shale (Knappen and Moulton, 1931). The coal bed is locally called the Bridger

Figure M-1: Location of the Bridger and Joliet-Fromberg Coal Fields



coal because of past production of the coal from mines at Bridger, Montana. However, several small mines were opened west of Fromberg. The mines shut down in the 1930s. Although no total production figures are available, over 100,000 tons were produced in 1907.

The coal resources for the Bridger coal field can only be estimated with a high degree of uncertainty. There has been no recent exploration in the coal field and the only production records are from coal mines that were abandoned nearly 100 years ago. The coal field encompasses approximately 13,720 acres, of which, 10,240 acres are federally owned (Figure M-1). If the measured thickness of 4 feet of coal is consistent throughout the coal field, the total estimated coal resource is approximately 100 million tons (75 million tons federal). If conventional (room and pillar) underground mining is employed, approximately 50%, or 38 million tons of federal coal are recoverable.

There has been some recent interest expressed in federal coal in the Joliet-Fromberg coalfield. A group of investors obtained leases on private mineral lands near the coal outcrop and lease options from some surface owners overlying federal coal resources. It was also reported that some exploratory drilling had occurred on private mineral lands. Federal coal ownership forms nearly a solid block of coal-bearing lands approximately 8 miles long and 3 to 4 miles wide located 0.5 mile inside the outcrop.

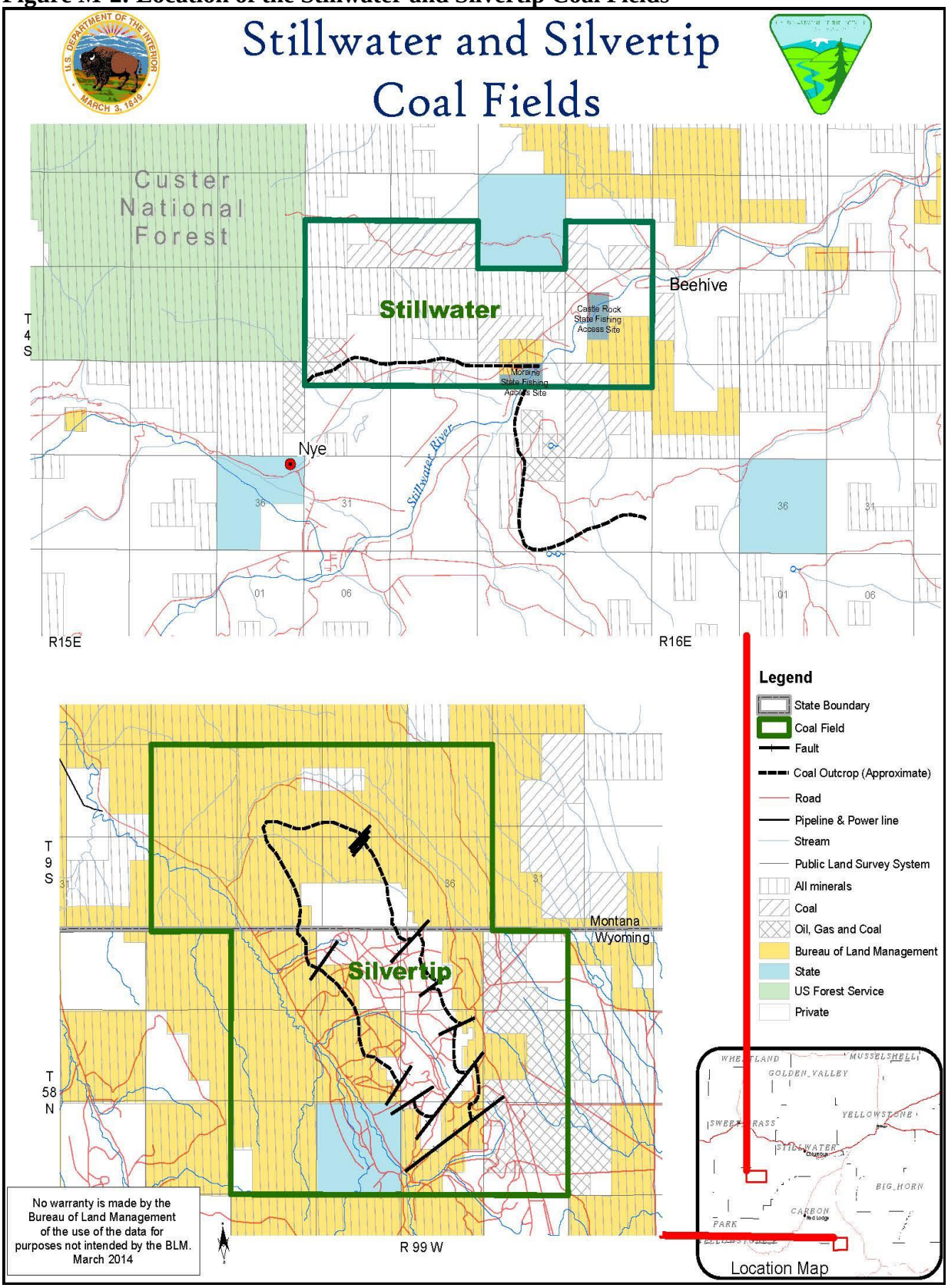
In 1982, the BLM conducted a Known Recoverable Coal Resource Area study in the Joliet-Fromberg coalfield. These studies were conducted in areas where federal coal has high to moderate development potential through surface or underground mining methods. The area of prospective surface minable coal encompasses approximately 1,360 acres, of which 320 acres are federal. Coal resources within that area were estimated at 13 million tons (approximately 2 million tons federally owned). Applying a 90% recovery rate, over 2 million tons of federal coal are potentially surface mineable.

The area of prospective underground minable coal in the Joliet-Fromberg coal field is much larger. Approximately 8,680 acres of federally owned coal occurs in this area. Approximately 69 million tons of coal has been identified (46 million tons federal coal). Assuming that room and pillar underground mining would be employed, 50% of the coal, or approximately 34 million tons (23 million tons federal coal) would be potentially recoverable.

M.4.2 Silvertip and Stillwater Coal Fields

The Silvertip and Stillwater coal fields (Figure M-2) are relatively small and are located in the extreme southern and southwestern part of the planning area. These coalfields also contain coal from the shale member of the Eagle Formation. The coal is fairly uniform, averaging approximately 4 feet thick in two or three beds, separated by shale partings. Only small quantities of coal were produced from either field, though many prospects were noted on older topographic maps, and some may still be visible on the surface. The only potential for renewed development in these fields would be small quantities for local domestic use, which is unlikely. Potential coal development in the Silvertip coalfield may conflict with production from the Elk Basin oil field, which also occupies a similar area.

Figure M-2: Location of the Stillwater and Silvertip Coal Fields



Federal ownership of coal is scattered in the Stillwater coal field. However, the coal outcrop in the Silvertip field occurs almost entirely within federal ownership. An accurate estimate of the recoverable coal resources within these coal fields has not been made.

M.4.3 Red Lodge-Bearcreek Coal Field

The Red Lodge-Bearcreek coal field contains coal from the Fort Union Formation. Within the coal field, nine separate coal beds occur within an 825 foot stratigraphic interval of the middle member of the formation (Roberts and Rossi, 1999). Figure M-3 provides a generalized stratigraphic column of the coal-bearing middle member of the Fort Union Formation in the Red Lodge-Bearcreek coal field.

The coal field is approximately 16,320 acres in size and is located in southern Carbon County (Figure M-4). The areal extent of the coal field is limited on the east and north by the line of outcrop, on the south by the gradual thinning of the coal beds, and on the southwest by the Beartooth thrust fault. West of Rock Creek, the coal lies in a narrow, steeply dipping zone which terminates against the Beartooth fault (Woodruff, 1909). Small geologic structures interrupt the general southwesterly dip of the strata. Several thin igneous dikes cut the strata, but they did not interfere with past coal production. The coal field includes the Red Lodge and Bearcreek mining districts, which are separated by a high topographic ridge.

There is a long history of coal mining in the Red Lodge and Bearcreek areas. The first mine opened near Red Lodge just prior to 1882, but up to 1889, operations were conducted on a small scale (Woodruff, 1909). Production increased from 232,000 tons in 1886 to over 1 million tons by 1917. Most of the coal was used by the Northern Pacific Railway, though some went to the Anaconda smelter near Butte, Montana. Around 1924, demand for this coal began to diminish due to competition from the open pit mine at Colstrip, Montana. In 1932, the mines closed. Over 11 million tons of coal had been produced, entirely by underground, room and pillar mining. Coal was also mined under the town of Red Lodge.

Mining in the Bearcreek area progressed a little behind the Red Lodge area. Production was very limited until the railroad from Bridger to Bearcreek, Montana was completed in 1906. At least eight mining companies were operating in the area in the early 1900s. Production peaked in the early 1920s and began to decline in 1926 due to competition from oil and gas. World War II provided impetus for increased production, but after the war, production again declined. After abandonment of the Bearcreek-Belfry railroad spur in 1953, only small scale mining and trucking of coal to Red Lodge kept the field from closing entirely. Eventually, all mining activity ceased. Total production from the district was approximately 13 million tons. The Beartooth Coal Company, owned by Portland General Electric, reopened the Brophy underground mine in 1980. That year, over 7,000 tons of coal was produced. Due to labor problems and a soft coal market, the mine shut down.

Figure M-3: Generalized stratigraphic column showing Fort Union Formation coal beds in the Red Lodge-Bearcreek coalfield. Stratigraphy adapted from Woodruff 1909, Rawlins 1986, and Roberts and Rossi 1999

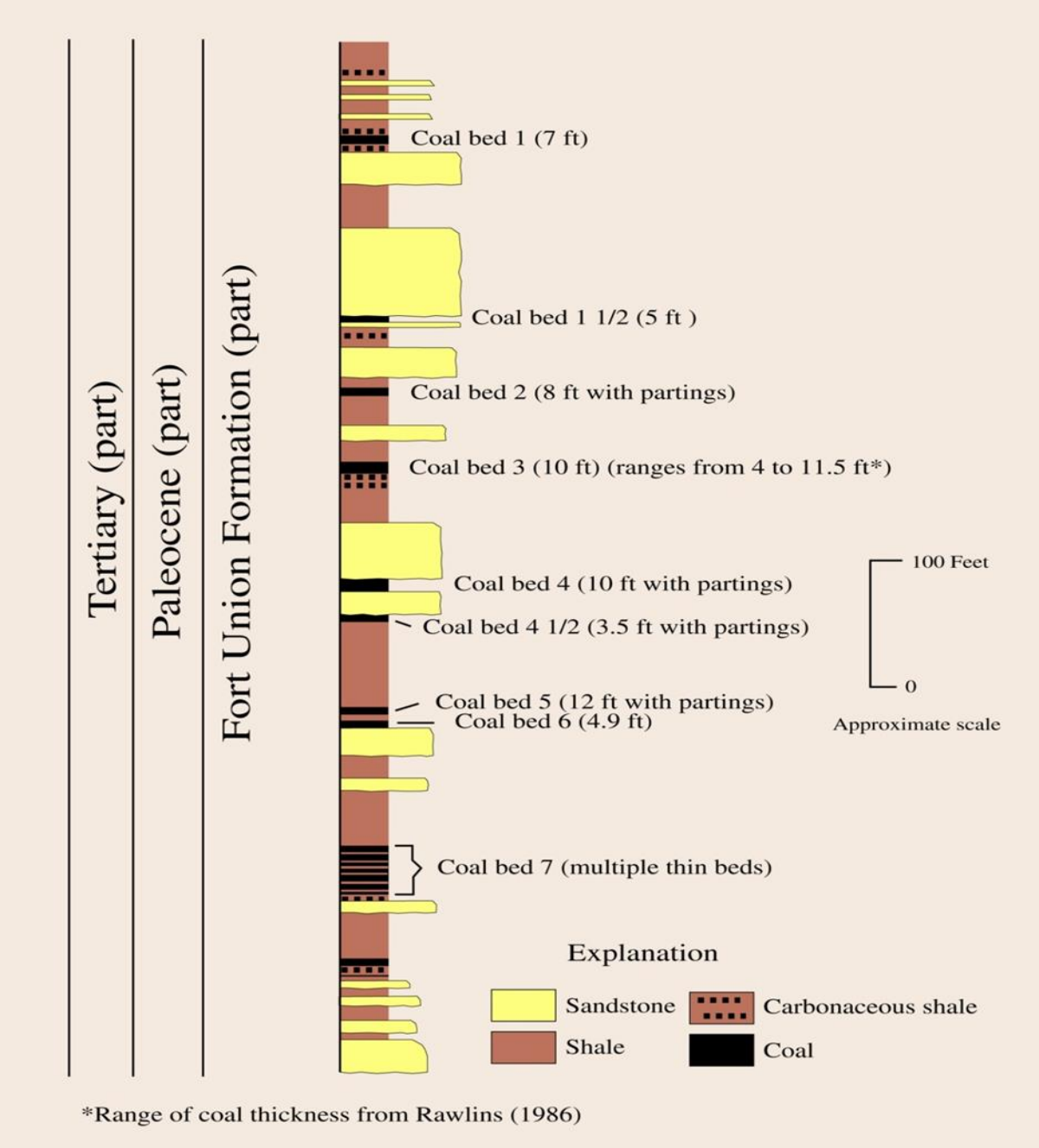
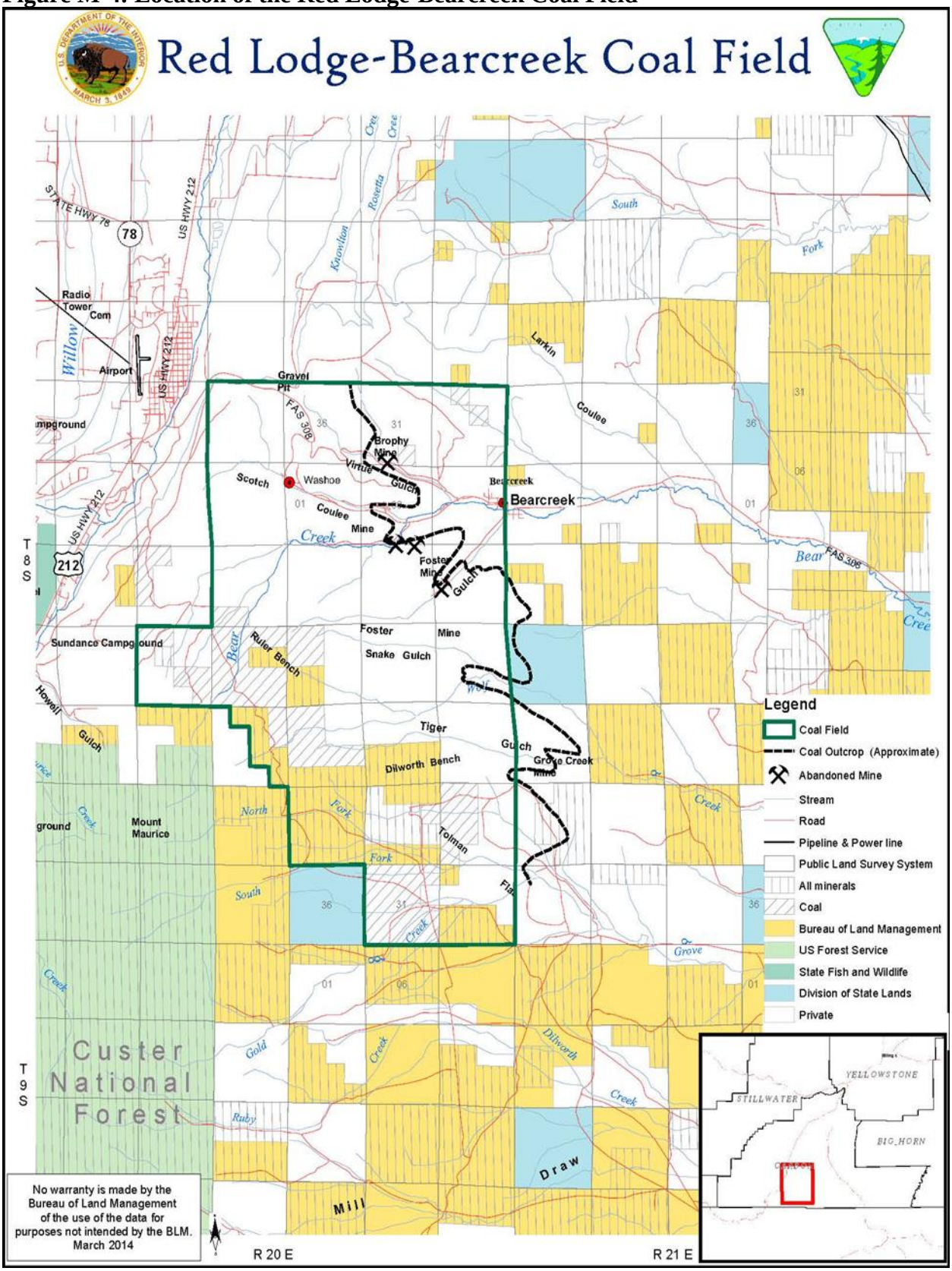


Figure M-4: Location of the Red Lodge-Bearcreek Coal Field



Federal coal ownership in the Red Lodge-Bearcreek coal field consists of approximately 16,320 acres, primarily located in the south and southwestern portions of the coal field (Figure M-4). An accurate estimate of the federal coal resource in this area has not been made due to the lack of geologic data. However, in an evaluation of six coal beds, each greater than 4 feet thick in the Bearcreek district, Rawlins (1986) estimated that the total Fort Union Formation coal resources in this area may exceed 700 million tons. Approximately half of this estimate would be potentially recoverable by conventional underground mining methods. Should longwall mining be used, the potential coal recovery rate would be higher. Longwall mining is a form of underground coal mining that is more productive than conventional room and pillar mining. It involves the removal of a large block of coal in a series of slices. The longwall panel (the block of coal that is being mined) is typically 0.25 miles in width and several thousand feet long. Mining large blocks of coal in this manner facilitates a higher recovery rate of the coal resource. In late 2013, it was reported by the Montana Department of Environmental Quality (MDEQ) that a private company completed an exploration drilling program on non-federal coal in the Bearcreek area.

M.4.4 Bull Mountain Coal Field

The Bull Mountain Coal Field occurs within the Bull Mountain Basin which is located in south-central Montana (Figure M-5). The basin is an asymmetrical, shallow synclinal trough that trends generally 140° southeast and plunges approximately 0.8° toward the northwest. Regional dips of 1° to 4° inward toward the axis of the syncline are common. The area of coal-bearing rocks is roughly elliptical in shape, about 50 miles long and 30 miles wide with its long axis oriented roughly east-west (Woolsey and others, 1917).

The Bull Mountain Coal Field contains coals that occur in the upper portion of the Tongue River Member of the Fort Union Formation. Twenty-six coal beds have been mapped and named (Figure M-6). Most of the beds are lenticular, showing a wide variation in thickness and areal extent (Woolsey and others, 1917). Coal beds may be thicker in some parts of the coal field, and either thinner, or absent in other parts of the coal field. Connor (1989) reported that coal in the Bull Mountain Coal Field ranges in apparent rank from subbituminous A to high volatile bituminous C.

Coal mining in the Bull Mountain Coal Field came into prominence in 1906-1907 following the construction of the Pacific coast extension of the Chicago, Milwaukee & St. Paul Railway (Woolsey and others, 1917). Prior to that, there was only a small amount of coal being produced in the area primarily for local use. Soon after the railway was completed, mining began on a large scale in the Roundup bed in the northwest part of the coal field. Most of the 40 million tons of coal produced from this bed was from underground mines located near Roundup and Klein, Montana.

Figure M-5: Location of the Bull Mountain Basin, south-central Montana. Basin extent is drawn at the Lance-Fort Union Formation boundary. "K" denotes Cretaceous rocks and "T" denotes Tertiary rocks (from Stricker, 1999)

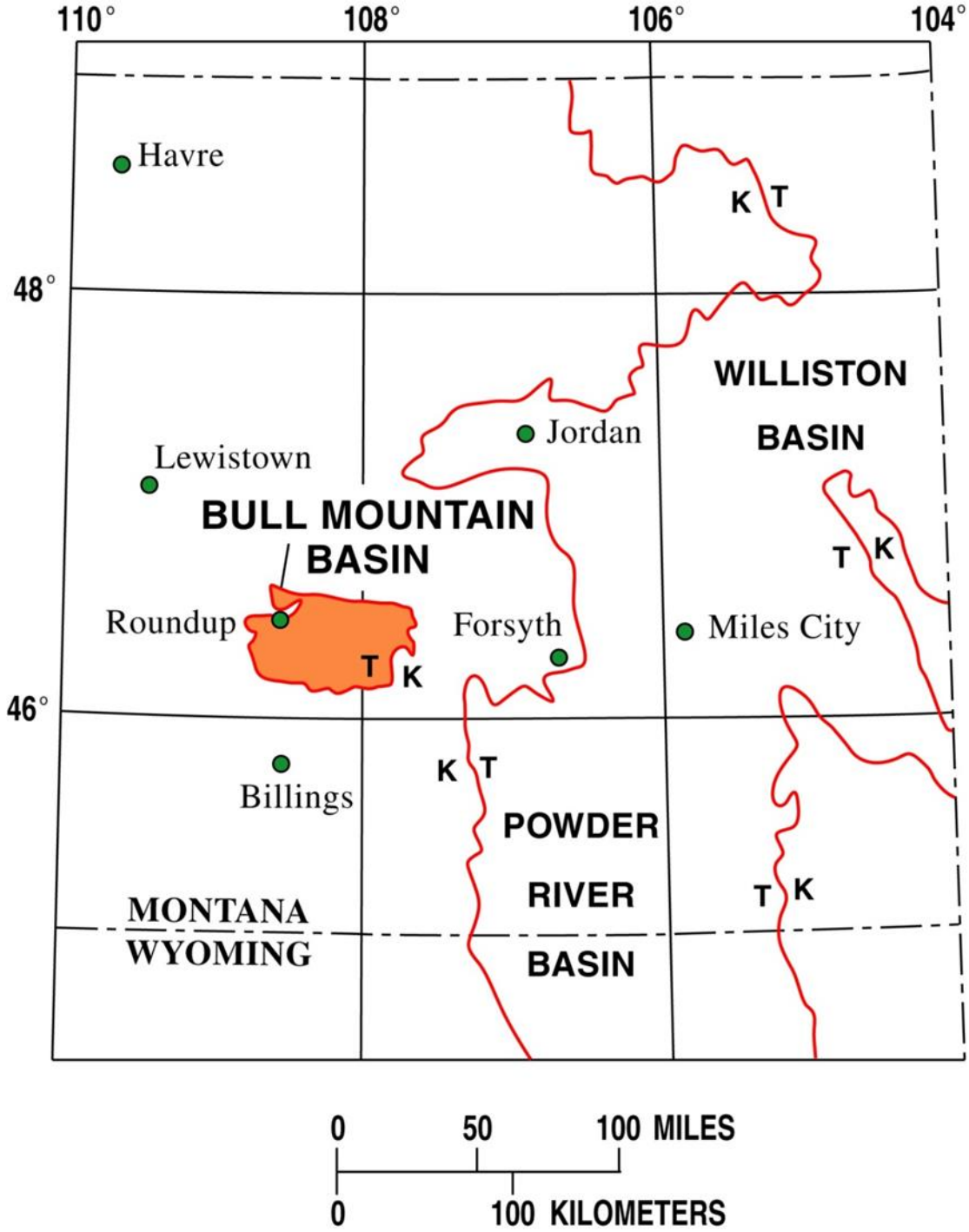
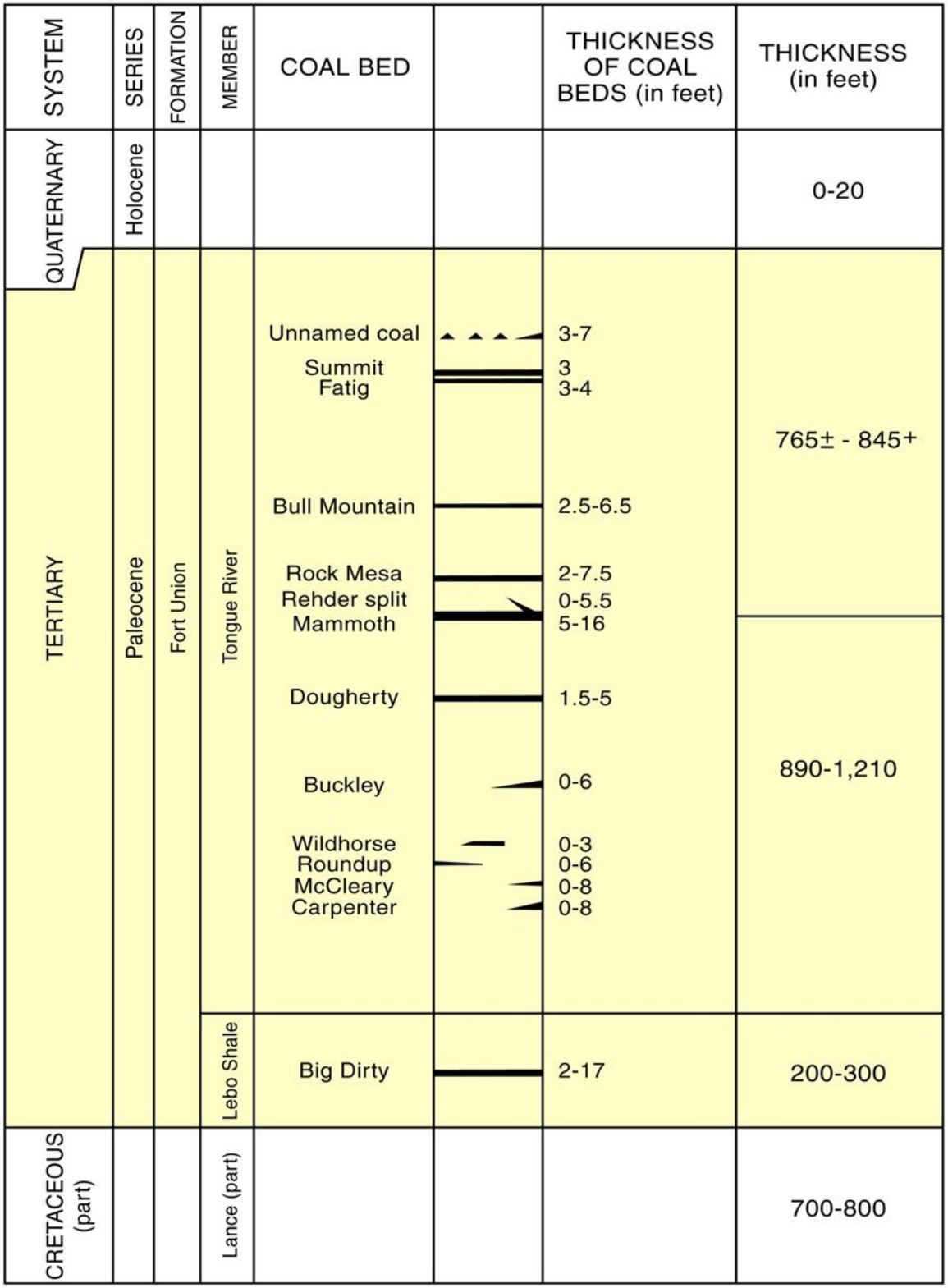


Figure M-6: Generalized coal stratigraphy showing the principal coal beds in the Bull Mountain Basin. Stratigraphy modified from Woolsey and others 1917, Connor 1989; and Stricker 1999



M.4.5 Mammoth Coal Bed

The only coal currently being mined in the Bull Mountain Coal Field is from the Mammoth bed which occurs near the middle of the Tongue River Member of the Fort Union Formation (Figure M-7). The Mammoth is probably the most consistent (thickness) and laterally extensive coal bed in the Bull Mountain Coal Field. The coal bed averages approximately 9 feet thick. The Rehder bed (1.5 to 4 feet thick), which directly overlies the Mammoth bed, coalesces with the Mammoth in the central and eastern portion of the coal field. In these areas, the combined bed, also referred to as the Mammoth bed, averages 13 to 14 feet thick and can attain a thickness up to 16 feet. Along the outcrop of the Mammoth bed, the coal is often found burned due to natural causes such as spontaneous combustion, lightning strikes or wildfires. However, in some areas, it appears that the burning did not progress very far in from the outcrop.

Due to its consistent thickness and significant areal extent, the Mammoth coal bed can be developed through both surface and underground mining methods. Since the structure of the coal bed in the coal field is relatively level, overburden depth on top of the coal, inward from the outcrop, increases as a direct function of topography. Therefore, in areas inside the Mammoth outcrop (Figure M-8), where the overburden overlying the Mammoth bed is minimal due to subtle (flat) topography, it may be economic to mine the coal bed using surface mining methods a significant distance beyond the outcrop. However, other factors such as coal quality, market conditions, and the amount of coal burned at the outcrop may influence this distance. Beyond the surface mining limit, additional coal could be recovered by employing coal auger or highwall mining methods.

Highwall mining is a method of surface coal mining that originated from auger mining. The method differs in that continuous miners, rather than augers, are used to bore an entry into the coal bed of a highwall left behind in a surface mine after coal removal has been completed. Screw conveyors positioned behind the continuous miner transport the cut coal from deep within the bed up to an outside stockpiling area. Another primary difference in a highwall mining operation is that it is carried out by remote control at the surface where an operator located in a cabin uses a television camera to monitor and control the progress of the continuous miner machine

Using a 10:1 (overburden thickness to coal thickness) strip ratio cutoff, the area of potential surface minable Mammoth coal encompasses approximately 25,000 acres (11,000 acres federal) resulting in an estimated 580 million ton (250 million ton federal) coal resource (see Figure M-8). Employing a 90% surface mining recovery rate, approximately 522 million tons (270 million tons federal) of Mammoth coal are recoverable in the Bull Mountain Coal Field. Figure M-8 shows the approximate area of surface minable Mammoth coal in the Bull Mountain coalfield at a less than 10:1 strip ratio. Table M-1 provides the surface minable Mammoth coal resource estimate.

Figure M-7: Outcrop of the Mammoth coal bed in the Bull Mountain Coal Field

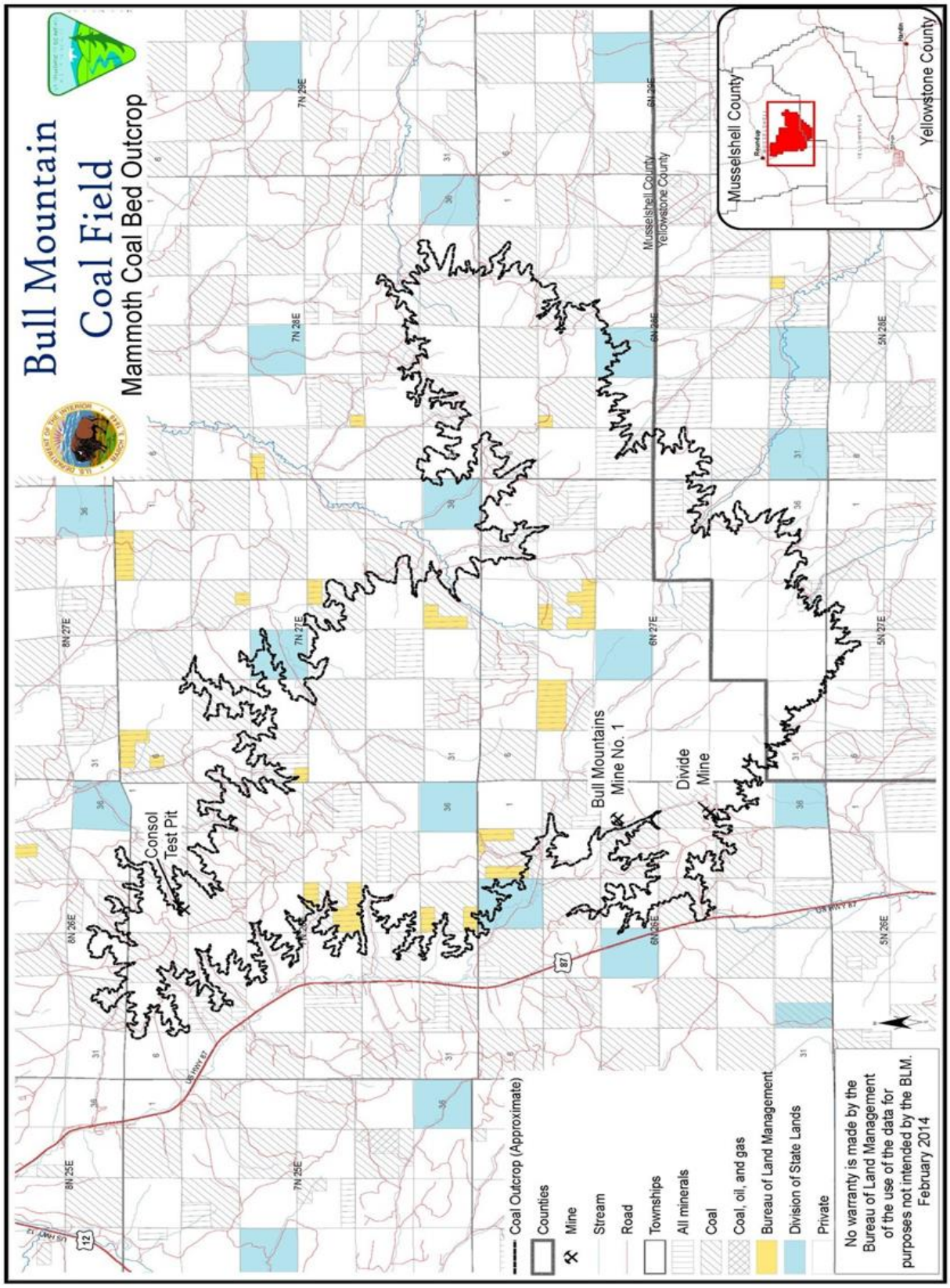


Figure M-8: Mammoth coal bed – Approximate surface mining area < 10:1 strip ratio

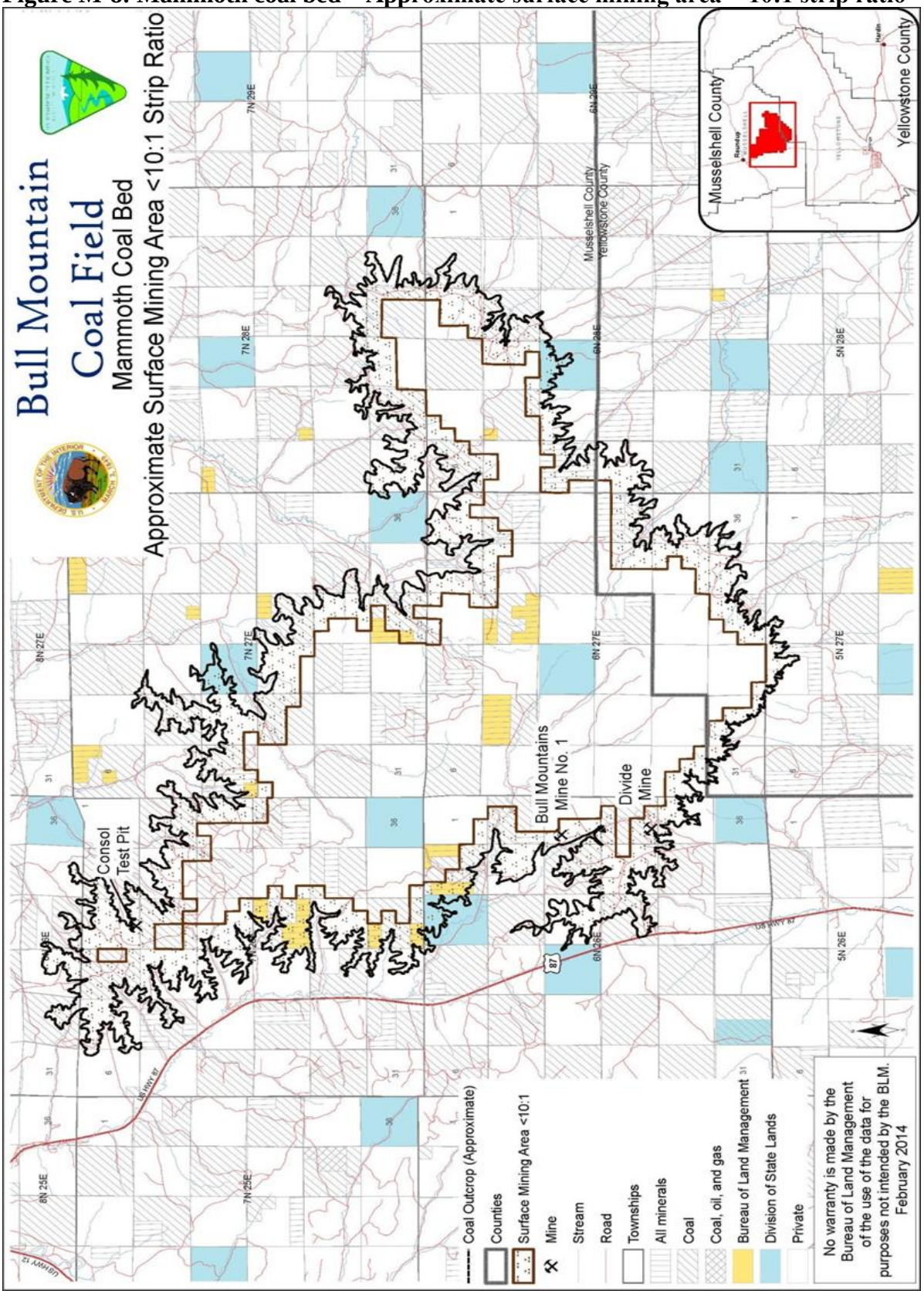


Table M-1: Surface Minable Mammoth Coal Resource Estimate

Surface Minable Mammoth Coal Resource Estimate*			
Resource Ownership	**Non-Federal**	**Federal**	**Total**
Acreage	14,000	11,000	25,000
Million Short Tons	330	250	580

* Coal thickness > 2 feet thick considered minable (includes Rehder coal bed), assumes 12.5' average coal thickness, coal density = 1,873 tons/acre-foot, acreage values are approximate.

The area of potential underground minable Mammoth coal encompasses approximately 32,000 acres resulting in an estimated 605 million ton coal resource. Federal coal ownership constitutes approximately 12,000 acres resulting in an estimated 228 million ton coal resource within the Bull Mountain Coal Field. Approximately 50% of this coal could be recoverable utilizing a conventional room and pillar mining technique. Utilizing a longwall mining technique, an additional 30% of the coal resource may be recovered. Data used in estimating the Mammoth coal bed resource were obtained from Burlington Northern Coal Company.

The total Mammoth coal resource estimate is shown in Table M-3.

Although the Mammoth coal bed was heavily prospected between 1910 and 1920, very little development occurred during the early part of the 20th century. The inaccessibility of the coal bed at that time may have limited its development. The PM Coal Company opened a small underground mine in the Mammoth bed in 1932 that produced Burlington Northern Railroad-owned coal until 1973. In 1973, PM Coal Company opened the PM surface mine which produced 15,000 to 25,000 tons of coal per year from the Mammoth bed.

The Divide Coal Company had operated an underground mine in the Mammoth bed for many years on privately owned coal (Table M-2). In 1962, the company was issued a Federal lease (M-052647) and began mining federal coal. The mine was converted from an underground mine to a surface operation in 1972 (the company felt it could not economically comply with the Federal Coal Mine Health and Safety Act of 1969). The Divide Coal Company was mining in the direction of the abandoned underground mine.

In the early 1970s, Consolidation Coal Company and the Montana Bureau of Mines and Geology completed various investigations on the quantity and quality of the Mammoth coal bed and a regional hydrology study in the Bull Mountain area. Consolidation Coal Company opened a test pit in the Mammoth bed in the northwestern part of the coal field in 1971 (Table M-3). To determine its suitability for generating electricity, approximately 50,000 tons of coal was mined as a pilot project. The company also wanted to test several reclamation techniques. Although the coal proved suitable for use in coal-fired utilities, no further coal development occurred. Louisiana Land and Exploration Company also conducted coal investigations in the Bull Mountain Coal Field and began undertaking environmental and economic feasibility studies in 1979, with the hope of obtaining a permit to underground mine Burlington Northern-owned coal. The company withdrew its application in late 1981 after determining that new development was economically unfeasible.

Table M-2: Underground Minable Mammoth Coal Resource Estimate

Underground Minable Mammoth Coal Resource Estimate*			
	Non-Federal	**Federal**	**Total**
Acreage	20,000	12,000	32,000
Million Short Tons	377	228	605

* Assumes 10 foot average coal thickness, coal density = 1,873 tons/acre-foot, acreage values are approximate.

Table M-3: Mammoth Coal Resource Estimate

Mammoth Coal Resource Estimate*			
	Non-Federal	**Federal**	**Total**
Acreage	34,000	23,000	57,000
Million Short Tons	707	478	1,185

* Include potential surface and underground mining areas

Meridian Land and Minerals Company (a wholly owned subsidiary of Burlington Northern) had expressed interest in exchanging federal coal rights for Burlington Northern coal rights in the Bull Mountain Coal Field with the intention of consolidating their coal holdings. Two land exchanges occurred with the BLM, one in 1991 and the other in 1993.

A stumbling block to coal mining in the Bull Mountain Coal Field was the lack of rail service. The Burlington Northern Railroad had purchased the Milwaukee Road right-of-way between Slayton and Gage, Montana. Therefore, the construction of a spur to that line would be required to provide access to the coal field. Other forms of transportation to carry large volumes of coal from the coalfield were impractical.

In the late 1980s, Meridian Land and Minerals Company acquired the rights to mine the Mammoth bed in the area and also purchased the PM Mine. In 1989 and 1990, they permitted and mined a surface test pit adjacent to the underground mine (Bull Mountains Mine No. 1) and extracted approximately 180,000 tons of coal for test burn purposes. In 1990, they also submitted a permit application to the Montana Department of Environmental Quality (MDEQ) for reopening the existing Bull Mountains Mine No. 1 (Figure M-7) and was issued a state mine permit in 1993. Since that time, the permit has been transferred to several ownership entities and was acquired by Signal Peak Energy (SPE) in 2008. In 2008, SPE also submitted an application to the BLM to acquire the federally-owned coal reserves on five lease tracts. The lease tracts, totaling 2,679.76 acres, contain an estimated 61.4 million tons of in-place coal reserves in the Mammoth coal bed.

In 2009, SPE successfully amended their state mine permit to incorporate both continuous and longwall underground mining methods. A 35-mile rail line was constructed connecting the mine to the Burlington Northern/Santa Fe mainline track near Broadview, Montana. In 2012, the BLM conducted a lease sale for the federal coal tracts and SPE was the successful bidder for federal lease MTM 97988. In 2013, some of this federal coal was mined during longwall development work. The Bull Mountains Mine No. 1 is currently producing coal at a 10 million ton per year rate. In 2013, SPE also conducted exploration drilling to evaluate the surface mine development potential of the Mammoth bed in areas adjacent to their underground mining area.

An application to explore for federal coal and private coal underlying federal surface lands was also submitted to the BLM that year.

On December 19, 2014, the National Defense Authorization Act of 2015 was signed into law. Section 3077 of this act, the Northern Cheyenne Lands Act authorizes the conveyance of approximately 10,000 of federal coal located in Big Horn and Mussellshell counties to Great Northern Properties Limited Partnership (GNP). In turn, GNP will convey all of its coal and iron ore interests underlying the Northern Cheyenne Reservation to the Tribe.

The eighteen federal coal tracts conveyed to GNP in Musselshell County comprise approximately 7,952 acres located within the Bull Mountain Coal Field (Figure M-9). The tracts contain approximately 41.4 million tons of saleable coal in the Mammoth coal bed (Norwest Corporation, 2014). Several of these tracts occur within SPE's Bull Mountains Mine No. 1 mine plan area.

M.4.6 Carpenter and McCleary Coal Beds

The Carpenter and the McCleary coal beds may also have the potential to be developed in the Bull Mountain Coal Field. The Carpenter bed occurs approximately 450 feet above the Lebo Shale Member of the Fort Union Formation (Figure M-10). These coal beds have the potential to be developed in the northeastern part of the Bull Mountain Coal Field, in an area that is located south of Melstone, Montana. Between 1907 and 1909, these beds were mapped by the United States Geological Survey (USGS) and numerous outcrops were measured in the Carpenter and Lost Horse Creek drainages. An 8 foot 2 inch thick outcrop of the Carpenter bed was measured in the Carpenter Creek drainage (Woolsey and others, 1917). In this drainage, the McCleary bed occurs approximately 50 feet above the Carpenter bed and coal outcrops measured by the USGS in that area ranged between 3 to over 4 feet in thickness (Woolsey and others, 1917).

In 2006, Carpenter Creek, LLC began the process to permit and develop a surface mine that also considered highwall mining in the Carpenter Creek area. The company had indicated that there was sufficient resource present in the two coal beds to warrant development of a surface mine and possibly an underground mine. The company submitted a mine permit application to the MDEQ to develop a test pit in the McCleary and Carpenter coal beds on private coal within this area. The company also indicated that future development could possibly include federal coal using both surface and underground mining methods. It was reported by the MDEQ that GNP conducted exploration drilling in that area in 2011 and 2012.

Although the BLM does not possess sufficient geologic data to provide a resource estimate for the Carpenter and McCleary coal beds in the Carpenter Creek drainage area, early USGS field mapping data and recent industry interest suggest that these two beds may constitute a resource that could be developed either by surface or underground mining methods. The size of the resource would be dependent upon the thickness and lateral continuity of the coal beds.

Figure M-9: Location of Federal Coal Tracts Conveyed to Great Northern Properties Limited

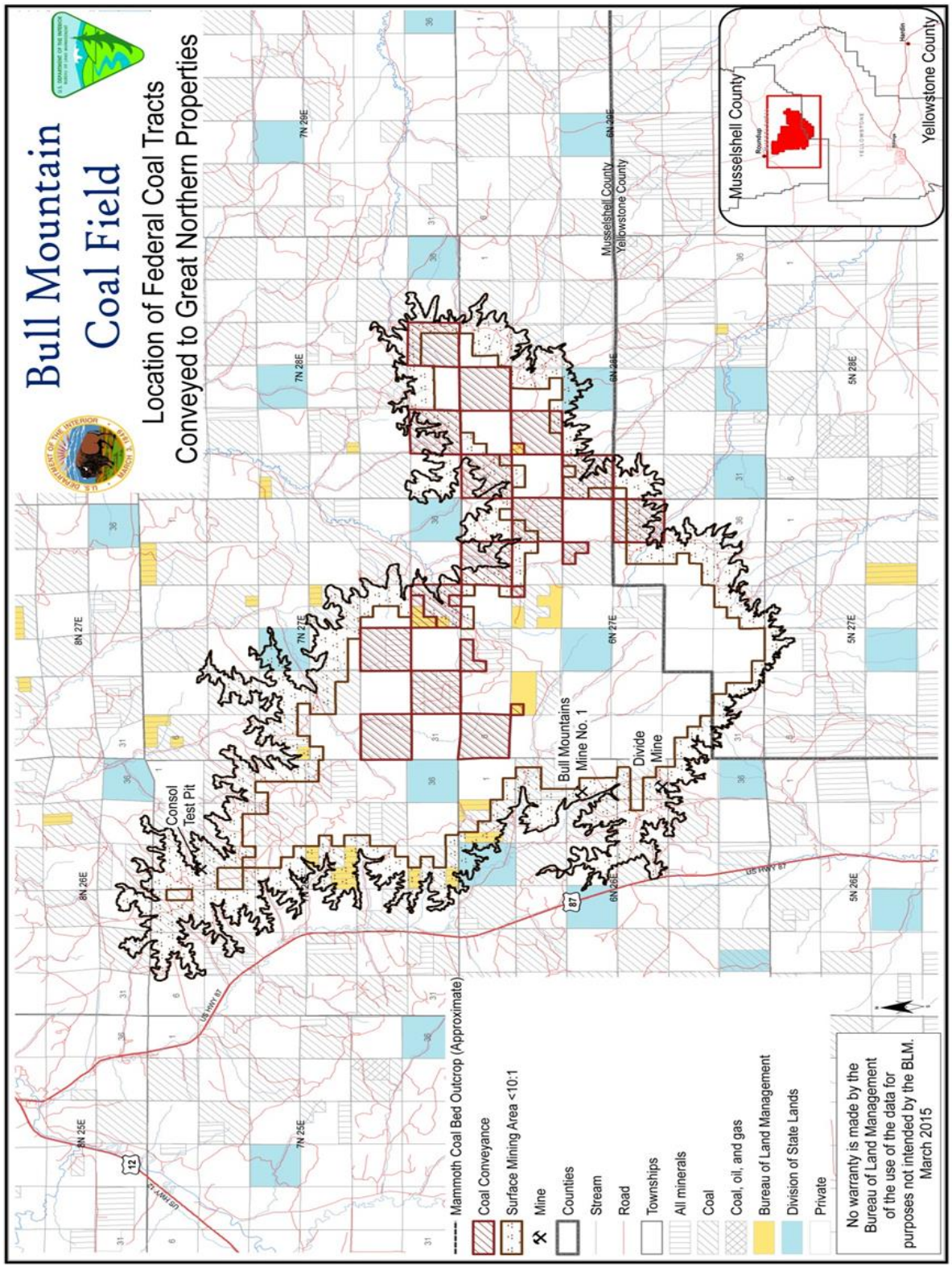
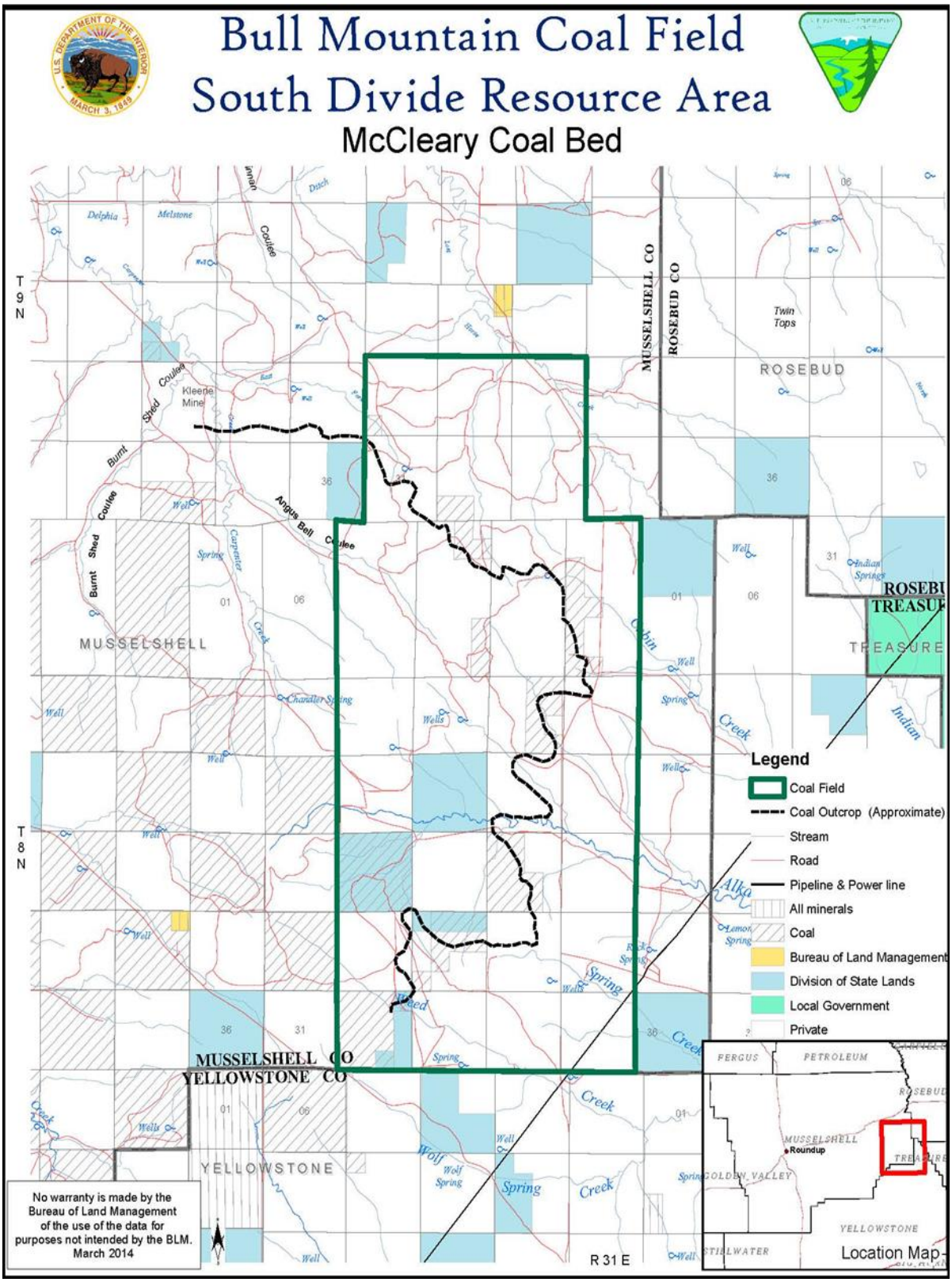


Figure M-10 McCleary Coal Bed Outcrop in the South Divide Resource Area, Bull Mountain Coal Field



The area located southeast of Carpenter Creek, on the south side of the divide that separates the Yellowstone and Musselshell drainages, may have the potential to support development of the McCleary bed coal bed. Early USGS field data indicated that the McCleary bed outcrops in T. 8 N., R. 31 E. The bed crops out in the extreme northern part of the township above the head of Cabin Creek and continues down the creek approximately two miles to the southeast, and then turns southwest, extending through the head of Alkali Creek, and across the Weed Creek drainage (see Figure M-9). Nine McCleary coal bed sections were measured which ranged in thickness between 2 feet 5 inches to 8 feet 8 inches (Woolsey and others, 1917). However, along the McCleary bed outcrop through the northern half of the township, the thickness ranges from almost 7 feet to over 8 feet. The underlying Carpenter coal bed in the northern portion of the township is significantly burned. The thickness and extent of the burn may indicate the presence of a relatively thick coal bed in this area, beyond the extent of the burn.

In 1982, the BLM conducted a Known Recoverable Coal Resource Area study of the McCleary seam in this area, which is referred to as the South Divide Resource area. These studies were conducted in areas where federal coal has high to moderate development potential through surface or underground mining methods. At South Divide, the area of surface mineable coal totals approximately 5,640 acres, of which 1,280 acres are federally owned (see Figure M-10). Coal resources within that area were estimated to be 43 million tons (9 million tons federal). At a 90% recovery rate, over 8 million tons of federal coal in the McCleary coal bed is considered recoverable. The corresponding area of underground minable coal covers approximately 3,120 acres, containing an estimated 26 million tons of coal. The federal ownership in this area is 400 acres, resulting in approximately 2 million tons of mineable resource. Assuming the coal would be mined by room and pillar method, 50%, or 1 million tons would be recoverable. Should longwall mining be used, the coal recovery rate would be higher.

M.5 Summary

Future coal development will likely occur in the Bull Mountain Coal Field and may occur in the Red Lodge-Bearcreek Coal Field. The presence of coal processing and transportation facilities at SPE's Bull Mountains Mine No. 1 may play a role in this increased development in this coal field. Coal from the Bull Mountain Coal Field will continue to be shipped to domestic power plants and exported overseas for electricity generation. Future coal development in the planning area may increase as a result of the completion of export facilities located on the west coast of the United States. In addition, transportation and coal quality advantages enhance the export marketability of coal in the planning area. It is also possible that future coal leasing activity could support coal conversion technologies such as in-situ gasification or coal-to-liquids projects.

Although recent coal exploration activities have been conducted in the Bull Mountain and Red Lodge-Bearcreek coal fields, additional exploration efforts will be required to further evaluate the development potential of the coal resource in these areas. Applications for federal coal exploration licenses and coal leasing will be evaluated by the Billings Field Office.

M.6 Coal Resource Objectives and Planned Actions

The Billings Field Office planning area will be open for federal coal exploration license applications. Licenses to mine federal coal for domestic use will be available as long as production does not annually exceed 20 tons. Federal coal leasing by application (LBA) will remain available for both underground and surface mining considerations. The unsuitability criteria will be applied to the lease application area and a plan amendment to the current RMP will be prepared if necessary. Prior to approving exploration licenses, licenses to mine (domestic), and coal lease applications, a project-specific environmental review document will be prepared to assess impacts and develop mitigation measures.

The federal coal leasing decisions that were made in the previous RMP will be brought forward and adopted in this RMP:

- All federal coal that is minable by underground methods is suitable for further consideration for leasing or exchange, pending further study. Within the planning area, potential coal resource underground mining development areas occur in the Bull Mountain Coal Field located in Musselshell and Yellowstone counties and in the Red Lodge-Bearcreek Coal Field located in Carbon County. The coal unsuitability criteria will not be applied to the lands comprising the coal application area until a site-specific mine plan is filed that details the proposed locations of surface facilities.
- Within the planning area, surface coal mining development areas occur within the Bull Mountain Coal Field and are suitable for further consideration for leasing or exchange, pending further study. Within this area, federal coal with a strip ratio less than 10:1, that can be mined by surface methods must first be screened to determine their development potential, surface owner opposition to mining, the presence of unacceptable environmental conflicts (unsuitability criteria), and multiple use conflicts in accordance with the four coal screens. The application of the coal screens also includes the consideration of the unsuitability criteria.

In 1984, surface owners of land overlying federal coal in the Bull Mountain Coal Field in the Mammoth and McCleary beds (South Divide Resource Area) were consulted to determine their preference for or against leasing their land for surface mining. Due to the significant amount of time that has elapsed since the consultation was conducted, it was decided not to include that data in the RMP.

Federal coal lease applications and exchange proposals will be considered on a case-by-case basis. The coal screening process will be applied to future lease application areas that have surface mine development potential.

M.7 Decision Rationale

This action was selected because it will enable the BLM to comply with the multiple use mandates established by FLPMA and the 43 CFR 1600 regulations governing multiple use planning. Furthermore, it will allow the BLM to comply fully with the Surface Mining Coal Reclamation Act (SMCRA) and the 43 CFR 3400 regulations established to govern the federal coal management program. Although development of federal coal resources by surface mining

methods will be allowed in the Bull Mountain Coal Field, underground mining will be encouraged, because it is less environmentally disruptive. The decision to implement a 10:1 (overburden thickness to coal thickness) stripping ratio cutoff limit was based on the premise that it may limit the size of the surface mine.

Appendix N:
Special Recreation Management Areas (SRMA) and Extensive Recreation Management Areas (ERMA) Tables

N. SRMA and ERMA Tables

Special Recreation Management Areas

Four Dances Natural Area and ACEC Special Recreation Management Area		
Management Objectives:	• Provide dispersed recreation experiences accessible from Billings and the local community. • Provide wildlife habitat • Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Protect historic, cultural and scenic values (Historic Will James Cabin)	
Outcomes		
Primary Activities: • Hiking • Running • Cross country skiing • Bird watching • Picnicking • Fishing • Exercising pets • Scenery and wildlife viewing • Yellowstone River access	**Experiences:** **Enjoying:** • Solitude • Family Recreation • Fishing • Exercise • Scenery • Escaping everyday responsibilities for awhile • Viewing historic building (Will James Cabin) • having access to close-to-home outdoor amenities • Appreciation of historic and pre-historic cultural resources.	**Benefits:** **Personal:** • Improved physical fitness • Restored mind from unwanted stress • Greater sense of overall wellness • Enhanced cultural resource stewardship ethic **Household and Community:** • Improved quality of life • Greater awareness of and appreciation for our cultural heritage • Greater appreciation for the area and outdoor-oriented lifestyle • Involvement in recreation and other land use decisions • Increased desirability as a place to live or retire. **Economic:** • Positive contributions to local-regional economic stability • Increased work productivity • Reduced health maintenance costs **Environmental:** • Increased resource stewardship and protection by communities

Four Dances Natural Area and ACEC Special Recreation Management Area

Setting Prescriptions

Physical:

- The area is Rural. The surrounding character of the landscape is considerably modified (20-40 acre ranchettes, communications towers and two private in-holdings within the boundaries). The most natural area occurs along the western edge of the SRMA with views of the urban/industrial core area of Billings easily accessible. The historic/rustic Will James cabin lies on the northern edge. Facilities include an unpaved parking lot, vault toilet and kiosk. One caretakers' residence could be allowed but could not disturb more than ½ acre nor change the VRM, Recreational Opportunity Spectrum (ROS) or ACEC Scenic values.

Social:

- Mostly small groups of 1-5 with occasional large group activities including Native American ceremonies.
- Could encounter 1-10 persons per day on weekends and 1-5 persons during week days.

Administrative:

- Day use only
- Closed to: horseback riding
- Closed to atvs/snowmobiles
- Closed to fireworks discharge
- OHV use limited to administrative use only
- Closed to hang gliding
- Closed to rock climbing
- Closed to paint ball
- Closed to discharging of firearms
- Closed to exercising pets off leash
- Closed to driving off road/cross country.
- Compliance with terms of conservation easments

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - Implement current travel management decisions.
- Maintain setting:
  - Developments would be managed to VRM class III
- Health, safety, resource protection, user conflict resolution
  - Closed to OHV
  - Closed to equestrian use
  - Closed to rock climbing
  - Closed to hang gliding
  - No discharge of firearms
  - No fuel-wood collection
  - No fireworks
  - The area may be closed during high fire danger
- Special Recreation Permit criteria:
  - Archery hunting may be allowed, if deemed necessary for wildlife population control by MTFWP. (An authorization from BLM would also be required).
  - Large Native American events for traditional uses may be allowed under BLM authorization, if not in conflict with basic management
  - Other permits considered if not in conflict with basic management.

Other Programs:

- Surface Use Controls:
  - Withdrawn from location or entry under US mining laws for 20 years.
  - No geophysical exploration
  - Closed to mineral leasing, exploration and development
  - Closed to mineral deposit
- Range Management:
  - Grazing would only be allowed to meet other resource objectives
- Fire and Fuels Management:
  - May be subject to closure during high fire danger
  - May be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat.
- Visual Resource Management:
  - Manage as VRM class II
- Cultural Resource Management
  - Large Native American events for traditional uses may be allowed under BLM authorization, if not in conflict with basic management

Four Dances Natural Area and ACEC Special Recreation Management Area

Implementation Decisions

Management:	Administrative:	Information and Education:	Monitoring:
• A recreation area management plan (RAMP) will be developed. • The Will James cabin will be maintained according t the Secretary of Interior Standards • Develop system of multiple use trails. (Bicycle, foot, X-C ski) • Pets off-leash allowed in outside of concentrated use area (parking lot and restroom/trailhead.	• All motorized/mechanized use limited to specifically administrative use	• A comprehensive sign plan including information kiosks and route designation would be developed and implemented as part of the RAMP for this SRMA.	• Assure objectives are being met and prescribed settings are being maintained. • Monitor implemented actions and evaluate.

Sundance Lodge Special Recreation Management Area

Management Objectives:	Manage to minimize user conflicts and impacts to resources while providing opportunities for non-motorized activities. • Provide wildlife habitat • Protect historic, cultural, and scenic values. • Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Provide dispersed recreation experiences accessible from Billings and surrounding local communities.

Outcomes

Primary Activities:	Experiences:	Benefits:
• Fishing • Hunting (archery and shotgun) • Canoeing • Hiking • Running • Cross country skiing • Bird watching • Horseback riding • Picnicking • Exercising pets off leash • Access to the Clark's Fork of the Yellowstone River • Wildlife viewing	**Enjoying:** • Solitude • Family Recreation • Fishing • Canoeing • Exercise • Exercising pets off leash • Scenery • Escaping everyday responsibilities for awhile • Having access to close-to-home outdoor amenities • Appreciation of historic and pre-historic cultural resources.	**Personal:** • Improved physical fitness • Restored mind from unwanted stress • Greater sense of overall wellness • Enhanced cultural resource stewardship ethic **Household and Community:** • Improved quality of life • Greater awareness of and appreciation for our cultural heritage • Greater appreciation for the area and outdoor-oriented lifestyle • Involvement in recreation and other land use decisions • Increased desirability as a place to live or retire. **Economic:** • Positive contributions to local-regional economic stability • Increased work productivity • Reduced health maintenance costs **Environmental:** • Increased resource stewardship and protection by communities

Sundance Lodge Special Recreation Management Area

Setting Prescriptions

Physical:

- The area has a "Rural Recreation" Rural Recreation Opportunity Spectrum management direction.
- The BLM maintains a storage barn/shop and equipment and supplies storage yard.
- The public use area contains a parking lot, trailhead kiosk, Block Management sign-in station, vault toilet and barriers and fences to exclude OHVs from the trail system. Open area are subject cultivation to provide wildlife habitat and maintain land use pattern.

Social:

- Mostly small groups of 1-5 with occasional large group activities including Native American ceremonies.
- Could encounter 1-10 persons per day on weekends and 1-5 persons during week days.

Administrative:

- OHV use including bicycles limited to administrative and authorized use only.
- Closed to discharge of rifles and pistols
- Closed to paintball activities
- Permanent tree stands prohibited
- Day use only
- Open campfires only in designated sites.
- Closed to fireworks discharge
- Closed to driving off road/cross country.

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - Cooperative management with Pheasants Forever facilitates bird populations and hunting
  - Cooperative management with Montana Fish Wildlife and Parks as a Block Management area close to urban populations.
- Maintain setting:
  - Day use only
- Health, safety, resource protection, user conflict resolution
  - OHV use including bicycles limited to administrative and authorized use only.
  - Closed to discharge of rifles and pistols
  - Closed to paintball activities
  - Permanent tree stands prohibited
  - May be subject to closure during high fire danger
- Special Recreation Permit criteria:
  - Use of shotguns, driving off highway vehicles, overnight camping and competitive events require approval from the Billings Field Office Manager

Other Programs:

Surface Use Controls:

- BLM does not have mineral rights for Sundance Lodge. NEPA for future development could address access routes, mining/drilling locations, but cannot deny access.
  - A surface use plan must be approved prior to permitting any surface disturbing activities.
- Range Management:
  - Grazing may be authorized for the purposes of weed control, vegetative management to reduce hazardous fuels, or to provide short-grass habitat and habitat diversity for wildlife.
- Fire and Fuels Management:
  - Fireworks are prohibited
  - Aggressive fire suppression would be used
  - Open campfires may be allowed in designated sites only.
  - Subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat.
- Visual Resource Management:
  - Managed as a VRM Class II criteria.

Sundance Lodge Special Recreation Management Area

Implementation Decisions

Management:	Administrative:	Information and Education:	Monitoring:
• A recreation area management plan (RAMP) will be developed. • Prescribed fire, livestock grazing and vegetative thinning would be used to reduce hazardous fuels • Parking lot may be modified • Installation of a vault toilet – • Use of BMPs • Use of shotguns, driving off highway vehicles, overnight camping and competitive events require approval from the Billings Field Office Manager • In-holdings may be eliminated if an opportunity for land tenure consolidation is presented. • Farming may continue under the Cooperative habitat Agreement • Area is available for environmental education programs.	• Bee keeping will require a permit. • Farming may continue on cultivated areas • Continue the agreement with Pheasants Forever and Montana Department of Fish Wildlife and Parks. • Developments may include a parking lot, fully accessible toilet, a boat ramp • Harvest of dead and down material will be permitted for personal use only if the material creates a safety/fire hazard or obstructs a trail, road, or parking area. • Any visual alterations must meet VRM Class III criteria. • Right away avoidance area	• interpretive signs • meeting facility	• A trespass prevention, detection and abatement program will be developed consistent with laws and land use planning.

Shepherd Ah-Nei Special Recreation Management Area – OHV Use Area (RMZ 1) (976 acres)

Management Objectives:	**The objective of area management is to continue to provide opportunities for non-competitive motorized or mechanized trail riding for all ability levels local to the most populous urban area in Montana.** This area meets the criteria for unique value as the only lands within the BIFO managed to provide specifically designated ATV trails. It meets the importance criteria for its close proximity the Montana's most populous urban area. (RMZ 1) has a developed parking area and OHV trailhead and provides access to over 50 miles of designated OHV trails.

Outcomes

Primary Activities:	Experiences:	Benefits:
• OHV trail riding, • mountain biking,	• Developing skills and abilities • Testing endurance • Enjoying risk-taking adventure • Enjoying the closeness of friends and family • Escaping everyday responsibilities for awhile • Enjoying having access to close-to-home outdoor amenities	**Personal:** • Improved physical fitness • Better health maintenance • Restored mind from unwanted stress • Greater cultivation of outdoor-oriented lifestyle • Improved outdoor knowledge, skills, and self-confidence • Greater environmental awareness and sensitivity • More well-informed and responsible visitors. **Household and Community:** • Involvement in recreation and other land use decisions • Improved cultivation of aesthetic appreciation for the area and an outdoor-oriented lifestyle. • Heightened sense of community satisfaction. **Economic:** • Positive contributions to local-regional economic stability. • Increased desirability as a place to live or retire. • Enhanced ability for visitors to find areas providing wanted recreation experiences and benefits. • Increased local tax revenue from visitors. **Environmental:** • Greater retention of distinctive natural landscape features. • Increased resource stewardship and protection by users

Shepherd Ah-Nei Special Recreation Management Area – OHV Use Area (RMZ 1) (976 acres)

Setting Prescriptions

Physical: Front country.

- mostly natural in appearance with structures limited to natural surface trails, fences, cattle guards, and stock tank/ troughs. Signs limited to route designations. Closed travel routes are blocked with buck and pole barricades.

Social: Front country.

- Group sizes less than 10, typically 5 or less per group.
- Could encounter up to 25-50 persons per day on weekends, +/- 10 persons on weekdays.

Administrative: Front country.

- Rules are posted and use may be temporarily restricted due to permitted events or resource concerns due to weather.
- Area accommodates multiple-use including grazing, OHV.
- OHVs restricted to designated routes per travel management plan.
- Day use only.
- Target shooting prohibited, hunting allowed.

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - Manage to provide OHV riding opportunities for all levels of non-competitive riding vehicles 50 inches wide or less.
  - Hunting allowed in conformance with MTFWP regulations.
  - Implement current travel management decisions.
- Maintain setting:
  - Restrict facilities development to OHV Use Area Parking area unless modified by RAMP.
  - Use on roads or certain non-motorized activities may be temporarily, seasonally or permanently curtailed as a result of identified emergent conditions or excessive resource damage.
- Health, safety, resource protection, user conflict resolution:
  - Close and restore all non-designated trails
  - Trapping prohibited.
  - No wood cutting.
  - No target shooting.
- Special Recreation Permit criteria:
  - Applications for SRPs may be delayed or denied and activities may be relocated when environmental analysis identifies unacceptable levels of change to resources or conflicts with other users that would result from permitted activities.
  - Until completion of the RAMP SRP applications will be considered on an individual basis.

Other Programs:

- Surface Use Controls:
- Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
- Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
- Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
  - Manage as Class II in RMZ 2 (3,664 acres), Class III in RMZ 1 (976 acres (OHV area))

Shepherd Ah-Nei Special Recreation Management Area – OHV Use Area (RMZ 1) (976 acres)

Implementation Decisions

Management:	Administrative:	Information and Education:	Monitoring:
• A recreation area management plan (RAMP) will be developed. • Specific SRP criteria will be developed in the RAMP.	• Designated uses for existing trails. • All motorized/mechanized use limited to specifically designated trails & roads only.	• A comprehensive sign plan including information kiosks and route designation would be developed and implemented as part of the RAMP for this SRMA.	• Assure objectives are being met and prescribed settings are being maintained. • Monitor implemented actions and evaluate.

Shepherd Ah-Nei Special Recreation Management Area – Equestrian/Non-Motorized Use Area (RMZ 2) (3,664 acres)

Management Objectives:	The objective of area management is to continue to provide and enhance opportunities for mountain biking equestrian riding, and hiking local to the most populous urban area in Montana. This area meets the criteria for unique value as the only lands within the BIFO with an extensive and existing system and use. It meets the importance criteria for its close proximity the Montana's most populous urban area. (RMZ 2) has a developed parking area and equestrian trailhead and provides access to over XXX acres of open ponderosa pine savannah with trails along previously existing closed motor vehicle routes

Outcomes

Primary Activities:	Experiences:	Benefits:
• Equestrian trail and cross country riding. • Hiking • Mountain biking • Hunting	• Developing skills and abilities • Testing endurance • Enjoying risk-taking adventure • Enjoying the closeness of friends and family • Escaping everyday responsibilities for awhile • Enjoying having access to close-to-home outdoor amenities	• Personal: – Improved physical fitness – Better health maintenance – Restored mind from unwanted stress – Greater cultivation of outdoor-oriented lifestyle – Improved outdoor knowledge, skills, and self-confidence – Greater environmental awareness and sensitivity – More well-informed and responsible visitors • Household and Community: – Involvement in recreation and other land use decisions – Improved cultivation of aesthetic appreciation for the area and an outdoor-oriented lifestyle. – Heightened sense of community satisfaction • Economic: – Positive contributions to local-regional economic stability. – Increased desirability as a place to live or retire. – Enhanced ability for visitors to find areas providing wanted recreation experiences and benefits. – Increased local tax revenue from visitors • Environmental: – Greater retention of distinctive natural landscape features. – Increased resource stewardship and protection by users

Setting Prescriptions

Physical: Back and middle country.	Social: Middle country.	Administrative: Front and middle country.
• Mostly natural in appearance with structures limited to fences, cattle guards, and stock tank/ troughs.	• Group sizes less than 10, typically 5 or less per group. • Could encounter up to 10-15 persons per day on weekends, +/- 5 persons on weekdays.	• Rules are posted and use may be temporarily restricted due to permitted events or resource concerns due to weather. • Area accommodates multiple-use including grazing, OHV. • OHVs restricted to designated routes per travel management plan. • Day use only. • Target shooting prohibited, hunting allowed.

Shepherd Ah-Nei Special Recreation Management Area – Equestrian/Non-Motorized Use Area (RMZ 2) (3,664 acres)

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - Hunting allowed in conformance with MTFWP regulations.
  - Implement current travel management decisions.
- Maintain setting:
  - Restrict facilities development to Entrance Parking Loop area unless modified by RAMP.
  - Use on roads or certain non-motorized activities may be temporarily, seasonally or permanently curtailed as a result of identified emergent conditions or excessive resource damage.
  - Continue cooperation with the Backcountry Horseman group and other interested parties to protect and enhance riding experiences.
- Health, safety, resource protection, user conflict resolution:
  - Close and restore all non-designated trails, improve designated trails to ensure they meet current management standards
  - Trapping prohibited.
  - No wood cutting.
  - No target shooting.
- Special Recreation Permit criteria:
  - Applications for SRPs may be delayed or denied and activities may be relocated when environmental analysis identifies unacceptable levels of change to resources or conflicts with other users that would result from permitted activities.
  - Until completion of the RAMP SRP applications will be considered on an individual basis.

Other Programs:

- Surface Use Controls:
  - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
  - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
  - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
  - Manage as Class II in RMZ2 (3,664 acres), Class III in RMZ 1 (976 acres (OHV area))

Implementation Decisions

Management:

- A recreation area management plan (RAMP) will be developed.
- Specific SRP criteria will be developed in the RAMP.
- Non-motorized, mechanized or un-mechanized multiple use trails may be developed as part of implementation level planning through a Recreation Area Management Plan (RAMP)

Administrative:

- Designated uses for existing trails.
- All motorized/mechanized use limited to specifically administrative use, including grazing permittees engaged in grazing maintenance work.

Information and Education:

- A comprehensive sign plan including information kiosks and route designation would be developed and implemented as part of the RAMP for this SRMA.

Monitoring:

- Assure objectives are being met and prescribed settings are being maintained.
- Monitor implemented actions and evaluate.

Acton Special Recreation Management Area (3,697 acres)

Management Objectives:	**Objectives for the SRMA are to provide general unconfined recreational opportunities while protecting resources and controlling conflicts between user groups.** This area meets the criteria for importance as a large block of undeveloped land proximate to Montana's most populous urban area. It provides opportunities for hiking, mountain biking, big game and upland bird hunting, and limited primitive camping. The area topography provides for expansive views of undeveloped/rural landscapes as well as ample visual screening allowing for use by multiple individuals or groups without significant disturbance or conflict.

Outcomes

Primary Activities:	Experiences:	Benefits:
• OHV on roads, • hiking, • wildlife watching • hunting for upland birds and big game, • mountain bike riding, • camping, • paint-ball games. • equestrian use • Extreme Sports	• Enjoying frequent exercise • Access to a range of physical challenge, including high risk. • Escaping everyday responsibilities for a while • Enjoying easy access to diverse recreation • Developing skills, abilities and self-confidence • Enjoying nature • Autonomy • Socializing • Achievement • Learning • Escape pressures	• Personal: – Improved physical fitness – Better health maintenance – Restored mind from unwanted stress – Greater cultivation of outdoor-oriented lifestyle – Improved outdoor knowledge, skills, and self-confidence – Greater environmental awareness and sensitivity – More well-informed and responsible visitors • Household and Community: – Involvement in recreation and other land use decisions – Improved cultivation of aesthetic appreciation for the area and an outdoor-oriented lifestyle. – Heightened sense of community satisfaction • Economic: – Positive contributions to local-regional economic stability. – Increased desirability as a place to live or retire. – Enhanced ability for visitors to find areas providing wanted recreation experiences and benefits. – Increased local tax revenue from visitors • Environmental: – Greater retention of distinctive natural landscape features. – Increased resource stewardship and protection by users

Acton Special Recreation Management Area (3,697 acres)

Setting Prescriptions

Physical: Back and middle country.

- Mostly natural in appearance with structures limited to fences, cattle guards, and stock tank/ troughs. Signs limited to route designations. Closed travel routes are blocked with buck and pole barricades. Dispersed campsites located throughout area receive light use.

Social: Middle Country.

- Group sizes less than 10, typically 3 or less per group.
- Could encounter up to 20-30 persons per day on weekends, +/- 5 persons on weekdays.

Administrative: Backcountry.

- Rules are posted and use may be temporarily restricted due to permitted events or resource concerns due to weather.
- Area accommodates multiple-use including grazing.
- OHVs restricted to designated routes per travel management plan.
- This area can be accessed in the front country area by ordinary highway vehicles; middle and backcountry areas are accessible by 4-wheel drive and ATVs UTVs and motorcycles.

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - Hunting allowed in conformance with MTFWP regulations.
  - Implement current travel management decisions.
- Maintain setting:
  - Restrict facilities development to Entrance Parking Loop area unless modified by RAMP.
  - Use on roads or certain non-motorized activities may be temporarily, seasonally or permanently curtailed as a result of identified emergent conditions or excessive resource damage.
- Health, safety, resource protection, user conflict resolution:
  - Close and restore all non-designated trails, improve designated trails to meet current management standards
  - Trapping prohibited.
  - No wood cutting.
  - No target shooting.
- Special Recreation Permit criteria:
  - Applications for SRPs may be delayed or denied and activities may be relocated when environmental analysis identifies unacceptable levels of change to resources or conflicts with other users that would result from permitted activities.
  - Until completion of the RAMP SRP applications will be considered on an individual case-by-case basis.
- Develop mountain biking opportunities for a range of skill levels. Include corss-country and gravity fed (downhill) trails with appropriate facilities.

Other Programs:

- Surface Use Controls:
  - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
  - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
  - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
  - Manage as Class II in back and middle country, Class III in front country area.

Yellowstone River Corridor Special Recreation Management Area (6959 acres surface and minerals) – Main Stem River, RMZ 1

Management Objectives:	The goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. • Provide wildlife habitat • Protect historic, cultural, and scenic values. • Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Provide dispersed recreation experiences. The SRMA will be managed to protect and preserve the remarkable scenic, recreational, geological, fish and wildlife, historic, cultural, and other values along the longest free-flowing river in the lower 48 states.

Outcomes

Primary Activities:	Experiences:	Benefits:
• Boating • Fishing • Hiking • Hunting • Sightseeing • Viewing wildlife	• Access to a range of physical challenge • Escaping everyday responsibilities for a while • Enjoying easy access to diverse recreation • Developing skills, abilities and self-confidence • Enjoying nature • Autonomy • Socializing	• Personal: – Improved physical fitness – Better health maintenance – Restored mind from unwanted stress – Greater cultivation of outdoor-oriented lifestyle – Improved outdoor knowledge, skills, and self-confidence – Greater environmental awareness and sensitivity – More well-informed and responsible visitors • Household and Community: – Involvement in recreation and other land use decisions – Improved cultivation of aesthetic appreciation for the area and an outdoor-oriented lifestyle. – Heightened sense of community satisfaction • Economic: – Positive contributions to local-regional economic stability. – Increased desirability as a place to live or retire. – Enhanced ability for visitors to find areas providing wanted recreation experiences and benefits. – Increased local tax revenue from visitors • Environmental: – Greater retention of distinctive natural landscape features. – Increased resource stewardship and protection by users

Yellowstone River Corridor Special Recreation Management Area (6959 acres surface and minerals) – Main Stem River, RMZ 1

Setting Prescriptions

Physical: Rural to Front country.

- 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: Front country.

- 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.

Administrative: Front country.

- Two-wheel drive vehicles predominant, but also four wheel drives and non-motorized, mechanized use.
- 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

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - Hunting allowed in conformance with MTFWP regulations.
  - Implement current travel management decisions.
- Maintain setting:
  - Restrict facilities development to Entrance Parking Loop area unless modified by RAMP.
  - Use on roads or certain non-motorized activities may be temporarily, seasonally or permanently curtailed as a result of identified emergent conditions or excessive resource damage.
- Health, safety, resource protection, user conflict resolution:
  - Close and restore all non-designated trails, improve designated trails to meet management standards
  - Trapping by permit only.
  - No wood cutting.
  - No target shooting.
- Special Recreation Permit criteria:
  - Until completion of the RAMP SRP applications will be considered on an individual case-by-case basis. The BLM will provide SRPs consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes.

Other Programs:

- Surface Use Controls:
  - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
  - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
  - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
  - Manage as Class II in back and middle country, Class III in front country area.

Yellowstone River Corridor Special Recreation Management Area (6959 acres surface and minerals) – Main Stem River, RMZ 1

Implementation Decisions			
Management: • A recreation area management plan (RAMP) will be developed. • Specific SRP criteria will be developed in the RAMP. • Non-motorized, mechanized or un-mechanized multiple use trails may be developed as part of implementation level planning through a Recreation Area Management Plan (RAMP)	**Administrative:** • Designated uses for existing trails. • All motorized/mechanized use limited to specifically designated trails & roads only.	**Information and Education:** • A comprehensive sign plan including information kiosks and route designation would be developed and implemented as part of the RAMP for this SRMA.	**Monitoring:** • Assure objectives are being met and prescribed settings are being maintained. • Monitor implemented actions and evaluate.

Yellowstone River Corridor Special Recreation Management Area – Clark's Fork of the Yellowstone, RMZ 2 (3182 acres, surface and minerals)

Management Objectives:	The goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. • Provide wildlife habitat • Protect historic, cultural, and scenic values. • Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Provide dispersed recreation experiences. The SRMA will be managed to protect and preserve the remarkable scenic, recreational, geological, fish and wildlife, historic, cultural, and other values along the longest free-flowing river in the lower 48 states.

Outcomes

Primary Activities:	Experiences:	Benefits:
• Boating • Fishing • Hiking • Hunting • Sightseeing • Viewing wildlife	• Access to a range of physical challenge • Escaping everyday responsibilities for a while • Enjoying easy access to diverse recreation • Developing skills, abilities and self-confidence • Enjoying nature • Autonomy • Socializing	• Personal: – Improved physical fitness – Better health maintenance – Restored mind from unwanted stress – Greater cultivation of outdoor-oriented lifestyle – Improved outdoor knowledge, skills, and self-confidence – Greater environmental awareness and sensitivity – More well-informed and responsible visitors • Household and Community: – Involvement in recreation and other land use decisions – Improved cultivation of aesthetic appreciation for the area and an outdoor-oriented lifestyle. – Heightened sense of community satisfaction • Economic: – Positive contributions to local-regional economic stability. – Increased desirability as a place to live or retire. – Enhanced ability for visitors to find areas providing wanted recreation experiences and benefits. – Increased local tax revenue from visitors • Environmental: – Greater retention of distinctive natural landscape features. – Increased resource stewardship and protection by users

Yellowstone River Corridor Special Recreation Management Area – Clark's Fork of the Yellowstone, RMZ 2 (3182 acres, surface and minerals)

Setting Prescriptions

Physical: Rural to Front country.

- 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: Front country.

- 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.

Administrative: Front country.

- Two-wheel drive vehicles predominant, but also four wheel drives and non-motorized, mechanized use.
- 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

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - Hunting allowed in conformance with MTFWP regulations.
  - Implement current travel management decisions.
- Maintain setting:
  - Restrict facilities development to Entrance Parking Loop area unless modified by RAMP.
  - Use on roads or certain non-motorized activities may be temporarily, seasonally or permanently curtailed as a result of identified emergent conditions or excessive resource damage.
- Health, safety, resource protection, user conflict resolution:
  - Close and restore all non-designated trails, improve designated trails to management standards
  - Trapping by permit only.
  - No wood cutting.
  - No target shooting.
- Special Recreation Permit criteria:
  - Until completion of the RAMP SRP applications will be considered on an individual basis. The BLM will provide SRPs consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes.

Other Programs:

- Surface Use Controls:
  - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
  - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
  - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
  - Manage as Class II in back and middle country, Class III in front country area.

Yellowstone River Corridor Special Recreation Management Area – Clark's Fork of the Yellowstone, RMZ 2 (3182 acres, surface and minerals)

Implementation Decisions			
Management: • A recreation area management plan (RAMP) will be developed. • Specific SRP criteria will be developed in the RAMP. • Non-motorized, mechanized or un-mechanized multiple use trails may be developed as part of implementation level planning through a Recreation Area Management Plan (RAMP)	**Administrative:** • Designated uses for existing trails. • All motorized/mechanized use limited to specifically designated trails & roads only.	**Information and Education:** • A comprehensive sign plan including information kiosks and route designation would be developed and implemented as part of the RAMP for this SRMA.	**Monitoring:** • Assure objectives are being met and prescribed settings are being maintained. • Monitor implemented actions and evaluate

Mill Creek/Bundy Special Recreation Management Area

Management Objectives:	The goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes concurrent with other management priorities. • Provide wildlife habitat • Protect historic, cultural, and scenic values. • Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Provide dispersed recreation experiences.

Outcomes

Primary Activities:	Experiences:	Benefits:
• Hiking • Running • Cross country skiing • Bird watching • Picnicking • Fishing • Exercising pets • Scenery and wildlife viewing • Yellowstone River access	**Enjoying:** • Solitude • Family Recreation • Fishing • Exercise • Scenery • Escaping everyday responsibilities for awhile • having access to close-to-home outdoor amenities	**Personal:** • Improved physical fitness • Restored mind from unwanted stress • Greater sense of overall wellness • Enhanced cultural resource stewardship ethic **Household and Community:** • Improved quality of life • Greater awareness of and appreciation for our natural landscapes • Greater appreciation for the area and outdoor-oriented lifestyle • Involvement in recreation and other land use decisions • Increased desirability as a place to live or retire. **Economic:** • Positive contributions to local-regional economic stability • Increased work productivity • Reduced health maintenance costs **Environmental:** • Increased resource stewardship and protection by communities

Setting Prescriptions

Physical:	Social:	Administrative:
• The area is Rural. The surrounding character of the landscape is considerably modified (20-40 acre ranchettes, communications towers and two private in-holdings within the boundaries). The most natural area occurs along the western edge of the SRMA with views of the urban/industrial core area of Billings easily accessible. The historic/rustic Will James cabin lies on the northern edge. Facilities include an unpaved parking lot, vault toilet and kiosk. One	• Mostly small groups of 1-5 with occasional large group activities • Could encounter 1-10 persons per day on weekends and 1-5 persons during week days.	• Day use only • Closed to fireworks discharge • OHV use limited to designated routes only • Closed to driving off road/cross country. • Compliance with terms of conservation easements

Mill Creek/Bundy Special Recreation Management Area

caretakers' residence could be allowed but could not disturb more than ½ acre nor change the VRM, Recreational Opportunity Spectrum (ROS) or ACEC Scenic values.		

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - Implement current travel management decisions.
- Maintain setting:
  - Developments would be managed to VRM class III
- Health, safety, resource protection, user conflict resolution
  - Limited to OHV designations
  - Open to equestrian use
  - Open to rock climbing
  - Open to hang gliding
  - Open to hunting No fuel-wood collection
  - No fireworks
  - The area may be closed during high fire danger
- Special Recreation Permit criteria:
  - None

Other Programs:

- Surface Use Controls:
  - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
  - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
  - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
  - Manage as VRM class III
- Cultural Resource Management
  - Large Native American events for traditional uses may be allowed under BLM authorization, if not in conflict with basic management

Mill Creek/Bundy Special Recreation Management Area

Implementation Decisions

Management:	Administrative:	Information and Education:	Monitoring:
Recreation and Visitor Services: • Facilitate targeted recreation opportunities: – A recreation area management plan (RAMP) will be developed. – May be divided in to RMZs during RAMP development. – Hunting allowed in conformance with MTFWP regulations. – Implement current travel management decisions. • Maintain setting: – Manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. This goal would allow BLM to provide dispersed recreation opportunities and ensure that visual quality characteristics reflect a predominantly primitive or natural landscape while providing a diversity of visitor experiences. • Health, safety, resource protection, user conflict resolution – Trapping permitted. • Special Recreation Permit criteria: – The BLM will provide SRPs for commercial outfitting and guiding (hunting) consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. Outfitters and other recreational users will be required to use weed-free feed on BLM land for their livestock as a part of the integrated weed management program.	• All motorized/mechanized use limited to specifically designated routes	• A comprehensive sign plan including information kiosks and route designation would be developed and implemented as part of the RAMP for this SRMA.	• Assure objectives are being met and prescribed settings are being maintained. • Monitor implemented actions and evaluate

Pryor Mountain TMA Special Recreation Management Area

Management Objectives:	The goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes concurrent with other management priorities. • Provide wildlife habitat • Protect historic, cultural, and scenic values. • Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Provide dispersed recreation experiences.

Outcomes

Primary Activities:	Experiences:	Benefits:
• Hiking • Running • Cross country skiing • Bird watching • Picnicking • Fishing • Exercising pets • Scenery and wildlife viewing • Wild Horse viewing • Caving • camping	**Enjoying:** • Solitude • Family Recreation • Fishing • Exercise • Scenery • Escaping everyday responsibilities for awhile • having access to outdoor amenities	**Personal:** • Improved physical fitness • Restored mind from unwanted stress • Greater sense of overall wellness • Enhanced cultural resource stewardship ethic **Household and Community:** • Improved quality of life • Greater awareness of and appreciation for our natural landscapes • Greater appreciation for the area and outdoor-oriented lifestyle • Involvement in recreation and other land use decisions • Increased desirability as a place to live or retire. **Economic:** • Positive contributions to local-regional economic stability • Increased work productivity • Reduced health maintenance costs **Environmental:** • Increased resource stewardship and protection by communities

Setting Prescriptions

Physical:	Social:	Administrative:
• The area is remote. The surrounding character of the landscape is a considerably natural in condition.	• Mostly small groups of 1-5 with occasional large group activities • Could encounter 1-10 persons per day on weekends and 1-5 persons during week days.	• Day use and overnight use • Closed to fireworks discharge • OHV use limited to designated routes only • Closed to driving off road/cross country. • Compliance with terms of conservation easements and IMP

Pryor Mountain TMA Special Recreation Management Area

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - Implement current travel management decisions.
- Maintain setting:
  - Developments would be managed to VRM class III
- Health, safety, resource protection, user conflict resolution
  - Limited to OHV designations
  - Open to equestrian use
  - Open to rock climbing, caving
  - Open to hang gliding
  - Open to hunting
  - No fuel-wood collection
  - No fireworks
  - The area may be closed during high fire danger
- Special Recreation Permit criteria:
  - The BLM will provide SRPs for commercial outfitting and guiding (hunting) consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. Outfitters and other recreational users will be required to use weed-free feed on BLM land for their livestock as a part of the integrated weed management program.

Other Programs:

- Surface Use Controls:
  - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
  - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
  - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
  - Manage as VRM Class II inside ACECs and LWCs and VRM Class I inside WSAs. .

Implementation Decisions

Management:

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - A recreation area management plan (RAMP) will be developed.
  - May be divided in to RMZs during RAMP development.
  - Hunting allowed in conformance with MTFWP regulations.
  - Implement current travel management decisions.
- Maintain setting:
  - Manage these lands for a variety of sustainable visitor experiences

Administrative:

- All motorized/mechanized use limited to specifically designated routes

Information and Education:

- A comprehensive sign plan including information kiosks and route designation would be developed and implemented as part of the RAMP for this SRMA.

Monitoring:

- Assure objectives are being met and prescribed settings are being maintained.
- Monitor implemented actions and evaluate.

Pryor Mountain TMA Special Recreation Management Area			
in mostly primitive and natural landscapes. This goal would allow BLM to provide dispersed recreation opportunities and ensure that visual quality characteristics reflect a predominantly primitive or natural landscape while providing a diversity of visitor experiences. • Health, safety, resource protection, user conflict resolution – Trapping permitted. – SRPs allowed			

Extensive Recreation Management Areas:

Mill Creek/Bundy Extensive Recreation Management Area (34,239 acres)	
Management Objectives	The goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes concurrent with other management priorities. • Provide wildlife habitat • Protect historic, cultural, and scenic values. • Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Provide dispersed recreation experiences.

Outcomes		
Primary Activities: • Hiking • hunting • Bird watching • Picnicking • Fishing • Exercising pets • Equestrian use • Scenery and wildlife viewing •Yellowstone River access	**Experiences:** Enjoying: • Solitude • Family Recreation • Hunting • Fishing • Exercise • Scenery • Escaping everyday responsibilities for awhile • having access to close-to-home outdoor amenities	**Benefits:** **Personal:** • Improved physical fitness • Restored mind from unwanted stress • Greater sense of overall wellness • Enhanced cultural and natural resource stewardship ethic Household and Community: • Improved quality of life • Greater awareness of and appreciation for our natural landscapes • Greater appreciation for the area and outdoor-oriented lifestyle • Involvement in recreation and other land use decisions • Increased desirability as a place to live or retire. **Economic:** • Positive contributions to local-regional economic stability • Increased work productivity • Reduced health maintenance costs **Environmental:** • Increased resource stewardship and protection by communities

Mill Creek/Bundy Extensive Recreation Management Area (34,239 acres)

Setting Prescriptions

Physical:

•Mostly natural in appearance with structures limited to fences, cattle guards, and stock tank/ troughs. Signs limited to route designations.

Social:

• Mostly small groups of 1-5 with occasional large group activities

• Could encounter 1-10 persons per day on weekends and 1-5 persons during week days.

Administrative:

•Two-wheel drive vehicles predominant, but also four wheel drives and non-motorized, mechanized use.

•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

•Rules are posted and use may be temporarily restricted due to permitted events or resource concerns due to weather.

•Area accommodates multiple-use including grazing.

• OHVs restricted to designated routes per travel management plan.

• This area can be accessed in the front country area by ordinary highway vehicles; middle and backcountry areas are accessible by 4-wheel drive and ATVs, UTVs, and motorcycles. Land access can be restricted by private land ownership

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - Implement current travel management decisions.
- Maintain setting:
  - Developments would be managed to VRM Class III
- Health, safety, resource protection, user conflict resolution
  - Limited to OHV designations
  - Open to equestrian use
  - Open to rock climbing
  - Open to hang gliding
  - Open to hunting
  - No fuel-wood collection
  - No fireworks
  - The area may be closed during high fire danger
- Special Recreation Permit criteria:
  - None

Other Programs:

- Surface Use Controls:
  - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
  - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
  - Fire and Fuels Management:
  - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Fire and Fuels Management:
  - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Cultural Resource Management
- - Large Native American events for traditional uses may be allowed under BLM authorization, if not in conflict with basic management

Mill Creek/Bundy Extensive Recreation Management Area (34,239 acres)	
	• Visual Resource Management: – Manage as Class II and Class III.

17 Mile Recreation Area (2,080 acres)

Management Objectives:	The goal is to manage these lands for a sustainable visitor experience in mostly primitive and natural landscapes concurrent with other management priorities. • Provide wildlife habitat • Protect historic, cultural, and scenic values. • Balance beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Provide dispersed recreation experiences.

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - A recreation area management plan (RAMP) will be developed.
  - Hunting allowed in conformance with MTFWP regulations.
  - Implement current travel management decisions.
- Maintain setting:
  - Manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. This goal would allow BLM to provide dispersed recreation opportunities and ensure that visual quality characteristics reflect a predominantly primitive or natural landscape while providing a diversity of visitor experiences.
- Health, safety, resource protection, user conflict resolution
  - Trapping permitted.
- Special Recreation Permit criteria:
  - The BLM will provide SRPs for commercial outfitting and guiding consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes.

Other Programs:

Interdisciplinary plans would be developed only when and where necessary to address emerging issues affecting public lands users or resources.

- Surface Use Controls:
  - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
  - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
  - May be subject to closure during high fire danger
  - May be subject to fire and fuels management activities to restore and maintain rangeland health, reduce fire hazards, and maintain wildlife habitat.
- Visual Resource Management:
  - Manage as Class III

Horsethief Extensive Recreation Management Area (12,261 acres)

Management Objectives:	The goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes concurrent with other management priorities. • Provide wildlife habitat • Protect historic, cultural, and scenic values. • Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Provide dispersed recreation experiences.

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - A recreation area management plan (RAMP) will be developed.
  - Hunting allowed in conformance with MTFWP regulations.
  - Implement current travel management decisions.
- Maintain setting:
  - Manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. This goal would allow BLM to provide dispersed recreation opportunities and ensure that visual quality characteristics reflect a predominantly primitive or natural landscape while providing a diversity of visitor experiences.
- Health, safety, resource protection, user conflict resolution
  - Trapping permitted.
- Special Recreation Permit criteria:
  - The BLM will provide SRPs for commercial outfitting and guiding (hunting) consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes.

Other Programs:

- Surface Use Controls:
  - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
  - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
  - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
  - Manage as Class III.

Asparagus Point Recreation Management Area (158 acres)

Management Objectives:	The goal is to manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes concurrent with other management priorities. • Provide wildlife habitat • Protect historic, cultural, and scenic values. • Balance the widest range of beneficial uses with the least amount of degradation, possible without risking health and safety, and with a minimum of other undesirable or unintended consequences on other resources. • Provide dispersed recreation experiences.

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - A recreation area management plan (RAMP) will be developed.
  - Hunting allowed in conformance with MTFWP regulations.
  - Implement current travel management decisions.
- Maintain setting:
  - Manage these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes. This goal would allow BLM to provide dispersed recreation opportunities and ensure that visual quality characteristics reflect a predominantly primitive or natural landscape while providing a diversity of visitor experiences.
- Health, safety, resource protection, user conflict resolution
  - Trapping permitted.
- Special Recreation Permit criteria:
  - The BLM will provide SRPs for commercial outfitting and guiding (hunting) consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes.

Other Programs:

- Surface Use Controls:
  - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
  - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
  - Close to grazing the floodplain north and east of the access road. (approximately 26 acres)
- Fire and Fuels Management:
  - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
  - Manage as Class III.

South Hills Recreation Management Area (1,357 acres)

Management Objectives:	The goal is to manage these lands for a variety of sustainable visitor experiences concurrent with other management priorities. • Provide recreational opportunities within the Urban Interface area. • Minimize conflicts with adjacent subdivisions. • Provide dispersed recreation experiences. • Mitigate soil erosion on steep slopes. • Provide wildlife habitat.

Management Actions and Allowable Use Decisions

Recreation and Visitor Services:

- Facilitate targeted recreation opportunities:
  - A recreation area management plan (RAMP) will be developed.
  - Hunting allowed in conformance with MTFWP regulations.
  - Implement current travel management decisions.
- Maintain setting:
  - Manage these lands for a variety of sustainable visitor experiences in an urban interface environment. This goal would allow BLM to provide dispersed recreation opportunities and reduce conflicts with adjacent subdivision.
- Health, safety, resource protection, user conflict resolution
  - Trapping permitted.
  - Firearms prohibited.
  - OHVs limited to two-wheeled motorcycles
  - Day Use Area only.
- Special Recreation Permit criteria:
  - The BLM will provide SRPs for commercial outfitting and guiding (hunting) consistent with 43 CFR 2932.26 and the goal of managing these lands for a variety of sustainable visitor experiences in mostly primitive and natural landscapes.

Other Programs:

- Surface Use Controls:
  - Oil and gas leasing, exploration and development would be allowed with an NSO stipulation
- Range Management:
  - Allotment 5517, Southland Estates
  - Surface disturbing activities related to facility development and maintenance would be subject to mitigation guidelines.
- Fire and Fuels Management:
  - Area may be subject to fire and fuels management activities to restore and maintain forest health, reduce fire hazards, and maintain wildlife habitat
- Visual Resource Management:
  - Manage as Class III.
- Lands and Realty
  - Valid ROW(s) for waterline(s)
  - New utility ROWs would be underground.

Special Recreation Management Areas (SRMA), Extensive Recreation Management Areas (ERMA) by Alternatives

SRMAs	Alternative A	Acres	Alternative B	Acres	Alternative C	Acres	Alternative D	Acres
Four Dances Natural Area ACEC	X	784	X	784	X	784	X	784
Sundance Lodge Recreation Area	X	387	X	387	X	387	X	387
Shepherd Ah-Nei		0	X	4,680	X	4,680	X	4,680
Acton Recreation Area		0	X	3,697	X	3,697	X	3,697
Asparagus Point		0		0	X	158	X	158
Bundy Island		0	X	98		0		0
Horsethief TMA		0			X	12,261	X	12,261
Mill Creek/Bundy TMA		0		0	X	34,239		0
Pryor Mountain TMA		0	X	81,277	X	81,277	X	81,277
17 Mile		0		0	X	2,080		0
South Hills TMA		0		0	X	1,357	X	1,357
Yellowstone River Corridor		0		0	X	6,311	X	6,311
# SRMAs / Acres	2 SRMAs / 1,171 acres		6 SRMAs / 90,783 acres		11 SRMAs / 147,181 acres		9 SRMAs / 110,862 acres	
ERMAs								
Shepherd Ah-Nei	X	4,680		0		0		0
Acton Recreation Area	X	3,697		0		0		0
South Hills TMA	X	1,357	X	1,357		0		0
Horsethief TMA	X	12,261	X	12,261		0		0
17 Mile	X	2,080	X	2,080		0	X	2,080
Asparagus Point	X	158	X	158		0		0
Yellowstone River Corridor		0	X	6,213		0		0
Mill Creek Area		0		0		0	X	34,239
# ERMAs / Acres	7 ERMAs / 105,460 acres		5 ERMAs / 7,668 acres		0 ERMAs / 0 acres		2 ERMAs / 36,319 acres	
Non-Designated Areas (public lands not identified as SRMAs or ERMAs)	All lands not designated as SRMAs will be managed as ERMAs (327,518 acres)		327,421 acres		288,495 acres		322,418 acres	

Appendix O:
Visual Resource Management Program

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O. Visual Resource Management Program

O.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)

O.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.

O.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

O.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 P:
Air Quality Resource Management Plan: Adaptive Management Strategy for Oil and Gas Resources

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Acronyms

APD	Application for Permits to Drill
AQRV	Air quality related value
AQTW	Air Quality Technical Workgroup
ARMP	Air Resource Management Plan
ARTSD	Air Resource Technical Support Document
BACT	Best available control technology
BiFO	Billings Field Office
BLM	Bureau of Land Management
CAMx	Comprehensive Air Quality Model with Extensions
CBNG	Coal bed natural gas
CFR	Code of Federal Regulations
CO	Carbon monoxide
EPA	U.S. Environmental Protection Agency
FS	U.S. Forest Service
FLPMA	Federal Land Policy and Management Act
FLIR	Forward looking infrared
FWS	U.S. Fish and Wildlife Service
hp	Horsepower
IWG	Interagency Working Group
IR	Indian Reservation
MAAQS	Montana Ambient Air Quality Standards
MAQP	Montana Air Quality Permits
$\mu g/m^3$	Micrograms per cubic meter
MDEQ	Montana Department of Environmental Quality
MOU	Memorandum of Understanding
NAA	Nonattainment area
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO	Nitric oxide
NO_2	Nitrogen dioxide
NO_x	Nitrogen oxides
NPS	National Park Service
NSR	New Source Review
O_3	Ozone
Pb	Lead
PGM	Photochemical grid modeling
PM_{10}	Particulate matter with a diameter less than or equal to 10 microns
$PM_{2.5}$	Particulate matter with a diameter less than or equal to 2.5 microns
POD	Plan of Development
ppb	Parts per billion
ppm	Parts per million
PSD	Prevention of Significant Deterioration
REC	Reduced emissions completion
ROD	Record of Decision
RMP	Resource Management Plan
SEIS	Supplemental Environmental Impact Statement
SLAMS	State or Local Air Monitoring Station
SO_2	Sulfur dioxide
tpy	Tons per year
USDI	U.S. Department of the Interior
VOC	Volatile organic compound
WRAP	Western Regional Air Partnership
WRF	Weather and Research Forecasting

1.0 INTRODUCTION

1.1 Purpose of the Air Resource Management Plan

The Bureau of Land Management (BLM) Billings Field Office (BiFO) Air Resource Management Plan (ARMP) for oil and gas activities describes the air quality adaptive management strategy that would be used to assess future air quality and Air Quality Related Values (AQRVs) and identify mitigation measures to address unacceptable impacts that may could potentially be associated with future oil and gas development. The adaptive management strategy focuses on oil and gas activity because aggregated emissions from multiple small sources at well sites can potentially cause significant air quality and AQRV impacts under certain circumstances.

The BLM works collaboratively with the Montana Department of Environmental Quality (MDEQ) to promote air quality monitoring near oil and gas activity areas and will work closely with the MDEQ on any future emission mitigation considered under this ARMP. Many of these small oil and gas emission sources are not required to obtain air quality permits from the Montana Department of Environmental Quality (MDEQ), unlike large stationary sources such as coal mines that are permitted and inspected by the MDEQ. The oil and gas adaptive management strategy was prepared by the BLM in collaboration with or with input from the U.S. Environmental Protection Agency (EPA) and three federal land management agencies under the Memorandum of Understanding Among the U.S. Department of Agriculture [USDA], U.S. Department of the Interior [DOI], and U.S. Environmental Protection Agency, Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions Through the National Environmental Policy Act [NEPA] Process (DOIUSDA 2011). This Memorandum of Agreement (MOU) is described in more detail in Section 1.4 of this appendix. Although not a signatory to the MOU, the MDEQ participates in the Air Quality Technical Workgroup (AQTW) that was established to implement the MOU process for the Proposed Resource Management Plan (PRMP) and Environmental Impact Statement (EIS).

This agreement is described in more detail in Section 1.4.

As described in Chapter 3 of the PRMP/EIS, the MDEQ and EPA implement the Clean Air Act within non-tribal portions of the planning area, while EPA implements the Act in tribal areas. State and federal emission control regulations and air quality permitting programs apply to many oil and gas sources. However, some of the smallest oil and gas emission sources are not required to obtain air quality permits. Facilities that have the potential to emit less than 25 tons per year of a regulated air pollutant are generally not required to obtain state or federal air quality permits or register their facilities with MDEQ. At these smallest facilities, certain activities and equipment are subject to state and federal emission control regulations. The ARMP provides a means for the BLM to satisfy its statutory responsibility under NEPA and FLPMA to protect air quality and other natural resources. Under the ARMP, the BLM will take appropriate management action if monitoring data for local areas with BLM-authorized oil and gas activity indicate that additional emission reductions may be needed to maintain good air quality. Due to the fragmentation of surface and mineral estate within the planning area, the BLM and MDEQ would seek a consistent emission control approach throughout an area of concern.

The ARMP includes both near-term actions and long-term actions. In the near-term, the ARMP sets forth initial actions to maintain good air quality until regional modeling can be performed to further assess potential impacts to air quality and AQRVs. In the long-term, the ARMP provides ongoing management strategies to assess and adapt to new air quality and AQRV ambient monitoring and modeling data during the life of this Resource Management Plan (RMP).

The ARMP includes a multifaceted approach involving the following activities.

- Oil and gas activity assessment
- Ambient air quality monitoring support
- Air quality and AQRV assessment
- Future air quality and AQRV modeling
- Mitigation

Pollutant emissions addressed by the ARMP include the criteria air pollutants listed below.

- Carbon monoxide (CO)
- Nitrogen dioxide (NO_2)
- Ozone (O_3)
- Particulate matter with a diameter less than or equal to 10 microns (PM_{10})
- Particulate matter with a diameter less than or equal to 2.5 microns ($PM_{2.5}$)
- Sulfur dioxide (SO_2)

Lead emissions are not included because high concentrations of this pollutant are unlikely to occur from oil and gas development within the planning area.

The ARMP also addresses modeling and mitigation for the following AQRV assessments.

- Deposition of sulfur and nitrogen
- Lake acid neutralizing capacity
- Visibility

The adaptive management strategy for oil and gas resources provides the flexibility to respond to changing conditions that could not have been predicted during RMP development. The strategy also allows for the use of new technology and methods that may minimize or reduce impacts.

1.2 Revision of the Air Resource Management Plan

This ARMP may be modified as necessary to comply with law, regulation, and policy and to address new information and changing circumstances. Changes to the goals or objectives set forth in the BiFO RMP/EIS would require maintenance or amendment of the RMP while changes to implementation, including modifying this ARMP, may be made without amending the RMP.

1.3 Current Air Quality

Based on available monitoring data in the BiFO, air quality is generally good, except for industrial areas influenced by emissions from some refineries. See Chapter 3 for a description of air quality within the BiFO. Federal air quality standards for criteria air pollutants are known as National Ambient Air Quality Standards (NAAQS), while state-based standards are known as the Montana Ambient Air Quality Standards (MAAQS).

1.4 Background of the AQTW and the MOU Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions Through the NEPA Process

The Air Quality Technical Workgroup (AQTW) is required to include representatives from the following agencies: the BLM, EPA, U.S. Forest Service (FS), U.S. Fish and Wildlife Service (FWS), and the National Park Service (NPS). Each of these agencies is a party to the *Memorandum of Understanding*

Among the U.S. Department of Agriculture, U.S. Department of the Interior, and U.S. Environmental Protection Agency, Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions Through the National Environmental Policy Act Process (USDA 2011) (herein referred to as the MOU). This agreement is designed to ". . . facilitate the completion of NEPA environmental analyses for Federal land use planning and oil and gas development decisions [USDA 2011]." Additional entities may also participate in the AQTW, such as the MDEQ and tribal entities.

The BLM asked the MDEQ to join the AQTW. The MDEQ has primary authority to protect air quality within the state. Although the MDEQ is not a signatory to the national MOU, successful air quality management of BLM-authorized oil and gas activities depends on a close working relationship between the BLM and the MDEQ. The two agencies have worked together to improve air quality monitoring and will continue to cooperate by sharing data, planning modeling efforts, and working together to identify emission reduction measures needed to maintain good air quality in areas with oil and gas activity.

The MOU sets forth collaborative procedures that the AQTW agencies use to analyze potential air quality and AQRV impacts. The agencies also work together to identify potential mitigation measures that may be needed to reduce impacts to air quality and AQRVs. The lead agency (the BLM in this case), in collaboration with the other agencies, has the responsibility to identify reasonable mitigation and control measures to address adverse impacts to air quality. Mitigation measures may also address impacts to AQRVs at Class I areas and at sensitive Class II areas that have been identified by the BLM, FS, FWS, and NPS.

The AQTW provided input to this ARMP and will continue to work collaboratively on future modeling efforts associated with this RMP. Provisions of the MOU continue to apply to future oil and gas activities in the planning area. In some cases, air quality and AQRV modeling performed under this ARMP may be sufficient to address modeling needs for future oil and gas projects that would otherwise require additional modeling under the MOU. However, the ARMP in no way replaces provisions of the MOU. Determinations of existing modeling adequacy for future oil and gas activities that trigger the MOU would be made collaboratively by the AQTW using the procedures included in the MOU.

1.5 MDEQ Air Quality Management and BLM Mitigation Measures

Primary air quality management authority and responsibility for the planning area rest with the MDEQ (for non-tribal areas of the planning area) and the EPA for tribal areas. However, the BLM also plays a role in protecting air resources under the Federal Land Policy and Management Act (FLPMA) and NEPA. Due to the nature of NEPA analyses for land use planning, the BLM's air resource management role is forward-looking because air resource impacts are analyzed for future activities that may or may not occur.

1.5.1 MDEQ Air Quality Programs

The MDEQ has been delegated Federal Clean Air Act authority from EPA to regulate air quality and air emissions requirements within the non-tribal areas of Montana. The MDEQ also implements state ambient air quality standards for additional air pollutants and has established more stringent standards for some criteria air pollutants, as shown in Table 1. As part of NAAQS implementation, the MDEQ operates air quality monitors through Montana.

The MDEQ has State Implementation Plan approved New Source Review (NSR) permitting programs, which include Prevention of Significant Deterioration (PSD), Nonattainment Area (NAA), and minor source programs. The MDEQ's PSD and NAA permitting programs impose controls on major stationary sources in order to control emissions of regulated pollutants. Emission controls are typically required through the application of Best Available Control Technology (BACT) or Lowest Achievable Emission Rate, depending on the applicable NSR permitting program. In addition, the MDEQ implements a minor

source NSR permitting program (e.g., minor source Montana Air Quality Permits [MAQP] and registrations). The MDEQ's minor source NSR program requires sources with a potential to emit greater than 25 tons per year (tpy) of any regulated air pollutant to apply for a permit to construct pursuant to the MAQP requirements or register with the MDEQ pursuant to the registration requirements under the Administrative Rules of Montana (ARM). To ensure compliance with the NAAQS, MDEQ's minor NSR program contains regulatory requirements that track activity and require the application of BACT. Additionally, the ARM require reasonable precautions to limit fugitive particulate emissions from all activities in Montana (i.e., permitted, registered, and those facilities that do not require a permit/registration). MDEQ's NSR program not only provides the emission benefits necessary to attain Montana's air quality goals, but also includes many features that provide regulatory certainty while still allowing flexibility in the implementation of Montana's air quality programs.

1.5.2 MDEQ Oil and Gas Emission Control Requirements

The MDEQ minor source permitting and registration program for oil and gas facilities includes a robust set of emission controls. MDEQ rules require oil or gas well facilities to control emissions from the time the well is completed until the source is registered or permitted. Facilities that choose to register must meet the emission control requirements contained in Administrative Rules of Montana (ARM) 17.8.17. If a source cannot meet these requirements it must apply for an MAQP. The MAQP requires a case-by-case BACT analysis. A case-by-case BACT analysis may include design, equipment, work practice, or operational standards in place of or in combination with an emission limitation.

Examples of MDEQ emission control requirements for oil and gas facilities (defined as those with a potential to emit more than 25 tpy of any airborne pollutant) include the following measures to limit emissions.

- Each piece of oil or gas well facility equipment containing volatile organic compound (VOC) vapors (as defined in the permitting or registration regulations) with a potential to emit 15 tpy or more must be routed to a gas pipeline or to air pollution control equipment with 95 percent or greater control efficiency (registered facilities). This requirement applies to the following equipment.
    - Oil and gas wellhead production equipment including, but not limited to, wellhead assemblies, amine units, prime mover engines, phase separators, heater treatment units, dehydrator units, storage tanks, and connector tubing
    - Transport vehicle loading operations
- Hydrocarbon liquids must be loaded into transport vehicles using submerged fill technology.
- Stationary internal combustion engines greater than 85 brake horsepower must be equipped with nonselective catalytic reduction (for rich burn engines) or oxidation catalytic reduction (for lean burn engines) or equivalent emission reduction technologies.
- Piping components containing VOCs must be inspected for leaks each month. The first attempt to repair any leaking VOC equipment must occur within 5 days and the repair must be completed no later than 15 days after the leak is initially detected unless facility shutdown is required. Facilities are required to maintain monthly leak inspection and repair records.

Although MDEQ emission control requirements do not mention greenhouse gas (GHG) emissions, the VOC emission control measures would also reduce methane emissions, while the engine emission controls would reduce nitrous oxide emissions.

The MDEQ oil and gas emission control requirements have successfully protected air quality throughout the planning area, as evidenced by ambient air quality monitoring data that indicate good air quality in oil and gas activity areas.

1.5.3 BLM Air Resource Management and MDEQ Coordination

The BLM's authority to address air resources derives primarily from FLPMA and NEPA. Under FLPMA, the BLM must "provide for compliance with applicable pollution control laws, including State and Federal air, water, noise, or other pollution standards or implementation plans" in the development and revision of land use plans (Section 202 (c)(8)). FLPMA also authorizes the BLM to manage public lands "in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values" (Section 102 (8)).

Under NEPA, the BLM ensures that information on the potential environmental and human impact of Federal actions is available to public officials and citizens before decisions are made and before actions are taken. One of the purposes of the Act is to "promote efforts which will prevent or eliminate damage to the environment and biosphere," and to promote human health and welfare (Section 2). NEPA requires that BLM and other federal agencies prepare a detailed statement on the environmental impact of the proposed action for major Federal actions expected to significantly affect the quality of the human environment (Section 102 (C)).

The BLM's authority under the Clean Air Act primarily derives from the requirement that BLM-authorized activities comply with the Clean Air Act. BLM-authorized activities may not violate the Clean Air Act or federal and state regulations and State Implementation Plans issued to implement the Act. When air quality or AQRV modeling performed during NEPA analysis predicts potential violations of the Clean Air Act or unacceptable AQRV impacts, the BLM evaluates the data and determines whether mitigation measures are needed. For example, the initial mitigation measure requiring drill rig engines to meet Tier 4 emission standards reduces NO_2 emissions and was demonstrated via modeling to prevent NAAQS violations from multiple large drill rig engines that may operate on one well pad. The mitigation measure includes an exception that allows use of drill rig engines meeting Tier 1, 2, or 3 emission standards if future modeling or near-field monitoring demonstrates compliance with the NAAQS.

When determining whether mitigation measures are needed, the BLM reviews current and proposed federal, state, and local regulations to determine whether mitigation will occur due to other agency actions. If the BLM determines that additional mitigation is needed while implementing this ARMP, the BLM will work closely with the MDEQ to coordinate future mitigation measures for BLM-authorized activities.

1.6 Relationship to the Montana SEIS ROD ARMP

This ARMP integrates and supplements earlier ARMP provisions within the *Record of Decision (ROD) for the Supplement to the Montana Statewide Oil and Gas Environmental Impact Statement and Amendment of the Powder River and Billings Resource Management Plans* (BLM 2008b). Provisions of the Montana Statewide Supplemental Environmental Impact Statement (SEIS) ARMP are currently in effect and were developed to address substantial predicted growth in coal bed natural gas (CBNG) drilling and production in the Powder River Basin. Based on extensive air quality and AQRV far-field modeling, predicted impacts described in the Supplemental Air Quality Analysis (BLM 2007, BLM 2008a) were associated primarily with projected emission increases from the operation of additional compressor engines. Consequently, increases in total compression horsepower were determined to be an indicator of oil and gas activity growth that could potentially degrade air quality and AQRVs.

ARMP provisions included in the SEIS ROD are summarized below.

- Emission Mitigation

  - Fugitive dust controls are required to reduce PM_{10} and $PM_{2.5}$ emissions from unpaved roads.
  - The number of wells connected to each compressor must be maximized and natural-gas-fired or electrical compressors or generators are required.
  - Operators within 5 miles of the Northern Cheyenne Indian Reservation (IR) and the Crow IR may be required to restrict the timing or location of CBNG development if monitoring or modeling by the MDEQ finds their CBNG development is causing or threatening to cause noncompliance with applicable local, state, tribal, and federal air quality laws, regulations, and standards, as well as state implementation plans developed by the MDEQ.

- Activity and Emission Monitoring
  - Compression horsepower associated with CBNG is required to be reviewed.
  - Annual emission inventory reports for CBNG operations are required to be submitted by operators.

- Ambient Air Quality Monitoring
  - The BLM will develop monitoring plans to track regional cumulative impacts to air quality and establish programmatic mitigation at predetermined action levels.
  - Ambient concentration data from the Billings St. Luke's monitoring site (and potential future sites) will be used to meet ambient monitoring requirements included in Table MON-1 of the SEIS ROD.

- Air Quality Impact Review
  - Oil and gas operators are required to provide information necessary for the BLM to conduct an analysis of air quality impacts when submitting exploration Applications for Permits to Drill (APDs) or field development project plans for CBNG development. BLM uses the information to determine the individual and cumulative impact on tribal air quality; disclose the analysis results in the appropriate NEPA document; and consult with the Tribe when the analysis shows impacts from a specific drilling or development proposal.
  - An Interagency Working Group (IWG) was formed consisting of the BLM, EPA, NPS, and FS and other federal agencies, state agencies, and tribal authorities to address CBNG development in the Montana portion of the Powder River Basin and its impacts to air quality. In addition to other resource responsibilities, the IWG is responsible for developing and recommending the monitoring and mitigation measures needed for each agency to ensure its actions achieve compliance with applicable air quality standards across jurisdictional boundaries.

- Air Quality and Visibility Modeling
  - The MDEQ agreed to complete an annual cumulative air quality impact model to track air quality impacts of CBNG development, including relevant CBNG development in Wyoming.

- The BLM and the MDEQ will perform additional visibility modeling to assess visibility impacts when horsepower (hp) requirements for new CBNG wells in the Montana portion of the Powder River Basin exceed 133,956 hp.

The above requirements are being integrated into this ARMP. Some provisions are being updated to reflect the current state of knowledge, while other provisions are being expanded to provide for a more comprehensive adaptive management strategy. Modeling provisions within the SEIS ARMP are being revised to reflect an improved modeling approach (described in Section 5.0) that would provide a more comprehensive assessment of visibility and criteria pollutants, including ozone. CBNG development in the Montana portion of the Powder River Basin did not materialize as predicted at the time of the SEIS. According to the MDEQ, CBNG compression within the Montana portion of the Powder River Basin has decreased by 1,676 hp since January 1, 2010 (MDEQ 2011). Due to the lack of CBNG development and with no new compression equipment emissions to model, the MDEQ determined that additional ambient air quality monitoring would be the best air quality indicator. With funding provided by the BLM, two new monitoring stations were installed in the Powder River Basin east of the planning area near Birney (Rosebud County) and Broadus (Powder River County) in 2009.

The remainder of this ARMP describes each of the provisions being carried forward from the SEIS ARMP.

2.0 OIL AND GAS ACTIVITY ASSESSMENT

Each year, the BLM would track the number and locations of new oil and gas wells drilled on federal mineral estate and the number of new and abandoned producing wells on federal mineral estate. These numbers would be compared to the planning area Reasonably Foreseeable Development (RFD) and to the level of oil and gas development identified in the proposed alternative.

In addition, the BLM would estimate oil and gas emissions from federal mineral estate every three years for oil and gas wells drilled and producing after the ROD is signed. Emission estimates would be based on well types, well numbers, and knowledge of typical equipment and operations. Emission estimation methods are expected to improve over time as better data become available. The emission estimates would also account for implemented mitigation measures and for new emission control regulations as they become effective. Each three-year oil and gas emission inventory would be compared to emission estimates for the RFD and the proposed alternative. The BLM would collect additional data related to oil and gas equipment and operations to improve emission inventory quality. One area identified for improvement involves acquiring better data on oil and gas equipment used in the planning area. In order to improve fugitive dust emission estimates, the number, type, and length of vehicle trips in high-activity areas would also be assessed.

For the portion of the Powder River Basin located in the BIFO, increases in compressor horsepower would be tracked annually using data provided by the MDEQ.

Each three-year oil and gas emission inventory would be compared to emission estimates for the RFD and the proposed alternative.

3.0 AMBIENT AIR QUALITY MONITORING SUPPORT

The MDEQ Air Resources Management Bureau has primary responsibility for siting and operating ambient air quality monitors within Montana and for reporting monitoring data to the EPA and to the public. As described in its annual Air Quality Monitoring Network Plan (MDEQ 2012), the MDEQ identifies monitoring objectives for assessing ambient concentrations of criteria air pollutants and assessing compliance with the NAAQS and MAAQS.

MDEQ-operated monitors in the planning area are limited to two monitors located in Billings. Of these, $PM_{2.5}$ concentration data from the Billings St. Luke's monitor (20-111-0085) would be considered to be representative of air quality in the planning area. The Billings Coburn Road monitor (30-111-0066) measures SO_2 concentrations near two refineries within 3 kilometers of the monitoring site. Due to the close proximity of the refineries, SO_2 concentrations from the Coburn Road site are not representative of SO_2 concentrations in rural oil and gas activity areas and data from this monitor would not be reviewed under this plan.

Due to the area's low concentrations of NO_2, ozone, and PM_{10}, these pollutants are not currently monitored in the planning area. If, in future years, additional MDEQ-operated monitoring stations are installed and operated for the purpose of assessing air quality impacts from oil and gas activity, ambient monitoring data from these monitors would be used for ambient air quality assessments under this plan.

4.0 AIR QUALITY AND AQRV ASSESSMENT

The BLM would assess air quality and AQRVs on an annual basis using quality-assured data from the EPA, MDEQ, FS, FWS, NPS, and other sources. In addition, if ozone monitoring data become available for the planning area, a preliminary assessment of ozone concentrations would be performed on a weekly basis using data provided by the MDEQ.

4.1 Annual NAAQS and MAAQS Assessment

Based on the representative monitor(s) listed in Section 3.0, the BLM would assess air quality monitoring data annually and would share the results of the assessment with the MDEQ and AQTW. The purposes of the annual assessment are to compare monitored data to NAAQS and MAAQS and to identify seasonal and long-term trends in air pollutant concentrations. The BLM would complete the annual assessment by May 31 of each year in order to ensure that quality-assured data are available for review. Monitoring data associated with exceptional events, typically due to wildfires, would be excluded from the assessment.

NAAQS and MAAQS are provided in Table 1. Montana standards are shown only if they are more stringent than the NAAQS.

Although most of the pollutants are not currently monitored in the planning area, the standards are provided to illustrate the framework for assessing monitoring data that may become available in the future. The standards shown in Table 1 would be revised to reflect future regulatory changes.

The BLM would use design values to compare ambient monitoring data to the NAAQS. Design values reflect the form of the NAAQS; they define the statistical metric used to compare monitoring data to federal standards. Depending on the pollutant and averaging time being assessed, a NAAQS is typically stated in terms of the maximum or second maximum concentration, average concentration, or a percentile of the standard. The form of a standard also states whether the design value is determined based on one or more years of monitoring data. EPA-calculated design values serve a critically important regulatory purpose; they determine whether areas are designated attainment or nonattainment. As such, EPA's design value determinations may take more than one year to finalize.

In order to review air quality trends more quickly, the BLM would determine "mitigation design values" by May 31 of each year for the previous calendar year(s). The mitigation design value would be a metric calculated by the MDEQ or BLM that uses procedures similar to EPA's regulatory design value calculation methodology, with the advantage that the MDEQ/BLM-calculated mitigation design values can be determined more quickly. The timing allows the MDEQ adequate time to quality assure monitoring data. However, the MDEQ may not yet have EPA concurrence on data that have been flagged by the MDEQ due to exceptional events, such as wildfires. Consequently, the MDEQ/BLM-calculated mitigation design values would exclude monitoring data associated with MDEQ-identified exceptional events. Each BLM annual assessment would look back the requisite number of years for each pollutant and include data from the time period prior to ROD issuance for the first several annual BLM assessments. Additional information concerning design value calculations is provided in Section 6.2.3. The BLM will work closely with the MDEQ to ensure that only data certified by the MDEQ and procedures consistent with MDEQ procedures are used in design value calculations.

Table 1. Ambient Air Quality Standards

Pollutant	Averaging Period	Federal NAAQS [1]			MAAQS [2]
		Concentration	Standard Type	Form of NAAQS Primary Standard	Concentration
CO	1-hour	35 ppm	Primary	Second maximum	23 ppm[5]
	8-hour	9 ppm	Primary	Second maximum	---
NO_2	1-hour	100 ppb	Primary	3-year average of the 98th percentile concentrations	0.30 ppm
	Annual	53 ppb	Primary, Secondary	Annual mean	0.05 ppm [7]
Ozone	1-hour	---	---	---	0.12 ppm [7]
	8-hour	0.075 ppm	Primary, Secondary	3-year average of the fourth highest daily maximum 8-hour average	---
$PM_{2.5}$	24-hour	35 µg/m^3	Primary, Secondary [3]	3-year average of the 98th percentile concentration	---
	Annual	12.0 µg/m^3	Primary	3-year average of the annual mean	---
	Annual	15.0 µg/m^3 [3]	Secondary	3-year average of the annual mean	---
PM_{10}	24-hour	150 µg/m^3	Primary, Secondary	NTBE more than one per year on average over 3 years	---
	Annual	Revoked [4]	---	---	50 µg/m^3 [5]
SO_2	1-hour	75 ppb	Primary	3-year average of the 99th percentile concentrations	0.50 ppm
	3-hour	0.5 ppm	Secondary	---	---
	24-hour	---	Primary	---	0.10 ppm[5]
	Annual	---	Primary	---	0.02 ppm[6]

CO carbon monoxide
µg/m^3 micrograms per cubic meter
MAAQS Montana Ambient Air Quality Standards
NAAQS National Ambient Air Quality Standards
NO_2 nitrogen dioxide
NTBE Not to be exceeded
$PM_{2.5}$ particulate matter less than or equal to 2.5 microns
PM_{10} particulate matter less than or equal to 10 microns
ppb parts per billion
ppm parts per million
SO_2 sulfur dioxide

[1] NAAQS are codified in Title 40 of the Code of Federal Regulations (CFR), Part 50.
[2] Montana AAQS are codified in Title 17, Chapter 8, Subchapter 2 of the Ambient Air Quality in the Administrative Rules of Montana.
[3] EPA proposed a new secondary standard for $PM_{2.5}$ visibility of 28 or 30 deciviews (equivalent to 24 or 19 kilometers [15 or 12 miles] standard visual range).
[5] The annual PM_{10} NAAQS was revoked October 17, 2006.
[6] Based on annual second maximum.
[7] Not to be exceeded in the averaging period specified.
[8] State violation when exceeded more than once during any 12 consecutive months.

4.2 Preliminary Ozone Assessment

If an MDEQ-operated ozone monitor is installed and operated in the planning area, the BLM would perform weekly preliminary ozone concentration reviews to determine if high ozone events occur. If a high-ozone event occurs, the BLM would document meteorological and other conditions that may have contributed to the event. Because high-ozone events in other rural parts of the nation are not well understood and contributing factors can be site-specific, the BLM would gather data to develop baseline information relevant to any high-ozone events that may occur within the planning area. Relevant baseline

information includes capturing meteorological data for each event, determining the amount of snow on the ground (if applicable), and identifying any other data that may help describe circumstances associated with the event. For the purposes of this effort, high-ozone events would be defined to be days for which the maximum 8-hour average ozone concentration is at or above 0.065 ppm.

In order to quickly ascertain relevant circumstances, the preliminary ozone assessments would use non-quality-assured data provided by the MDEQ. As part of the annual NAAQS assessment, quality-assured ozone data would be reviewed to determine if the preliminary ozone monitoring data were valid or if monitored high ozone concentrations were due to monitor malfunctions.

If high-ozone events occur within the planning area, a summary of events and a discussion of relevant meteorological data and circumstances would be developed as part of the annual NAAQS assessment. These summaries and the underlying data may provide important information that can be used to predict potential occurrences of high-ozone events and to identify mitigation measures and/or proactive measures that could prevent future events.

4.3 Annual AQRV Assessment

Federal land managers track the status, condition, and trends of AQRVs for Class I and sensitive Class II areas under their jurisdictions. Consequently, the BLM would request visibility, sulfur and nitrogen deposition, and lake acid neutralizing capacity data from the FS, FWS, and NPS and would include agency-submitted data in the BLM's annual review of AQRV trends. The annual review would also include AQRV data from any Class I or sensitive Class II areas under BLM jurisdiction.

Based on these reviews, the BLM would maintain an awareness of AQRV trends. However, it should be noted that the reviews would not necessarily link AQRV trends to oil and gas development. AQRV impacts are often associated with pollutants that can be transported long distances from many different types of sources. For example, visibility degradation in eastern Montana primarily results from large stationary sources such as electric generating units and cement kilns, as addressed in the Montana Regional Haze Federal Implementation Plan (EPA 2012b).

Photochemical grid modeling (PGM) would be completed after the ROD is signed and would provide additional information concerning the potential impact BLM-authorized of oil and gas emissions and cumulative emissions on AQRVs.

5.0 FUTURE MODELING

The BLM committed to perform PGM in order to assess regional air quality and AQRV impacts. Due to insufficient monitoring and regional emissions data available during development of the RMP, PGM will not be completed prior to issuance of the RMP/EIS and the ROD. In order to complete PGM expeditiously, the BLM began data acquisition and initiated steps needed to proceed with PGM. When PGM is completed and the results assessed, the BLM may identify additional emission mitigation measures for oil and gas activity.

5.1 Photochemical Grid Modeling

Comprehensive regional air quality and AQRV regional modeling of emission sources within the BiFO and surrounding areas requires PGM. This type of modeling can predict ozone and regional haze impacts, for which major pollutants and precursors can be transported many hundreds of miles.

5.1.1 Data Acquisition

PGM requires three main types of concurrent data: meteorological data, ambient monitoring data, and comprehensive emission data. BLM's analysis determined that the latter two types of data need to be augmented and updated prior to performing PGM.

5.1.1.1 Additional Monitoring

Ambient monitoring data throughout the regional PGM domain (which would extend throughout most of Montana and into adjacent states) are needed in order to validate model performance, which is assessed by modeling a previous year and comparing the model's predicted concentrations to actual monitored concentrations.

In cooperation with the MDEQ, the BLM funded two new monitoring stations in north-central Montana and would provide staffing and additional funding to operate the monitors. One monitor is located near Malta in Phillips County and the other is located in Lewistown (Fergus County). Both monitors became operational in July 2012 and measure ambient concentrations of nitric oxide (NO), NO_2, nitrogen oxides (NO_x, an ozone precursor), ozone, PM_{10}, and $PM_{2.5}$. These data would be particularly helpful in assessing the photochemical grid model's ability to accurately predict concentrations of these pollutants and its ability to accurately predict regional haze and visibility impacts.

5.1.1.2 Updating Emission Inventories

Comprehensive emission inventories are also critically important in predicting cumulative air quality and AQRV impacts. Current oil and gas regional emission inventories for Montana and the Dakotas are known to lack important emission sources, particularly sources of volatile organic compounds (VOCs), which contribute to ozone formation. The existing oil and gas inventories for the Williston and Central Montana Basins represent the year 2002 and were developed as part of the Western Regional Air Partnership (WRAP) Phase II inventory. Since then, 2006 Phase III emission inventories have been developed for oil and gas basins within Colorado, Utah, Wyoming, and New Mexico, but have not yet been completed for Montana, North Dakota, and South Dakota. The Phase III inventories have more comprehensive emission inventories of VOC sources at oil and gas facilities.

The BLM Montana and Dakotas State Office is providing financial assistance to the WRAP so that Phase III oil and gas emission inventories can be completed in 2013 for the Williston Basin and the Central Montana Basin. These inventories would represent calendar year 2011 emissions. In addition to covering

the planning area, the inventories would include comprehensive recent emission estimates for oil and gas activity in North Dakota and South Dakota.

5.1.2 PGM Schedule

In order to use a full 12 months of ambient monitoring data from the new Malta and Lewistown monitors, the baseline year for PGM is expected to be 2013 or may be a 12-month period beginning in late 2012 and ending in 2013. PGM planning began in 2012 and development of the PGM modeling protocol was completed in 2013. Modeling activities will begin in 2014 and should be completed in mid-2015. Review and assessment of PGM results would be completed in fall 2015. Table 2 provides the planned data acquisition and PGM schedule.

Table 2. Data Acquisition and PGM Schedule

Task / Subtask	Completion Date
Pre-Modeling Emission Inventory and Protocol Development	
Develop Weather Research Forecasting (WRF) and PGM Protocol	4/15/2013
”WRAP” Williston and Great Plains Basin Inventory *	3/31/2014
Base Year Modeling and Evaluation *	
WRF Modeling	5/8/2014
Draft WRF Model Evaluation	6/5/2014
AQTW, MDEQ, and IWG WRF Evaluation Review	7/10/2014
Emission Modeling (Base and Future Year) & Report	9/9/2014 (base year) 12/11/2014 (future year)
AQTW, MDEQ, and IWG Emission Modeling Review	10/2/2014 (base year) 1/7/2015 (future year)
Base Year Photochemical Grid Modeling	8/28/2014
Draft Base Year PGM Evaluation	11/17/2014
AQTW, MDEQ, and IWG PGM Evaluation Review	12/1/2014
Finalize WRF and PGM Evaluations	12/15/2014
Emission Modeling Reports	1/21/2015
Future Year Modeling and Evaluation *	
Future Year Photochemical Grid Modeling	3/8/2015
Analyze Air Quality and AQRV Impacts	3/29/2015
Draft ARTSD	4/19/2015
AQTW, MDEQ, and IWG ARTSD Review	6/19/2015
Finalize ARTSD	7/1/2015

* Duration and dates are subject to revision; they are estimated to provide the general timing of future modeling activities.
AQTW = Air Quality Technical Workgroup
ARTSD = Air Resource Technical Support Document
IWG = Interagency Working Group
MDEQ = Montana Department of Environmental Quality
PGM = Photochemical grid modeling
RFP = Request for Proposal
WRF = Weather Research and Forecasting Model
WRAP = Western Regional Air Partnership

The Weather Research and Forecasting (WRF) model would be used to model meteorological conditions. The Comprehensive Air Quality Model with Extensions (CAMx) would be used for photochemical grid

modeling. In addition, multiple models would be used to develop and process emission inventories for input into the photochemical grid model. When modeling is completed, an Air Resource Technical Support Document (ARTSD) would be developed.

Initial PGM would include future year modeling for a year between 2017 and 2030. The specific year would be determined by the BLM based on the ability to predict future regional oil and gas emissions in the Williston and Central Montana Basins. After initial PGM is completed, the BLM would begin an assessment process to determine when or if additional PGM updates are needed. Factors to be considered in determining when additional PGM would be needed include: 1) the adequacy of the adaptive management strategy to maintain good air quality, and 2) the level of BLM-authorized oil and gas activity and emissions compared to modeled levels.

5.1.3 MDEQ and AQTW and IWG Review and Input to PGM

Throughout the PGM data collection and modeling process, the BLM would work collaboratively with the MDEQ and the, with the IWG, and with other agencies or Tribes that request to be involved in the PGM effort. These collaborators provided technical review and comment on the draft modeling protocol, and will provide input on the WRF and PGM performance evaluations, and on the draft ARTSD. Substantial time has been included in the schedule shown in Table 2 to allow adequate review and comment periods during the PGM process.

5.1.4 Availability of PGM Results

Future PGM results would be presented in the final ARTSD and in a summary of the results. The ARTSD and summary document would be posted on the BiFO BLM website. In addition, the modeling protocol document would be provided via the website when the photochemical modeling ARTSD is made available. Outreach information regarding the availability of the results would be made through the AQTW, IWG, and other agencies involved in the PGM process, as well as other interested parties.

5.2 Post- PGM Modeling

To the extent that future emission increases are within the levels modeled with PGM or other modeling and are proximate to modeled emission locations, far-field air quality and AQRV impact analysis may incorporate by reference PGM and other modeling results. The BLM and the AQTW would determine whether previous modeling is sufficient to satisfy MOU requirements. This air quality management approach is consistent with the MOU (USDA 2011) and allows for efficient air quality and AQRV impact analysis.

If additional modeling is performed after PGM is complete, an assessment of air quality and AQRV impacts would be made and, if necessary, additional mitigation measures may be identified.

6.0 MITIGATION

Air quality and AQRV impact mitigation would involve two types of mitigation: 1) initial mitigation measures that become effective when the ROD is signed, and 2) enhanced mitigation measures that may be identified based on future ambient monitoring data or modeling results.

6.1 Initial Mitigation Actions

The following air quality mitigation measures would be applied upon issuance of the ROD through leasing documents and project-specific NEPA documents. To the extent practical, emission reductions associated with these mitigation measures have been included in the emission inventory.

1. Design and construct roads and well pads to reduce the amount of fugitive dust generated by traffic or other activities. During construction activities, apply water, apply dust-suppression chemicals, apply gravel, or use other control methods to achieve 50 percent fugitive dust control efficiency, except when ground is wet or frozen.

2. Use water or other BLM-approved dust suppression during drilling, completion, and well workover operations for dust abatement on access roads, as needed, to achieve a 50 percent fugitive dust control efficiency, except when ground is wet or frozen.

3. Use water or other BLM-approved dust suppression in high traffic areas during production operations for dust abatement, as needed, to achieve 50 percent fugitive dust control efficiency, except when ground is wet or frozen. Operators would work with local government agencies to improve dust suppression on roads.

4. For oil and gas Project Plans of Development (PODs), oil and gas operators would establish speed limits for project-required unpaved roads in and adjacent to the project area; oil and gas operator employees would comply with these speed limits.

5. For oil and gas Project PODs, oil and gas operators would be encouraged to reduce surface disturbance, vehicle traffic, and fugitive dust emissions by consolidating facilities (e.g., using multi-well pads, storage vessels) when feasible.

6. Diesel drill rig and completion engines greater than 200 hp would meet Tier 4 emission standards for non-road diesel engines. Alternatively, oil and gas operators may use drill rig and completion engines that exceed Tier 4 emission standards if modeling or monitoring at the project level or programmatic level demonstrates compliance with the NAAQS and protection of AQRVs.

7. For hydraulically fractured gas wells that do not qualify as “low pressure wells”, “wildcat,” or “delineation” wells, oil and gas operators would comply with reduced emissions completion (REC) requirements specified in Subpart OOOO, Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution (40 CFR §60.5375) within six months of ROD issuance.

8. Non-road diesel engines would be required to use ultra-low sulfur diesel fuel (15 ppmw) as required by 40 CFR §80.610(e)(3)(iii).

9. Natural-gas-fired or electrical compressors or generators would be required at compressor stations in the Powder River Basin.

10. CBNG operators proposing a POD within 5 miles of the Northern Cheyenne IR or the Crow IR would be required to provide the information necessary for BLM to conduct an analysis of air quality impacts. The BLM would use the information to determine the impact on air quality in the Northern Cheyenne IR and the Crow IR, disclose the analysis results and subsequent mitigation in the appropriate NEPA document, and consult with the Tribes when the analysis shows that air quality or AQRV impacts are anticipated from a specific development proposal.

11. CBNG operators within 5 miles of the Northern Cheyenne IR and the Crow IR may be required to restrict the timing or location of CBNG development if monitoring or modeling by the MDEQ finds their CBNG development is causing or threatening to cause noncompliance with applicable local, state, tribal, and federal air quality laws, regulations, and standards, as well as state implementation plans developed by the MDEQ.

6.2 Monitoring-Based Mitigation

Enhanced mitigation would be evaluated and implemented if ambient monitoring data at monitor(s) located in oil and gas activity areas within the planning area indicate that pollutant concentrations are approaching or threatening the NAQQS or MAAQS. Prior to completion of initial PGM, monitoring-based thresholds would be based on evaluation of exceedances of the NAAQS, as described in Section 6.2.1. After completion of initial PGM, monitoring-based thresholds would be based on BLM-calculated design values, as described in Section 6.2.3.

6.2.1 Monitoring-Based Thresholds Before PGM Completion

Based on requests from EPA during the MOU review process, the BLM would review NAAQS exceedances and determine if enhanced mitigation would be warranted during the interim period between ROD issuance and PGM completion. The BLM would require enhanced mitigation for BLM-authorized oil and gas activities if there is a monitored exceedance of the NAAQS at the St. Luke's monitor, unless the BLM determines that enhanced mitigation is not warranted after completing specified steps as outlined below and in Section 6.2.2.

1. The BLM would notify the EPA and the MDEQ within 30 days after St. Luke's monitoring data showing an exceedance has been posted on EPA's Air Quality System (AQS). The notification would state that the BLM is reviewing the exceedance according to this procedure.

2. After consulting with the MDEQ, the BLM would determine whether an exceptional event[1] may have caused the exceedance.

- If the MDEQ informs the BLM that an exceptional event likely caused the exceedance, the BLM would provide a letter to that effect to the EPA. No further action would be necessary.

- If an exceptional event did not cause the exceedance or if MDEQ would not submit an exceptional event waiver to EPA, the BLM would perform Step 3.

[1] The BLM would not formally decide that an exceptional event occurred as this decision would be made by MDEQ. Until a final determination of an exceptional event is presented to EPA by MDEQ, and the EPA has concurred, the BLM would assume that an exceptional event occurred based on a stated intention by the MDEQ to submit an exceptional event waiver.

3. The BLM would conduct a screening level analysis[2] to determine the likely source and location of the exceedance and whether mitigation is needed.

- If the screening analysis indicates that the exceedance was not caused by BLM-authorized oil and gas source(s) within the planning area or indicates that the BLM-authorized oil and gas source(s) within the planning did not contribute to the exceedance, the BLM would convey this finding in writing to the MDEQ and EPA for review and comment. No further action would be necessary.

- If the screening analysis indicates that the exceedance was caused or contributed to by BLM-authorized oil and gas sources inside the planning area, the BLM would perform Step 4.

4. The BLM would consult with the MDEQ and EPA to determine whether there is a need for: 1) a refined attribution analysis (e.g., attribution test using CAMx ozone source attribution technology or anthropogenic precursor's culpability assessment) or 2) mitigation on BLM-authorized oil and gas emission sources within the planning area. If the refined analysis:

- Is warranted, BLM would perform the refined analysis within 6 months of completing Step 3 in consultation with MDEQ and EPA.
- Indicates that the exceedance was not caused or contributed to by BLM-authorized oil and gas sources inside the planning area, the BLM would provide that recommendation to the MDEQ and EPA for review and comment. No further action would be necessary.
- Indicates that the exceedance was caused by BLM-authorized oil and gas sources within the planning area, the BLM would evaluate enhanced mitigation measures, as described in Section 6.2.2.

6.2.2 Determination of Enhanced Mitigation Measures Before PGM Completion

If a NAAQS exceedance occurs prior to completion of PGM and the refined analysis in Step 4 above determined that the exceedance was caused by BLM-authorized oil and gas sources within the planning area, enhanced mitigation measures would be evaluated and selected by the BLM, in cooperation with the MDEQ, IWG, and AQTW, when appropriate. Preference would be given to mitigation methods that the MDEQ intends to impose as new regulations or air quality permitting provisions. Selected mitigation measures would be implemented within one year after the BLM decision to apply additional mitigation.

Potential enhanced mitigation measures include the measures listed below based on current information concerning potential emission reduction technologies. Additional measures or equivalent methods or emission restrictions may be identified in the future.

- Drilling and/or blowdown activity restrictions based on meteorological conditions
- Construction activity restrictions based on meteorological conditions
- Centralization of gathering facilities
- Electric drill rigs

[2] Publically available web based applications suggested by EPA to identify sources of air pollution and potential impacts include the following sites: trajectory analysis tools like HySplit (http://ready.arl.noaa.gov/), air quality data at the EPA's AQS site (http://airnow.gov), state regulatory agency sites and airnowtech.org, an interactive snow site (http://www.nohrsc.nws.gov/interactive/html/map.html), daily ozone modeling (http://airquality.weather.gov/), daily ozone and $PM_{2.5}$ modeling site (http://www.getbluesky.org/), and daily satellite imagery site (http://ge.ssec.wisc.edu/modis-today/).

If data necessary to conduct a screening level analysis is not available, the BLM would consult with the MDEQ and the EPA regarding source attribution and the need for mitigation.

- Field electrification for compressors and/or pumpjack engines
- Plunger lift systems with smart automation
- Oil tank load out vapor recovery
- VOC controls on tanks with a potential to emit less than 5 tons per year
- Selective catalytic reduction on non-drill rig stationary engines
- Reduced emission completions beyond those required by EPA regulations, if determined to be technically and economically feasible
- Well pad density limitations
- Reducing the total number of drill rigs operating simultaneously
- Seasonally reducing or ceasing drilling during specified periods
- Using only lower-emitting drill and completion rig engines during specified time periods
- Using natural gas-fired drill and completion rig engines
- Replacing internal combustion engines with gas turbines for natural gas compression
- Employing a monthly forward looking infrared (FLIR) leak detection program to reduce VOCs
- Tank load out vapor recovery
- Enhanced VOC emission controls with 95% control efficiency on additional production equipment having a potential to emit of greater than 5 tons/year
- Enhanced direct inspection and maintenance program

6.2.3 Monitoring-Based Thresholds After PGM Completion

By May 31 of each year following completion of PGM, the BLM would calculate design values for each pollutant monitored at a federal reference monitor within the planning area and identified as a representative monitor in Section 6.2.1. The design value would be calculated based on calendar year monitoring data available at the time. For pollutants requiring three years of monitoring data for design value calculation, data from the appropriate prior period would be used. For example, based on PGM completion in mid-2015, the first annual design value calculation would be performed by May 31, 2016 and would include monitoring data for calendar years 2013, 2014, and 2015 for three-year design values and on monitoring data for calendar year 2015 for single-year design values. BLM design value calculations would exclude data associated with MDEQ-identified exceptional events and would be performed in accordance with EPA regulations and guidance.

Calculation methods would, to the extent possible, follow EPA procedures provided in the following appendices within Title 40 of the Code of Federal Regulations (CFR), Part 50 in effect as of December 1, 2012. These procedures may be updated by future EPA regulations and this section of the ARMP would be revised to reflect changing regulations.

- NO_2 (Appendix S)
- O_3 (appendix P)
- PM_{10} (Appendix K)
- $PM_{2.5}$ (Appendix N)
- SO_2 (Appendix T)

BLM design value calculations would exclude data associated with exceptional events identified by MDEQ.

6.2.4 Determination of Enhanced Mitigation Measures After PGM Completion

If the air quality assessment described in Section 6.2.3 indicates that a BLM-calculated design value is greater than 85 percent of a NAAQS, enhanced mitigation measures addressing that pollutant or pollutant precursor would be evaluated and selected by the BLM, in cooperation with the MDEQ, IWG, and EPA, when appropriate. Potential enhanced mitigation measures include the measures listed above in Section 6.1, as well as additional measures that may be identified in the future.

6.3 Modeling-Based Mitigation

6.3.1 Modeling-Based Thresholds

Future modeling would assess air quality and AQRV impacts from future BLM-authorized oil and gas activity and would include regional PGM and project-specific modeling. Modeling-based thresholds for evaluating enhanced mitigation would include potential future impacts on NAAQS or MAAQS or impacts above specific levels of concern for AQRVs in Class I or sensitive Class II areas (as identified on a case-by-case basis by MDEQ or a federal land management or tribal agency).

6.3.2 Modeling-Based Enhanced Mitigation Measures

If BLM-authorized oil and gas activity is predicted to cause or contribute to impacts above the thresholds described above, the BLM would facilitate an interagency process to ensure that a comprehensive strategy is developed to manage air quality impacts from future oil and gas development within the region. The local, state, federal, and Tribal agencies involved in the regulation of air quality and the authorization of oil and gas development would evaluate modeling results from future modeling studies and identify potential air quality concerns and necessary reductions in air emissions. If the modeling predicts significant impacts, these agencies would use their respective authorities to implement enhanced emission control strategies, operating limitations, equipment standards, and/or pacing of development as necessary to ensure continued compliance with applicable ambient air quality standards, including the enhanced mitigation measures listed in Section 6.2.2, other future mitigation measures identified through BLM's adaptive management strategy, or reasonable mitigation measures suggested by the MDEQ, IWG, or AQTW. If necessary, implementation of mitigation measures would occur within one year of obtaining final modeling results for mitigation measures that conform to currently implemented land use planning decisions and constraints.

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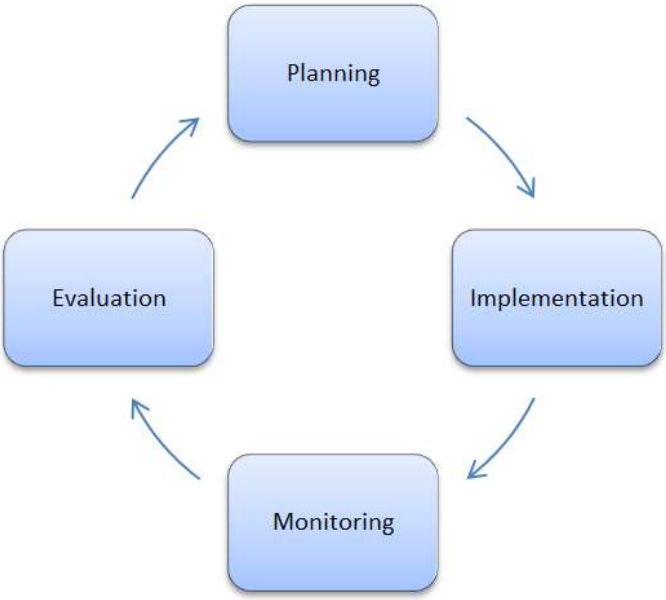
Appendix Q:
Implementation and Monitoring

Q. 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
AIR RESOURCES AND CLIMATE							
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 (µg/m$^{3)}$ and parts per million (ppm) concentrations (as µg/m^3)	Modeling will be performed when adequate data are available to validate model performance (see the *Air Resources and Climate Appendix*)	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	µg/m^3 and ppm concentrations (as µg/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 (°F), degrees Celsius (°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
SOILS							
Soils	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	
Soils (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
WATER							
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 *Final Supplement to the Montana Statewide Oil and Gas Environmental Impact*	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, µS/cm, and °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
		Statement and Proposed Amendment of the Powder River and Billings Resource Management Plans [FSEIS]). 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).					Previous approvals may be modified.
Water (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.
Water (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_3, CI, SO_4) 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).
Water (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)
Water (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_3, CI, SO_4), 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).
Water (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 *Grazing Management Processes and Strategies for Riparian-wetland Areas*	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), *Bureau of Land Management Prairie Stream Surveys: Study Plan* (BLM 2010k), and *Stream Channel Reference Sites: An Illustrated Guide to Field Technique* (Harrelson, Rawlins, and Potyondy 1994).			suspended solids, or turbidity without a variance.	enforcement action would be taken.
Water (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, µS/cm, °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.
Water, Indian trust	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

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
		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.
Water, Indian trust	Groundwater	Adjacent to the Northern Cheyenne and Crow Reservations	Monitoring wells would be established near the mouth of streams containing alluvium	Measurements of depth in feet	Water level measurements would be taken monthly prior to production activity and during development and water quality measurements would be taken 4 times per year	A 20% rise in the water table above its seasonally adjusted elevation, or a 2-unit increase in the SAR value	Discontinue CBNG evaporative ponds in that watershed or require ponds to be lined

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
VEGETATION							
Trees and shrubs	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
Herbaceous	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
Riparian and Wetland	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 *Riparian Area Management, A User Guide to Assessing Proper Functioning Condition and the Supporting Science for*	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
			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])				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.
Noxious and Invasive Species	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
FISH AND WILDLIFE							
Fisheries and aquatic wildlife in prairie streams	Habitat conditions and index of biological integrity	All locations within Miles City Field Office (MCFO)	*Bureau of Land Management Prairie Stream Surveys: Study Plan* (BLM	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 *Development and evaluation of a fish assemblage index of biotic integrity for Northwestern Great Plains streams* (Bramblett, Johnson, Zale, and Heggem 2005) and *Fish and Habitat Sampling Protocol for Prairie Streams* (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.
Fisheries and aquatic wildlife in sport-fish reservoirs	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.
Upland game birds and migratory bird species	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
Threatened and Endangered species and other special status wildlife species habitat	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
Upland game bird: sage and sharp-tailed grouse	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 *Management Plan and Conservation Strategies for Sage Grouse in Montana-Final* (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
Wildland Fire Management and Ecology							
Wildland Fire Management and Ecology	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
CULTURAL RESOURCES							
Cultural Resources	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
Cultural Resources (cont'd)	Site degradation caused by human activity	Significant cultural sites and area-wide	Inspection of area disturbed	Site, surrounding area	Annually	Any noticeable trend indicating increased disturbance (natural or human-caused), such as excavations	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
Cultural Resources (cont'd)	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
PALEONTOLOGICAL RESOURCES							
Paleontological Resources	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)
	Random sample of 5 additional sites	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
Paleontological Resources (cont'd)	Environmental degradation, such as erosion or trampling	Significant paleontological localities	Inspection of displaced or altered area	Number of fossils	Annually	Accelerated loss or damage to significant fossils	Closure of areas surrounding site to prevent further disturbance to significant fossil resources (may require an RMP amendment)
VISUAL RESOURCE MANAGEMENT (VRM)							
VRM I	(see *Wilderness* in this table)						
VRM II	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)
VRM III/IV	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
LANDS WITH WILDERNESS CHARACTERISTICS							
CAVE AND KARSTS							

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
FORESTRY AND WOODLAND PRODUCTS							
Forestry and Woodland Products (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 *Forestry and Woodland Products Appendix*)
MINERALS							
Coal	Exploration license	Area-wide	Site inspection	Exploration license	The regulations at 43 Code of Federal Regulations (CFR) 3480.06(d)(4) require inspections of exploration and production as frequently as necessary,	Non-compliance with the terms and conditions of the exploration license, or operating regulations; poor reclamation; or	Require compliance with terms and conditions of the license, require appropriate reclamation, and eliminate environmental degradation

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
Coal (cont.)					but at least quarterly. Exploration license areas must be inspected for compliance with site-specific stipulations, terms and conditions of the license, and reclamation success prior to bond release. Because exploration licenses expire after 2 years license areas are typically inspected after expiration of the license but prior to bond release (or sooner if requested by the proponent).	environmental degradation	
Oil, Gas, and Geothermal	Geophysical notice of intent (NOI)	Area-wide	Line or area inspection	Operations conducted in compliance with	Minimum of once during operations	Violation of regulations, change from	Issue certified letter with corrective

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
				NOI		approved NOI	action and timeframe; bond release cannot occur until violations are corrected
Oil, Gas, and Geothermal (cont'd)	Application for permit to drill operations (surface and technical inspections)	Area-wide	Site inspection	Operations conducted in compliance with applications for permit to drill	Surface Inspections: construction, drilling, and production – Minimum of once and as necessary Interim and final reclamation – minimum of once and until reclamation is complete Technical inspection: drilling and production –	Violations of regulations, change from approved applications for permit to drill	Issue a written order or an incident of non-compliance with timeframe to correct violations or shut in operations

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
					minimum of once and as necessary		
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
	Spill	Area-wide	Site inspection	Spill area cleaned up and reclaimed	Minimum of once after event and as necessary	Violation of regulations or change from approved permit	Issue a written order or an incident of non-compliance

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
							with timeframe for correction
Locatable Minerals	NOIs	Area-wide	Site inspection	NOI	At least four times each year, the responsible field office would inspect an operation if the operator uses cyanide or other leachates or where there is significant potential for acidic or deleterious drainage(43 CFR 3809.600(b). active notices and plans that do not involve leachates should be inspected at least two times per year. These inspection frequencies are minimums; field offices are encouraged to conduct inspections on a more frequent basis where it	Non-compliance with the terms and conditions of the NOI or Plan of Operations, surface management regulations, poor reclamation, or environmental degradation	Require compliance with the terms and conditions of the NOI or Plan of Operations, surface management regulations, and require that reclamation was appropriately completed and environmental degradation did not occur.

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
					is deemed necessary. MBiFO currently has no plans or notices that use leachates.		
Mineral Materials	Permits and contracts	Area-wide	Site visit	Permits and contracts	Inspections are required at least once per year for sales less than 5,000 cubic yards and twice per year for sales larger than 5,000 cubic yards.	Non-compliance with the terms and conditions of the permit or contract, regulations, poor reclamation, or environmental degradation	Require compliance with the terms and conditions of the permit or contract, regulations, and require that reclamation was appropriately completed and environmental degradation did not occur.

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
RECREATION							
Recreation	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,	Violation of permit stipulations, irreparable resource damage, and compromised visitor safety	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
					and administrative review annually	and recreation experience	
RENEWABLE ENERGY							
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 20th 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
TRAVEL MANAGEMENT AND OHV							
Travel Management and OHV (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)
REALTY, CADASTRAL SURVEY, AND LANDS							
Realty, Cadastral Survey, and Lands	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 20th 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		
Realty, Cadastral Survey, and Lands (cont'd)	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
Realty, Cadastral Survey, and Lands (cont'd)	Commercial film permits						

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
SPECIAL DESIGNATION AREAS							
ACECs	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
	Paleontological ACECs	Bridger Fossil Area	Site inspection	Site, 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

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
ACECs (cont'd)	Geologic and Scenic ACECs	Area-wide	Site inspection	Site, 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
	Research Natural Areas & SS plants	Area-wide	Site inspection	Site, 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
National Historic Trails	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]
Pryor Mountain Wild Horse Range	PMWHR	PMWHR / Territory	• Wild horse inventory • Flight, vehicle, and foot review • Range monitoring	• Number of animals • Rangeland Health	Annually	Wild horse population and use patterns	• Fertility control • Removal • Water and habitat projects for distribution

Element	Item	Location	Technique	Unit of Measure	Frequency and Duration	Remedial Action Trigger	Management Options
Wilderness Study Areas	WSAs	WSAs	Flight, vehicle, and foot review	Surface disturbance	Once per month if the area is accessible unless an alternate schedule is approved by the State Director	Unauthorized actions	Require reclamation or possible civil or criminal action and public notification
Wild and Scenic Rivers	WSR	Area-wide	Vehicle and foot review	Site, surrounding area	Annually		
SPECIAL DESIGNATION AREAS							

Appendix R:
Bureau of Land Management Billings Field Office and Pompeys Pillar National Monument Sign Plan

BUREAU of LAND MANAGEMENT

BILLINGS FIELD OFFICE and

POMPEYS PILLAR NATIONAL MONUMENT

SIGN PLAN

February, 2013

Submitted By: Tim Finger — Feb 4, 2013

Billings Field Office Sign Coordinator — Date

Reviewed By: _____ — 2/6/13

Pompeys Pillar National Monument Manager — Date

Reviewed By: Craig R Walker — 2-5-2013

Billings Field Office Assistant Manager — Date

Approved By: _____ — 2-7-13

Billings Field Office Manager — 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.

Billings Field Office/Pompeys Pillar NM Sign Plan Schedule				
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 form 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):

Tim Finger – Outdoor Recreation Planner
Nancy Bjelland – Wild Horse and Burro Program Specialist, Safety
Jared Bybee- State Lead Wild Horse and Burro and Rangeland Management Specialist
Sheila Cain – GIS Specialist
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 Lan (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 S:
Oil and Gas Lease Stipulations

Serial No._____

CONTROLLED SURFACE USE STIPULATION

Big Game Winter Range

Prior to surface occupancy and use a plan shall be prepared by the proponent as a component of the APD, Sundry Notice, etc. and approved by the Authorized Officer in coordination with the state wildlife management agency. The operator shall not initiate surface-disturbing activities unless the authorized officer has approved the plan. The plan must demonstrate to the authorized officer's satisfaction the function and suitability of the habitat will not be impaired.

Surface occupancy and use activities will be restricted to one oil and gas surface disturbance per 640 acres of land. Cumulative disturbance from all activities cannot exceed more than 5 percent of the winter range habitat in 640 acres. To maintain functional habitat and the associated populations, disturbed areas would have to be fully reclaimed to pre-disturbance conditions or to a desired plant community before additional disturbance could be approved. The plan will address how short-term and long-term direct and indirect effects to winter range will be mitigated based on current science and research (Appendix H). The plan will also include a monitoring protocol.

On the lands described below:

Objective: To protect winter range utilized during mild to severe winters by big game identified by BLM priority species for management; including white-tailed deer, mule deer, elk, moose, pronghorn antelope, and bighorn sheep..

Waiver: The authorized officer, after coordination with the state wildlife management agency, may waive this stipulation if the entire leasehold is no longer big game winter range habitat.

Exception: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not impair the function or suitability of the winter range habitat.

Modification: The authorized officer, after coordination with the state wildlife management agency, may modify the boundaries of the stipulated area if portions of the leasehold are no longer big game winter range habitat.

(XXXX RMP ROD, Page XX)

Serial No._____

CONTROLLED SURFACE USE STIPULATION

Cave and Karsts

Surface occupancy and use is subject to the following operating constraints:

> Cave and karst areas will be inventoried prior to oil and gas exploration or development by the lessee. An approved mitigation plan will be required to avoid impacts to cave resources.

On the lands described below:

Purpose: To protect cave and karst resources.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

Serial No._____

CONTROLLED SURFACE USE STIPULATION

Historic Trails

Surface occupancy and use is subject to the following operating constraints:

> Oil and Gas leasing, exploration, and development would be allowed within ¼ mile of the following historic trails Bridger Cut-Off Trail (all three routes) and the Meeteetse Trail with the following stipulation:
>
> Avoid, minimize, or mitigate adverse effects to historic landscapes surrounding these historic trails as a result of BLM land-use authorizations and to have no net decrease in the value of high-potential segments or sites regardless of NRHP eligibility.

On the lands described below:

Purpose: Preserve and protect historic trails and the natural setting in which they occur.

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

Serial No._____

LEASE NOTICE

Lake Mason NWR

Surface occupancy and use is subject to the following operating constraints:

Cultural sites are located in the _____, Section___ T. ___., R. ___. This parcel is located adjacent to the Lake Mason National Wildlife Refuge.

In accordance with 43 CFR 3101.1-2, additional mitigation may be required in regard to exploration and development.

Purpose: To identify and protect cultural resources and to avoid disturbance or inadvertent impacts to these resources.

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CONTROLLED SURFACE USE STIPULATION

Special Recreation Management Areas

Surface occupancy and use is subject to the following operating constraints:

> Operations within Special Recreation Management Areas (SRMAs) must be conducted in a manner that minimized encounters and conflicts with recreation users. Proposed activities may not alter or depreciate important recreational values located outside of developed areas, but within the SRMA boundary.

On the lands described below:

Purpose: To prevent user conflicts and incompatible uses in areas with high recreational values and significant amounts of recreational activity in the following SMRAs:

- Asparagus Point
- Pryor Mountain Travel Management Area (TMA)
- Horsethief TMA
- South Hills TMA

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

Serial No._____

CONTROLLED SURFACE USE STIPULATION

Special Status Plants

Surface occupancy or use is subject to the following operating constraints.

> A field inspection will be conducted for special status plant species by the lessee prior to any surface disturbance. A list of special status plant species and any known populations or suitable habitat will be provided after the issuance of the lease. Plant species on the list are subject to change over time as new information becomes available. Plant inventories must be conducted at the time of the year when the target species are actively growing and flowering. An acceptable report must be provided to the BLM documenting the presence or absence of special status plants in the area proposed for surface disturbing activities. The findings of this report may result in restrictions to the operator's plans or may preclude use and occupancy.

On the lands described below:

Purpose: To protect and conserve rare plants associated plant communities and the habitats that support them.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

Serial No._____

CONTROLLED SURFACE USE STIPULATION

Elk Calving Grounds

Surface occupancy or use is subject to the following operating constraints:

> Prior to surface occupancy and use a plan shall be prepared by the proponent as a component of the APD, Sundry Notice, etc. and approved by the authorized officer in coordination with the state wildlife management agency. The operator shall not initiate surface disturbing activities unless the authorized officer has approved the plan. The plan must demonstrate to the authorized officer's satisfaction the function and suitability of the habitat will not be impaired.

On the lands described below:

Objective: To protect traditional elk calving ground habitat crucial for successful recruitment of elk calves.

Waiver: The authorized officer, after coordination with the state wildlife management agency, may waive this stipulation if the entire leasehold is no longer elk calving habitat.

Exceptions: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not impair the function or suitability of the elk calving habitat.

Modification: The authorized officer, after coordination with the state wildlife management agency, may modify the boundaries of the stipulated area if portions of the leasehold are no longer within elk calving habitat.

(XXXX RMP ROD, Page XX)

Serial No._____

LEASE NOTICE

Threatened and Endangered Species, Special Status Species and Their Habitat

The lease area may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or other special status species. 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. 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. 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.

(XXXX RMP ROD, Page XX)

Serial No._____

CONTROLLED SURFACE USE STIPULATION

Invasive Species and Noxious Weeds

Surface occupancy and use is subject to the following operating constraints.

The following noxious weed(s) has been identified within the boundaries of the lease parcel:

On the lands described below:

If operator(s) chooses to disrupt/build roads/build facilities on the parcel, then the operator(s) will be responsible for providing an Integrated Weed Management (IPM) plan and the operator will be also responsible for the cost of treatment and monitoring throughout the duration of the project.

1. Site Inventories:
   a. Must be conducted to determine the presence of noxious weeds for all disturbance or use areas.
   b. Are required in known habitat for all areas proposed for surface disturbance before initiating project activities, at a time when the plant can be detected, and during appropriate flowering periods.
   c. Should include documentation on individual plant locations.
   d. Individual(s) qualified in the identification of invasive species must conduct surveys.
2. Lease activities will require monitoring throughout the duration of the project to prevent the spread and introduction and ensure desired results of past treatment(s).
3. Project activities must be designed to minimize soil disturbance to the extent practical, consistent with project objectives.
   a. Avoid creating soil conditions that promote weed germination and establishment.
   b. Avoid or minimize all types of travel through weed-infested areas or restrict travel to periods when the spread of seeds or propagules is least likely.
   c. Prevent the introduction and spread of weeds caused by moving weed-infested sand, gravel, borrow, and fill material.
   d. Inspect material sources before moving infested material to site.

e. Any and all equipment undercarriage must be power washed prior to entry to the aforementioned parcel and prior to leaving public highways/roads. When temperatures fall below freezing (32˚F), high pressure air may be substituted for power washing.

f. All disturbed areas will be revegetated to native species composed of indigenous species appropriate to the area.

Purpose: To prevent the spread and introduction of noxious weeds and ensure desired results of past treatment(s).

Waiver: The boundaries of the stipulated area to be inventoried for noxious weeds may be modified if BLM determines that a large portion of the lease identified for surface disturbing activities does not contain noxious weed species. Such as during pre-drill/onsite inspection for noxious weed species determines that the area proposed for access and/or the construction of a drill pad has not noxious weeds present. If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.

Exception: The stipulation may be waived by the authorized officer if the noxious weed site inventory determines that the lease is found not to have noxious weed species present. If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.

Modification: The exception to this stipulation may be granted if BLM determines and if current weed site inventory indicates that the portion of the lease identified for surface disturbing activities does not contain noxious weed(s). If inventory shows no noxious weeds present, the operator must continue to monitor for noxious weeds throughout the duration of the project.

(XXXX RMP ROD, Page XX)

Serial No._____

CONTROLLED SURFACE USE STIPULATION

Water, Riparian, Wetlands

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 would maintain and/or improve the functionality of riparian/wetland areas.

The plan will address:

1. potential impacts to riparian and wetland resources;
2. mitigation to reduce impacts to acceptable levels (including timing restrictions);
3. post project restoration; and
4. monitoring (the operator must conduct monitoring capable detecting early signs of changing riparian and/or wetland conditions).

On the lands described below:

Purpose: To protect the unique biological and hydrological features associated with wetland and riparian areas. Disturbances adjacent to wetland and/or riparian areas (including road use) can adversely impact these sensitive areas. This stipulation would protect these features from indirect effects produced within the adjacent ground. This would also encompass the floodplain along most first to third order streams.

Waiver: This stipulation can be waived by the AO if it is determined that the entire lease area does not contain wetlands or riparian areas.

Exception: The Authorized Officer (AO) may grant an exception to this stipulation if the operator can demonstrate that the proposed action would not adversely impact wetland or riparian function or associated water quality.

Modification: The area affected by this stipulation can be modified by the AO if it is determined that portions of the lease area do not contain wetlands or riparian areas.

(XXXX RMP ROD, Page XX)

Serial No._____

CONTROLLED SURFACE USE

Visual Resource Management Class II, III, and IV Areas

Surface occupancy or use is subject to the following operating constraints.

> All surface disturbing activities and construction of semi-permanent and permanent facilities in VRM Class II, III, and IV areas may require special design including location, painting, and camouflage to blend with the natural surroundings and meet the visual quality objectives for each respective class.

On the lands described below:

For the purpose of: To control the visual impacts of activities and facilities within acceptable levels.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

Serial No._____

CONTROLLED SURFACE USE STIPULATION

Travel Management

Surface occupancy or use is subject to the following operating constraints.

Oil and gas activities will comply with all motorized vehicle use and travel plan restrictions, including seasonal restrictions and areas closed to motorized travel.

On the lands described below:

For the purpose of:

a. To prevent degradation of various resource values protected by travel plan limitations and motorized vehicle use restrictions.

Serial No._____

CONTROLLED SURFACE USE STIPULATION

Bighorn Sheep Range

Surface occupancy and use is subject to the following operating constraints.

> Prior to surface occupancy and use a plan shall be prepared by the proponent as a component of the APD, Sundry Notice, etc., and approved by the authorized officer in coordination with the state wildlife management agency. The operator shall not initiate surface disturbing activities unless the authorized officer has approved the plan. The plan must demonstrate to the authorized officer's satisfaction that the function and suitability of the habitat will not be impaired.

On the lands described below:

Objective: To protect bighorn sheep and their habitats, a BLM priority species for management

Waiver: The authorized officer, after coordination with the state wildlife management agency, may waive this stipulation if the entire leasehold is no longer bighorn sheep habitat

Exception: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not impair the function or suitability of the bighorn sheep habitat.

Modification: The authorized officer, after coordination with the state wildlife management agency, may modify the boundaries of the stipulated area if portions of the leasehold are no longer within bighorn sheep habitat.

(XXXX RMP ROD, Page XX)

Serial No._____

CONTROLLED SURFACE USE STIPULATION

Soils – Sensitive Soils

Surface occupancy and use will be controlled on sensitive soils. Sensitive soils are defined as those with severe wind and water erosion ratings. Prior to surface disturbance on sensitive soils, a reclamation plan must be approved by the administrative officer. The plan must demonstrate the following:

1. No other practicable alternatives exist for relocating the activity;
2. The activity will be located to reduce impacts to soil and water resources;
3. Site productivity will be maintained or restored;
4. Surface runoff and sedimentation will be adequately controlled;
5. On- and off-site areas will be protected from accelerated erosion by wind or water; and
6. Surface-disturbing activities will be prohibited during extended wet periods.

On the lands described below:

Purpose: To maintain the chemical, physical, and biotic properties of soils, this includes maintaining soil productivity, soil stability, and soil biotic properties. This will prevent excessive erosion, potential mass wasting, and improve the likelihood of successful reclamation.

Waiver: The administrative officer may waive this stipulation if it is determined that the entire leasehold does not contain sensitive soils.

Exception: The administrative officer may grant an exception to this stipulation if the operator can demonstrate that the proposed action will not contribute to degradation of the soil resource or downslope resource conditions.

Modification: The administrative officer may modify the area affected by this stipulation if it is determined that portions of the leasehold do not contain sensitive soils.

(XXXX RMP ROD, Page XX)

Serial No._____

LEASE NOTICE

Cultural Inventory Requirement

An inventory of those portions of the leased lands subject to proposed disturbance may be required prior to any surface disturbance to determine whether cultural resources are present and to identify needed mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or operator shall:

1. Contact the Surface Management Agency (SMA) to determine whether a cultural resource inventory is required. If an inventory is required, then:

2. The SMA will complete the required inventory; or the lessee or operator, at their option may engage the services of a cultural resource consultant acceptable to the SMA to conduct a cultural resource inventory of the area of proposed surface disturbance. The operator may elect to inventory an area larger than the standard ten-acre minimum to cover possible site relocation which may result from environmental or other considerations. An acceptable inventory report is to be submitted to the SMA for review and approval no later than that time when an otherwise complete application for approval of drilling or subsequent surface-disturbing operation is submitted.

3. Implement mitigation measures required by the SMA. Mitigation may include the relocation of proposed lease-related activities or other protective measures such as data recovery and extensive recordation. Where impacts to cultural resources cannot be mitigated to the satisfaction of the SMA, surface occupancy on that area must be prohibited. The lessee or operator shall immediately bring to the attention of the SMA any cultural resources discovered as a result of approved operations under this lease, and shall not disturb such discoveries until directed to proceed by the SMA.

(XXXX RMP ROD, Page XX)

Serial No._____

LEASE NOTICE

Land Use Authorizations

Land Use Authorizations incorporate specific surface land uses allowed on Bureau of Land Management (BLM) administered lands by authorized officers and those surface uses acquired by BLM on lands administered by other entities. These BLM authorizations include rights-of-way, leases, permits, conservation easements, and Recreation and Public Purposes leases and patents.

The rights acquired, reserved, or withdrawn by BLM for specific purposes include non-oil and gas leases, conservation easements, archaeological easement, road easements, fence easements, and administrative site withdrawals. The existence of such land use authorizations shall not preclude the leasing of the leasing of the oil and gas. The locations of land use authorizations are noted on the oil and gas plats and in LR2000. The plats are a visual source noting location; LR2000 provides location by legal description through the Geographic Cross Reference program.

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.

The right of the Secretary to issue future land use authorizations on an oil and gas lease is reserved by provision of section 29 of the Mineral Leasing Act, 30 U.S.C.

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Serial No._____

LEASE NOTICE

Paleontological Resource Inventory Requirement

This lease has been identified as being located within geologic units rated as being moderate to very high potential for containing significant paleontological resources. The locations meet the criteria for class 3, 4 and/or 5 as set forth in the Potential Fossil Yield Classification System. The BLM is responsible for ensuring that the leased lands are examined to determine whether paleontological resources are present and to specify mitigation measures.

Prior to undertaking any surface-disturbing activities on the lands covered by this lease, the lessee or project proponent must contact the BLM to determine whether a paleontological resource inventory is required. If an inventory is required, the lessee or project proponent must complete the inventory subject to the following:

- the project proponent must engage the services of a qualified paleontologist, acceptable to the BLM, to conduct the inventory.
- the project proponent will, at a minimum, inventory a 10-acre area or larger to incorporate possible project relocation which may result from environmental or other resource considerations.
- paleontological inventory may identify resources that may require mitigation to the satisfaction of the BLM.

(XXXX RMP ROD, Page XX)

Serial No._____

LEASE NOTICE

Sacred Sites and Historic Properties

Lease is located adjacent to known sacred sites and Historic Properties, and contains high potential for National Register eligible historic and cultural properties. Lessees are notified that archaeological resource inventory and mitigation costs may be high within this area. A cultural plan of operations will be developed in consultation with the Billings Field Office and must be approved before field development takes place. All surface use plans will be presented to the Billings Field Office archaeologist for review.

On the lands described below:

(XXXX RMP ROD, Page XX)

Serial No._____

LEASE NOTICE

Migratory Birds

Migratory Birds - Migratory Bird Treaty Act.

The Operator is responsible for compliance with provisions of the Act by implementing one of the following measures; a) avoidance by timing; ground disturbing activities will not occur from April 15 to July 15, b) habitat manipulation; render proposed project footprints unsuitable for nesting prior to the arrival of migratory birds (blading or pre-clearing of vegetation must occur prior to April 15 within the year and area scheduled for activities between April 15 and July 15 of that year to deter nesting, or c) survey-buffer-monitor; surveys will be conducted by a BLM approved biologist within the area of the proposed action and a 300 foot buffer from the proposed project footprint between April 15 to July 15 if activities are proposed within this timeframe. If nesting birds are found, activities would not be allowed within 0.1 miles of nests until after the birds have fledged. If active nests are not found, construction activities must occur within 7 days of the survey. If this does not occur, new surveys must be conducted. Survey reports will be submitted to the appropriate BLM Office.

On the lands described below:

(XXXX RMP ROD, Page XX)

Serial No._____

LEASE NOTICE

Black-footed Ferrets

Surface occupancy or use is subject to the following special operating constraints: prior to surface disturbance, prairie dog colonies and complexes 80 acres or more in size will be examined to determine the presence or absence of black-footed ferrets. The findings of this examination may result in some restrictions to the operator's plans or may even preclude use and occupancy. The lessee or operator may, at their own option, conduct an examination to determine the presence or absence of black-footed ferrets. This examination must be done by or under the supervision of a qualified resource specialist approved by the surface management agency. An acceptable report must be provided to the

Surface management agency documenting the presence or absence of black footed ferrets and identifying the anticipated effects of the proposed action on the black-footed ferret and its habitat.

On the lands described below:

(XXXX RMP ROD, Page XX)

Serial No._____

LEASE NOTICE

Invasive Species and Noxious Weeds

There may be noxious weeds present on the lease parcel. Prior to any surface disturbing activities, the operator will be responsible for providing an Integrated Weed Management (IWP) plan. The operator will be responsible for the cost of the treatment and monitoring throughout the duration of the lease as long as oil and gas activities are occurring on the lease.

1. Site Inventories:
    a. Must be conducted to determine the presence of noxious weeds for all disturbance or use areas.
    b. Are required in known habitat for all areas proposed for surface disturbance before initiating project activities, at a time when the plant can be detected, and during appropriate flowering periods.
    c. Should include documentation on individual plant locations.
    d. Individual(s) qualified in the identification of invasive species must conduct surveys.
2. Lease activities will require monitoring throughout the duration of the project, to prevent the spread and introduction and ensure desired results of past treatment(s).
3. Project activities must be designed to minimize soil disturbance to the extent practical, consistent with project objectives.
    a. Avoid creating soil conditions that promote weed germination and establishment.
    b. Avoid or minimize all types of travel through weed-infested areas or restrict travel to periods when the spread of seeds or propagules is least likely.
    c. Prevent the introduction and spread of weeds caused by moving weed-infested sand, gravel, borrow, and fill material.
    d. Inspect material sources before moving infested material to site.
    e. Any and all equipment undercarriage must be power washed prior to entry and prior to leaving public highways/roads. When temperatures fall below freezing (32˚F), high pressure air may be substituted for power washing.
    f. All disturbed areas will be revegetated to native species composed of indigenous species appropriate to the area.

(XXXX RMP ROD, Page XX)

Serial No.14-16

LEASE NOTICE

Setback from Human Occupied Dwellings Requirement

The Lease area may contain human occupied dwellings. Under Regulation 43 CFR 3101.1-2 and terms of the lease (BLM form 3100-11), the authorized officer may require reasonable measures to minimize adverse impacts to other resource values, land uses, and users not addressed in lease stipulations at the time operations are proposed. Such reasonable measures may include, but are not limited to modification of siting or design of facilities, which may require relocating proposed operations up to 200 meters, but not off the leasehold.

The setback requirement of 500 feet from human occupied dwellings has been established based upon the best information available. The following condition of approval may be applied as a result of the Application for Permit to Drill (APD) process during the on-site inspection and the environmental review unless an acceptable plan for mitigation of impacts is reached between the resident, lessee, and BLM:

- **Facilities will not be allowed within 500 feet of human occupied residences.**

The intent of this Lease Notice is to provide information to the lessee that would help design and locate oil and gas facilities to preserve the aesthetic qualities around human occupied dwellings.

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

ACECs

Surface occupancy and use is prohibited for oil and gas exploration and development in areas identified as areas of critical environmental concern:

On the lands described below:

- Grove Creek ACEC
- Meeteetse Spires (acquisition area only)
- Pryor Foothills RNA ACEC (¼ mile buffer on known plant sites only)
- Stark Site ACEC
- Weatherman Draw ACEC (7,291 acres – expansion area only)

Purpose: To protect cultural, paleontological and other resource values for which the ACECs were nominated.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Bighorn Sheep Lambing

Surface occupancy and use is prohibited for oil and gas exploration and development within bighorn sheep lambing areas.

On the lands described below:

Objective: To protect traditional bighorn sheep lambing habitat, crucial for successful recruitment of bighorn sheep lambs.

Waiver: The authorized officer, after coordination with the state wildlife management agency, may waive this stipulation if the entire leasehold is no longer bighorn sheep lambing habitat.

Exception: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not impair the function or suitability of the habitat.

Modification: The authorized officer, after coordination with the state wildlife management agency, may modify the boundaries of the stipulated area if portions of the leasehold are no longer within bighorn sheep lambing habitat.

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Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Blue Ribbon Fisheries

Surface occupancy and use is prohibited for oil and gas exploration and development within one half (½) mile from the centerline of streams containing Class 1 fisheries (Blue Ribbon).

On the lands described below:

Objective: To ensure healthy aquatic habitat are maintained along Class 1 fisheries (Blue Ribbon).

Waiver: The authorized officer, after coordination with the state wildlife management agency, may waive this stipulation if the entire leasehold can be occupied without adversely impacting the habitat associated with the Class 1 fisheries.

Exception: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not impair the function or suitability of the fisheries habitat.

Modification: The authorized officer, after coordination with the state wildlife management agency, may modify the boundaries of the stipulated area if portions of the leasehold can be occupied without adversely impacting the habitat associated with the Class 1 fisheries.

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Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Cemeteries

Surface occupancy and use is prohibited for oil and gas exploration and development within and for a distance of 300 feet from the boundary of a cemetery.

On the lands described below:

> There are no known cemeteries on BLM administered surface within the Billings Field Office boundaries. There are four known cemeteries located on private surface/federal mineral estate within the BiFO boundaries.

Cemetery	County	7.5 Map Name
Annherer Spring Grave	Carbon	Dead Indian Hill
Sunrise Cemetery	Carbon	Castagne
Castle Butte Cemetery	Yellowstone	Bull Mountain NW
Cabin Creek Cemetery	Musselshell	Weed Creek West

Purpose: To identify and protect cultural resources and to avoid disturbance or inadvertent impacts to these resources.

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Coal Leases

Surface occupancy and use is prohibited for oil and gas exploration and development within the boundaries of existing coal leases.

On the lands described below:

Purpose: To protect lease rights associated with existing coal leases.

Waiver: This stipulation may be waived by the authorized officer if it is determined that all coal lease operations within the leasehold have been completed, or if the coal lease is terminated, canceled or relinquished.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan of operations which is compatible with existing or planned coal mining operations and is approved by all affected parties.

Modification: The area affected by this stipulation may be modified by the authorized officer if it is determined that the portions of the area are not needed for existing or planned mining operations, or where mining operations have been completed. An agreement approved by all affected parties must be provided to the Authorized Officer.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Eagle Nest Sites

Surface occupancy and use is prohibited for oil and gas exploration and development within ½ mile of active and alternate eagle nests (for territories occupied within the last five years) unless the activity complies with USFWS National Bald Eagle Management Guidelines (2007).

On the lands described below:

Purpose: To protect bald and golden eagle nesting sites and/or breeding habitat in accordance with the Montana Bald Eagle Management Plan and the Bald and Golden Eagle Protection Act.

Waiver: This stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold no longer contains eagle nests or nesting territories.

Exception: An exception may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect eagles or their habitat. This plan must be approved by BLM in consultation with the USFWS. Refer to "Requirements and/or Guidelines for Wildlife Controlled Surface Use (CSU) and Exceptions to No Surface Occupancy (NSO) and Timing Limitation Stipulations", Appendix H.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that a portion of the leasehold no longer contains eagle nests or nesting territories. Distance would be reduced if natural barriers (e.g., vegetation or terrain) reduce line-of-sight distance or nest visibility.

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Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Raptor Nest Sites

Surface occupancy and use is prohibited for oil and gas exploration and development within ¼ mile of raptor nest sites active within the preceding seven (7) years.

On the lands described below:

Objective: To protect nest sites of raptors identified as BLM priority species for management.

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within ¼ mile of raptor nest sites active within the past 7 years or if the habitat has been altered to an extent that future use by nesting raptors is unlikely.

Exception: The authorized officer may grant an exception if the action will not result in nest territory abandonment.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ¼ mile of raptor nest sites active within the past 7 years.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Colonial-nesting Waterbirds

Surface occupancy and use is prohibited for oil and gas exploration and development within ¼ mile of waterbird nesting colonies.

On the lands described below:

Purpose: To protect the nesting and breeding habitat of colonial-nesting birds identified as BLM priority species for management.

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within ¼ mile of nest sites historically used by colonial-nest birds or if the habitat has been altered to an extent that future use by colonial-nesting birds is unlikely.

Exception: The authorized officer may grant an exeption if the action will not result in colony abandonment.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ¼ mile of colonial-nesting bird sites.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

LWCF Lands

Surface occupancy and use is prohibited for oil and gas exploration and development on lands acquired with Land and Water Conservation Funds.

On the lands described below:

Purpose: To protect surface values on lands acquired with Land and Water Conservation Funds. These lands are traditionally acquired for the purpose of protecting and managing for wildlife habitat or watershed values.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Mountain Plover Habitat

Surface occupancy and use is prohibited for oil and gas exploration and development within mountain plover habitat.

On the lands described below:

Objective: To protect mountain plover habitat.

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within mountain plover nesting habitat.

Exception: The authorized officer may grant an exception if the action will not impair the function or suitability of the mountain plover habitat.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within mountain plover habitat.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

National Historic Trails

Surface occupancy and use is prohibited for oil and gas exploration and development within one-half (½) mile of designated National Historic Trails.

On the lands described below:

- Designated National Historic Trails include the Lewis and Clark Trail and the Nez Perce (Nee-Ne-Poo) Trail.

Purpose: Preserve and protect designated National Historic Trails and the natural setting in which they occur.

There are no Waivers, Exceptions or Modifications.

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Serial No._____

NO SURFACE OCCUPANCY STIPULATION

National Register Eligible Sites

Surface occupancy and use is prohibited for oil and gas exploration and development within, and for a distance of 300 feet from the boundaries of cultural properties and archaeological/historic districts determined to be eligible or potentially eligible to the national register of historic places. This includes cultural properties designated for conservation use, scientific use, traditional use, and public use. Defined archaeological sites, districts, and areas include: Steamboat Butte, Bruder-Janich Site, Paul Duke Site, Demi-John Flat NR District, Bighorn Mouth North Cliffs rock art site, Gyp Springs Site, Hoskins Basin Archaeological District.

On the lands described below:

Purpose: To protect those cultural properties identified for Conservation Use, Public Use, Traditional Use, or Scientific Use. (see definitions in WO IM 2002-101)

There are no waivers, exceptions, or modifications.

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Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Paleontological Sites

Surface occupancy and use is prohibited for oil and gas exploration and development within designated or recorded paleontological sites.

On the lands described below:

Purpose: To preserve and protect significant vertebrate fossils and paleontological locales.

There are no waivers, exceptions, or modifications.

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Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Peregrine Falcon Nests

Surface occupancy and use is prohibited for oil and gas exploration and development within one mile of peregrine falcon nest sites active within the preceding 7 years.

On the lands described below:

Purpose: To protect nest sites and nesting activities of peregrine falcons, a BLM priority species for management.

Waiver: The authorized officer may waive this stipulation of the entire leasehold is no longer within one mile of peregrine falcon nest sites active within the past 7 years or if the habitat has been altered to an extent that future use by nesting peregrine falcons is unlikely.

Exception: The authorized officer may grant an exception if the action will not result in nest territory abandonment.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within one mile of peregrine falcon nest sites active within the past 7 years..

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Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Prairie Dog Habitat

Surface occupancy and use is prohibited for oil and gas exploration and development within ¼ mile of black-tailed or white-tailed prairie dog habitat. Prairie dog habitat is defined as the maximum extent of areas occupied by prairie dogs at any time during the last 10 years.

On the lands described below:

Purpose: To protect prairie dog habitat, a BLM priority species for management as well as, burrowing owls, mountain plover, and other obligate species.

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within ¼ mile of prairie dog colonies active within the past 10 years.

Exception: The authorized officer may grant an exception if the action will not impair the function or suitability of the prairie dog habitat.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ¼ mile of prairie dog habitat active within the past 10 years.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Unincorporated Towns and Residential Structures

Surface occupancy and use is prohibited for oil and gas exploration and development within and 500 feet from unincorporated towns or human occupied residential structures.

On the lands described below:

Purpose: To ensure a proper distance between development and human occupation for health and safety purposes; 500 feet provides for reduced visual intrusion, noise, traffic, and dust.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting the public's health and safety.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting the public's health and safety.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Riparian, Water, Wetlands, and Floodplains

Surface occupancy and use is prohibited for oil and gas exploration and development within perennial or intermittent streams (as indicated by obligate wetland species or hydric soils), lakes, ponds, and reservoirs, 100-year floodplains, wetlands, and riparian areas.

On the lands described below:

Purpose: To protect the unique biological and hydrological features associated with perennial or intermittent streams; lakes, ponds, and reservoirs; floodplains; wetlands; and riparian areas.

Waiver: This stipulation may be waived by the authorized officer if it is determined that the entire leasehold does not include these types of areas.

Exception: No exceptions would be allowed in streams, natural lakes, or wetlands. An exception may be granted by the authorized officer for riparian areas and floodplains if the operator can demonstrate that: (1) there are no practicable alternatives to locating facilities in these areas, (2) the proposed actions would maintain or enhance resource functions, and (3) all reclamation goals and objectives would be met.

Modification: The area affected by this stipulation may be modified by the authorized officer if it is determined that portions of the area do not include these types of areas.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Traditional Cultural Properties and Traditional Use Areas

Surface occupancy and use is prohibited for oil and gas exploration and development within one-half (½) mile of the boundaries of cultural properties determined to be of particular importance to Native American groups, determined to be traditional cultural properties, and /or designated for traditional use. Such properties include (but are not limited to) burial locations, plant gathering locations, and areas considered sacred or used for religious purposes.

On the lands described below:

Purpose: To avoid disturbance and to protect archaeological properties of known significance to Native American groups, as well as traditional cultural properties, and the setting in which they occur.

There are no Waivers, Exceptions or Modifications.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Greater Sage-Grouse (Priority Habitat Management Areas)

To protect Greater Sage-grouse, a priority species for management, surface occupancy and use is prohibited for oil and gas exploration and development within Greater Sage-grouse Priority Habitat Management Areas (PHMAs).
On the lands described below:

Objective: To maintain and enhance the most important of habitats needed by priority sage-grouse populations.

Waivers and Modifications : No waivers or modifications to a fluid mineral lease no-surface-occupancy stipulation will be granted. The Authorized Officer may grant an exception to a fluid mineral lease no-surface-occupancy stipulation only where the proposed action:

i. Would not have direct, indirect, or cumulative effects on GRSG or its habitat; or,
ii. Is proposed to be undertaken as an alternative to a similar action occurring on a nearby parcel, and would provide a clear conservation gain to GRSG.

Exceptions: Exceptions based on conservation gain (ii) may only be considered in (a) PHMAs of mixed ownership where federal minerals underlie less than fifty percent of the total surface, or (b) areas of the public lands where the proposed exception is an alternative to an action occurring on a nearby parcel subject to a valid Federal fluid mineral lease existing as of the date of this RMP [revision or amendment]. Exceptions based on conservation gain must also include measures, such as enforceable institutional controls and buffers, sufficient to allow the BLM to conclude that such benefits will endure for the duration of the proposed action's impacts.
Any exceptions to this lease stipulation may be approved by the Authorized Officer only with the concurrence of the State Director. The Authorized Officer may not grant an exception unless the applicable state wildlife agency, the USFWS, and the BLM unanimously find that the proposed action satisfies (i) or (ii). Such finding shall initially be made by a team of one field biologist or other GRSG expert from each respective agency. In the event the initial finding is not unanimous, the finding may be elevated to the appropriate BLM State Director, USFWS State Ecological Services Director, and state wildlife agency head for final resolution. In the event their finding is not unanimous, the exception will not be granted. Approved exceptions will be made publically available at least quarterly.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Greater Sage-Grouse General Habitat Management Areas

To protect general habitat areas for Greater Sage-grouse breeding activities, surface occupancy and use is prohibited for oil and gas exploration and development within 0.6 mile of the perimeter of Greater Sage-grouse leks.

On the lands described below:

Objective: To maintain the integrity of general sage-grouse habitat and promote movement and genetic diversity to support sustainable sage-grouse populations.

Waiver: The authorized officer may waive this stipulation if:

- The entire leasehold is no longer within 0.6 mile of the perimeter of a lek;
- It is determined sage-grouse are no longer a BLM special status species or federally threatened or endangered;
- No reasonable alternative development scenario exists; or
- The habitat has been altered to the point sage-grouse no longer use the site and there is little likelihood of habitat capable of supporting sage-grouse being restored.

Exceptions and Modifications: A modification or exception may only be considered where the proposed action is determined to be non-habitat, the area is not used by GRSG, and the proposed action would not have direct, indirect, or cumulative effects to GRSG or its habitat. The determination would be made by the BLM in consultation with a team of agency GRSG experts, including an expert from the state wildlife agency, USFWS, and BLM/USFS. The State Director must have received a determination before approving any modification or exception. All modifications or exceptions must be approved by the State Director.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Greater Sage-Grouse Restoration Areas

To protect restoration areas for Greater Sage-grouse breeding activities, surface occupancy and use is prohibited for oil and gas exploration and development within 0.6 mile of the perimeter of Greater Sage-grouse leks.

On the lands described below:

Objective: To maintain the integrity of general sage-grouse habitat and promote movement and genetic diversity to support sustainable sage-grouse populations.

Waiver: The authorized officer may waive this stipulation if:

- The entire leasehold is no longer within 0.6 mile of the perimeter of a lek;
- It is determined sage-grouse are no longer a BLM special status species or federally threatened or endangered;
- No reasonable alternative development scenario exists; or
- The habitat has been altered to the point sage-grouse no longer use the site and there is little likelihood of habitat capable of supporting sage-grouse being restored.

Exception: The authorized officer may grant an exception if the action will not result in sage-grouse lek abandonment.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within 0.6 mile of the perimeter of an active lek or a portion of the habitat has been altered to the point sage-grouse no longer occupy the site and there is no likelihood of habitat capable of supporting sage-grouse being restored.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Sharp-tailed Grouse and Greater Prairie Chicken Leks

Surface occupancy and use is prohibited for oil and gas exploration and development within ½ mile of sharp-tailed grouse and greater prairie chicken leks.

On the lands described below:

Objective: To protect leks for sharp-tailed grouse and greater prairie chicken, a BLM priority species for management.

Waiver: The authorized officer may waive this stipulation after coordination with the state wildlife management agency if the entire leasehold is no longer within ½ mile of the perimeter of active sharp-tailed grouse or greater prairie chicken leks active within the past 5 years or if the habitat has been altered to an extent that future use by sharp-tailed grouse or greater prairie chicken is unlikely.

Exception: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not result in lek abandonment.

Modification: The authorized officer may modify the boundaries of the stipulated area after coordination with the state wildlife management agency if portions of the leasehold are no longer within ½ mile of the perimeter of active leks active within the past 5 years or if the habitat has been altered to an extent that future use by sharp-tailed grouse or greater prairie chicken is unlikely.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Special Recreation Management Areas

Surface occupancy and use is prohibited for oil and gas exploration and development on the following Special Recreation Management Areas:

On the lands described below:

- Sundance Lodge Recreation Area
- Four Dances Natural Area ACEC
- Shepherd Ah-Nei Recreation Area
- Acton Recreation Area
- Yellowstone River Corridor: ½ mile corridor

Purpose: To prevent user conflicts and incompatible uses in areas with high recreational values and significant amounts of recreational activity and to protect surface values in developed recreation areas and areas receiving high/concentrated use.

There are no waivers, exceptions, or modifications.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

State Lands

Surface occupancy and use is prohibited for oil and gas exploration and development within the State of Montana Wildlife Management Areas, Game Ranges, Fishing Access Sites, and State Parks.

On the lands described below:

Purpose: To prevent user conflicts, incompatible uses in areas with high recreational values, provide the opportunity for quality recreation experiences, and to protect habitat suitability.

Waiver: This stipulation may be waived by the authorized officer, in consultation with the State of Montana, determines that the entire leasehold no longer contains a State of Montana management area or leasing is allowed.

Exception: An exception may be granted by the authorized officer, in consultation with the State of Montana, if the operator submits a plan demonstrating that impacts from the proposed action are acceptable or can be mitigated.

Modification: The boundaries of the area may be modified by the authorized officer, in consultation with the State of Montana; if it is determined the management boundaries can be changed.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Wild and Scenic Rivers

Surface occupancy and use is prohibited for oil and gas exploration and development within one half (½) mile from the centerline of Eligible and Suitable Wild and Scenic River segments.

On the lands described below:

Purpose: To protect the eligibility of Wild and Scenic River segments.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting WSR eligibility.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan that demonstrates that the impacts from the proposed action are minimal or can be adequately mitigated.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without affecting eligibility of WSR segments.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Yellowstone Cutthroat Trout Populations

Surface occupancy and use is prohibited for oil and gas exploration and development within one half (½) mile from the centerline of streams containing Montana Fish, Wildlife, and Parks designated conservation and core populations of Yellowstone cutthroat trout.

On the lands described below:

Purpose: To protect Yellowstone cutthroat trout habitat necessary for the long term maintenance of Yellowstone cutthroat trout populations and ensure healthy aquatic habitat exists in drainages important to the viability of the species.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting Yellowstone cutthroat trout populations and Yellowstone cutthroat trout habitat.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect Yellowstone cutthroat trout or their habitat. Refer to "Requirements and/or Guidelines for Wildlife Controlled Surface Use (CSU) and Exceptions to No Surface Occupancy (NSO) and Timing Limitation Stipulations", Appendix H.

Modification: The boundaries of the stipulated area may be modified of the authorized officer determines that portions of the area can be occupied without adversely affecting Yellowstone cutthroat trout populations and Yellowstone cutthroat trout habitat.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Black-footed Ferret Habitat

Surface occupancy and use is prohibited for oil and gas exploration and development within ¼ mile of black-footed ferret habitat. (NSO)

On the lands described below:

Purpose: To protect habitat for the federally endangered black-footed ferret.

Waiver: The authorized officer, subject to consultation with USFWS, may waive this stipulation, if the entire leasehold is no longer within ¼ mile of current to potential black-footed ferret habitat.

Exception: The authorized officer, subject to consultation with the USFWS, may grant an exception if the action will not impair the function or suitability of the black-footed ferret habitat.

Modification: The authorized officer, subject to confirmation from the USFWS, may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ¼ mile of current or potential black-footed ferret habitat.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Soils – Badlands, Rock Outcrops

Surface occupancy and use is prohibited for oil and gas exploration and development on badlands and rock outcrops. (NSO)

On the lands described below:

Purpose: To prevent excessive soil erosion and to avoid disturbing areas subject to potential reclamation problems.

Waiver: The authorized officer may waive this stipulation if it is determined that the entire leasehold does not include these types of areas.

Exception: The authorized officer may not grant exceptions to this stipulation.

Modification: The authorized officer may modify the boundaries of the stipulated area if it is determined that portions of the leasehold do not include these types of areas.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

State-designated Source Water Protection Areas

Surface occupancy and use is prohibited for oil and gas exploration and development within State-designated Source Water Protection Areas. (NSO)

Purpose: To protect human health by minimizing the potential contamination of public water systems. Source water is untreated water from streams, rivers, lakes, or aquifers used to supply public water systems. Ensuring that source water is protected from contamination can reduce the costs of treatment and risks to public health. This stipulation would protect the State-designated Source Water Protection Areas that protect public water systems from potential contamination.

Waiver: The authorized officer may waive this stipulation if it is determined that the entire leasehold does not include Source Water Protection Areas.

Exception: – The authorized officer may not grant exceptions to this stipulation.

Modification: The authorized officer may modify the boundaries of the stipulated area if it is determined that portions of the leasehold do not include Source Water Protection Areas.

(XXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Interior Least Tern

Surface occupancy and use is prohibited for oil and gas exploration and development within one-quarter (¼) mile of wetlands identified as Interior Least Tern habitat.

On the lands described below:

Objective: To protect the nesting habitat of the interior least tern, an endangered species under the Endangered Species Act (ESA).

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within ¼ mile of interior least tern nesting habitat.

Exception: The authorized officer, subject to consultation with the USFWS, may grant an exception if the action will not result in nest territory abandonment or decrease productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ¼ mile of interior least tern habitat.

(XXXXX RMP ROD, Page XX)

Serial No._____

NO SURFACE OCCUPANCY STIPULATION

Crucial Winter Range

Surface occupancy and use is prohibited for oil and gas exploration and development in crucial winter range for antelope, elk, moose, bighorn sheep, mule deer, white-tailed deer, and Greater Sage-grouse.

On the lands described below:

Objective: To protect winter ranges crucial to the survival of 80% of the species identified as BLM priority species for management in the most severe of winters.

Waiver: The authorized officer, after coordination with the state wildlife management agency, may waive this stipulation if the entire leasehold has been altered to an extent that future use by wintering wildlife is unlikely.

Exception: The authorized officer, after coordination with the state wildlife management agency, may grant an exception if the action will not result impair the function or suitability of the winter range habitat.

Modification: The authorized officer, after coordination with the state wildlife management agency, may modify the boundaries of the stipulated area if portions of the leasehold no longer support wintering wildlife.

(XXXXX RMP ROD, Page XX)

Serial No._____

TIMING LIMITATION STIPULATION

Mountain Plover Habitat

Surface use is prohibited within ¼ mile of mountain plover habitat from April 1 through July 15.

On the lands described below:

Objective: To protect nesting activities associated with mountain plovers, a BLM priority species for management.

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within ¼ mile of mountain plover habitat.

Exception: The authorized officer may grant an exception if the action will not result in nest territory abandonment or decrease productivity by substantially interfering with normal breeding, feeding, or sheltering behavior of mountain plovers.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ¼ mile of mountain plover habitat.

(XXXX RMP ROD, Page XX)

Serial No._____

TIMING LIMITATION STIPULATION

Raptor Nest Sites

Surface use is prohibited within ½ mile of active raptor nest sites from March 1 through July 31.

On the lands described below:

Objective: To protect nesting activities associated with raptors identified as BLM priority species for management

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within ½ mile of an active raptor nest.

Exception: The authorized officer may grant an exception if the action will not result in nest territory abandonment or decrease productivity by substantially interfering with normal breeding, feeding, or sheltering behavior.

Modification: The authorized officer may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ½ mile of an active raptor nest.

(XXXX RMP ROD, Page XX)

Serial No._____

TIMING LIMITATION STIPULATION

Colonial-nesting Waterbirds

Surface use is prohibited within ½ mile of a waterbird colony from April 1 through July 15.

On the lands described below:

Purpose: To protect nesting activities associated with colonial-nesting birds identified as BLM priority species for management.

Waiver: The authorized officer may waive this stipulation if the entire leasehold is no longer within ½ mile of an active colonial-nesting bird colony.

Exception: The authorized officer may grant an exception if the action will not result in nest territory abandonment or decrease productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior.

Modification: The authorized offiver may modify the boundaries of the stipulated area if portions of the leasehold are no longer within ½ mile of an active nesting colony.

(XXXX RMP ROD, Page XX)

Serial No._____

TIMING LIMITATION STIPULATION

Sprague's Pipit Habitat

Surface use is prohibited from April 15 through July 15 in Sprague's Pipit Habitat.

This stipulation does not apply to operation and maintenance of production facilities.

On the lands described below:

Purpose: The protection of nesting and breeding habitat and the reproductive potential for Sprague's pipit.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold no longer has Sprague's pipit habitat or nest sites are inactive.

Exception: An exception to this stipulation may be granted by the authorized officer if the operator submits a plan which demonstrates that the proposed action will not affect Sprague's pipit or their habitat. Refer to "Requirements and/or Guidelines for Wildlife Controlled Surface Use (CSU) and Exceptions to No Surface Occupancy (NSO) and Timing Limitation Stipulations", Appendix H.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area no longer are within 1 mile of Sprague's pipit. Distance may be reduced if natural barriers (e.g. vegetation or terrain) reduce line-of-sight distance or nest visibility. The timing restriction dates may be modified if new information indicates that the dates are not valid for the leasehold.

(XXXX RMP ROD, Page XX)

Serial No._____

TIMING LIMITATION STIPULATION

Sage Grouse Nest Areas (Restoration Areas and General Habitat Management Areas)

Surface use is prohibited from March 1 through June 30 within 3 miles of sage grouse leks.

This stipulation does not apply to operation and maintenance of production facilities.

On the lands described below:

Purpose: The protection of sage-grouse leks, breeding and nesting habitat, necessary for the long term maintenance of sage-grouse populations.

Waiver: This stipulation may be waived if the authorized officer, in consultation with Montana FWP and the USFWS, determines that the entire leasehold can be occupied without adversely affecting sage grouse leks or the surrounding breeding habitat, the lek is confirmed inactive (10 years with no males or sign of lek activity), or sage grouse are no longer considered BLM special status species and not listed by USFWS.

Exception: An exception to this stipulation may be granted by the authorized officer, in consultation with Montana FWP, if the operator submits a plan which demonstrates that the proposed action will not affect sage grouse or their habitat. Refer to "Requirements and/or Guidelines for Wildlife Controlled Surface Use (CSU) and Exceptions to No Surface Occupancy (NSO) and Timing Limitation Stipulations", Appendix H or portions of the area no longer have sage grouse or their habitat, or the lek is confirmed inactive (10 years with no males or sign of lek activity). Activities would be allowed, if they are consistent with the goals and objectives for the Restoration Area (RA) or General habitat.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the area can be occupied without adversely affecting sage grouse leks or portions of the area no longer have sage grouse or their habitat. The timing restriction dates may be modified if new information indicates that the dates are not valid for the leasehold.

(XXXX RMP ROD, Page XX)

Serial No._____

TIMING LIMITATION STIPULATION

Sharp-tailed Grouse Nesting

Surface use is prohibited within 2 miles of the perimeter of sharp-tailed grouse and/or greater prairie chicken leks from April 1 through July 15.

On the lands described below:

Objective: To protect nesting activities associated with sharp-tailed grouse and greater prairie chickens, identified as BLM priority species for management.

Waiver: The authorized officer may waive this stipulation after coordination with the state wildlife management agency if the entire leasehold is no longer within 2 miles of a lek active within the past 5 years.

Exception: The authorized officer , after coordination with the state wildlife management agency, may grant an exception if the action will not result in nest territory abandonment or decrease productivity by substantially interfering with normal breeding.

Modification: The authorized officer may modify the boundaries of the stipulated area after coordination with the state wildlife management agency if portions of the leasehold are no longer within 2 miles of a lek active within the past 5 years.

(XXXX RMP ROD, Page XX)

Form 3100-11
(July 2006)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Serial Number

OFFER TO LEASE AND LEASE FOR OIL AND GAS

The undersigned (page 2) offers to lease all or any of the lands in Item 2 that are available for lease pursuant to the Mineral Lands Leasing Act of 1920, as amended and supplemented (30 U.S.C. 181 et seq.), the Mineral Leasing Act for Acquired Lands of 1947, as amended (30 U.S.C. 351-359), or _____(other).

READ INSTRUCTIONS BEFORE COMPLETING

1. Name
   Street
   City, State, Zip Code

2. This application/offer/lease is for: *(Check Only One)* ☐ PUBLIC DOMAIN LANDS ☐ ACQUIRED LANDS (percent U.S. interest _____)

Surface managing agency if other than Bureau of Land Management (BLM): _____ Unit/Project _____

Legal description of land requested: *Parcel No.: _____ *Sale Date (mm/dd/yyyy): _____

***See Item 2 in Instructions below prior to completing Parcel Number and Sale Date.**

T.	R.	Meridian	State	County

Total acres applied for _____

Amount remitted: Filing fee $ _____ Rental fee $ _____ Total $ _____

DO NOT WRITE BELOW THIS LINE

3. Land included in lease:

T.	R.	Meridian	State	County

Total acres in lease _____

Rental retained $ _____

This lease is issued granting the exclusive right to drill for, mine, extract, remove and dispose of all the oil and gas (except helium) in the lands described in Item 3 together with the right to build and maintain necessary improvements thereupon for the term indicated below, subject to renewal or extension in accordance with the appropriate leasing authority. Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of the Interior's regulations and formal orders in effect as of lease issuance, and to regulations and formal orders hereafter promulgated when not inconsistent with lease rights granted or specific provisions of this lease.

NOTE: This lease is issued to the high bidder pursuant to his/her duly executed bid or nomination form submitted under 43 CFR 3120 and is subject to the provisions of that bid or nomination and those specified on this form.

Type and primary term:

☐ Noncompetitive lease (ten years)

☐ Competitive lease (ten years)

☐ Other _____

THE UNITED STATES OF AMERICA

by _____
(BLM)

_____
(Title) (Date)

EFFECTIVE DATE OF LEASE _____

(Continued on page 2)

4. (a) Undersigned certifies that (1) offeror is a citizen of the United States; an association of such citizens; a municipality; or a corporation organized under the laws of the United States or of any State or Territory thereof, (2) all parties holding an interest in the offer are in compliance with 43 CFR 3100 and the leasing authorities; (3) offeror's chargeable interests, direct and indirect, in each public domain and acquired lands separately in the same State, do not exceed 246,080 acres in oil and gas leases (of which up to 200,000 acres may be in oil and gas options or 300,000 acres in leases in each leasing District in Alaska of which up to 200,000 acres may be in options, (4) offeror is not considered a minor under the laws of the State in which the lands covered by this offer are located; (5) offeror is in compliance with qualifications concerning Federal coal lease holdings provided in sec. 2(a)2(A) of the Mineral Leasing Act; (6) offeror is in compliance with reclamation requirements for all Federal oil and gas lease holdings as required by sec. 17(g) of the Mineral Leasing Act; and (7) offeror is not in violation of sec. 41 of the Act. (b) Undersigned agrees that signature to this offer constitutes acceptance of this lease, including all terms conditions, and stipulations of which offeror has been given notice, and any amendment or separate lease that may include any land described in this offer open to leasing at the time this offer was filed but omitted for any reason from this lease. The offeror further agrees that this offer cannot be withdrawn, either in whole or in part unless the withdrawal is received by the proper BLM State Office before this lease, an amendment to this lease, or a separate lease, whichever covers the land described in the withdrawal, has been signed on behalf of the United States.

This offer will be rejected and will afford offeror no priority if it is not properly completed and executed in accordance with the regulations, or if it is not accompanied by the required payments.

Duly executed this _____ day of _____ , 20 ____ _____
(Signature of Lessee or Attorney-in-fact)

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212 make it a crime for any person knowingly and willfully to make to any department or Agency of the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

LEASE TERMS

Sec. 1. Rentals--Rentals must be paid to proper office of lessor in advance of each lease year. Annual rental rates per acre or fraction thereof are:

(a) Noncompetitive lease, $1.50 for the first 5 years; thereafter $2.00;

(b) Competitive lease, $1.50; for the first 5 years; thereafter $2.00;

(c) Other, see attachment, or

as specified in regulations at the time this lease is issued.

If this lease or a portion thereof is committed to an approved cooperative or unit plan which includes a well capable of producing leased resources, and the plan contains a provision for allocation of production, royalties must be paid on the production allocated to this lease. However, annual rentals must continue to be due at the rate specified in (a), (b), or (c) rentals for those lands not within a participating area.

Failure to pay annual rental, if due, on or before the anniversary date of this lease (or next official working day if office is closed) must automatically terminate this lease by operation of law. Rentals may be waived, reduced, or suspended by the Secretary upon a sufficient showing by lessee.

See. 2. Royalties--Royalties must be paid to proper office of lessor. Royalties must be computed in accordance with regulations on production removed or sold. Royalty rates are:

(a) Noncompetitive lease, 12 1/2%;

(b) Competitive lease, 12 1/2 %;

(c) Other, see attachment; or

as specified in regulations at the time this lease is issued.

Lessor reserves the right to specify whether royalty is to be paid in value or in kind, and the right to establish reasonable minimum values on products after giving lessee notice and an opportunity to be heard. When paid in value, royalties must be due and payable on the last day of the month following the month in which production occurred. When paid in kind, production must be delivered, unless otherwise agreed to by lessor, in merchantable condition on the premises where produced without cost to lessor. Lessee must not be required to hold such production in storage beyond the last day of the month following the month in which production occurred, nor must lessee be held liable for loss or destruction of royalty oil or other products in storage from causes beyond the reasonable control of lessee.

Minimum royalty in lieu of rental of not less than the rental which otherwise would be required for that lease year must be payable at the end of each lease year beginning on or after a discovery in paying quantities. This minimum royalty may be waived, suspended, or reduced, and the above royalty rates may be reduced, for all or portions of this lease if the Secretary determines that such action is necessary to encourage the greatest ultimate recovery of the leased resources, or is otherwise justified.

An interest charge will be assessed on late royalty payments or underpayments in accordance with the Federal Oil and Gas Royalty Management Act of 1982 (FOGRMA) (30 U.S.C. 1701). Lessee must be liable for royalty payments on oil and gas lost or wasted from a lease site when such loss or waste is due to negligence on the part of the operator, or due to the failure to comply with any rule, regulation, order, or citation issued under FOGRMA or the leasing authority.

(Continued on page 3) (Form 3100-11, page 2)

Sec. 3. Bonds - A bond must be filed and maintained for lease operations as required under regulations.

Sec. 4. Diligence, rate of development, unitization, and drainage - Lessee must exercise reasonable diligence in developing and producing, and must prevent unnecessary damage to, loss of, or waste of leased resources. Lessor reserves right to specify rates of development and production in the public interest and to require lessee to subscribe to a cooperative or unit plan, within 30 days of notice, if deemed necessary for proper development and operation of area, field, or pool embracing these leased lands. Lessee must drill and produce wells necessary to protect leased lands from drainage or pay compensatory royalty for drainage in amount determined by lessor.

Sec. 5. Documents, evidence, and inspection - Lessee must file with proper office of lessor, not later than 30 days after effective date thereof, any contract or evidence of other arrangement for sale or disposal of production. At such times and in such form as lessor may prescribe, lessee must furnish detailed statements showing amounts and quality of all products removed and sold, proceeds therefrom, and amount used for production purposes or unavoidably lost. Lessee may be required to provide plats and schematic diagrams showing development work and improvements, and reports with respect to parties in interest, expenditures, and depreciation costs. In the form prescribed by lessor, lessee must keep a daily drilling record, a log, information on well surveys and tests, and a record of subsurface investigations and furnish copies to lessor when required. Lessee must keep open at all reasonable times for inspection by any representative of lessor, the leased premises and all wells, improvements, machinery, and fixtures thereon, and all books, accounts, maps, and records relative to operations, surveys, or investigations on or in the leased lands. Lessee must maintain copies of all contracts, sales agreements, accounting records, and documentation such as billings, invoices, or similar documentation that supports costs claimed as manufacturing, preparation, and/or transportation costs. All such records must be maintained in lessee's accounting offices for future audit by lessor. Lessee must maintain required records for 6 years after they are generated or, if an audit or investigation is underway, until released of the obligation to maintain such records by lessor.

During existence of this lease, information obtained under this section will be closed to inspection by the public in accordance with the Freedom of Information Act (5 U.S.C. 552).

Sec. 6. Conduct of operations - Lessee must conduct operations in a manner that minimizes adverse impacts to the land, air, and water, to cultural, biological, visual, and other resources, and to other land uses or users. Lessee must take reasonable measures deemed necessary by lessor to accomplish the intent of this section. To the extent consistent with lease rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures. Lessor reserves the right to continue existing uses and to authorize future uses upon or in the leased lands, including the approval of easements or rights-of-way. Such uses must be conditioned so as to prevent unnecessary or unreasonable interference with rights of lessee.

Prior to disturbing the surface of the leased lands, lessee must contact lessor to be apprised of procedures to be followed and modifications or reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by lessor. If in the conduct of operations, threatened or endangered species, objects of historic or scientific interest, or substantial unanticipated environmental effects are observed, lessee must immediately contact lessor. Lessee must cease any operations that would result in the destruction of such species or objects.

Sec. 7. Mining operations - To the extent that impacts from mining operations would be substantially different or greater than those associated with normal drilling operations, lessor reserves the right to deny approval of such operations.

Sec. 8. Extraction of helium - Lessor reserves the option of extracting or having extracted helium from gas production in a manner specified and by means provided by lessor at no expense or loss to lessee or owner of the gas. Lessee must include in any contract of sale of gas the provisions of this section.

Sec. 9. Damages to property - Lessee must pay lessor for damage to lessor's improvements, and must save and hold lessor harmless from all claims for damage or harm to persons or property as a result of lease operations.

Sec. 10. Protection of diverse interests and equal opportunity - Lessee must pay, when due, all taxes legally assessed and levied under laws of the State or the United States; accord all employees complete freedom of purchase; pay all wages at least twice each month in lawful money of the United States; maintain a safe working environment in accordance with standard industry practices; and take measures necessary to protect the health and safety of the public.

Lessor reserves the right to ensure that production is sold at reasonable prices and to prevent monopoly. If lessee operates a pipeline, or owns controlling interest in a pipeline or a company operating a pipeline, which may be operated accessible to oil derived from these leased lands, lessee must comply with section 28 of the Mineral Leasing Act of 1920.

Lessee must comply with Executive Order No. 11246 of September 24, 1965, as amended, and regulations and relevant orders of the Secretary of Labor issued pursuant thereto. Neither lessee nor lessee's subcontractors must maintain segregated facilities.

Sec. 11. Transfer of lease interests and relinquishment of lease - As required by regulations, lessee must file with lessor any assignment or other transfer of an interest in this lease. Lessee may relinquish this lease or any legal subdivision by filing in the proper office a written relinquishment, which will be effective as of the date of filing, subject to the continued obligation of the lessee and surety to pay all accrued rentals and royalties.

Sec. 12. Delivery of premises - At such time as all or portions of this lease are returned to lessor, lessee must place affected wells in condition for suspension or abandonment, reclaim the land as specified by lessor and, within a reasonable period of time, remove equipment and improvements not deemed necessary by lessor for preservation of producible wells.

Sec. 13. Proceedings in case of default - If lessee fails to comply with any provisions of this lease, and the noncompliance continues for 30 days after written notice thereof, this lease will be subject to cancellation unless or until the leasehold contains a well capable of production of oil or gas in paying quantities, or the lease is committed to an approved cooperative or unit plan or communitization agreement which contains a well capable of production of unitized substances in paying quantities. This provision will not be construed to prevent the exercise by lessor of any other legal and equitable remedy, including waiver of the default. Any such remedy or waiver will not prevent later cancellation for the same default occurring at any other time. Lessee will be subject to applicable provisions and penalties of FOGRMA (30 U.S.C. 1701).

Sec. 14. Heirs and successors-in-interest - Each obligation of this lease will extend to and be binding upon, and every benefit hereof will inure to the heirs, executors, administrators, successors, beneficiaries, or assignees of the respective parties hereto.

(Continued on page 4)

A. General:

1. Page 1 of this form is to be completed only by parties filing for a noncompetitive lease. The BLM will complete page 1 of the form for all other types of leases.

2. Entries must be typed or printed plainly in ink. Offeror must sign Item 4 in ink.

3. An original and two copies of this offer must be prepared and filed in the proper BLM State Office. See regulations at 43 CFR 1821.2-1 for office locations.

4. If more space is needed, additional sheets must be attached to each copy of the form submitted.

B. Special:

Item 1 - Enter offeror's name and billing address.

Item 2 - Identify the mineral status and, if acquired lands, percentage of Federal ownership of applied for minerals. Indicate the agency controlling the surface of the land and the name of the unit or project which the land is a part. The same offer may not include both Public Domain and Acquired lands. Offeror also may provide other information that will assist in establishing title for minerals. The description of land must conform to 43 CFR 3110. A single parcel number and Sale Date will be the only acceptable description during the period from the first day following the end of a competitive process until the end of that same month, using the parcel number on the List of Lands Available for Competitive Nominations or the Notice of Competitive Lease Sale, whichever is appropriate.

Payments: The amount remitted must include the filing fee and the first year's rental at the rate of $1.50 per acre or fraction thereof. The full rental based on the total acreage applied for must accompany an offer even if the mineral interest of the United States is less than 100 percent. The filing fee will be retained as a service charge even if the offer is completely rejected or withdrawn. To protect priority, it is important that the rental submitted be sufficient to cover all the land requested. If the land requested includes lots or irregular quarter-quarter sections, the exact area of which is not known to the offeror, rental should be submitted on the basis of each such lot or quarter-quarter section containing 40 acres. If the offer is withdrawn or rejected in whole or in part before a lease issues, the rental remitted for the parts withdrawn or rejected will be returned.

Item 3 - This space will be completed by the United States.

NOTICES

The Privacy Act of 1974 and the regulations in 43 CFR 2.48(d) provide that you be furnished with the following information in connection with information required by this oil and gas lease offer.

AUTHORITY: 30 U.S.C. 181 et seq.; 30 U.S.C 351-359.

PRINCIPAL PURPOSE: The information is to be used to process oil and gas offers and leases.

ROUTINE USES: (1) The adjudication of the lessee's rights to the land or resources. (2) Documentation for public information in support of notations made on land status records for the management, disposal, and use of public lands and resources. (3) Transfer to appropriate Federal agencies when consent or concurrence is required prior to granting a right in public lands or resources. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions.

EFFECT OF NOT PROVIDING INFORMATION: If all the information is not provided, the offer may be rejected. See regulations at 43 CFR 3100.

The Paperwork Reduction Act of 1995 requires us to inform you that:
This information is being collected pursuant to the law.
This information will be used to create and maintain a record of oil and gas lease activity.
Response to this request is required to obtain a benefit.

BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 1 hour per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0185), Bureau Information Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop, 401LS, Washington, D.C. 20240.

(Form 3100-11, page 4)

Form 3109-1
(December 1972)
(formerly 3103-1)

Serial Number_____

LEASE STIPULATIONS
BUREAU OF RECLAMATION

The lessee agrees to maintain, if required by the lessor during the period of this lease, including any extension thereof, an additional bond with qualified sureties in such sum as the lessor, if it considers that the bond required under Section 2(a) is insufficient, may at any time require:

(a) to pay for damages sustained by any reclamation homestead entryman to his crops or improvements caused by drilling or other operations of the lessee, such damages to include the reimbursement of the entryman by the lessee, when he uses or occupies the land of any homestead entryman, for all construction and operation and maintenance charges becoming due during such use or occupation upon any portion of the land so used and occupied;

(b) to pay any damage caused to any reclamation project or water supply thereof by the lessee's failure to comply fully with the requirements of this lease; and

(c) to recompense any nonmineral applicant, entryman, purchaser under the Act of May 16, 1930 (46 Stat. 367), or patentee for all damages to crops or to tangible improvements caused by drilling or other prospecting operation, where any of the lands covered by this lease are embraced in any nonmineral application, entry, or patent under rights initiated prior to the date of this lease, with a reservation of the oil deposits, to the United States pursuant to the Act of July 17, 1914 (38 Stat. 509).

As to any lands covered by this lease within the area of any Government reclamation project, or in proximity thereto, the lessee shall take such precautions as required by the irrigation under such project or to the water supply thereof; *provided* that drilling is prohibited on any constructed works or right-of-way of the Bureau of Reclamation, and *provided, further*, that there is reserved to the lessor, its successors and assigns, the superior and prior right at all times to construct, operate, and maintain dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, appurtenant irrigation structures, and reclamation works, in which construction, operation, and maintenance, the lessor, its successors and assigns, shall have the right to use any or all of the lands herein described without making compensation therefor, and shall not be responsible for any damage from the presence of water thereon or on account of ordinary, extraordinary, unexpected , or unprecedented floods. That nothing shall be done under this lease to increase the cost of, or interfere in any manner with, the construction, operation, and maintenance of such works. It is agreed by the lessee that, if the construction of any or all of said dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone or telegraph lines, electric transmission lines, roadways, appurtenant irrigation structures or reclamation works across, over, or upon said lands should be made more expensive by reason of the existence of the improvements and workings of the lessee thereon, said additional expense is to be estimated by the Secretary of the Interior, whose estimate is to be final and

(continued on reverse)

binding upon the parties hereto, and that within thirty (30) days
after demand is made upon the lessee for payment of any such sums, the lessee will make payment thereof to the United States, or its successors, constructing such dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, appurtenant irrigation structures, or reclamation works, across, over, or upon said lands; *provided, however,* that subject to advance written approval by the United States, the location and course of any improvements or works and appurtenances may be changed by the lessee; *provided , further,* that the reservations, agreements, and conditions contained in the within lease shall be and remain applicable notwithstanding any change in the location or course of said improvements or works of lessee. The lessee further agrees that the United States, its officers, agents, and employees, and its successors and assigns shall not be held liable for any damage to the improvements or workings of the lessee resulting from the construction, operation, and maintenance of any of the works hereinabove enumerated. Nothing in this paragraph shall be construed as in any manner limiting other reservations in favor of the United States contained in this lease.

THE LESSEE FURTHER AGREES That there is reserved to the lessor, its successors and assigns, the prior right to use any of the lands herein leased, to construct, operate, and maintain dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, or appurtenant irrigation structures, and also the right to remove construction materials therefrom, without any payment made by the lessor or its successors for such right, with the agreement on the part of the lessee that if the construction of any or all of such dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, or appurtenant irrigation structures across, over, or upon said lands or the removal of construction materials therefrom, should be made more expensive by reason of the existence of improvements or workings of the lessee thereon, such additional expense is to be estimated by the Secretary of the Interior, whose estimate is to be final and binding upon the parties hereto, and that within thirty (30) days after demand is made upon the lessee for payment of any such sums, the lessee will make payment thereof to the United States or its successors constructing such dams, dikes, reservoirs, canals, wasteways, laterals, ditches, telephone and telegraph lines, electric transmission lines, roadways, or appurtenant irrigation structures across, over, or upon said lands or removing construction materials therefrom. The lessee further agrees that the lessor, its officers, agents, and employees and its successors and assigns shall not be held liable for any damage to the improvements or workings of the lessee resulting from the construction, operation, and maintenance of any of the works herein above enumerated. Nothing contained in this paragraph shall be construed as in any manner limiting other reservations in favor of the lessor contained in this lease.

To insure against the contamination of the waters of the Reservoir, Project, State of , the lessee agrees that the following further conditions shall apply to all drilling and operations on lands covered by this lease, which lie within the flowage or drainage area of the Reservoir, as such area is defined by the Bureau of Reclamation:

1. The drilling sites for any and all wells shall be approved by the Superintendent, Bureau of Reclamation, Project, before drilling begins. Sites for the construction of pipe-line rights-of-way or other authorized facilities shall also be approved by the Superintendent before construction begins.

2. All drilling or operation methods or equipment shall, before their imployment, be inspected and approved by the Superintendent of the Project, , and by the supervisor of the U.S. Geological Survey having jurisdiction over the area.

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Serial Number_____

SPECIAL STIPULATION - BUREAU OF RECLAMATION

To avoid interference with recreation development and/or impacts to fish and wildlife habitat and to assist in preventing damage to any Bureau of Reclamation dams, reservoirs, canals, ditches, laterals, tunnels, and related facilities, and contamination of the water supply therein, the lessee agrees that the following conditions shall apply to all exploration and developmental activities and other operation of the works thereafter on lands covered by this lease:

1. Prior to commencement of any surface-disturbing work including drilling, access road work, and well location construction, a surface use and operations plan will be filed with the appropriate officials. A copy of this plan will be furnished to the Regional Director, Great Plains Region, Bureau of Reclamation, P.O. Box 36900, Billings, MT 59107-6900, for review and consent prior to approval of the plan. Such approval will be conditioned on reasonable requirements needed to prevent soil erosion, water pollution, and unnecessary damages to the surface vegetation and other resources, including cultural resources, of the United States, its lessees, permittees, or licensees, and to provide for the restoration of the land surface and vegetation. The plan shall contain provisions as the Bureau of Reclamation may deem necessary to maintain proper management of the water, recreation, lands structures, and resources, including cultural resources, within the prospecting, drilling, or construction area.

Drilling sites for all wells and associated investigations such as seismograph work shall be included in the above-mentioned surface use and operation plan.

If later explorations require departure from or additions to the approved plan, these revisions or amendments, together with a justification statement for proposed revisions, will be submitted for approval to the Regional Director, Great Plains Region, Bureau of Reclamation, or his authorized representative.

Any operations conducted in advance of approval of an original, revised, or amended prospecting plan, or which are not in accordance with an approved plan constitute a violation of the terms of this lease. The Bureau of Reclamation reserves the right to close down operations until such corrective action, as is deemed necessary, is taken by the lessee.

2. No occupancy of the surface of the following excluded areas is authorized by this lease. It is understood and agreed that the use of these areas for Bureau of Reclamation purposes is superior to any other use. The following restrictions apply only to mineral tracts located within the boundary of a Bureau of Reclamation project where the United States owns 100 percent of the fee mineral interest.

a. Within 500 feet on either side of the centerline of any and all roads or highways within the leased area.

b. Within 200 feet on either side of the centerline of any and all trails within the leased area.

c. Within 500 feet of the normal high-water line of any and all live streams in the leased area.

d. Within 400 feet of any and all recreation developments within the leased area.

e. Within 400 feet of any improvements either owned, permitted, leased, or otherwise authorized by the Bureau of Reclamation within the leased area.

f. Within 200 feet of established crop fields, food plots, and tree/shrub plantings within the leased area.

g. Within 200 feet of slopes steeper than a 2:1 gradient within the leased area.

h. Within established rights-of-way of canals, laterals, and drainage ditches within the leased area.

i. Within a minimum of 500 feet horizontal from the centerline of the facility or 50 feet from the outside toe of the canal, lateral, or drain embankment, whichever distance is greater, for irrigation facilities without clearly marked rights-of-way within the leased area.

j. Providing that appropriate environmental compliance measures can be ensured, and providing further that Reclamation project works and other public interests can be protected, Reclamation may consider, on a case-by-case basis, waiving the requirement specified in Section 2 hereof. **HOWEVER, LESSEES ARE ADVISED THAT OBTAINING SUCH A WAIVER CAN BE A DIFFICULT, TIME CONSUMING, AND COSTLY PROCESS WITH NO GUARANTEE THAT RECLAMATION WILL GRANT THE REQUESTED WAIVER.**

3. No occupancy of the surface or surface drilling will be allowed in the following areas. In addition, no directional drilling will be allowed that would intersect the subsurface zones delineated by a vertical plane in these areas. The following restrictions apply only to mineral tracts located within the boundary of a Bureau of Reclamation project, where the United States owns 100 percent of the fee mineral interest in said tract, or tracts.

a. Within 1,000 feet of the maximum water surface, as defined in the Standard Operating Procedures (SOP), of any reservoirs and related facilities located within the leased area.

b. Within 2,000 feet of dam embankments and appurtenance structures such as spillway structures, outlet works, etc.

c. Within one-half (1/2) mile horizontal from the centerline of any tunnel within the leased area.

d. Providing that appropriate environmental compliance measures can be ensured, and providing further that Reclamation project works and other public interests can be protected. Reclamation may consider, on a case-by-case basis, waiving the requirements specifies in Section 3 hereof. **HOWEVER, LESSEES ARE ADVISED THAT OBTAINING SUCH A WAIVER CAN BE A DIFFICULT, TIME CONSUMING, AND COSTLY PROCESS WITH NO GUARANTEE THAT RECLAMATION WILL GRANT THE REQUESTED WAIVER.**

4. The distances stated in items 2 and 3 above are intended to be general indicators only. The Bureau of Reclamation reserves the right to revise these distances as needed to protect Bureau of Reclamation facilities.

5. The use of explosives in any manner shall be so controlled that the works and facilities of the United States, its successors and assigns, will in no way be endangered or damaged. In this connection, an explosives use plan shall be submitted to and approved by the Regional Director, Great Plains Region, Bureau of Reclamation, or his/her authorized representative.

6. The lessee shall be liable for all damage to the property of the United States, its successors or assigns, resulting from the exploration, development, or operation of the works contemplated by this lease, and shall further hold the United States, its successors or assigns, and its officers, agents, and employees, harmless from all claims of third parties for injury or damage sustained or in any way resulting from the exercise of the rights and privileges conferred by the lease.

7. The lessee shall be liable for all damages to crops or improvements of any entryman, nonmineral applicant, or patentee, their successors or assigns, caused by or resulting from the drilling or other operations of the lessee, including reimbursement of any entryman or patentee, their successors or assigns, for all construction, operation, and maintenance charges becoming due on any portion of their said lands damaged as a result of the drilling or other operation of the lessee.

8. In addition to any other bond required under the provisions of this lease, the lessee shall provide such bond as the United States may at any time require for damages which may arise under the liability provisions of Section six (6) and seven (7) above.

BOR 17-2

Appendix T:
Areas of Critical Environmental Concern

Report on the Application of the Relevance and Importance Criteria

Prepared by:
United States Department of the Interior
Bureau of Land Management
Billings Field Office

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T. Areas of Critical Environmental Concern

T.1 Executive Summary

As part of the Billings/Pompeys Pillar Resource Management Plan (RMP) process, the RMP Interdisciplinary Team (IDT) analyzed whether proposed Areas of Critical Environmental Concern (ACEC) meet the relevance and importance criteria. The Billings Field Office (BiFO) analyzed 14 nominated ACECs (existing, internally and externally proposed). Based on the analysis, 13 ACEC nominations met the relevance and importance criteria and 1 ACEC nomination did not. Twelve were carried forward for analysis as one nomination did not need special management. The following table summarizes each ACEC proposal, the rationale for the nomination and whether or not it will be carried forward for analysis in the RMP.

Table T-1 ACEC Determinations

Existing or Proposed ACECs	Nominated by:	Rationale	Carried forward for analysis
Bridger Fossil Area	Internal (previous decision)	protect paleontological values and NNL	Yes
Castle Butte	Internal (previous decision)	protect unique cultural values	Yes
East Pryor	Internal (previous decision)	Wild horse habitat, wildlife habitat, historical/cultural and paleontological resources, special status plant species, Crooked Creek Natural Area and Crooked Creek NNL	Yes
Four Dances	Internal (previous decision)	significant historic, cultural or scenic values, peregrine falcon nesting habitat, and for the "natural hazards" of the cliffs	Yes
Grove Creek	Internal / External	significant archaeological and traditional cultural values and special status species plants	Yes
Meeteetse Spires	Internal (previous decision)	Unique vegetation and scenic values and rare plant protection	Yes
Petroglyph Canyon	Internal (previous decision)	protect unique cultural values	Yes
Pompeys Pillar	Internal (previous decision)	Protect historic and cultural values	Yes
Pryor Foothills RNA	External	Area has a large concentration of Bureau special status plant species and rare plant communities. The Gyp Springs site contains high historic and cultural values	Yes
Stark Site	Internal (previous decision)	protect unique cultural values	Yes
Sykes Ridge	External	Rare plant protection	No
Weatherman Draw	Internal/External (previous decision)	protect unique cultural values	Yes
Greater Sage-Grouse Habitat	External	Protect Greater Sage-grouse habitat	Yes
Steamboat Butte	External	Protect unique cultural values	No

These areas (12) will be identified as potential ACECs and will be fully considered for designation and management in the RMP (BLM Manual 1613.2.21). For the areas found not to meet the relevance and importance criteria, "the management prescriptions which are eventually established in the plan for such areas shall reflect consideration of the identified values."

T.2 Introduction

As part of the process for developing the Billings/Pompeys Pillar RMP, the BLM, Billings Field Office (BiFO) IDT reviewed all BLM-administered public lands in the planning area to determine whether any areas should be considered for designation as Areas of Critical Environmental Concern (ACECs). The public was also requested (through scoping and notification in the *Federal Register* Notice of Intent to identify areas they feel should be considered for management as an ACEC (or other special designation).

The Federal Land Policy and Management Act (FLPMA) **requires that priority** shall be given to the designation and protection of ACECs. Areas of Critical Environmental Concern are defined in the FLPMA Sec. 103[43 U.S.C. 1702] (a) and in 43 C.F.R. 1601.0-5(a) as "areas within the public lands where special management attention is required 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."

The following analysis and the resultant findings for ACEC relevance and importance criteria has been performed pursuant to FLPMA Sec. 202[43 U.S.C. 1712] (c)(3), 43 C.F.R. 1610-7-2 and BLM 1613 Manual.

T.3 Requirements for ACEC Designation

To be eligible for designation as an ACEC, an area must meet the relevance and importance criteria described in 43 Code of Federal Regulations (CFR) 1610.7-2 and BLM Manual 1613, *Areas of Critical Environmental Concern*, and need special management. The determinations in this report deal strictly with the relevance and importance criteria, and not special management attention.

Special management attention refers to "*management prescriptions developed during preparation of an RMP or amendment expressly to protect the important and relevant values of an area from the potential effects of actions permitted by the RMP, including proposed actions deemed to be in conformance with the terms, conditions, and decisions of the RMP*." Thus, these are management measures that would not be necessary and prescribed if the relevant and important values were not present. A management prescription is considered to be special if it is unique to the area involved and includes terms and conditions specifically to protect the values occurring within the area.

BLM Manual 1613 includes the following guidance on incorporating management prescriptions for potential ACECs into appropriate alternatives:

> *"During the formulation of alternatives, management prescriptions for potential ACEC's are fully developed. Management prescriptions will generally vary across the plan alternatives. If there is no controversy or issues raised regarding the management of a potential ACEC, it may not be necessary to develop a range of management alternatives. In other words, management prescriptions may not vary significantly across alternatives. A potential ACEC (or portion thereof) must be shown as recommended for designation in any or all alternatives in the Draft RMP in which special management attention is prescribed to protect the resource or to minimize hazard to human life and safety. Because special management attention must be prescribed in at least one plan alternative, each potential ACEC will appear as a recommended ACEC in at least one plan alternative. Designation is based on whether or not a potential ACEC requires special management attention in the selected plan alternative (i.e. preferred alternative)."*

Relevance and importance are defined as follows:

Relevance: There shall be present a significant historic, cultural, or scenic value, a fish or wildlife resource or other natural system or process, or natural hazard.

Importance: The above described value, resource, system, process, or hazard shall have substantial significance and value, which 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 life or property.

T.3.1 Relevance

An area meets the relevance criterion if it contains one or more of the following:

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans)

2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive, or threatened species or habitat essential for maintaining species diversity).

3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities that are terrestrial, aquatic, or riparian; or rare geological features).

4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action might meet the relevance criteria if it is determined through the resource management planning process to have become part of a natural process.

T.3.2 Importance

An area meets the importance criterion if it meets one or more of the following:

1. Have more than locally significant qualities that give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource.

2. Have qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.

3. Has been recognized as warranting protection to satisfy national priority concerns or to carry out the mandates of the Federal Land Policy and Management Act (FLPMA).

4. Have qualities that warrant highlighting to satisfy public or management concerns about safety and public welfare.

5. Poses a significant threat to human life and safety or to property.

T.4 Evaluation Process

In compiling a list of areas to be analyzed in this report, the BLM ID teams followed the guidance set forth in BLM Manual 1613 and considered:

1. Existing ACECs

2. Areas recommended for ACEC consideration (external and internal nominations)

3. Areas identified through inventory and monitoring

4. Adjacent designations of other Federal and State agencies.

ACECs may be nominated by BLM staff, other agencies, or members of the public at any time. During the RMP revision scoping process, the BLM specifically solicited nominations from the public and other agencies. Information on special designations and ACECs was part of the scoping package and included in information made available at the public scoping meetings.

As part of the formal outreach process, the BLM received four external nominations from the public (refer to Table I). The BLM staff also reviewed information from BLM inventories, data, and other reports to ensure that all potentially relevant and important values with in the planning areas were considered.

The maps included in this Draft RMP Map Appendix, along with the ACEC evaluations included in the section below, are for those areas that were found to meet the relevance and importance criteria. The boundaries of some of the proposed external nominations were modified to accurately represent where the values exist. The size and management prescriptions for each ACEC may vary by alternative to reflect a balance between the goals and objectives of the alternative and values being protected (BLM Manual 1613.2.22.B.1&2). The range of alternatives for the size of each ACEC being carried forward for further study is included in Chapter 2 – Alternatives.

ACEC Nomination Evaluation Forms

ACEC NOMINATION EVALUATION

NAME: **Bridger Fossil Area ACEC** (includes the Bridger Fossil Area National Natural Landmark)

LOCATION:

[redacted]

SIZE: 577 acres NOMINATED BY: BLM

RATIONALE: protect paleontological values EVALUATED BY: Carolyn Sherve-Bybee

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

The Bridger Fossil Area ACEC contains spectacular Cloverly Formation exposures and consists of variegated maroon and black shales. The fossils occur in the Cloverly Formation which is locally exposed badlands topography. Early Cretaceous vertebrates are found in this area. Early Cretaceous vertebrates of any kind are rare and poorly known from all regions of North America.

The Bridger Fossil Area National Natural Landmark (designated in November 1973) is a 161 acre locale located entirely within the 577 acre Bridger Fossil Area ACEC. This site has produced nearly all of the known remains of Deinonychrus antirrhopus, a new genus and species of carnivorous dinosaur. This small, bipedal flesh-eating dinosaur was about 3.5 feet tall, about 8 feet long, and probably weighted about 150 pounds.

The area includes the fossil remains of Deinonychus antirrhopus, a highly predaceous carnivorous dinosaur from the Cretaceous Cloverly Formation. Interpretation of the anatomy and habits of this creature led to ideas about the warm-bloodedness of dinosaurs, and possible close relationship to modern birds. A bone bed in the Jurassic Morrison Formation contains the remains of numerous juvenile and subadult sauropods. The Museum of the Rockeis, Montana State University and the Cincinnati Museum Center - Geier Collections and Research Center (Vertebrate Paleontology) have both conducted long term studies at this site.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

Exposures of the Late Jurassic Morrison and Early Cretaceous Cloverly Formations in this area have yielded fossils of rare dinosaur taxa. While fossil localities dating to this time period exist elsewhere, the quality, concentration, and kinds of fossils present on public lands in the Bridger Fossil Area can provide an outstanding record of the environment and a glimpse of terrestrial life during those periods.

In addition, the area includes the most fossiliferous exposures of the Cloverly Formation in northern Wyoming and southern Montana. Deinonychus and Tenontosaurus, rare dinosaur species have been documented here, as well as an extremely rare concentration of dinosaur egg and embryonic remains. These specimens may hold the answer to central questions in dinosaur research, regarding dinosaur physiology and behavior.

Professor Glenn Storrs (Adjunct Professor of Geology, University of Cincinnati and Director of Science Research & Withrow Farny Curator of Vertebrate Paleontology, Cincinnati Museum Center) has been holding a field school and excavating at the Mother's Day Site each summer for the past several years. The Mother's Day site, which is located within the Bridger Fossil Area ACEC, contains the remains of at least 8 juvenile dinosaurs.

During the summer/fall of 2006, after the field school had ended, the Mother's Day site was vandalized.

Due to the Bridger Fossil Area ACEC containing early Cretaceous vertebrates, this ACEC contains more than locally significant qualities which give it special worth and distinctiveness. There is cause for concern for the fossils located in this ACEC (the vandalism in 2006 and the current market for vertebrate fossils).

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

   The fossils themselves are fragile, rare, and unique and are threatened by vandalism.

III. <u>RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP</u>

It is the recommendation of the specialist that the Bridger Fossil Area ACEC be retained as an ACEC. It meets relevance criterion 1 and importance criteria 1 and 2.

Approval by Associate Field Manager	/s/ Craig R. Drake	9/30/2009
	Signature	Date
Concurred by Field Manager	/s/ James M. Sparks	9/30/2009
	Signature	Date

Mother's Day Site photos

Summer 2007

Summer 2007

Ready for transport – summer 2008

ACEC NOMINATION EVALUATION

NAME: **Castle Butte ACEC** LOCATION: [redacted]

SIZE: 184 acres NOMINATED BY: BLM

RATIONALE: protect unique cultural values EVALUATED BY: Carolyn Sherve-Bybee, Jay Parks

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

Castle Butte is a remarkable topographic feature with access from an adjacent county road and is locally well known. It has been known to Euro-Americans since the late 19th Century. Site 24YL0418 at Castle Butte is eligible for the National Register of Historic Places. Castle Butte has significant potential to provide information on Native American cultures of the Northwestern Plains during the Late Prehistoric and Historic time periods. It has clear association with specific ethnic groups still present in this region today, which suggests that it may be considered relevant to contemporary Native Americans.

Although there are numerous known rock art sties in the Northwestern Plains region, many of which are considered eligible to the National Register of Historic Places, site 24YL0418, the complex of rock art at Castle Butte is almost unique in the quality and concentration of artwork, particularly for the early historic time period. Panels at the site are believed to be biographical in character and to actually document events in the lives of 18th and 19th century Northwestern Plains horse nomads.

Castle Butte is one of a handful of sites in the Northwestern Plains which show a range of rock art styles dating over a long period of time. Examples of Native American arty styles dating from around AD 1100 to the fur trade period have been identified on the site, as well as historic EuroAmerican graffiti dating from 1874 to the present. The rich concentration of pecked, incised, and more rarely, painted motifs of a variety of styles in a relatively small area has resulted in some panels which show superimposing of elements. This is an important key to the relative dating of the various styles.

Some of the panels at Castle Butte can also be directly associated with adjacent buried archaeological deposits which can be dated through the use of radiocarbon dating techniques. This situation increases the scientific value of the site immensely. Site 24YL0760, an adjacent multiple component camp site, is closely associated with the rock art panels and probably was used by the persons who created the rock art at Castle Butte. Projectile points recovered from the surface of the site show that occupation occurred throughout the period during which the rock art was created.

On-going research into the function of rock art in prehistoric and historic Native American societies on the Plains indicates that stylistic variations may give clues as to the general date of its creation. Information on ethnic affiliation and dates for the rock art can provide significant contributions to our understanding of prehistoric and early historic population movements and interactions on the Northwestern Plains. Because of their excellent preservation as well as the large numbers of individual panels, Castle Butte has been and will continue to be important in such investigations.

Consultations with representatives of Native American tribes elsewhere in the region has shown that rock art sites are often considered highly important and are sometimes sacred locations. Although specific consultation has not been undertaken for Castle Butte, the highly unusual concentration and quality of rock art at the location makes it likely that it too is of importance to contemporary Native groups.

The viewshed is important to the setting of Castle Butte. From Castle Butte one can see south, across the Yellowstone River Valley to the Pryor Mountains and to the northwest to the Steamboat Butte rock art site. Possibly for these reasons this butte was chosen as the location for this rock art.

2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).

   There are a number of raptor nest sites within the rock formation that are used for nesting, including a golden eagle nest site.

II. <u>IMPORTANCE (characterized by one or more of the following):</u>

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

   Castle Butte meets importance criterion 1. It possesses information that is significant on a regional scale. Information which has been gained from the rock art and that the rock art still has the potential to yield. This has important implication for the understanding of the meaning of stylistic change in Native American rock art throughout the Plains area from Alberta to Texas

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

   Castle Butte also meets importance criterion 2. The art is inherently fragile and could easily be destroyed through erosion or vandalism. Episodes of erosion have been documented in recent years in which rocks bearing panels have fallen from the butte. While vandalism is minimal at this time, Castle Butte is somewhat remote, but is easily accessible by county road. The site has been widely published in professional journals and monographs and it is well known locally as an archaeological site. Individual panels are probably valuable to collectors or artifact dealers and many could be easily removed by vandals.

III. <u>RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP</u>

It is the specialist's recommendation that Castle Butte be retained as an ACEC.

Castle Butte meets both relevance and importance criteria. This cultural complex consists of two sites: 24YL0418 (an extensive rock art site) and 24YL0760 (a buried occupation site). Each of these sites are considered eligible to the National Register of Historic Places.

Castle Butte is one of the premiere rock art sites of the Northwestern Plains. Information from the site has been used by a number of prominent rock art investigators in constructing and debating an understanding of the sequence and causes of stylistic changes in Native American rock art throughout the High Plains form Alberta to Texas, particularly for the early historic period. The quality, quantity, and concentration of rock art on the site, as well as the potential for relative and absolute dating clearly make this site more than locally significant. Its remote, yet easily accessible location makes it vulnerable to vandalism. Natural erosion is an on-going problem to the site.

Approval by Associate Field Manager	/s/ Craig R. Drake	9/30/2009
	Signature	Date
Concurred by Field Manager	/s/ James M. Sparks	9/30/2009
	Signature	Date

Battle Scene Petroglyph

ACEC NOMINATION EVALUATION

NAME: **East Pryor ACEC** LOCATION: Pryor Mountains

SIZE: 29,550 acres (Alt A), 8,301 acres (Alt B), 32,767 acres (Alt C), 11,122 acres (Alt D) NOMINATED BY: BLM

RATIONALE: Wild horse habitat, wildlife habitat, historical/cultural, paleontology, SS plants and animals

EVALUATED BY: Jared Bybee, Nora Taylor, Carolyn Sherve-Bybee, Jay Parks, Ernest McKenzie

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

   Sykes Ridge has numerous vision quest sites and is an important religious value to the Crow Indians.

   The Demijohn Flat National Register (NR) District provides locally and regionally important values to the area. Currently about ¼ of the Demijohn Flat NR District is within the existing ACEC boundary, with the rest of the rest of the National Register District not being included within the ACEC boundary.

2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).

   Numerous BLM sensitive species inhabit the area these species are: Townsends big-eared bat, spotted bat, pallid bat, Fringed myotis, Peregrine falcon, sage-grouse, Yellowstone cutthroat trout, possibly western spotted skunk. Other species that may inhabit the east priors or migrate seasonally are the Ferriginous Hawk, Swainsons Hawk, Burrowing Owl, numerous LBBs. This area also serves as the only remaining population of Big Horn sheep in the planning area.

3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features.

   There are 10 BLM sensitive plant species that occur in the area and include: sweetwater milkvetch, Shoshonea, Lesicas's Bladderpod, Daggett Rockcress, Wind River milkvetch, Obscure Evening primrose, Yellow Beeplant, Leptodactylon phlox, Dwarf mentzelia, Short-leaved bluegrass,

   The caves within the area are considered fragile, irreplaceable and vulnerable to adverse impacts.

   The southern end of the area in the Crooked Creek NNL has fossil bearing Cretaceous deposits as well as three types of dinosaurs.

   The Upper segment of Crooked Creek, located within this ACEC, supports a population of Yellowstone Cutthroat Trout (YCT) (Oncorhynchus clarkii bouvieri) that has been designated a "core population." These pure strain YCT are very valuable in that they can be used to enhance other YCT populations or establish new populations in suitable waters. The YCT are listed as a Species of Concern by the MFWP and a federally sensitive species by the BLM and USFS.

4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

The caves are fragile, complex environments with natural hazards requiring special rules for public access and use.

Big Coulee is prone to sudden flash flooding, even if no rainfalls in the low elevations water will flash flood from the high elevation areas and create a natural hazard for anyone in the bottom of big Coulee during an event.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

   The PMWHR draws visitors locally, nationally and internationally, and provides opportunities for remoteness and solitude, and outstanding wildlife viewing opportunities. The cave ecosystems present in the area are fragile, complex environments that support bat species.

   The Demijohn Flat National Register District (24CB0478) provides regionally significant cultural resource values which give it special worth and distinctiveness and cause for concern. DemiJohn Flat National Register District retains archaeologically intact remnants of proto-historic period Crow tipi habitation. This site also retains unique qualities of outstanding scientific value on a regional level.

   There are many vision quest sites located within the East Pryor ACEC. In most cases vision quest locations were chosen as a result the unhindered viewshed. Many of vision quest sites (and the viewsheds) are considered to be of religious significance to the Crow for the same reasons.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

   The caves are fragile, complex environments with natural hazards requiring special rules for public access and use.

   Lesica's bladderpod is the only sensitive species found exclusively within the East Pryor ACEC (but also falls within the existing WSA boundary).

   Dinosaur fossils of sauropod, anklysaur, ornithopod, and primitive duckbill are within the Crooked Creek NNL. Large and small dinosaur predator bones are also present.

   The size and relatively pristine nature of DemiJohn Flat National Register District warrant the additional protection offered by an ACEC designation.

3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?

   There are a number of regulations or policies in place to protect the fragile ecological environment of the East Pryor ACEC, including:

   - *1988 cave resource protection act mandates the protection of caves, cave ecosystems, and cave dependent species*
   - *I.M 6840 directs the BLM to manage and protect sensitive species the same as candidate species as to prevent listing under the ESA*
   - *Wild Free-Roaming Horse and Burro Act mandates protection of wild horses*
   - *Paleontological Resources Protection Act 2009 mandates the protection of vertebrate fossils*
   - *ARPA mandates the protection of archeological resources*
   - *Antiquities Act of 1906*
   - *Executive Order 13007 (Sacred Sites)*

4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?

5. Poses a significant threat to human life and safety or to property?

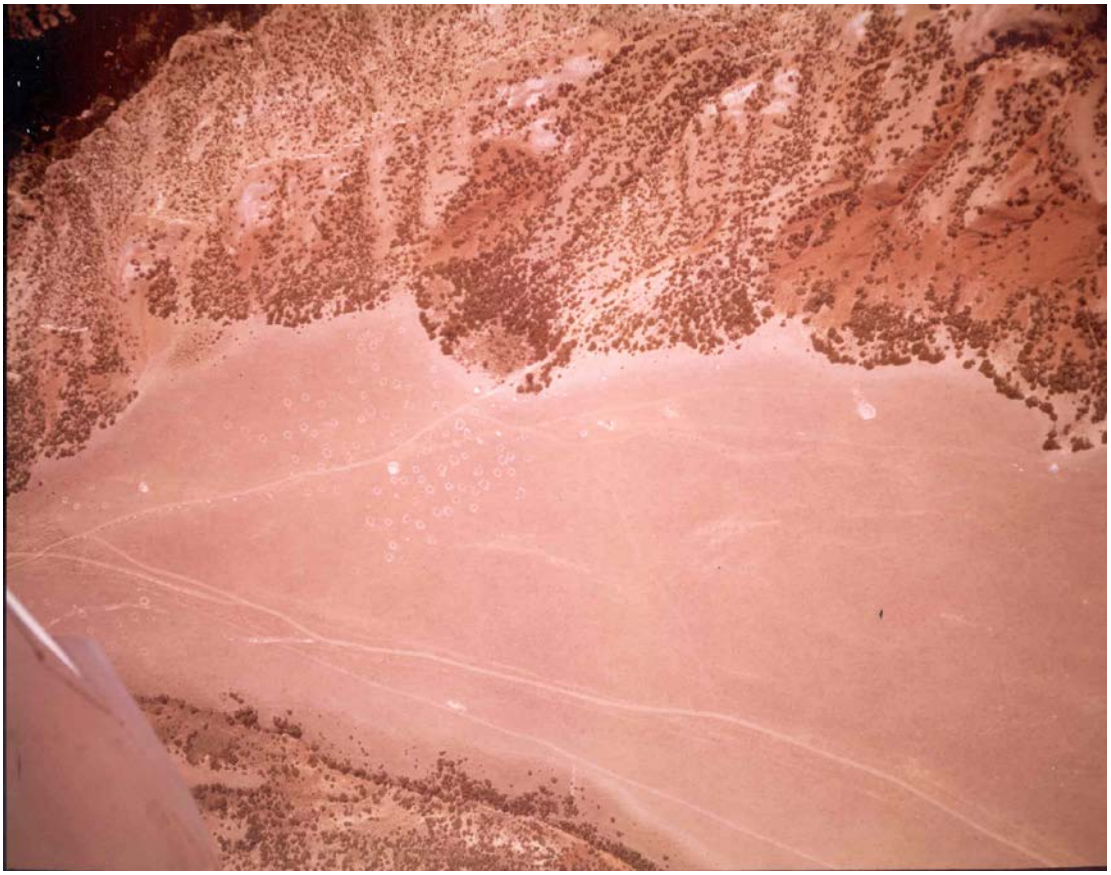
III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

Based on specialists' review, the East Pryor ACEC meets the following relevance and importance criteria:

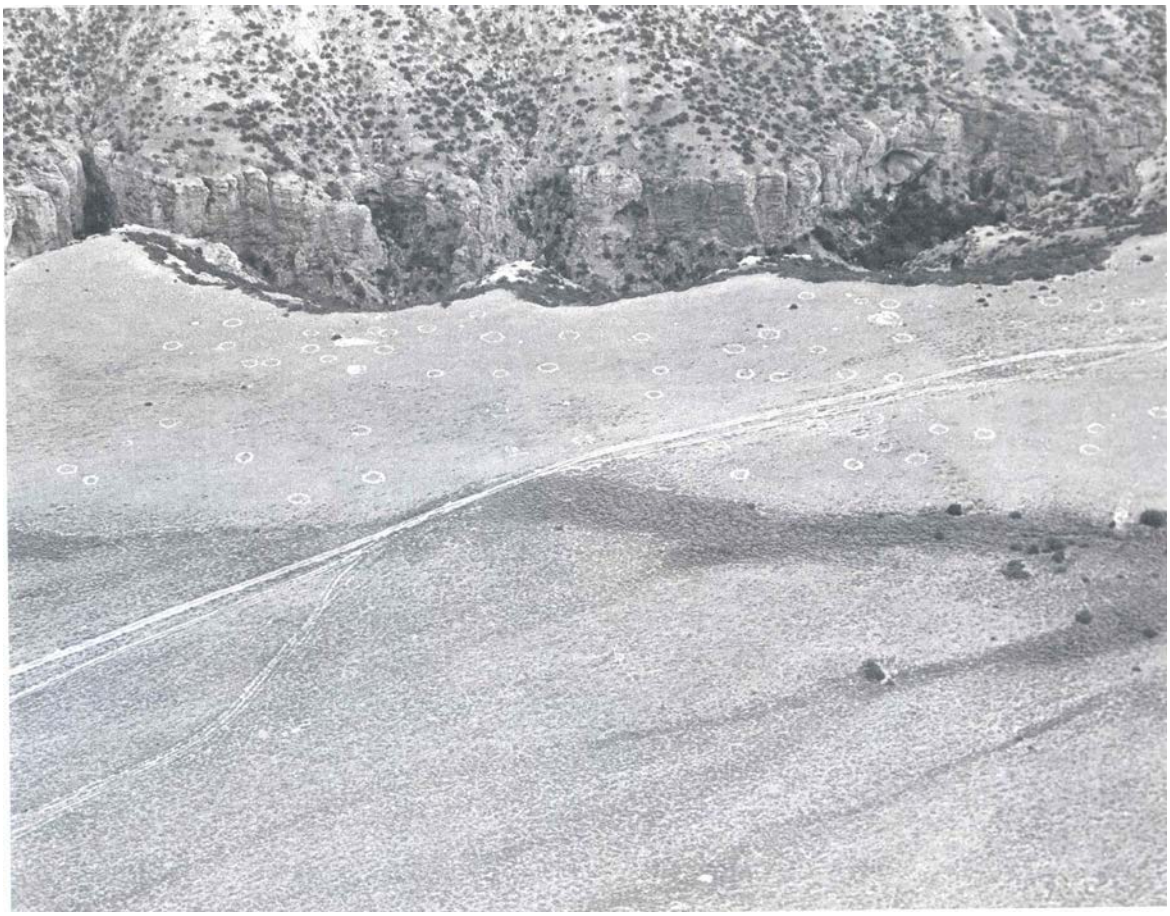
- *Native American religious values meet Relevance Criteria 1 and Importance Criteria 3*
- *The cave ecosystems are considered fragile and meet Relevance Criteria 3 and Relevance Criteria 4 and Importance Criteria 3, although cave formations in limestone formations are not rare or unique.*
- *Sensitive species: the Townsends big-eared bat is considered extremely vulnerable to human disturbance and will abandon roosts and young if disturbed and is a former candidate species. The spotted bat is the least understood bat in North America. Fringed myotis and pallid bat are common throughout the western United States. Peregrine falcon is no longer on the T&E list, however, it is still managed as a special status species. Sage-grouse is uncommon on the East Pryors. Western spotted skunk has very little information collected or studied about the species. Yellowstone cutthroat trout is susceptible to hybridization with non-native trout. The species meet Relevance Criteria 2 and Importance Criteria 3.*
- *The vertebrate fossil area Crooked Creek NNL meets the Relevance Criteria 3 and 4 and the Importance Criteria 3.*
- *Sensitive Plants - Lesica's bladderpod is the only sensitive species found exclusively within the East Pryor ACEC and meets Relevance Criteria 3 and Importance Criteria 2. The other sensitive plant species have limited distribution locally or regionally.*
- *The Demijohn Flat NR District provides locally and regionally significant historical values, and meets Relevance Criteria 1 and Importance Criteria 1 and 2.*

The East Pryor ACEC is designated for wild horses, wildlife, historical/cultural and paleontological resources. The Relevance Criterion for East Pryor ACEC was identified as meeting 1, 2, and 3; and Importance Criteria 2 and 3. Much of the East Pryor ACEC boundary overlaps three Wilderness Study Areas (WSAs): Pryor Mountain, Burnt Timber and Bighorn Tack-On WSAs. The management within the WSAs affords protection for the resource values present within the ACEC. Therefore, it is the specialist's recommendation to retain only those BLM public lands of the existing East Pryor ACEC that fall outside the WSAs to eliminate the overlapping designations. It is the specialists' recommendation to also include expanding the East Pryor ACEC to the west to include all of Demijohn Flat National Register District.

Approval by Associate Field Manager	/s/ Craig R. Drake	9/30/2009
	Signature	Date
Concurred by Field Manager	/s/ James M. Sparks	9/30/2009
	Signature	Date



DemiJohn Flat aerial view 1



DemiJohn Flat aerial view 2

ACEC NOMINATION EVALUATION

NAME: **Four Dances Natural Area ACEC** LOCATION:

SIZE: 784 acres NOMINATED BY: BLM

RATIONALE: significant historic, cultural or scenic values, peregrine falcon nesting habitat, and for the "natural hazards" of the cliffs

EVALUATED BY: Carolyn Sherve-Bybee, L. Hardy, J. Parks

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

   When the BLM acquired the area now known as the Four Dances Natural Area/ACEC in 1998, the Yellowstone River Parks Association nominated the area as an ACEC. At that time the area was known locally as Sacrifice Cliff.

   Three recorded sites are located within the Four Dances Natural Area ACEC: 24YL1535, 24YL1536, 24YL1537. 24YL1535 is a lithic scatter, 24YL1536 is a petroglyph site and 24YL1537 is also a petroglyph site. Both 24YL1536 and 24YL1537 are considered to be eligible to the National Register. There are two known unrecorded sites located within the Four Dances Natural Area ACEC, the Crow vision quest site and the Will James cabin. The vision quest site is considered a sacred site by the Crow and although it has not been evaluated for National Register eligibility, it should be considered eligible. The Will James cabin also has not been recorded and evaluated for National Register eligibility.

   Historically, the Crow tribe used this area for vision questing – mostly due to the view from the location of the vision quest site (four mountain ranges can be seen). In 2008, the Crow held a Men's Health Ceremony at the Four Dances Natural Area/ACEC. As part of the ceremony, prayers were said at the vision quest site. The Crow do hold the area around the vision quest site as being sacred.

   Will James (1892-1942) is a well known character (artist, writer, cowboy, etc.) of the American West. His use of the cabin is well known locally.

2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).

   Peregrine falcons nest on the cliffs at the Four Dances Natural Area / ACEC. Peregrine Falcons were removed from the U.S. Endangered Species list in August 1999. The peregrine falcon is currently protected by the Migratory Bird Treaty Act. The peregrine falcon is a protected non-game species for which it is illegal to collect, harm, or otherwise remove from its natural habitat.

3. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

   The cliffs at the Four Dances Natural Area/ACEC are considered to be natural hazards (dangerous cliffs). Four Dances is bordered to the west by these cliffs which rise 200-500 feet above the Yellowstone River.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

   The Four Dances Natural Area / ACEC has more than locally significant qualities which give it special worth, consequence, meaning, and distinctiveness compared to other resources. It is an undeveloped 765 acres immediately adjacent to the city of Billings. It is open to the public during the daylight hours for hiking.

   The location of Four Dances Natural Area ACEC marks the downstream end of the Coulson Bottom plain. The high sheer sandstone cliffs that form the western edges of Four Dances Natural Area ACEC are also a notable landmark in the Yellowstone Valley. Numerous references to the area exist in both Crow and Hidatsa oral literature.

   The aboriginal Crow name for the cliffs is "Annishshisoopash", translated as "Place of Four Dances". The cliff is traditionally recognized as a fasting site used by Four Dances, a prominent Crow warrior in the 1830s, during the heyday of the Rocky Mountain fur trade and the intertribal Plains wars. Four Dances took his name from the vision he received while fasting at this place. Four Dances' name refers to the dancers who appeared to him in four different places during his vision. Four Dances went from his fasting place to achieve a great Crow victory over the Lakota. Crows visited Four Dances' fasting place until about the turn of the century. Will James had a cabin which is located within the Four Dances Natural Area ACEC.

   The majority of the property is a plateau 200-500 feet above the Yellowstone River, which command views of many important traditional Crow sites and offers great potential for interpretation of many historical and aboriginal sites. The lower end of Coulson Bottoms was favored for Crow camps in the eighteenth and nineteenth centuries. Major fords crossing the Yellowstone and an important pass to the uplands north of the valley were both located here. The pass to the north was documented by Lieutenant James Bradley in 1876, when he passed through with Crow scouts on the way to discover the defeated Custer troops at Little Bighorn.

   In the twentieth century, internationally known cowboy artist and author, Will James periodically worked on the Snook Ranch which included the Four Dances property. Will James used a small cabin overlooking the Yellowstone Valley as a retreat. This cabin remains intact on the Four Dances Natural Area ACEC and appears much as it did in James' time. James was instrumental in perpetuating the myth of the American West and the image of the cowboy as the quintessential American character. The best known of James' works includes Smoky the Cowhorse (1926). Smoky the Cowhorse won the Newbery Medal for children's literature in 1927 and the Lewis Carroll Shelf Award in 1965.

   The Four Dances Natural Area ACEC is directly across the river from Coulson City, a late nineteenth century steamboat landing and the precursor to Billings. Coulson City was built just across the river from what was then the Crow Reservation (the reservation boundary was adjusted to the east in 1891). A segment of the historic Meeteetse to Billings stage and freight road also appears to have crossed the northeast corner of the Four Dances Natural Area ACEC.

   The cliffs on the Four Dances site were also noted by William Clark when he floated past in 1806. His manuscript maps refer to them as "Yellow Cliffs". A few days later Sergeant Pryor and his party crossed the Yellowstone with the expedition's horse herd just below the cliffs.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

   The undeveloped nature of this location so close to the city of Billings makes it vulnerable to adverse change.

3. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?

   The Four Dances Natural Area/ACEC has qualities which warrant highlighting in order to satisfy management concerns about public safety. Those concerns are with regards to the cliffs. Currently the BLM has some management prescriptions for the ACEC which prohibit rock climbing and hang gliding from the cliffs..

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

It is the recommendation of the specialist to retain the Four Dances Natural Area ACEC. It meets relevance criteria 1, 2, and 3 and importance criteria 1, 2, and 3.

Approval by Associate Field Manager	/s/ Craig R. Drake	9/30/2009
	Signature	Date
Concurred by Field Manager	/s/ James M. Sparks	9/30/2009
	Signature	Date

The Four Dances Natural Area/ACEC

Crow Men's Health Ceremony at Four Dances Natural Area ACEC June 2008

ACEC NOMINATION EVALUATION

NAME: **Grove Creek ACEC** LOCATION: west half of Grove Creek area

SIZE: 0 Acres (Alt A), 8,251 Acres (Alt B), 9,445 Acres (Alt C), 8,251 acres (Alt D)

NOMINATED BY: BLM and Public

RATIONALE: significant archaeological and traditional cultural values and special status plants

EVALUATED BY: Carolyn Sherve-Bybee, Nora Taylor, Jay Parks

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

   The Gold Creek complex consists of four sites initially recorded as discrete sites or feature clusters, (24CB0622, 25CB0148, 24CB0625, and 24CB1190) and have since been determined to be two very large "site complexes". The cluster of recorded sites comprising the Ruby Creek Complex includes 24CB0148, 24CB0149, 24CB0622, 24CB1193, 24CB1194, and 24CB1839. Together, these sites contain over 300 individual tipi ring features and extend over more than a square mile. Roughly 2/3 of this complex is located on private land within the Grove Creek development while 1/3 is located on BLM managed public lands.

   24CB0622: This site contains 170 stone features including 157 discreet tipi rings. The site is eligible for nomination to the National Register of Historic Places under criterion D. This site was originally recorded in 1973. The original recordation did not address the extent of the site, but did state that informant's testimony indicated that the tipi rings extended across much of the surrounding benches. Site 24CB0148 (37 rings) and site 24CB0149 (16 rings) are essentially coincident with site 24CB0625 and should have been re-recorded as part of that site. The Ruby Creek complex should also include sits 24CB1193, 24CB1194 and 24CB1839. The Ruby Creek complex is eligible to the National Register under criterion A (national events) in that it was the locality of a series of complex behavioral events that occurred for over 4,000 years based on the projectile point typology and recovered radiocarbon dates. It is also eligible to the National Register under criterion C in that design and construction of the individual features represents a style of construction. Also testing of several features demonstrated that the area still can yield information.

   The Gold Creek Complex is of similar nature to that of the Ruby Creek Complex and indeed may be extant as a single large site complex extending roughly three miles north/south and about one mile east/west. 24CB0625 was originally recorded in 1973 as a cluster of a half dozen tipi rings on a low ridge overlooking Gold Creek. In 1989, site 24CB1190 was recorded which contained 69 discreet ring features. These two sites are contiguous and are probably part of the same occupation.

   The Crow tribe believes these site complexes to be a Traditional Cultural Property, although it has not been recorded as such.

   Members of the Crow tribe have identified the area as being of religious significance.

2. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features.

   The western part of the Gold Creek complex contains populations of Beartooth large-flowered goldenweed (Haplopappus carthamoides var. subsquarrosa). This is a regionally endemic species restricted to the eastern

front of the Beartooth Mountains and the foothills of the Pryor Mountains. Haplopappus carthamoides is known from only eight locations in Montana. The area is adjacent to recovery areas for the Grizzly Bear and Gray Wolf.

II. II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

   The Gold Creek complex has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern. The projectile point typology and recovered radiocarbon dates indicate that this area has been occupied (the tipi rings) for over 4000 years.

   While this area has not yet been designated a Traditional Cultural Property, the area contains Native American burials and sacred sites.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

   The Gold Creek Complex has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change.

   The private land surrounding the BLM managed public lands in the Grove Creek area have been subdivided and the parcels are being sold. ROW applications have been submitted to access some of these parcels. If ROWs are approved, road construction could adversely damage many of the sites. The Crow tribe has requested that the sites be avoided by road construction. Feature density within both complexes if of high enough density that avoidance is not a practical option. In the case of the Ruby Creek road, avoidance would mean substantial re-routing of the road. In Grove Creek, no study has been done to avoid the sites in question and any potential re-route would most likely still impact other loci within the potential TCP district.

   Improved and increased roads in this area will also lead to vandalism of the sites in the Grove Creek Complex (tipi rings, burials, sacred sites, etc.). In 1990, during the construction of a road and well pad it, five individual features within site 24CB0622 were vandalized by looters. The BLM in consultation with the SHPO determined that this vandalism was a direct result of increased access from the newly constructed road.

   Beartooth large-flowered goldenweed is a regionally endemic species restricted to the eastern front of the Beartooth Mountains and the foothills of the Pryor Mountains.

   Development of the area (oil and gas development, ROWs, etc.) would bring more people into the area. As the Grove Creek area is of religious significance to the Crow, the development or having more people in this area would hinder/restrict Crow religious practices in the area.

3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?

4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?

5. Poses a significant threat to human life and safety or to property?

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

The Grove Creek Complex meets both the relevance criteria (1 & 2) as well as the importance criteria (1 & 2). As the BLM's current management cannot protect this area, it is recommended that this area be considered as an ACEC.

Approval by Associate Field Manager	/s/ Craig R. Drake Signature	9/30/2009 Date
Concurred by Field Manager	/s/ James M. Sparks Signature	9/30/2009 Date

ACEC NOMINATION EVALUATION

NAME: **Meeteetse Spires ACEC** LOCATION: T. 8 S., R. 20 E

SIZE: 965 acres (Alt A), 1,523 acres (Alt B), 2,173 (Alt. C), 1,523 acres (Alt D) NOMINATED BY: BLM

RATIONALE: Unique vegetation and scenic values and rare plant protection.

EVALUATED BY: Nora Taylor, Carolyn Sherve-Bybee, Jay Parks

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

   This area contains significant scenic value because of the spire remnants of the upturned Madison limestone.

2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).

   The spire rock formations are used by peregrine falcons for nesting. Peregrine falcons are a Bureau sensitive species.

3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features.

   This area contains populations of the rare plants, shoshonea (Shoshonea pulvinata) and Beartooth large-flowered goldenweed (Haplopappus carthamoides var. subsquarrosa). The area is adjacent to recovery areas for the Grizzly bear and Gray wolf.

   The terrain slopes steeply, dropping from 7,200 feet to5,600 feet. The spires are formed by a tilted layer of sedimentary rocks at the edge of the Beartooth Uplift and are remnants of upturned Madison limestone.

4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

   There are natural hazards due to the dangerous cliffs in the ACEC.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

   This area is considered significant for the rare plant species Shoshonea pulvinata which is known in three locations in Montana and only 12 world-wide and for Haplopappus carthamoides which is known from only eight locations in Montana.

   Both species are regional endemics. Shoshonea is known only from the Absaroka and Owl Creek Mountains of northwest Wyoming and adjacent Montana. Beartooth large-flowered goldenweed is restricted to the eastern front of the Beartooth Mountains and the foothills of the Pryor Mountains.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

   The Meeteetse Spires area is of religious significance to the Crow Tribe.

3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?

4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?

5. Poses a significant threat to human life and safety or to property?

   The steep cliffs pose a hazard to the recreating public.

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

It is recommended that the existing Meeteetse Spires ACEC be retained and upon completion of the proposed LWCF land acquisition, the ACEC boundary be expanded to include the acquired land. This would add 558 acres and one shoshonea site to the ACEC. The 650 acres to the east of the boundary of the existing ACEC only contains one Beartooth large-flowered goldenweed site so this area is not recommended to be included in the ACEC. The entire Meeteetse Spires area is of religious significance to the Crow Tribe.

Approval by Associate Field Manager	/s/ Craig R. Drake	9/30/2009
	Signature	Date
Concurred by Field Manager	/s/ James M. Sparks	9/30/2009
	Signature	Date

560 acre acquisition area

560 acre acquisition area

ACEC NOMINATION EVALUATION

NAME: **Petroglyph Canyon ACEC** LOCATION: [redacted]

SIZE: 240 acres NOMINATED BY: BLM

RATIONALE: unique cultural values EVALUATED BY: Carolyn Sherve-Bybee

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

IV. **RELEVANCE** (must contain one or more of the following):

1. **A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).**

Petroglyph Canyon ACEC, known by Smithsonian trinomial number 24CB0601, is a Late Prehistoric rock art site listed on the National Register of Historic Places (11/20/1975). The complex rock art site consists of 38 panels of petroglyphs. Anthropomorphic figures dominate. The majority of the petroglyphs were made by pecking through the dark varnish to expose the lighter colored interior stone. This practice of removing all the interior of each petroglyph, as opposed to simply pecking away an outline of each figure, is known as the *en toto* pecked style. The rock art in Petroglyph Canyon dates from 800-1000 years ago (Loendorf 1984).

This style is dominated by depictions of humans shown in full view, side-by-side, in rows of figures. Both males and females are shown.

Quadrapedal animals, including what are likely representations of bison, sheep, dogs/coyotes, and bears are found in the *en toto* style, as are snakes and possibly birds. Abstract elements include net patterns and pecked dots, sometimes in rows and other times, just a single dot.

Petroglyphs in the *en toto* style were through to be part of a continuous tradition that lasted through at least four centuries.

The numerical ages for two petroglyphs at Petroglyph Canyon were determined through AMS dating while seen more petroglyphs were dated through the CR curve. All dates fall within the relative estimate for the *en toto* tradition.

Petroglyph Canyon lies in the Cretaceous Cloverly formation. The Cloverly strata include sandstones of moderate hardness and Petroglyph Canyon has been cut in the sandstone mostly through water erosion. The upper end of the canyon is a jumbled array of boulders of varying sizes and shapes. The boulders decrease along the actual canyon bottom toward its mouth and in the lower third of the canyon the sandstone bedrock is exposed on the floor. Six to eight circular eroded holes or pockets occur in the bedrock; some of these are nearly two meters in diameter and more than a meter in depth. These holes catch runoff water and retain water through mid-summer in normal years.

The canyon is oriented northwest to southeast over the length of 1.5 kilometers. The maximum height of the canyon walls is 20 meters along the southwestern wall near the mouth. The northeastern side is not as steep and is dissected by drainages. Along this side near the canyon mouth there are numerous large boulders and erosional remnants which are often separated by

narrow crevices. Petroglyphs are found on the faces of these boulders as well as on the more sheer canyon walls.

2. **A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).**

3. **A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features.**

4. **Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.**

II. **IMPORTANCE** (characterized by one or more of the following):

1. **Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?**

Petroglyph Canyon ACEC (24CB0601) contains more than locally significant qualities which give it special worth, consequence, meaning, or distinctiveness, especially compared to similar resources.

The rock art in Petroglyph Canyon dates from 800-1000 years ago (Loendorf 1984) and represents the northernmost extension of a rock art style not commonly found in Montana.

This *en toto* style is dominated by depictions of humans shown in full view, side-by-side, in rows of figures. Both males and females are shown in Petroglyph Canyon.

Quadrapedal animals, including what are likely representations of bison, sheep, dogs/coyotes, and bears are found in the *en toto* style, as are snakes and possibly birds. Abstract elements include net patterns and pecked dots, sometimes in rows and other times, just a single dot.

Petroglyphs in the *en toto* style were through to be part of a continuous tradition that lasted through at least four centuries.

The numerical ages for two petroglyphs at Petroglyph Canyon were determined through AMS dating while seen more petroglyphs were dated through the CR curve. All dates fall within the relative estimate for the *en toto* tradition. The average age of the four dated anthropomorphic figures is 1278 BP, which is within the range of the oldest C14 date from the site. A thunderbird figure was dated at 962 ± 78 BP. Three petroglyphs were older than the relative estimates for the site. One, a bison figure, dated at 1470±75 BP, two other animal forms include an upside down quadraped and another correctly oriented quadraped , but the latter is so heavily varnished it is difficult to see. These figures dated at 2454±223 BP and 2613±309 BP respectively and may represent an older rock art tradition.

2. **Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?**

Petroglyph Canyon ACEC (24CB0601) has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change. It possesses information that is regionally significant and fragile. The area is vulnerable to natural erosion and vandalism.

Petroglyph Canyon is seeing an increasing amount of visitation each year. Site stewards, part of the Montana Site Steward Program, have been monitoring the site since 2010. No new incidences of vandalism have occurred at the site, although unauthorized roads are now visible from the southern end of Petroglyph Canyon (one road begins on the private land to the west, the other begins on BLM managed public land in Wyoming).

3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?

4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?

5. Poses a significant threat to human life and safety or to property?

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

It is the specialists's recommendation that Petroglyph Canyon ACEC be retained. This recommendation is based on the outstanding cultural and natural values and recognizing that preservation of those values is in the interest of the public.

Petroglyph Canyon ACEC meets Relevance criterion 1 and Importance criteria 1 and 2.

Petroglyph Canyon ACEC is well known regionally. It contains the northernmost extension of a rock art style (*en toto*) that is not commonly found in Montana. The site is listed on the National Register of Historic Places. It is considered significant for its information potential on the prehistory of Native American in the plains environment.

Approval by Associate Field Manager	/s/ Craig R. Drake Signature	9/30/2009 Date
Concurred by Field Manager	/s/ James M. Sparks Signature	9/30/2009 Date

ACEC NOMINATION EVALUATION

NAME: **Pompeys Pillar ACEC** LOCATION: 30 miles east of Billings, MT

SIZE: 423 acres NOMINATED BY: RMP amendment, 1996

RATIONALE: Protect historic and cultural values and wildlife/fisheries

EVALUATED BY: Dick Kodeski, Carolyn Sherve-Bybee, Jay Parks, Ernie McKenzie

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

   Pompeys Pillar has served as an important geological feature, landmark and register of travelers for hundreds of years. Hundreds of markings, petro glyphs, and inscriptions left by visitors have transformed this geologic phenomenon into a living journal of the American West. One of the Pillar's most notable visitors, 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. In his journal, Clark named the rock Pompey's Tower (Pompey being Clark's nickname for Sacagawea's young son, Jean Baptiste Charbonneau). 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. Crow ethnographies include numerous references to the Pillar as a landmark and as an area for religious activities such as fasting. Evidence of long-term use of the Pillar is ubiquitous in the vicinity. The burned rock, flaked stone and bone debris left from probably thousands of years of small, short-term occupations are visible in the flats surrounding the landform.

   Pompeys Pillar has several designations associated with the site to protect its significant values, including most recently, status as a National Monument. Through Section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 431), approximately 51 acres at Pompeys Pillar was designated a national monument in January of 2001, for the purpose of protecting the historic and cultural objects described above.

   In 1965, Pompeys Pillar was officially designated a National Historic Landmark (NHL) primarily because of the significance of William Clark's signature panel. The boundaries designated include 6 acres above the 2,890 foot contour level. In 1983, the same six acre site was listed on the National Register of Historic Places as a significant cultural property.

2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).

   The Pompeys Pillar property serves as important habitat for significant fish and wildlife resources. The community of wildlife species present on the property are typical of the riverine environment of the middle Yellowstone Valley in the early nineteenth century. Bald eagles have been observed traveling in the Pompeys Pillar area. During spring migration, up to 100 bald eagles have been observed in the trees and over the river about 1.5 miles downstream from the existing bridge (BRW, biological assessment report, February 1999). Pompeys Pillar has a

rich diversity of song birds (meadowlark, black-capped chick-a-dee, and mountain blue bird), upland game bird species (sharp-tail grouse, pheasant) and raptors (kestrel; red-tailed, sharp-shinned, Cooper's, Swainson's, rough-legged and marsh hawks; and prairie falcon). The golden eagle, mallard, Canada geese, snow geese, red-breasted merganser, and common golden-eye have been observed in the corridor. The Yellowstone River corridor, adjacent to the Pillar, may be suitable habitat for the Pallid Sturgeon for potential future recovery efforts.

3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features.

   Pompeys Pillar is a massive sandstone outcrop that rises approximately 127 feet on the banks of the Yellowstone River 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. The Pompeys Pillar property harbors a functioning ecosystem similar to that observed by the Clark party in the early nineteenth century. Many wildlife species typical of the early 1800s, have been observed in the area. The Pillar lies at a well-known ford of the Yellowstone. On the north side of the river, opposite the Pillar, the high sandstone rims are broken to allow Pompeys Pillar Creek entry into the Yellowstone. To the south is the mouth of the north-draining Fly Creek Valley. The ford and these natural passages must have been used for millennia by bison herds and hunters to access the Bull Mountains and Musselshell Valley and lands beyond to the north, and the Big Horn and Little Big Horn Valleys and the country to the south. The position of Pompeys Pillar at this strategic crossroads along north-south and east-west travel corridors virtually guaranteed it an important role in the prehistory and history of the middle Yellowstone Valley.

4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

II. <u>IMPORTANCE (characterized by one or more of the following):</u>

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

   Pompeys Pillar meets Importance Criteria 1. Pompeys Pillar has resources and qualities that are both locally and nationally significant. William Clark's signature is the only on-site physical evidence known for the Lewis and Clark Expedition. The hundreds of markings, petroglyphs, and inscriptions are evidence of the regional significance of the site. To further support the importance of the site, 51 acres was reserved and set-aside as Pompeys Pillar National Monument to protect the values and resources.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

   Pompeys Pillar meets Importance Criteria 2. The signatures and rock art are extremely fragile and are especially vulnerable to erosion. Comparison of the signature panels today with photographs made about 30 years ago show significant deterioration. Modem graffiti (vandalism) is the secondary threat to the historic and prehistoric motifs.

3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?

   Pompeys Pillar meets Importance Criteria 3. The area warrants protection in order to preserve and protect the significant resource values, as recognized through the National Monument proclamation. With the addition of visitor facilities to interpret the cultural and historical significance of the area, the site has become an important destination for visitors from across the region and country.

4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?

5. Poses a significant threat to human life and safety or to property?

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

Pompeys Pillar meets both relevance (criteria 1, 2, and 3) and importance (criteria 1, 2, and 3). Since the original 1996 Pompeys Pillar ACEC Amendment, 51 acres within the ACEC have been designated a National Monument. In addition, a significant investment of resources were dedicated to the site to interpretive the historical, cultural and Native American values of the region. The site continues to draw visitors from across the country and provides local and regional schools interpretive opportunities as well as an opportunity to experience an ecosystem reminiscent of an 1806 environment.

Recommend: retaining the 432 acre ACEC, inclusive of the NM and NHL designations (and National Register Landmark). BLM management objectives should address the long-term conservation of the biological and heritage resources and provide visitor service/interpretive opportunities.

Approval by Associate Field Manager	/s/ Craig R. Drake	9/30/2009
	Signature	Date
Concurred by Field Manager	/s/ James M. Sparks	9/30/2009
	Signature	Date

ACEC NOMINATION EVALUATION

NAME: **Pryor Foothills Research Natural Area/ACEC** LOCATION: T. 9 S., R. 27 E.

SIZE: 0 acres (Alt A), 958 acres (Alt. B), 7,401 acres (Alt. C), 2,606 (Alt D) NOMINATED BY: Public

RATIONALE: Area has a large concentration of Bureau sensitive plant species and rare plant communities.
The Gyp Springs contains high historic and cultural values

EVALUATED BY: Nora Taylor, Carolyn Sherve-Bybee, Jay Parks

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

   The Gyp Springs area (located in the south portion of the proposed Pryor Foothills RNA) contains significant historic and cultural values.

   Historic Values: In 1864, Jim Bridger, famed early trapper and mountain man, and later guide for the Captain William Reynolds Exploration military and emigrant parties, blazed what would become known as Bridger Cutoff, an alternative route for a section of the Bozeman Trail emigrant route. The Bozeman Trail extended from Fort Casper, Wyoming to Virginia City through the territories of the Sioux and Northern Cheyenne and Northern Arapaho, who, at the time were hostile. The Bridger Cutoff extended west from Fort Casper, where it left the Bozeman Trail passing through relatively friendly Shoshone and Crow territory and then north to Edgar, Montana, where it then connected again with the Bozeman Trail. The Bridger Cutoff became the main emigrant trail through the region, particularly after the section of the Bozeman Trail through the hostile territory was abandoned in 1868. The Bridger Cutoff in some sections was used through the 1920s. The present day Gyp Springs Road (still in-use) follows generally along the Bridger Cutoff through the Gyp Springs area. The trail passes directly through and continues west of Gyp Springs. The spring was likely used historically as a watering and camp site and was an integral part of Bridger Cutoff of the Bozeman Trail. The trail was designated as site number 24CB1242 within the Montana portion in 1991 (Taylor 1991) beginning below Gyp Springs following Gyp Springs Creek north from the border with Wyoming and continuing along the creek, through the springs, and then continuing to the northwest. The Bridger Cutoff was determined eligible for inclusion to the NRHP on a state level. The trail has at least regional significance because it is associated with events that have made a significant contribution to the broad pattern of our history and it is associated with the lives of persons significant in our past.

   Cultural Values: Gyp Springs and the immediate vicinity retain archaeological evidence of both historic and prehistoric use and is documented as site 24CB604. Confirmed substantial surface and subsurface cultural remains indicate possible long, intensive and continued use of the springs in prehistoric through historic periods. The prehistoric component is comprised of artifact scatter and intact subsurface deposits indicative of a habitation site. Diagnostic materials indicate an occupation or occupations as early as late Paleolithic/archaic period up to late prehistoric period. A Recreation Site Inventory and Evaluation Form completed by BLM before 1969 indicates a consideration of Gyp Springs and "Tipi Rings Area nearby" as contributing to the recreational attraction for the Crooked Creek Program Area. The "Tipi Rings Area" was recorded as 24CB604 in 1967. The combination of the historic and prehistoric values makes the cultural values outstandingly remarkable.

2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).

   The area contains sites of seven bureau sensitive plant species.

3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features.

   The area contains the northern extent of the Wyoming Basins ecoregion.

4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

   This area is the northern extent of the Wyoming Basins ecoregion. The area contains seven bureau sensitive plant species. Most of the Montana sites of the many of the species are found in this area.

   The Gyp Springs locale contains more than locally significant qualities that give it special worth and distinctiveness or cause for concern, especially compared to any similar resource. The entire Gyp Springs site is eligible for the National Register for cultural and historic values, this is due to the prehistoric and historic use of the spring site. .

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

   Impacts of climate change would be observed first where plants are at the edge of their range. Changing climates would allow plants to modify their ranges making peripheral populations important for range expansion.

   The Gyp Springs locale has qualities that make it fragile, sensitive, threatened or vulnerable to adverse change. The historic resources (historic roads/trails) are sensitive and vulnerable to change as the roads (or road traces) can be impacted unintentional OHV use. The cultural resources are vulnerable to collecting and vandalism.

3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?

4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?

5. Poses a significant threat to human life and safety or to property?

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

I recommend designating 2,606 acres of the Pryor Mountain foothills as a Research Natural Area/ACEC for the management and protection of the rare plant values of this area. This area provides a unique area for research and education about rare plants and the impact of climate change to ecoregions at the edge of their distribution. The cultural resources located in the Gyp Springs area are an additional important value to the proposed RNA.

Approval by Associate Field Manager	/s/ Craig R. Drake Signature	9/30/2009 Date
Concurred by Field Manager	/s/ James M. Sparks Signature	9/30/2009 Date

ACEC NOMINATION EVALUATION

NAME: **Stark Site ACEC** LOCATION:

SIZE: 799 acres NOMINATED BY: BLM

RATIONALE: protect unique cultural values EVALUATED BY: Carolyn Sherve-Bybee

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

   The Stark Site complex (a series of 27 sites) has the potential to yield significant information on Native American societies of the Northwestern Plains from the Plains Archaic period to the early Historic period.

   The complex of sites in the area includes evidence of the repeated impoundment, slaughter, and processing of bison over a long period of time. Included are seven separate bison bone deposits, each representing a kill and processing episode; a number of open occupation sites with artifacts, hearth features, and buried deposits; and a small rockshelter with rock art and with the potential for buried occupation deposits. At least two human burials have been removed from that area.

   When originally recorded in 1972, one of the bison kill and processing sites yielded pottery shards similar to types found in late prehistoric contexts on the Missouri River in North Dakota. Limited excavation was subsequently conducted by Montana State University, Bozeman. The presence of this rare (for Central Montana) and exotic artifact type suggests that these peoples may have been among the earliest Crow to move into the area after splitting off from North Dakota agricultural groups.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

   The Stark Site complex possesses information that is regionally significant. The presence of this rare (for Central Montana) and exotic artifact type suggests that these peoples may have been among the earliest Crow to move into the area after splitting off from North Dakota agricultural groups. The timing and other factors critical to an understanding of the initial movement of the Crow people to the Montana-Wyoming area is problematical and has generated considerable research interest. The opportunity to investigate the activities of late prehistoric Plains nomad societies at a time when they were initially entering the area is unusual and may be quite significant, not only for an understanding of Crow and Hidatsa ethnohistory, but of understanding the ethnohistory of numerous other groups who entered the North American Plains during the late prehistoric and early historic time.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

   The Stark Site complex has qualities or circumstances that make it fragile and vulnerable. The area is well known to artifact collectors and is easily accessible by a county road. The reports for sites in the complex include several references to unauthorized digging in site deposits. With repeated collection and vandalism, this valuable and interesting group of sites could be stripped of diagnostic artifacts and otherwise rendered useless for scientific and educational purposes in the future.

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

It is the specialist's recommendation that the Stark Site be retained as an ACEC. The Stark Site meets relevance criterion 1 as a significant cultural property. It also meets importance criteria 1 and 2 as it possesses information that is regionally significant and the sites are vulnerable and fragile. The area is approximately 799 public surface acres in

size and is considered eligible for nomination to the National Register of Historic Places. Although bison kill and butchering sites on the Northwestern Plains are not uncommon, the Stark Site complex represents the greatest density of such sites known on public land in south-central Montana. The presence of both kill and processing sites dating over a considerable span of time provides the opportunity to compare hunting and related strategies by various groups using the site over differing time periods. The area is considered significant for its potential on the prehistory of Native American societies in the plains environment.

Approval by Associate Field Manager	/s/ Craig R. Drake	9/30/2009
	Signature	Date
Concurred by Field Manager	/s/ James M. Sparks	9/30/2009
	Signature	Date

ACEC NOMINATION EVALUATION

NAME: **Sykes Ridge Rare Plant ACEC** LOCATION: T. 9 S., R. 28 S.

SIZE: 11,600 acres NOMINATED BY: Public (Peter Lesica)

RATIONALE: Rare Plant Protection EVALUATED BY: Nora Taylor

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).

3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features.

   The proposed ACEC contains six bureau sensitive plants: Lesica's bladderpod, obscure evening-primrose, dwarf mentzelia, Daggett rockcress, Wind River milkvetch, yellow bee plant.

4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

   The Sykes Ridge area has numerous sites of Bureau sensitive species.

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

   This is an area of high endemism with populations of rare and regionally endemic species and communities.

3. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?

4. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?

5. Poses a significant threat to human life and safety or to property?

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

Do not designate as an ACEC because this area is already part of the East Pryor ACEC. Under all alternatives for the East Pryor ACEC, adequate protection for the rare plant resources will be included as part of the management actions. The majority of this proposed ACEC is also within the boundaries of the Pryor Mountain and Bighorn Tack-on Wilderness Study areas. The Interim Management Plan for WSAs also provides adequate protection for rare plants.

Approval by Associate Field Manager	/s/ Craig R. Drake Signature	9/30/2009 Date
Concurred by Field Manager	/s/ James M. Sparks Signature	9/30/2009 Date

ACEC NOMINATION EVALUATION

NAME: **Weatherman Draw ACEC** LOCATION:

SIZE: 4,365 acres (Alt A), 4,986 acres (Alt B), 12,277 acres (Alt C), 12,277 acres (Alt D) NOMINATED BY: BLM and public

RATIONALE: protect unique cultural values EVALUATED BY: Carolyn Sherve-Bybee, Jay Parks

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

Weatherman Draw contains significant historic, cultural and scenic values.

There has been almost 80 years of work in the Weatherman Draw ACEC. The intriguing thing about this is that the majority of the work was driven towards finding and recording rock art. During the 1960s and 1970s most of the large panels were recorded and Loendorf focused his famous studies on the Valley of the Shields. This seminal work triggered emphasis on the rock art in the area by other archaeologists. The focus on rock art tended to skew the data set towards one aspect of the prehistoric use of the area.

In 2003, it was determined that a systematic inventory of the area was needed. Since 2003 the inventory of the Weatherman Draw and the surrounding area has focused on determining the nature of the cultural landscape. More to the point, it has focused on the settlement and spatial patterns of the area. This research is showing how the people who created the rock art in Weatherman Draw used and lived on the land.

Of the 80 recorded rock art sites within Weatherman Draw, many of these sites contain the distinctive styles of characteristic of Northern Plains aboriginal rock art of the past two millennia. The wide variety of motifs and styles visible on panels present evidence for evolutionary trends within styles or periods, for sequential styles varying through time, and possibly for parallel styles executed contemporaneously for differing functions or by different prehistoric groups. Data available from these sites can address a number of important research questions on the chronology and function of rock art among prehistoric and historic hunting societies and on Plains ethnography. Recent advances in dating techniques and innovations in ethnographic analogy and interpretation of ethnographic records are generating renewed interest in the interpretative potential of rock art studies.

Similarities in motifs among various panels at Weatherman Draw (for example in painted shield design), and similarities in method of execution (such as the technique of smoothing or preparing the surface where shields are subsequently painted; or the use of multiple colors in shield pictographs) argue for some internal relation among the sites. In some cases the motifs or techniques used on Weatherman panels are seldom found elsewhere in the region. The Weatherman Draw sites are relatively densely concentrated on the landscape, and are isolated on all sides by at least several miles of terrain where prehistoric rock art of any kind is rare to absent.

The close association of sites or loci marked by fire-cracked rock, flaked stone, hearths, or other debris suggests that the latter sites may have served, at least in part, as staging areas for the people producing the rock art.

Weatherman Draw is also an area of high religious importance for many Native Americans. The Blackfeet, Comanche, Crow, Eastern Shoshone, Kiowa, Northern Arapaho, Northern Cheyenne, Standing Rock Sioux, Spirit Lake Sioux, Yankton Sioux, Nez Perce, Leech Lake Ojibwe, and the Fort Peck Assiniboine and Sioux are just some of the Native American communities who place high religious significance on this area. The Weatherman Draw area is still being used for religious purposes by many tribes. Each of these groups recognizes that the rock art in the Weatherman Draw area is an indicator that the area has great cultural and spiritual significance to past Native Americans, and therefore it has significance to present day native communities. The tribes have placed more or less emphasis on the continued physical integrity of the rock art panels.

In addition to the rock art and prehistoric habitation sites, the Weatherman Draw ACEC and surrounding area contain historic coal mines (found both in and outside of the ACEC), historic homesteads, evidence of native American (Crow) horse traps/corrals, vision quest and sacred sites (which are still in use) and historic graffiti.

II. IMPORTANCE (characterized by one or more of the following):

1. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

   The panels in Weatherman Draw include examples of rock art that is unique on public lands in Montana and as the majority of the rock art in Weatherman Draw consists of pictographs, these are among the most fragile cultural resources the BLM administers in Montana. Investigation of these sites has demonstrated that the Weatherman Draw panels and adjacent cultural deposits are yielding important data relevant to the construction of a chronology of rock art manufactured on the Northwestern Plains

2. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

   The threats to the continued existence of rock art in Weatherman Draw are both environmental and cultural. The rock art panels will continue to be susceptible to the slow degradation of the sandstone surfaces on which they were constructed, and to exfoliation, which breaks spalls of sandstone off the rock face, and could after years of moisture buildup, instantly damage or destroy a panel.

   The second threat is vandalism, which is present at the sites (24CB408, 24CB630, 24CB1023). The modern damage to the rock art is either by graffiti or by an effort to make the rock art more visible by tracing over the glyphs with chalk or other substances.

   As portions of the Weatherman Draw ACEC are considered to be of religious significance to the Crow and other tribes with affinity to the area, the solitude and the viewshed from specific sites are very important to religious practices.

III. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

It is the specialist's recommendation that the Weatherman Draw ACEC be retained and the ACEC be expanded to include the additional sites found in the area that reflect the use of the land by the people who created the rock art within the existing Weatherman Draw ACEC. This recommendation is based on the outstanding cultural and natural values and recognizing that preservation of those values is in the interest of the public.

The Weatherman Draw ACEC meets relevance criterion 1 and importance criteria 1 and 2.

The Weatherman Draw area is well know regionally as the locus of a remarkable series of prehistoric and historic rock art panels. Several tribes have expressed interest in the Weatherman Draw area, based on the reported archaeological sites and the traditional values their presence implies. The area is also known locally as a rugged, picturesque landscape and the more accessible portions of the Draw are visited regularly by hikers and other recreationists.

Approval by Associate Field Manager	/s/ Craig R. Drake Signature	9/30/2009 Date
Concurred by Field Manager	/s/ James M. Sparks Signature	9/30/2009 Date

Vision quest site still in use in the Weatherman Draw ACEC

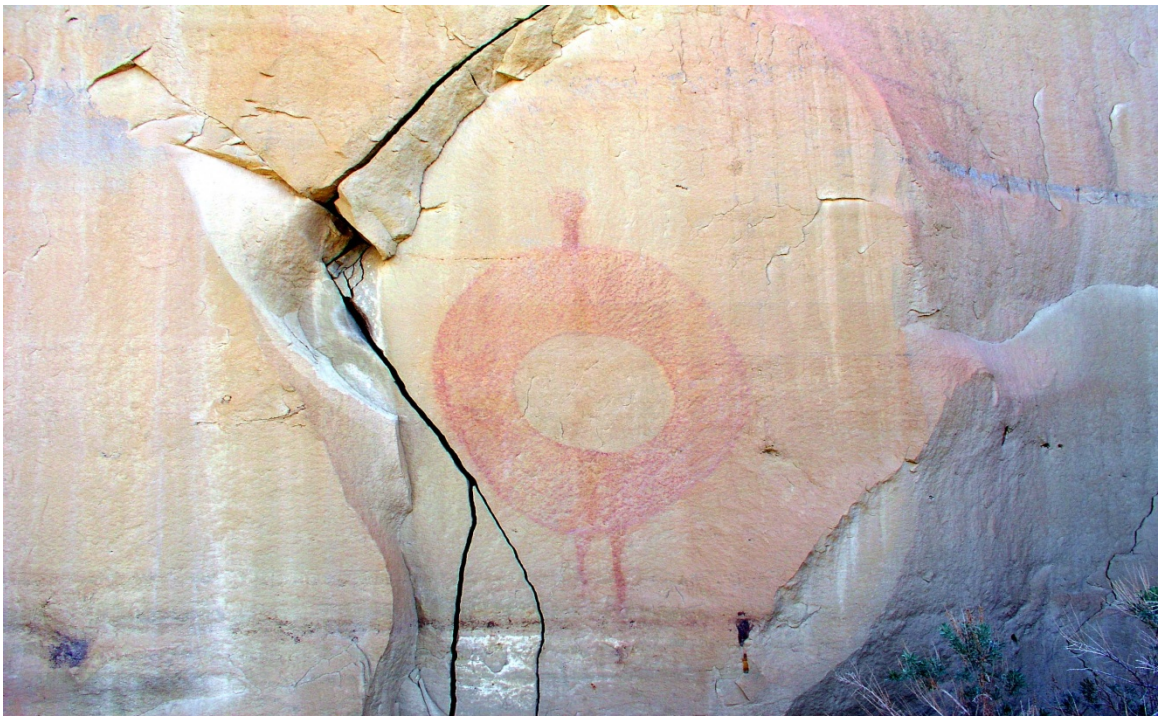
Provinse Site

Provinse Site

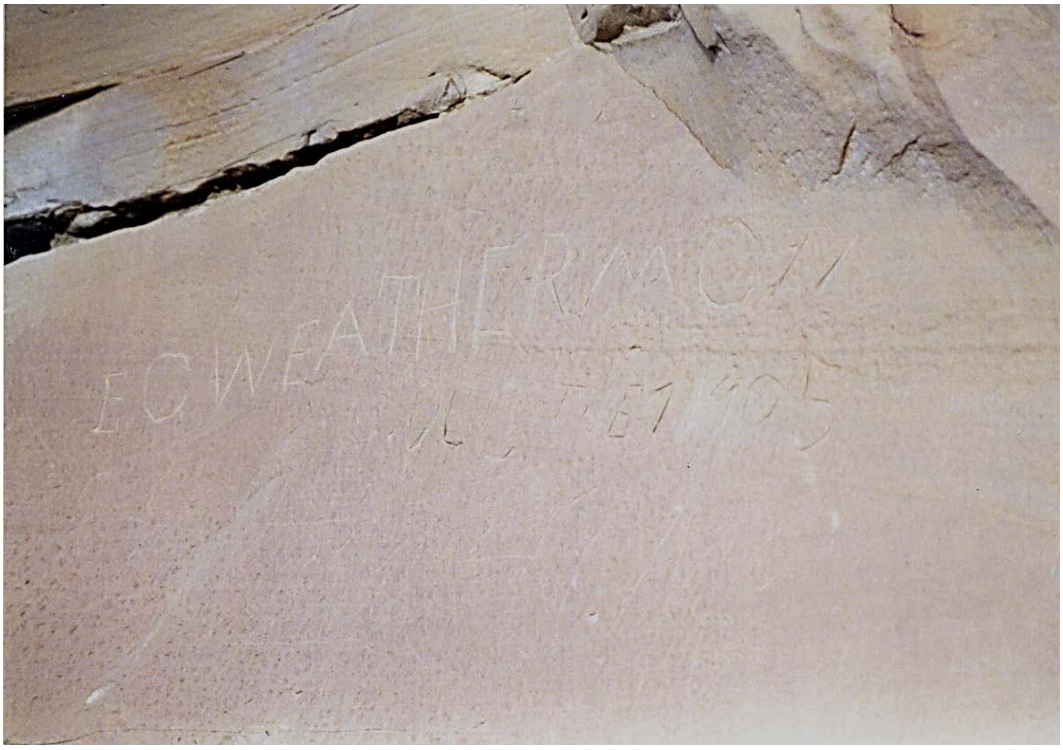
Bear Two-Shield site

Valley of the Shields

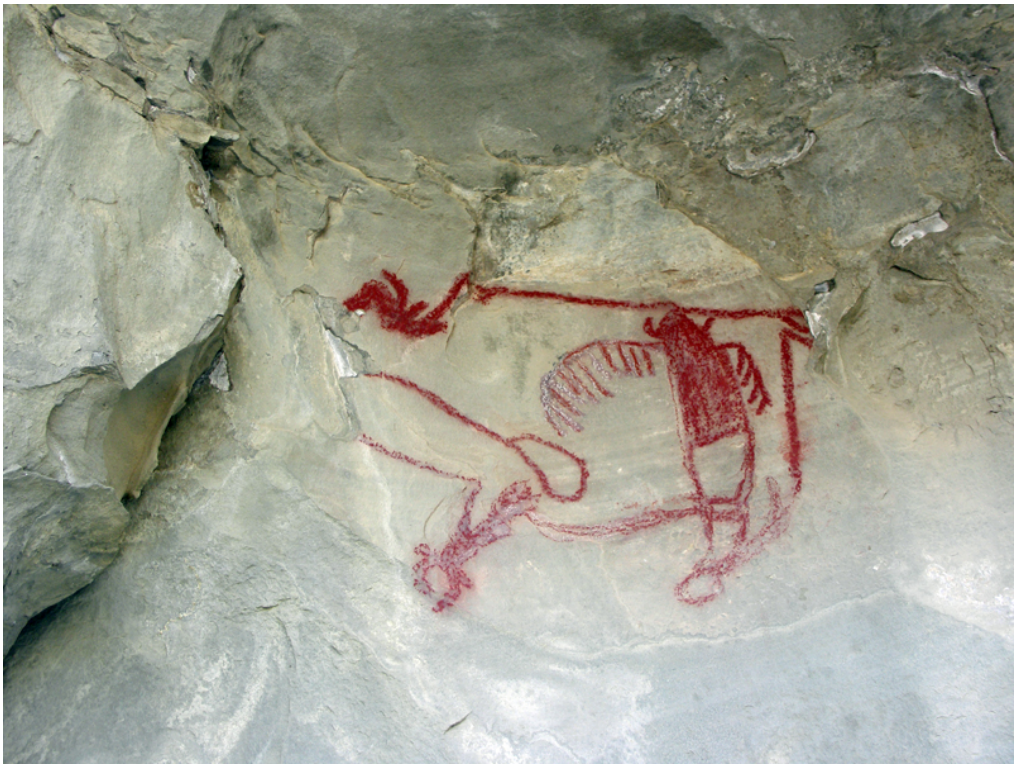
Two Meter Man



E.C. Weathermon



Red Buffalo



Rock art panel located on the 615 acre acquisition

Historic coal mining site

ACEC NOMINATION EVALUATION

NAME: **Greater-Sage Grouse Habitat ACEC**

LOCATION: portions of Carbon and Musselshell Counties, Montana

SIZE: 154,140 acres

NOMINATED BY: WildEarth Guardians

RATIONALE: Greater-Sage Grouse Habitat

EVALUATED BY: Carolyn Sherve-Bybee, Jay Parks

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

I. RELEVANCE (must contain one or more of the following):

1. A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).

   No significant historic or cultural values are known. Scenic values are moderate, but are similar to those of many other areas in the planning area.

2. A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).

   Yes, the nomination meets the relevance criterion for wildlife resources. The nominated area provides habitat for greater sage-grouse (154,140 acres), a BLM sensitive species, and the area has also been identified as a core area by Montana Fish Wildlife and Parks.

3. A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features.

   Yes, the nomination also meets the criterion for a natural system or process because of the condition of the sagebrush habitat in the nomination area.

4. Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.

   No natural hazards are known.

II. IMPORTANCE (characterized by one or more of the following):

5. Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?

   No. Although the area contains habitat for greater sage-grouse conservation as noted in the nomination material, the area is not significantly unique or more important than other habitat areas in this region.

   Greater sage-grouse are distributed throughout the western United States. The portion of the distribution in Montana, Wyoming, North Dakota, South Dakota, Alberta, and Saskatchewan are

designated as Management Zone I (Stiver et al. 2006). Management zones are delineations of greater sage-grouse populations and sub-populations within floristic zones with similar management issues. Within Management Zone I in Montana, Montana Fish, Wildlife and Parks designated core areas (MFWP 2009) and Wyoming Game and Fish has also designated core areas in Wyoming (Wyoming Game and Fish, 2009). In addition, Montana Audubon has also designated five important bird areas for sage-steppe associated birds, including greater sage-grouse, in Montana, most of which are contained within the MFWP core areas.

While all of these areas are considered important to greater sage-grouse conservation, the areas are dispersed throughout the region and are not significantly unique to a specific region or planning unit. In addition, greater sage-grouse habitat in these core areas is owned by a number of different entities and habitat on BLM lands is not distinct from habitat managed by other ownership.

6. Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?

No, the area is not particularly fragile or sensitive to change as compared to other sites in Montana.

7. Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?

Yes, it satisfies national priority concerns.

8. Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?

No safety or public welfare concerns are known.

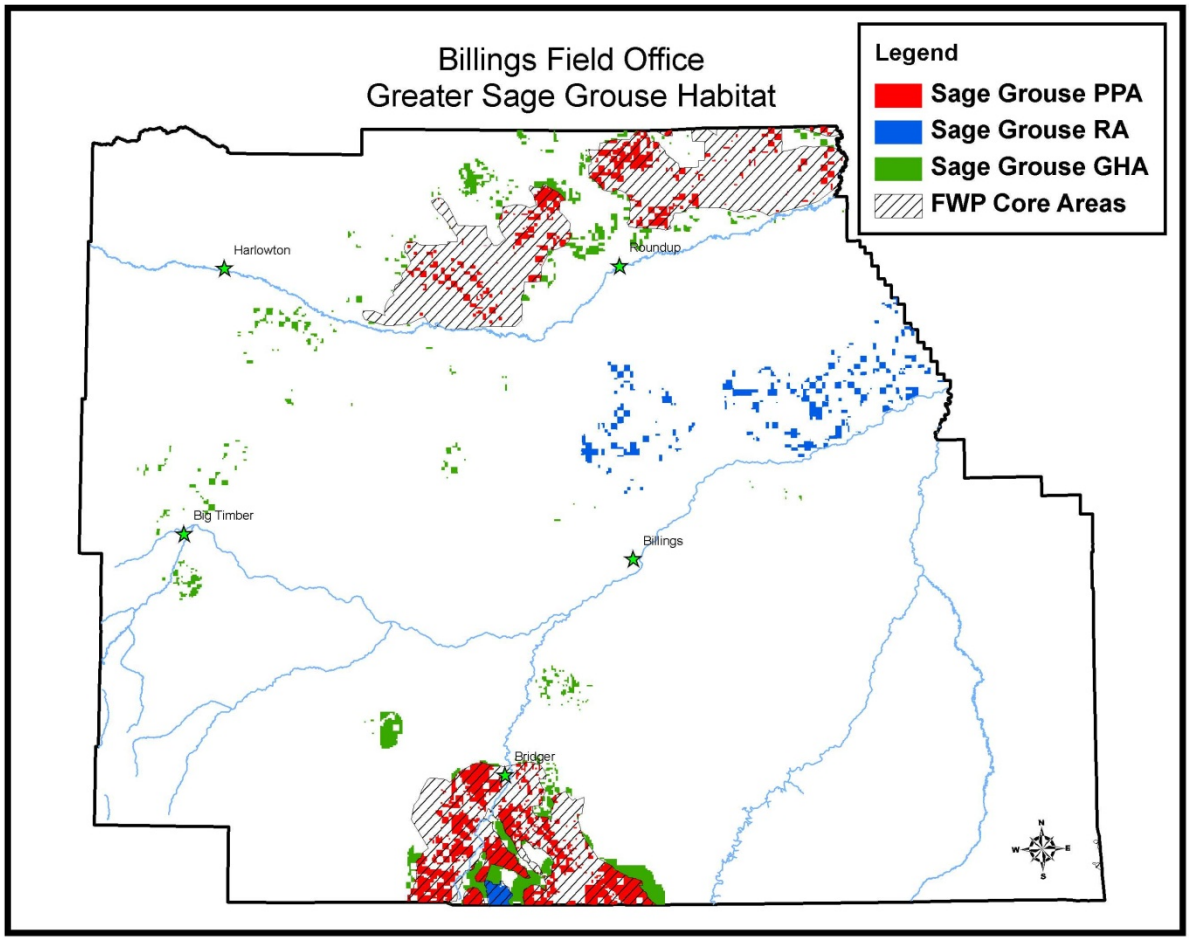
9. Poses a significant threat to human life and safety or to property?

No significant threats.

IV. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

Approval by Associate Field Manager _____ _____
Signature Date

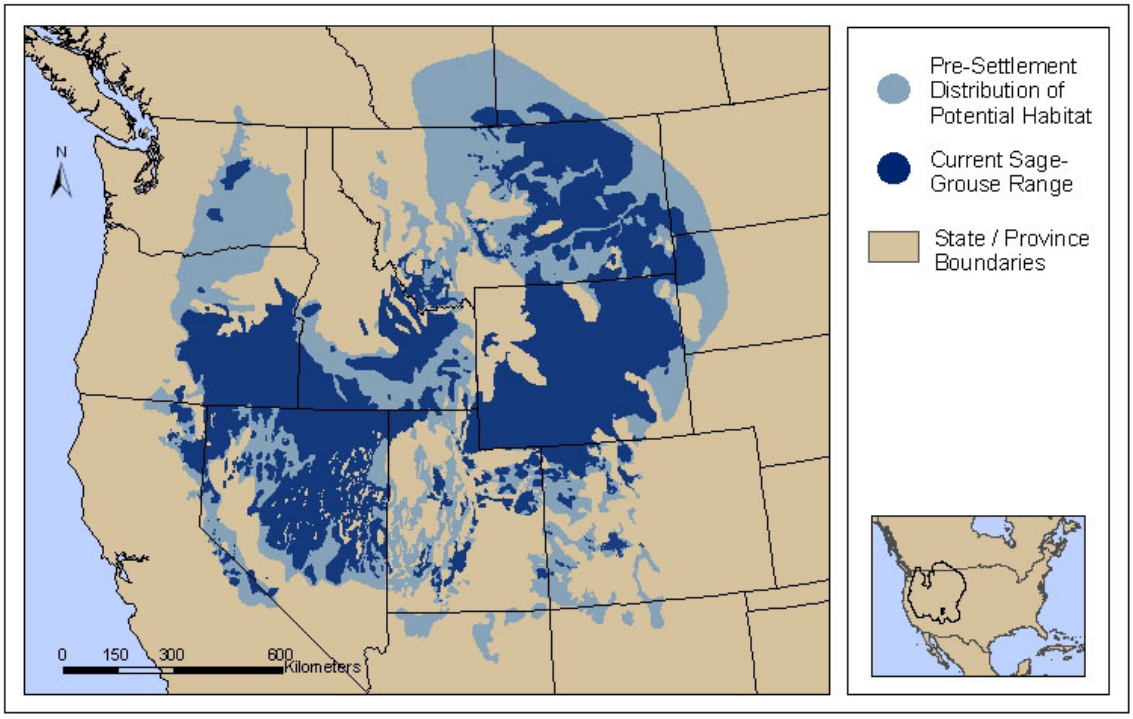
Concurred by Field Manager _____ _____
Signature Date



This map shows the Greater Sage-Grouse Protection Priority Areas (PPA), Restoration Areas (RA), and General Habitat Areas (GHA), as well as areas identified by Montana Fish, Wildlife, and Parks as sage-grouse core areas within the Billlings Field Office. The areas identified as Sage-Grouse PPA are being proposed as an ACEC.

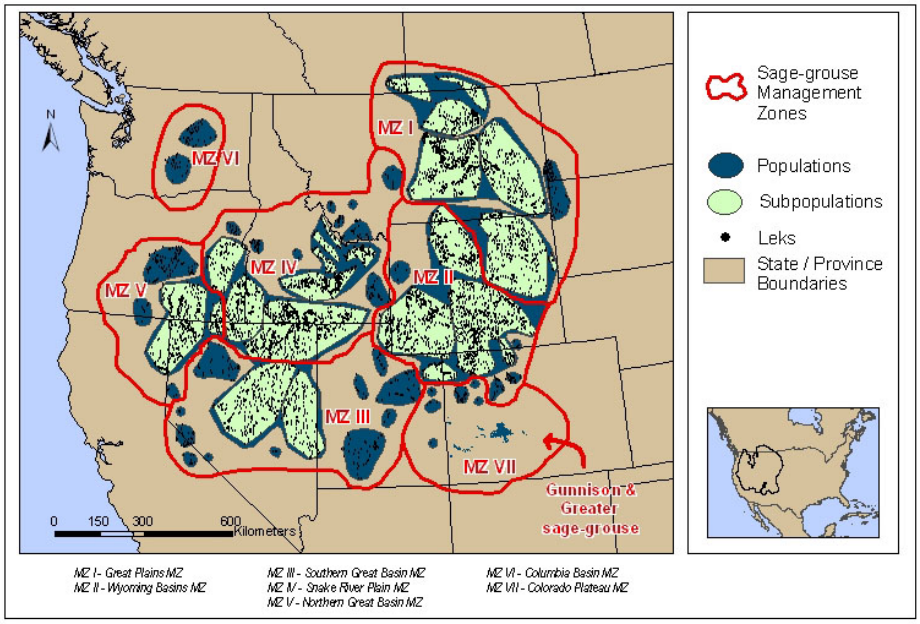
Background Information:
Greater sage-grouse are distributed throughout the western United States (Figure 1). The portion of the distribution in Montana, Wyoming, North Dakota, South Dakota, Alberta, and Saskatchewan is designated as Management Zone I (Figure 2) (Stiver, et al. 2006). Management zones are delineations of greater sage-grouse populations and sub-populations within floristic zones with similar management issues.

Figure 1
Greater Sage-Grouse Distribution



Source: Stiver, et al. 2006

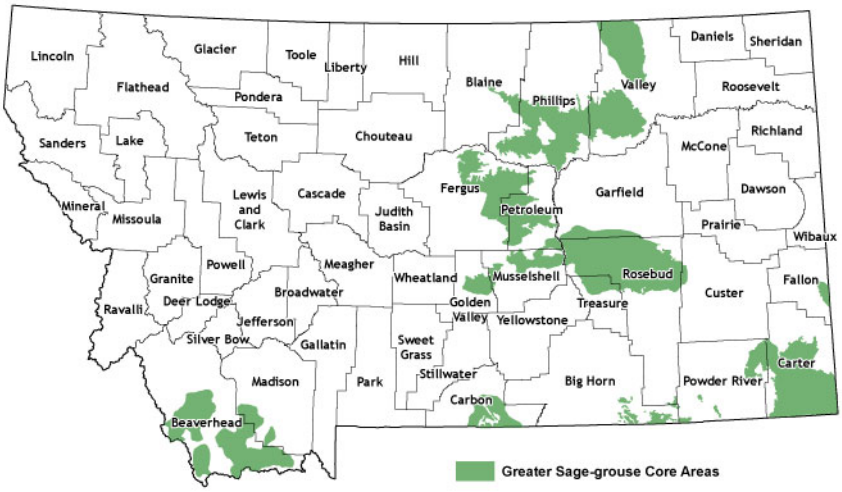
Figure 2
Greater Sage-Grouse Management Zones (MZ)



Source: Stiver, et al. 2006

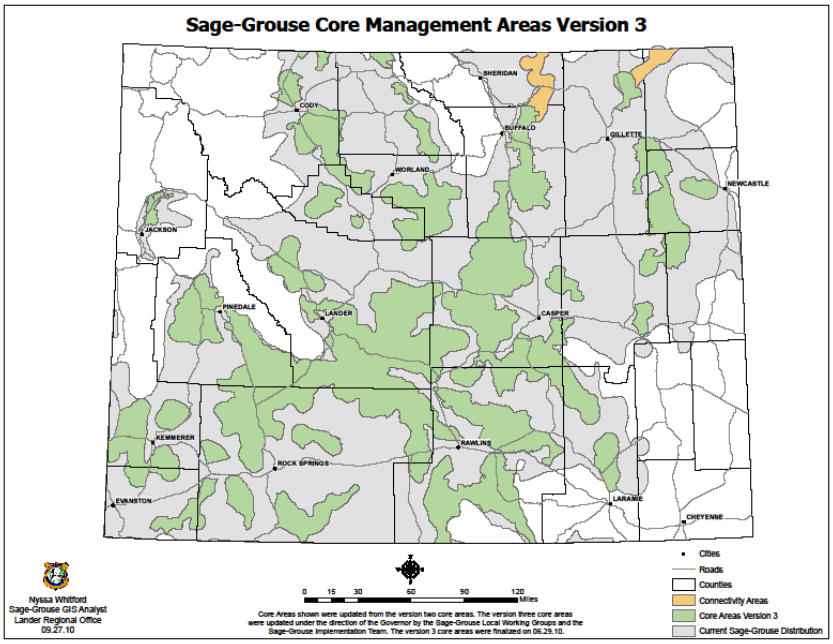
Within Management Zone I in Montana, Montana Fish, Wildlife and Parks (MFWP) has designated core areas[1] (Figure 3) (MFWP 2009) and Wyoming Game and Fish has also designated core areas in Wyoming (Figure 4) (Wyoming Game and Fish 2009).

Figure 3
Greater Sage-Grouse Core Areas (Montana)



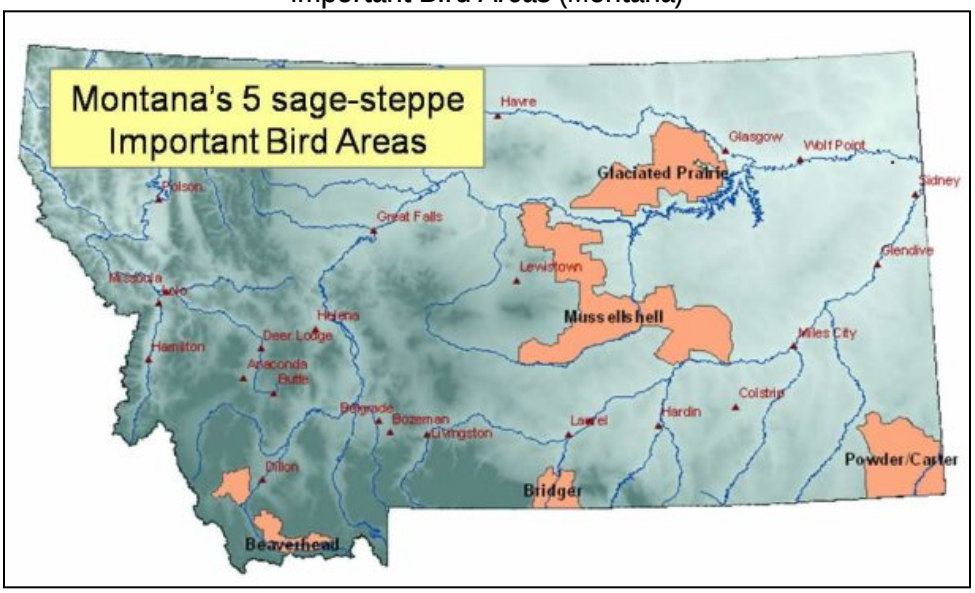
[1] Sage-grouse core areas are habitats associated with 1) Montana's highest densities of sage-grouse (25% quartile), based on male counts and/or 2) sage-grouse lek complexes and associated habitat important to sage-grouse distribution (MFWP 2009).

Figure 4
Greater Sage-Grouse Core Areas (Wyoming)



In addition, Montana Audubon has designated five important bird areas for sage-steppe associated birds, including greater sage-grouse, in Montana (Figure 5), most of which are contained within the MFWP core areas.

Figure 5
Important Bird Areas (Montana)



Source: Montana Audubon 2011 at http://mtaudubon.org/birds/sageiba.html_

All of these areas are considered important to greater sage-grouse conservation. In addition, greater sage-grouse habitat in these core areas is owned by a number of different entities and habitat on BLM lands is not distinct from habitat managed by other ownership.

ACEC NOMINATION EVALUATION

NAME: **Steamboat Butte** LOCATION: [redacted]

SIZE: 680 acres NOMINATED BY: Montana Wilderness Association (Mark Good)

RATIONALE: unique cultural and paleontological values EVALUATED BY: Carolyn Sherve-Bybee

In order to be considered as a potential ACEC and analyzed in resource management plan alternatives, an area must meet both the relevance and importance criteria:

II. **RELEVANCE** (must contain one or more of the following):

1. **A significant historic, cultural, or scenic value (including but not limited to rare or sensitive archeological resources and religious or cultural resources important to Native Americans).**

   There are no known or recorded paleontological sites within the 680 acres evaluated for ACEC nomination.

   Within the 680 acres proposed identified as the Steamboat Butte complex, a total of 10 sites have been recorded. However no documentation or research has been done in this area since 1988.

   1968 – 24YL0576
   1972 – 24YL0633
   1988 – 24YL0774
   1987 – 24YL0775, 24YL0776, 24YL0777, 24YL0778, 24YL0779, 24YL0780, and 24YL0781

   Included in these sites are two rockshelters, a bison kill site, a cribbed log structure, two occupation sites, wicki-ups, and several petroglyph panels/sites.

   A rockshelter was excavated in 1974 by Rocky Mountain College for the BLM Billings Resource Area Office due to the extensive vandalism that had occurred prior to 1974. "The shelter shows evidence of having been extensively pot-hunted sometime in the past. The vandalism seems to have been systematic, since there is an eroding backpile of dirt from screening at the south end of the shelter. Lithic debris on top of the butte includes random scattered flakes as well as concentrations of flakes discarded by pot-hunters. Some of the rock art has been outlined with chalk, and additional carving of initials and dates has been done on the sandstone walls, though not on the rock art panel itself. Many of the petroglyphs and pictographs are very worn and faded" (Heidenreich 1974). See **Figure 1**.

   Several wildland fires have occurred in the Steamboat Butte area (Hawk Creek Fire 1998 and 2005, Steamboat Fire 2005). It was reported to the BiFO archaeologist in 2008 that one of the Hawk Creek fires burned up/through several of the wicki-ups in the northern portion of the area identified for the proposed ACEC.

2. **A fish and wildlife resource (including but not limited to habitat for endangered, sensitive or threatened species, or habitat essential for maintaining species diversity).**

3. **A natural process or system (including but not limited to endangered, sensitive, or threatened plant species; rare, endemic, or relic plants or plant communities which are terrestrial, aquatic, or riparian; or rare geological features.**

4. **Natural hazards (including but not limited to areas of avalanche, dangerous flooding, landslides, unstable soils, seismic activity, or dangerous cliffs). A hazard caused by human action may meet the relevance criteria if it is determined through the resource management planning process that it has become part of a natural process.**

II. **IMPORTANCE** (characterized by one or more of the following):

10. **Has more than locally significant qualities which give it special worth, consequence, meaning, distinctiveness, or cause for concern, especially compared to any similar resource?**

The rock art, occupation sites, etc. at Steamboat Butte are not more than locally significant. There are several similar habitation sites, consisting of cribbed and conical logged structures in Hoskins Basin National Register District, there are similar several occupation sites and bison kill sites located at the Stark Site ACEC, and the rock art at Steamboat Butte is similar to that at Castle Butte (**Figure 2**).

11. **Has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change?**

Rock art is known for being fragile and sensitive. However, the rock art at Steamboat Butte is not considered unique or exemplary. Much of the rock art has been chalked and it is very similar to the rock art at Castle Butte ACEC (**Figure 3**).

12. **Has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA?**

13. **Has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare?**

5. **Poses a significant threat to human life and safety or to property?**

V. RESOURCE SPECIALIST'S RECOMMENDATION FOR ACEC CONSIDERATION IN THE RMP

Steamboat Butte was considered and evaluated for ACEC nomination during the 1998 ACEC amendment. At that time, it either did not meet relevance or importance or it was decided that the area did not need special management as the nomination was not carried forward in the 1998 ACEC amendment. There is no documentation in the 1998 ACEC amendment about the consideration of Steamboat Butte as a proposed ACEC. However, there are notes in the cultural resources files that this area was considered and evaluated for ACEC nomination.

It is the specialist's recommendation that this area not be considered for an ACEC nomination. It was evaluated under one of the Relevance criterion and several sites within the 680 acres are considered to be eligible for the National Register of Historic Places, however, more work is needed to evaluate the significance of the entire area. The Steamboat Butte area was also evaluated under two of the Importance criteria, but did not meet either of the criteria. It is therefore recommended that Steamboat Butte not be considered for an ACEC nomination.

Approval by Associate Field Manager _____ _____
Signature Date

Concurred by Field Manager _____ _____
Signature Date

Figure 1: photo from 1974 report on excavation at Steamboat Butte

Plate 14. TWO ANTHROPOMORPHIC FIGURES.

These figures (and those in Plate 15) are the most complex of the designs on the panel. The figure on the left has a breast plate or pendant on the chest; bands, tattoos, or other circular decorations on the arms; and a necklace or choker. It is difficult to distinguish feet. The left arm has a hand with five fingers. There is an ear on the head, apparently. The figure on the right has what appears to be a braid, animal skin, feather decoration, or long hair hanging from the head. It is wearing a belt or waistband, and at least one foot is shown. The arms are worn away or attenuated. There are other lines on both figures, but they are not identifiable. The two figures once may have held hands or linked arms. About twenty-nine inches tall. Note the unidentifiable form below the couple (see Plate 23).

Figure 2: 2008 photo

Figure 3: 2008 photo showing chalking of pictographs

Figure 4: ongoing vandalism on Steamboat Butte

Figure 5: Collector's artifact pile at Steamboat Butte

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Appendix U:
Cultural Resources

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U. Cultural Resources

U.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.

U.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.

U.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.

U.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 U-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 U-1 Cultural Use Allocations and Desired Outcomes

Use Allocation[1]	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

[1] 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.

U.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.

U.4.1.1 Management Direction

U.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.

U.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.

U.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.

U.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.

U.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.

U.4.2.1 Management Direction

U.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.

U.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.

U.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.

U.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.

U.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.

U.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.

U.4.3.1 Management Direction

U.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.

U.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.

U.4.3.1.3 Public Use:

- Continue to produce materials and programs on "Leave What You Find" principles and environmental ethics.

U.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.

U.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.

U.4.4.1 Management Direction

U.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.

U.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.

U.4.4.1.3 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

U.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.

U.4.5.1 Management Direction

U.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.

U.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.

U.4.5.1.3 Public Use:

- Continue to produce materials and give programs on “leave what you find” principles and environmental ethics.

U.4.5.1.4 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

U.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 sue 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.

U.4.6.1 Management Direction

U.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.

U.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).

U.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.

U.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.

U.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.

U.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.

U.4.7.1 Management Direction

U.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.

U.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.

U.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.

U.4.7.1.4 Priorities for Inventory:

- Potential threats identified in Cultural Resource Project Plans
- Existing designated sites

U.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 liked 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.

U.4.8.1 Management Direction

U.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.

U.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.

U.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,

U.4.9.1 Management Direction

U.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.

U.4.9.1.2 Scientific Use:

- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use.)

U.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.

U.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.

U.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.

U.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.

U.4.10.1 Management Direction

U.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.

U.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).

U.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.

U.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.

U.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.

U.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.

U.4.11.1 Management Direction

U.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.

U.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).

U.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.

U.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.

U.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.

U.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

U.4.12.1 Management Direction

U.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.

U.4.12.1.2 Scientific Use:

- Excavation would be allowed subject to management plan with appropriate research design (which conserves samples for future use.)

U.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.

U.4.12.1.4 Discharged from Management:

- Subsequent to scientific use, when preservation in place is impractical, sites may be discharged.

U.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.

U.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.

U.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.

U.4.13.1 Management Direction

U.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.

U.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 U-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	Prehistoric: sites with high artifact count and diversity, high complexity, and larger size Historic: 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	Prehistoric: sites inherently complex, or rare, or fragile, and exhibit exceptional scientific values (e.g. wickiups, deeply stratified deposits, or large quarries) Historic: 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) Prehistoric may include: burial locations, vision quest locations, pictographs and petroglyphs, certain tipi ring sites Historic/Modern: 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	Prehistoric: high interpretative potential and can insure protection Historic: 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	Prehistoric: lithic scatters of limited artifact density and complexity Historic: 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	Prehistoric: isolated finds, surface lithic scatters <50 items Historic: isolated prospect pits, trash scatters <50 items, sites < 50 years old

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Appendix V:
Recreational Setting Characteristics

V. 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.

Appendix W:
Realty, Cadastral Survey, and Lands

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W. 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;…"

W.1 General Information Pertaining to Land Ownership Adjustments

W.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.

W.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.

W.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.

W.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.

W.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.

W.1.4.2 Methods of Acquisition

Acquisition of lands or interests in lands would be by methods such as exchange, purchase, and/or donation.

W.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.

W.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.

W.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.

W.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.

W.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

W.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.

W.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.

W.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.

W.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.

Land Tenure Disposal Tracts By Alternative	
Alternative A*	
Legal Description Principal Meridian, Montana	Acres
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

Land Tenure Disposal Tracts By Alternative	
Alternative A*	
Legal Description Principal Meridian, Montana	Acres
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

Land Tenure Disposal Tracts By Alternative	
Alternative A*	
Legal Description Principal Meridian, Montana	Acres
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

Land Tenure Disposal Tracts By Alternative	
Alternative A*	
Legal Description Principal Meridian, Montana	Acres
T. 4 S., R. 17 E., sec. 8, SESW sec. 17, NENW, S2NW	160.00
Total	7,528.71
*Denotes 1984 RMP ROD (FLTFA tracts)	

Land Tenure Disposal Tracts By Alternative	
Alternative 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
Total	49.89

Land Tenure Disposal Tracts By Alternative	
Alternative C	
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

Land Tenure Disposal Tracts By Alternative	
Alternative C	
Legal Description Principal Meridian, Montana	Acres
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

Land Tenure Disposal Tracts By Alternative	
Alternative C	
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
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

Land Tenure Disposal Tracts By Alternative	
Alternative C	
Legal Description Principal Meridian, Montana	Acres
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

Land Tenure Disposal Tracts By Alternative	
Alternative C	
Legal Description Principal Meridian, Montana	Acres
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
Total	4,223.49
*Denotes 1984 Billings RMP ROD (FLTFA tracts)	

Land Tenure Disposal Tracts By Alternative	
Alternative D	
Legal Description Principal Meridian, Montana	Acres
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
Total	169.89
*Denotes 1984 Billings RMP ROD (FLTFA tracts)	

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Appendix X:
Lands with Wilderness Characteristics

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X. Lands with Wilderness Characteristics

X.1 Background

In an increasingly developed world, public lands with wilderness characteristics (as defined in the Wilderness Act, 16 U.S.C. 1131 (C) provide social cultural, economic scientific, and ecological benefits for present and future generations. Many of America's most treasured landscaped include pubkic lands with wilderness characetristicts that provide visitors with rare oipportunities for solitude and personal reflection. In addition, many of these lands have culturally significant and scared sites imporatant to native tribes. Many people and communities value these lands for hunting and fishing, observing wildlife, hiking, and other non-motorized and non-mechanized recreational uses. Lands with Wilderness characteristics are also imporatatnt for their scientific, cultural and historic objects, which further our understanding of human and natural history, the functions of healthy ecosystems, and how human activities change our world. They also provide a variety of valuable ecosystem services, including carbon sequestration, watershed protection, and air purification, and may containb habitat for numerous threatened and endangered species and other rare biological resources worthy of protection. Managing an area to protect its wilderness caharcetristics provides unique opportunities and benefits for present and futrure generations that may otherwise be irreparably lost.

Management of this resource is thus a high priority for the BLM, and the natural state of such lands should be protected to the extent possible, consistent with the BLM's planning and management authorities and its multiple-use mission. The BLM shall protect Lands with Wilderness Characteristics (LWCs) when undertaking land use planning and when making project-level decisions by avoiding impairment of their wilderness characteristics unless the BLM concludes, as part of its decision-making process, that impairment of wilderness characteristics is appropriate and consistent with applicable requirements of law and other resource management considerations. Where the BLM concludes that authorization of uses that may impair wilderness characteristics is appropriate, the BLM shall document the reasons for its determination and consider measures to minimize impacts on those wilderness characteristics. Where the BLM concludes that protection of wilderness characteristics is appropriate, the BLM shall protect the wilderness resources through land use planning.

X.2 Purpose and Authority

Principal authorities affecting the consideration of LWCs in the planning process are:

A. The Federal Land Policy and Management Act of 1976, 43 U.S.C. 1701 *et seq*. (FLPMA), exclusive of 43 U.S.C. 1782. FLPMA specifically states that preserving and protecting certain public lands in their natural condition is part of the BLM's mission. *See* 43 U.S.C. 1701(a)(8). FLPMA provides direction for inventories in Sections 102(a)(2), 201(a), and 202(c)(4) and (9), and land use planning in Section 202. These sections direct the BLM to prepare and maintain an inventory of all public lands and their resources and values. These sections also direct the Bureau to rely, to the extent available, on inventory information in the development of land use plans.

B. The Wilderness Act of 1964, 16 U.S.C. 1131 *et seq*.
C. National Environmental Policy Act of 1969, 42 U.S.C. 4321 *et seq*. (NEPA)
D. Naval Petroleum Reserves Production Act of 1976, 42 U.S.C. 6501 *et seq.* (NPRPA)
E. Alaska National Interest Lands Conservation Act (ANILCA), Section 1320, 43 U.S.C. 1784
F. Council on Environmental Quality (CEQ) Regulations, 40 CFR 1500-1508
G. BLM Regulations, 43 CFR 1601-1610, 43 CFR 2360.0-1 *et seq.*
H. Department of the Interior (DOI) NEPA Regulations, 43 CFR Parts 46.
I. BLM Manuals 6310 (Inventory Process) and 6320 (Planning Process).

X.3 Process

Regardless of past inventory, the BLM must maintain, i.e. keep current, an inventory of the wilderness resource on public lands. Keeping an inventory current requires gathering information and preparing a permanent file for any new inventory. It is essential that an adequate record of the inventory and subsequent updates be maintained that documents inventory findings, including relevant narratives, maps, photographs, citizen information, and any other relevant information The wilderness inventory may need to be updated when:

1. The public or the BLM identifies wilderness characteristics as an issue during scoping in a National Environmental Policy Act (NEPA) analysis;
2. An RMP is being developed or an amendment or revision is being initiated;
3. The BLM has new information concerning resource conditions, including where the public has submitted new wilderness characteristics information that meets the BLM‟s minimum threshold.
4. The BLM has determined that the land appears to have wilderness characteristics and a proposed project may impair those apparent characteristics; or
5. Additional lands are acquired.

The BLM must document the existing conditions as opposed to potential conditions that may result from a future planning decision. Where inventory data exists, a team familiar with the area may conduct much of the inventory using available information (e.g., existing maps and photos) and field checking as necessary. The wilderness inventory process directive does not mean that the BLM must conduct a completely new inventory and disregard the inventory information that it already has for a particular area. Rather, the BLM must ensure that its current inventory is updated with appropriate information to conform to FLPMA and BLM Manuals 6310 and 6320.

When citizen information regarding wilderness characteristics is received, BLM staff will document the submitted materials including: date of submission; name of proponent; name of proposal and/or area identified by the proponent; BLM District(s) and Field Office(s) affected; type of material submitted (e.g., narrative, map, photo); and, whether or not the public information meets the minimum standard for further review by BLM.

The minimum standard that citizen information must meet in order for BLM to consider the information during a wilderness inventory update process requires a submission of the following information to BLM: (a) a map of sufficient detail adequate to determine specific boundaries of the area in question; (b) a detailed narrative that describes the wilderness characteristics of the

area and documents show that information significantly differs from the information in prior inventories conducted by BLM regarding the wilderness values of the area; and, (c) photographic documentation.

When citizen information regarding wilderness characteristics meets the minimum standard for further review, as soon as practicable, the BLM staff will evaluate the information regarding the validity of proposed boundaries of the area(s), the existence of roads and other boundary features, the size of the area(s), and the presence or absence of wilderness characteristics. This evaluation may be based on relevant information available in the office (prior BLM inventories, interdisciplinary team knowledge, aerial photographs, field observations, maps, etc.). Field checking may also be needed. BLM Staff will compare existing BLM knowledge with the submitted information and determine if the conclusion reached in previous BLM inventories remains valid, and will document the findings. These findings will be available to the public and BLM will retain a record of the evaluation and findings as evidence of BLM's consideration.

When the BLM confirms that LWCs exist, BLM Manual 6320 establishes the BLM's policy on considering LWCs in land use plans, land use plan amendments or revisions, and management of LWCs as administratively designated Wild Lands. The guidance also establishes the BLM's policy for considering project-level decisions in areas that have not yet been inventoried and analyzed consistent with the new policy described in BLM Manual 6310.

X.4 Unit Descriptions and Evaluation Summary

A total of 13 separate units, some with multiple tracts, were identified as initially meeting the criteria identified in BLM Manual 6310. These units are identified below and evaluated. Some additional areas were identified as possibly meeting the size criteria, but it was readily apparent to the BLM staff that they are bisected by obvious roads and were thus not evaluated further. However, when any doubt existed, the staff reviewed the area.

X.4.1 Pryor Mountain Unit

X.4.1.1 Prior Review:

Tract 1 is approximately 2,873 acres in size. This parcel is separated from The Pryor Mountains WSA by an established road (Sykes Ridge Road) but is adjacent to the Big Horn Tack-On WSA to the south and lands administratively endorsed for wilderness designation by the NPS in the Bighorn Canyon National Recreation Area to the southeast. Private lands form the northern boundary and the west boundary is a combination of a vehicle road, private lands and Custer National Forest lands. Previously it was a separate parcel of the Big Horn Tack-On Study Area since it was isolated by a Montana State land parcel. The other portion of the Study Area was designated as the Big Horn WSA. The state land was subsequently acquired and the Tract is now contiguous with the WSA.

Tract 2 is approximately 497 acres in size. It is adjacent to the Pryor Mountains WSA to the west, south, and north, while the Sykes Ridge road forms the boundary to the east.

Tract 3 is approximately 143 acres in size. It is adjacent to the Big Horn Tack-On WSA on the north, east, and south sides. The west side is the Sykes Ridge road. It is separated from Tract 2 by the road and together they compose a section of land which was formally Montana State lands. They were not previously inventoried for wilderness character since they were acquired after the inventory effort. They were subsequently recommended for potential wilderness designation in the *Montana Statewide Wilderness Study Report* (1991) and were noted as being outside the WSA.

Tract 4 is approximately 445 acres in size. It is adjacent to the Pryor Mountains WSA to the west, south, and north, while the road forms the boundary to the east. It was initially dropped from wilderness consideration and not included in either the Pryor Mountain or the Big Horn Tack-On WSAs due to the human use pattern at the time, although it was recommended for possible wilderness designation in the *Montana Statewide Wilderness Study Report* (1991).

Tract 5 is an irregular shape and the boundary is formed by a combination of vehicle routes and a ROW. It is approximately 512 acres in size with 224 acres in Wyoming and 288 acres in Montana. The Pryor Mountains WSA is located to the west and the Big Horn Tack-on WSA is located to the east. It was initially unclear whether the two routes were roads or trails or a combination of both. The lands were not included in either WSA, although it was recommended for possible wilderness designation in the *Montana Statewide Wilderness Study Report* (1991).

Tract 6 is located adjacent to the Pryor Mountains WSA to its north. It is approximately 1,074 acres in size and is completely within Wyoming. The boundary is either a county maintained road or a Power Line ROW to the south, east, and west. The lands were inventoried in the initial effort and human activities at the time were noted as being intrusive and not of a primitive type. These activities were considered to have reduced the level of solitude to less than an outstanding level.

Tract 7, approximately 327 acres in size, was previously inventoried and the effort at that time identified several human improvements which were substantially noticeable, including vehicle routes and a fence line along the boundary.

Tract 8, approximately 269 acres in size, was found to have extensive evidence of uranium exploration and development located throughout the Tract. This included tailings piles, access roads, etc., and the lands were found to not possess wilderness character.

X.4.1.2 Unit Analysis:

The Pryor Mountains range in elevation from around 8,480 feet in the north end down to around 3,780 feet in the southeastern end of the range.

The upper elevations of the Pryor Mountains are characterized by patches of Douglas fir, particularly on the north slopes, with occasional open parks.

Understory is generally sparse in the dense Douglas fir stands. Shrub species include snowberry, ninebark, spirea, and juniper. Limber pine is also present, along with bluebunch wheat grass, needle-and-thread grass, bluegrasses, forbs, and sedges. In the open, unforested areas, vegetation

is composed primarily of shrubs and grasses. Big sagebrush and shrubby cinquefoil are the dominant shrubs. Grasses include mountain brome, Kentucky bluegrass, and bluebunch wheatgrass. Common forbs are balsam root, geranium, and Eriogonum.

The mid elevations of the Pryor Mountains consist mostly of mountain shrubs. Utah juniper occupies the upper elevations gradually blending into mountain mahogany and eventually into big sagebrush Black sage, rabbitbrush, and skunkbrush sumac may also be present along with bluebunch wheatgrass, needle-and-thread grass, three-awn, and sandberg bluegrass.

The red desert/saltshrub occurs on the lower slopes of the Pryor Mountains. Vegetation is generally sparse and scattered. Saltbushes of the Atriplex genus compose the majority of the vegetation.

There is no commercial timber harvest on the lands.

There is no licensed livestock use.

There are no active oil and gas leases.

All of the lands are within the Pryor Mountain Wild Horse Range (PMWHR): however, since the management plan for the PMWHR was written with possible wilderness designation in mind, very little wilderness conflict exists with management of the wild horse range. The PMWHR was established by an Act of Congress in 1968.

Tract 1: There is extensive evidence of uranium exploration located throughout the Tract. This includes tailings piles, access roads, etc. The presence of these impacts was noted in the initial WSA inventory and the lands were found to not possess wilderness character. Although time has passed, these impacts have not significantly reduced naturally or have not been rehabbed manually.

Tract 3: The Crooked Creek National Natural Area covers a portion of this land. This area provides significant fossil evidence of Early Cretaceous terrestrial fossil vertebrates and is one of only two known areas representing this period of life on the North American continent. It has produced eight new species and three new genera of dinosaurs. It was established in 1966.

X.4.1.3 Finding:

The lands are primarily in a natural condition, with a few, mostly well screened intrusions. Topography and vegetation screen these intrusions, which are mostly located adjacent to the designated road network and not in the interior of the Tracts.

Tract 1: A historical site, Pen’s Cabin, is located in T. 8 S., R. 28 E., section 7. Pen’s cabin was built about 1925. This site is a popular recreation attraction and the localized area is not in a natural condition due to human impacts from dispersed camping. There are two communication sites located on T. 8 S., R. 28 E., Section 6 and T. 8 S., R. 28 E., Section 21. These localized sites are not in a natural condition, but the rest of the Tract is. The total impact area is approximately 10 acres.

Tract 2: The lands are in a natural condition. The terrain and vegetation along Sykes Ridge road does not lend itself to cross-country OHV use or dispersed camping. There is a user-created foot trail leading to Frog's Fault Cave, which is only a short distance from the road. It attracts recreational use of an unknown level.

Tract 3: The lands are in a natural condition. The terrain and vegetation along Sykes Ridge road does not lend itself to cross-country OHV use. There are several wide spots along the road where vehicles park for scenic views or use as pull outs for opposing traffic but these are not major intrusions into the Tract and some are rehabbing naturally. None of these routes were evaluated by the BLM.

Tract 4: BLM has determined that both vehicle routes used as boundaries meet the classification of a road, and that the parcel is isolated from either WSA. Accordingly, these lands do not meet the size criteria for evaluation and lack wilderness character. See the Road Analysis Forms for details. This Tract will not be evaluated further since it does not meet the stand-alone size criteria.

Tract 5: BLM has determined that a portion of Tract 5 is isolated from the rest of the Tract by a vehicle route which is classified as a road. This portion of the Tract is approximately 46 acres in size and is located in portions of T. 58 N., R. 95 W., Sections 22, 23, and 26. Although it has been recommended for wilderness designation (BLM Montana Statewide Wilderness Study Report, 1991), this portion of Tract will not be evaluated further since it does not meet the stand-alone size criteria.

Tract 6: The BLM closed the sole vehicle route identified during the initial inventory when the 1984 Billings RMP was signed. It has since naturally rehabbed and is not substantially noticeable. The electrical power line noted as an intrusion was used as a portion of the boundary in this effort and was not included in the area under consideration. The evidence of uranium exploration was determined to be minor in scale and size and is not substantially noticeable due to its location in the remote and generally untraveled interior of the Tract. Cattle are no longer grazed in the area. The natural condition of the landscape has improved from what was earlier observed since human use trends have changed through time and the lands are now in a natural condition.

Tract 7: The initial inventory identified several human improvements which were substantially noticeable, including vehicle routes and a fence line along the boundary. These impacts have been reduced or removed. The vehicle routes have naturally rehabbed after closure in the RMP of 1984. The land condition has improved and the lands are now in a natural condition.

Tract 8: There is extensive evidence of uranium exploration located throughout the Tract. This includes tailings piles, access roads, etc. The presence of these impacts was noted in the initial WSA inventory and the lands were found to not possess wilderness character. Although time has passed, these impacts have not significantly reduced naturally or have not been rehabbed manually. The east boundary was set along aliquot parts, an artificial boundary, but an attempt at using natural features and human impact boundaries was determined to be too difficult to manage. This Tract is not in a natural condition and the initial conclusions are still appropriate. The Tract will not be evaluated further.

X.4.2 Dry Creek Unit

X.4.2.1 Prior Review:

The unit was originally inventoried as Dry Creek (MT-067-200) in the earlier inventory and the new inventory has the same boundaries. The unit is characterized by rolling landforms which gently rise towards the west and it contains scattered trees in only its western portion. The rest of the unit is grasslands and sage. The area is mountain foothills, with vegetation being a pale green and the soils are a grey gumbo clay with a few minimal light tan shale outcropping. Most drainages on the east side are configured such that they lead directly toward a State Highway.

X.4.2.2 Unit Analysis:

The unit covers approximately 6,425 acres of public lands. The entire unit is grazed commercially under permit from BLM and there are at least 5 miles of existing range fence, one spring development, and a stock tank. There are approximately 6 miles of vehicle routes which are mostly used for rangeland management. These routes are not classified as roads by BLM. A natural gas pipeline with a ROW crosses the extreme northeast corner of the unit and isolates a small portion of the lands from the rest of the unit. For recreational purposes the area does attract some upland bird hunting and horseback riding, and although use levels are not known, they are estimated to be low due to lack of cover and browse for wildlife.

X.4.2.3 Finding:

The unit is essentially in a natural condition, with the exception of the area where the ROW is located. The unit landscape is such that that all the drainages in the southern third open to the State Highway. The central and eastern portions of the unit have little tree cover or extensive topographic screening. The highest level of solitude is possible in Sections 31 and 32, where even in this area there is limited vegetative cover. The unit does not have a high level of solitude, let alone an outstanding level. While the expectation of meeting anyone in the unit is low, the opportunity for an outstanding recreational experience is also low since there is almost no attraction value. No supplemental values were identified. The lands do not meet the wilderness characteristic criteria and will not be evaluated further.

X.4.3 Deer Mountain Unit

X.4.3.1 Prior Review:

The unit was originally inventoried in the earlier effort as Deer Mountain, (MT-067-201). It had the same boundaries. The unit is formed by a single, narrow north-south ridgeline sparsely vegetated by conifers along the summit spine of the ridge and in the draws. The ridgeline drops off sharply to the east.

This unit was studied in the initial and intensive phases of the earlier Wilderness inventory and was dropped from further consideration at the end of the inventory.

X.4.3.2 Unit Analysis:

The unit is approximately 9,496 acres in size. This type of landform is known as a "Cuesta Scarp". The geological feature is a supplemental feature in the unit.

There is a pipeline ROW in the southern region which bisects the unit into two separate units.

There are possibly other pipelines as well. Several additional developments are proposed and in the process of being evaluated and processed.

The narrow configuration of the unit hinders an expectation of solitude since any traffic can be heard from many points, even though timber does reduce some impact.

X.4.3.3 Finding:

The pipeline ROW bisects the unit into two smaller portions, neither of which meets the size criteria by themselves. The lands will not be evaluated further.

X.4.4 Bear Creek Unit

X.4.4.1 Prior Review:

Originally this unit was inventoried as Bear Creek Unit (MT-067-204). From flat prairie on the west and north, Bear Creek rises to low bentonite domes and ridges in the center section. The only vegetation in the unit is sparse range grasses, sagebrush, and scrub timber.

The unit is bordered by Bear Canyon road and a parcel of Montana State lands on the north, Gyp Springs road on the east, Blue Wash Road on the northeast, and the Montana/Wyoming border on the south.

This unit was dropped following the intensive inventory phase when it was found to lack naturalness due to extensive human impacts, mostly from mineral exploration and development occurring on much of the area. It was also noted that the level of solitude was low and the opportunity for primitive recreation was mostly adversely impacted by other human activities.

X.4.4.2 Unit Analysis:

The unit is approximately 8.930 acres in size. The BLM established the Petroglyph Canyon ACEC for protection of the petroglyphs found on the rock formations in the area. Although use levels are low, the area does attract both commercial and casual primitive recreation (for viewing the rock art) and semi-primitive recreation (OHV touring – transiting from Wyoming to the higher elevations in the Pryors. The unit is heavily impacted along the southern and western boundaries by past and present bentonite mining operations. The majority of the documented vehicle routes are not receiving regular and continuous use. There are range improvements but they are not substantially noticeable**.**

X.4.4.3 Finding:

Having approximately 8,930 acres, the unit meets the size criteria. The western region and the southern region along the private land boundary are not in a natural condition due to human impacts, both historical and ongoing. Only the central and eastern regions are in a natural condition. There are outstanding levels of solitude present based on the configuration and size of the unit, as well as its actual use levels. There are outstanding opportunities for primitive recreation and a portion of the area (the ACEC) is being actively marketed as a destination. There are special features present in the unit as well (the ACEC resources).

The BLM staff has determined that it is practical to establish an alternative boundary which excludes the existing impacts along the southern boundary and the western region while still meeting the size criteria. This boundary uses a point-to-point line from a Montana State land parcel corner (Section 16) to the corner point common to Sections 19, 20, 29 and 30, which results in an area of approximately 5,659 acres having wilderness characteristics and two portions totaling approximately 3,271 acres lacking wilderness characteristics.

X.4.5 Burnt Timber Canyon Unit

X.4.5.1 Prior Review:

Originally inventoried in 1979 as portions of the Burnt Timber Unit (MT 067-205), this unit was initially dropped in the Final Inventory Decision of 1980, but due to protests received by BLM during the public comment period, was subsequently reviewed further. Ultimately these portions were not part of the Unit which was established as the Burnt Timber WSA in 1991 due to the existence of uranium mining claims and a BLM enclosure, vehicle routes, a horse trap, and several other human impacts in the vicinity of Demi-John Flat, which is a flat and open bench on the west side of the WSA and other areas along the WSA boundary on the east side.

X.4.5.2 Unit Analysis:

The area is approximately 7,204 acres in size and divided into two separate parcels. The area has not seen further mining development since the prior inventory. The BLM facilities noted in the initial inventory have been removed. Several minor ways evaluated in the initial inventory are naturally rehabbing and essentially no longer usable.

Tract 1, approximately 1,816 acres in size, is separated from the Pryor Mountains WSA by a maintained road. It is adjacent to the Burnt Timber WSA on its east side. The west boundary is a combination of private lands and the WSA boundary, which is a primitive vehicle route. The route is naturally rehabbing and essentially unusable. There are mining impacts including test pits and some routes which are still readily visible to a casual observer since they are in the foreground in the viewshed. The BLM has a new wildlife guzzler and conducts regular vehicle access to maintain it.

Tract 2, approximately 5,388 acres in size, is adjacent to the Burnt Timber WSA to the west. It is bordered on the west by a road, on the south by the Montana/Wyoming border, and on the east side by a combination of private lands, a road, and a minor and primitive vehicle route, which is

naturally rehabbing and not usable. Although the lands are within a BLM grazing allotment, no use has occurred for a number of years. Commercial Range operators do trail cattle along the unit boundary road between the lower elevation private lands to the south and the Forest Service lands further north.

X.4.5.3 Finding:

Tract 1 still has visible evidence of human impacts and is not in a natural condition, although overall the condition has improved from the previous inventory. The BLM has new facilities which will have motorized access use and which have a localized impact. The area does offer solitude and primitive recreation opportunities, when considered with the adjacent WSA. This area is not in a condition for further evaluation at this time, although management actions may improve its condition in the future and warrant a new evaluation.

Tract 2 is in a natural condition, and its size and configuration, together with its topography and vegetation, offers both outstanding primitive recreation opportunity and solitude. There are supplemental features present as well.

X.4.6 Weatherman Draw Unit

X.4.6.1 Prior Review:

Originally inventoried in 1979 as Weatherman Draw, (MT-067-202), approximately half the unit is covered with timber and the remainder is grasslands, interspersed with sagebrush. The unit consists of rolling hills of 3,600 feet to 5,000 feet above sea level.

This unit was dropped following the initial inventory phase when it was found to lack naturalness due to extensive human impacts from mineral exploration.

X.4.6.2 Unit Analysis:

The lands include approximately 11,603 acres of public lands and meet the size criteria. The BLM staff identified the presence of the human impacts which were found in the earlier effort and which remain substantially noticeable.

There are a number of new impacts as well, including a number of primitive vehicle routes identified for the new RMP effort.

The lands are commercially grazed under permit by BLM and there are a number of localized developments (fence lines, etc.) related to the operation which does not substantially detract from the natural condition.

There is a pipeline ROW in the northern portion.

The area receives a fair amount of casual and commercial recreational visitation, especially during summer months.

The staff review found opportunities for primitive recreation and solitude is not at an outstanding level due to the configuration of the unit and recreational use numbers, types, and seasonal uses. The recreation is mostly related to hunting and is mostly semi-primitive motorized.

A portion of the unit has been designated as the Weatherman Draw ACEC for the protection of significant cultural resources which is a supplemental resource.

X.4.6.3 Finding:

The unit meets the size criteria, but the current conditions have changed on the ground, and the results of the long-term restriction of vehicle use do not support the earlier decision that the unit lacks naturalness. The visual impacts do not attract the notice of a casual observer. The vehicle routes are not being used except for non-motorized primitive recreation along with some minor administrative use, but for the most part are naturally rehabbing. The area does offer a high level of solitude and primitive recreation and the area does attract both casual and commercial primitive recreation use. . There are supplemental resources present. The unit does meet the conditions for further consideration for Wilderness Character.

X.4.7 Jack Creek Unit

X.4.7.1 Prior Review:

Originally inventoried in 1979 as the Jack Creek Unit (MT-067-203), the general vegetative type is grass and sagebrush except on sandstone outcrops where juniper is found. The topographic features are high angle fault scarps which run in an easterly to northeasterly direction separated by relatively flat valley bottoms.

This unit was dropped following the initial inventory phase when it was found to lack naturalness due to extensive human impacts from mineral exploration.

X.4.7.2 Unit Analysis:

The area includes approximately 7,823 acres of public lands. The BLM staff identified the presence of the human impacts which were found in the earlier effort and which remain substantially noticeable.

There are a number of new impacts as well, including a number of primitive vehicle routes identified for the new RMP effort.

The lands are commercially grazed under permit from BLM and there are a number of localized developments (3 miles of fence lines, at least one spring development, etc.) related to the grazing operation but which does not substantially detract from the natural condition.

There is a pipeline ROW located in the unit.

There are active Bentonite mining claims located on the unit, which are related to the ongoing mining operation on the adjacent private lands.

The staff review found opportunities for primitive recreation and solitude is not at an outstanding level due to the configuration of the unit and recreational use numbers, types, and seasonal uses. The recreation is mostly related to upland bird and big-game hunting and is mostly semi-primitive motorized.

X.4.7.3 Finding:

While the unit meets the size criteria, the current conditions on the ground support the earlier decision that the unit lacks naturalness. The ROW isolates a substantial area and this reduces the area under consideration. The area as a whole does offer a level of solitude and primitive recreation but not at an outstanding level. There are no supplemental resources present. The entire unit does not meet the conditions for further consideration for Wilderness Character.

X.4.8 Little Wall Creek Unit

X.4.8.1 Prior Review:

Originally inventoried in 1979 as Little Wall Creek Unit (MT-067-214), this area consists of a typical grassland/sagebrush type common to eastern Montana. No major topographic features are present. The area is low rolling hills with little topographic relief.

This unit was dropped following the initial inventory phase when it was found to lack naturalness due to extensive human impacts from agricultural development and other activities, lack of outstanding levels of primitive recreation and solitude and no supplemental features being present.

X.4.8.2 Unit Analysis:

The area covers approximately 17,816 acres in size of which all are public lands.

The area is commercially grazed under a BLM permit. There are at least 6 reservoirs, approximately 20 miles of fence, 2 wells and 1 corral associated with this operation.

Approximately 750 acres are under cultivation for crested wheatgrass.

Invasive halogeton is prevalent throughout the unit.

There are no commercial recreation permits and only minimum casual recreational use.

There are several oil and gas leases present, but no development has occurred.

There are a number of vehicular routes noted on the new BLM travel inventory which bisect the unit.

X.4.8.3 Finding:

The lands are not in a natural condition due to invasive species and human impacts, which are localized, but noticeable due to lack of topography and vegetation screening. The opportunity for

solitude and primitive recreation is not of an outstanding level. There is little topographical or vegetation screening possible. There are no supplemental values present. These lands do not meet the wilderness characteristics criteria.

X.4.9 Islands

X.4.9.1 Prior Review:

The BLM staff inventoried 9 islands in the earlier wilderness inventory effort. All were located along the Yellowstone River. They were all evaluated together as one single unit (Yellowstone Islands MT-067-210). All of the islands were dropped from further study during the initial inventory phase as lacking opportunity for solitude due to their proximity to offsite human disturbances and in some cases it was also noted that there was a lack of vegetation screening.

The new inventory determined that the conditions noted earlier had changes through time: Due to shifting currents, weather events, and vegetation growth some islands were no longer isolated by river channels. Several new islands were also located due to these same factors. It was also noted that some of the earlier observations of offsite intrusions did not meet current BLM policies. The inventory identified and evaluated 10 individual islands or groupings of small islands which are partially or wholly administered public land islands on the Yellowstone River.

X.4.9.2 Unit Analysis:

Current status plats and aerial photos reveal that there are 10 individual islands or groupings of small islands which are partially or wholly administered public land islands on the Yellowstone River. There are 4 islands on the Clarks Fork of the Yellowstone River as well. The islands total approximately 1,075.4 acres in size, of which approximately 351.6 acres are public lands managed by BLM. The largest island was 165 acres and the smallest was 3.8 acres.

Boulder River, Stillwater River, and the Musselshell River were also examined, but no islands were located on public lands.

All the islands appear to be very low lying and several may be transitory since they appear to be mostly graveled sand bars. After an initial examination of historical documents, it appears that the hydrology of the river can alter size, shapes and features of islands rapidly and repeatedly. An initial inventory was started in FY 2011 but very high water and flooding conditions stopped the process and may have altered the initial determination. This initial inventory could only be done using aerial photos and Land Status Plats. The islands were field inventoried at different time periods in 2013, during the June high flows, as well as again during low water in the fall of 2013.

The islands are numbered from west to east for the Yellowstone River and south to north on the Clark’s Fork of the Yellowstone River.

The Yellowstone River flows northeast through Montana from its source in the southern Absaroka range in Wyoming to its junction with the Missouri River in North Dakota. The

Billings Field Office includes approximately 150 miles of this river between Springdale and Custer, Montana.

The Clarks Fork of The Yellowstone River (not to be confused with the Clark Fork River), is a tributary of the Yellowstone River, 150 miles long in Montana and Wyoming. It rises in southern Montana, in the Beartooth Mountains, and southwest of Granite Peak. It flows southeast into the Shoshone National Forest in northwest Wyoming, then northeast back into Montana. It passes the communities of Belfry, Bridger, Fromberg, and Edgar, and joins the Yellowstone approximately 2 miles southeast of Laurel, Montana. The actual junction of the rivers is managed by the BLM as the Sundance Recreation Area.

For the Yellowstone River, typically the western islands have willow and old growth vegetation with an understory of shrubs and grasses. As one progresses eastwards, cottonwoods predominate, but willows, thick shrubs, and even open meadows of range grasses are found.

For the Clark's Fork of the Yellowstone River, these conditions occur as one goes north.

Invasive species such as tamarisk, Russian olive, etc. have established themselves all along the river corridors.

The BLM has Alternatives in the RMP currently under development by the BiFO that all public lands located along the Yellowstone River be managed as an ACEC for resource concerns and for conformity with adjacent FO RMPs.

The Yellowstone River is the pathway of the Lewis and Clark Expedition and has the congressionally designated Lewis and Clark National Historic Trail along its course. Pompeys Pillar National Monument is located adjacent to the River approximately 30 miles east of Billings.

A portion of the Clark's Fork of The Yellowstone River has the congressionally designated Nez Perce (Nee-Me-Poo) National Historic Trail which follows its course.

Both River segments have portions of the State of Montana designated Bozeman Historical Trail which follow their courses.

The Billings Field Office manages a number of lands along the Yellowstone River for their recreational opportunities. The Sundance Lodge Recreation Area and the Four Dances Natural Area/ ACEC have islands located on them.

Yellowstone River:

Island 1: Located in T. 1 S., R. 13 E., Section 8, found west of the community of Big Timber. The island is approximately 3.8 acres in size and is composed of all public lands. The lands are located adjacent to the southern bank of the river.

Island 2: Located in T. 1 N., R. 14 E., Section 19, found just west of the community of Big Timber. It is a total of 113 acres in size, of which approximately 77 acres are public lands.

Island 3: Located in T. 3 S., R. 21 E., Section 9. Four small islands grouped together, the islands are located just west of the community of Columbus and are approximately 45 miles west of Billings.

Island A is approximately 2.3 acres total size – all public lands managed by BLM.
Island B is approximately 2: 3.8 acres total size – 2.5 acres BLM and 1.3 acres private.
Island C is approximately 3.4 acres total size – 1.8 acres BLM and 1.6 acres private.
Island D is approximately 10.1 acres total size – 8.2 acres of BLM and 1.9 acres private.

Island 4: located in T. 2 S., R 24 E., Section 13. This parcel is in close proximity to the Sundance Recreation Area and is near the junction point of the Clarks Fork of the Yellowstone River and the main course of the Yellowstone River. It is a total of 81 acres, of which 34 acres are BLM.

Island 5: Located in T. 1 S., R. 25 E., Section 25. This parcel is a small portion of a larger island and is the western point (upstream side) of the island. The total island size is approximately 313 acres of which 9 acres are BLM.

Island 6: Located in T. 1 S., R 26 E., Section 2. This island is part of the Four Dances Natural Area ACEC managed by the BLM. It is located in mid channel in the downtown section of Billings and is in close proximity to an Oil Refinery, a powerhouse, and Interstate Highway 90. The total size is 23 acres, of which 12 acres are BLM.

Island 7: Located in T. 1 N., R 27 E., Section 8. This island has two separate BLM parcels. It is located east of Billings by the community of Lockwood. The approximate total size of the island is 152 acres, of which the two BLM parcels are 16 acres and 28 acres. The island is dominated by a cottonwood gallery with wetland plant community understory, including willows, sedge, rush and other riparian obligate species. The lands are part of the BLM Grazing Allotment # 5483.

Island 8: Located in T. 3 N., R. 30 E., Sections 19 and 20. This island is known locally as Bundy Island. The approximate total BLM lands are 80 acres and 24 acres. It is located a short distance west of the Pompeys Pillar National Monument and is separated from it by private lands.

Island 9: Located in T. 3 N., R 30 E., Sections 21 and 22. This island is known locally as Pompeys Pillar Island. It is just downstream (east) from the Pompeys Pillar National Monument. The approximate size of the island is 165 acres, of which 105 acres are managed by BLM. This island is dominated by a grassy field surrounded by a mature cottonwood gallery and wetland plant communities. The immediate area, including Pompey's Pillar National Monument, is well known as a birding mecca. There is a bald eagle nest on this island and it is used extensively by hikers and hunters, accessed through PPNM and by river boat.

Island 10: Located in T. 4 N., R. 33 E., Section 7. This island is located just west of the community of Custer and is near 7 mile Flat. The total size of the island is approximately 84 acres, of which 19 acres are BLM. Vegetation comprises willows, tamarisk, and immature cottonwoods on BLM, but there is a mature cottonwood gallery on the privately owned portion of the island.

Clark's Fork of the Yellowstone River:

Island 1: located near the community of Bridger, Montana in T. 7 S., R 23 E., Section 4. The island is approximately 2 acres in size. The island is adjacent to property owned and managed by the State of Montana as a Fishing Access Site (FAS).

Island 2: Located in T. 3 S., R 24 E., Section 18. There are two islands located in close proximity to each other and they are just downstream (north) of the community of Bridger, Montana. The southern island is approximately 6 acres in size and the north island is approximately 8 acres in size.

Island 3: Located in T. 2 S., R 24 E., Section 23. The island, which is approximately 30 acres, is located south east of the junction of State Highway 310 and State Highway 212 at the community of Rockvale, Montana. The public lands are on the north half of the island and comprise approximately 13 acres in size.

Island 4: Located at T. 1 S., R 23 E., Section 4. This island is located in the Sundance Lodge Recreation Area and is just upstream from the junction of the Clark's Fork of the Yellowstone River and the Yellowstone River. The island was estimated as having a total of 5 acres, of which 2 acres are lands managed by the BLM.

X.4.9.3 Finding:

For the Yellowstone River islands:

Island 1 was found to not be an island by definition since the channel separating it from the southern river bank had silted in and was not considered for its wilderness characteristics further. It does not have wilderness characteristics.

Island 2 was found to possess wilderness characteristics since it is in a natural condition, has an outstanding level of solitude and primitive recreation, and a Special Features present.

Island 3 was found to have a high feeling of isolation, to be in a natural condition, and to have primitive recreation occurring on them, as well as possessing supplemental values. These islands have wilderness characteristics.

Island 4 was found to possess wilderness characteristics. The island has significant screening and depth for an outstanding level of solitude and primitive recreation. The human impacts that were recorded are overgrown, screened form view except when in close proximity, and these may even have historical significance.

Island 5 was found to have been significantly affected by the previous years of flooding and is not considered to be an island by the review team any longer since the channel was silted up and the main course of the river had shifted to the extent that the parcel was simply contiguous with the surrounding landscape. This area does not possess wilderness characteristics.

Island 6 was found to have significant human developments on it which caused it to be not in a natural condition. As well, there is no opportunity for solitude. There is a potential primitive

recreation and the island does have supplemental values. This island does not have wilderness characteristics present.

Island 7 was found to be readily accessible from Johnson Road by motorized vehicles. The channel which once separated it from the river bank has silted in and is vegetated along much of its former course. There is evidence of motorized vehicle use with several minor ATV tracks present. There are invasive plants species (knapweed, tamarisk, thistle, dock, and others) present due to previous flooding events, as well as some evidence of illegal firewood cutting. The Team determined that these two parcels are not islands and lack wilderness characteristics.

Portions of **Island 8** were found to be not in a natural condition. The agricultural field, although rehabbing, is a noticeable intrusion. The western portion of the parking lot appears to be on BLM land as well. The remainder of the parcel is in a natural condition. Opportunity for primitive recreation is high as the adjacent Fishing Access Site serves as shoreline access.

Island 9 was found to be in an essentially natural condition, although somewhat modified by human impacts found throughout the island. The BLM team considers that it lacks an outstanding level of naturalness, although it has an outstanding level of primitive recreation and that although there are specials features present, the land lacks wilderness characteristics.

Island 10 was found by the BLM staff to lack an outstanding level of solitude, although it is in a natural condition. The land lacks wilderness characteristics.

For The Clark's Fork River islands:

Determination: The BLM staff review has determined that **Island 4** in the Clark's Fork of the Yellowstone River is no longer separated from the reminder of the public land (Sundance Lodge Recreation Area) since his original river channel has changed course. This unit does meet the criteria for evaluation. The BLM staff also determined that **Island 3** in the Clark's Fork of the Yellowstone River had substantive man-made impacts resulting from a recent fire, the rehab efforts, and a water diversion structure which taken together has cumulatively reduced the naturalness level throughout the island. This unit does not have wilderness characteristics. The BLM staff determined that **Island 1** was not separated from the river bank due to the course of the river changing. It was noted that this may change as this particular area seems to have a highly active sediment flow. It is not an island at this time. **Island 2** was found to have invasive species and lack the opportunity for outstanding level of solitude, while possessing excellent primitive recreational values. It does not have wilderness characteristics.

Due to extensive works of man found along the riverbanks, and the islands' small sizes, there might be little sense of solitude; however, there may be some vegetation screening or location in the river channel which may affect the determination. Interstate Highway 90 and the mainline of the Northern Pacific Rail Road parallel the Yellowstone River for much of the distance, but not always right by the river and there are rolling hills and curves in the road and Rail Road courses. The islands do provide outstanding opportunities for primitive recreation since access is limited to boat only and the Yellowstone River is a popular fishing destination. However, the Yellowstone River is open for motorboat use, which is a semi-primitive activity. User percentages are not known.

Unless noted above, the islands do appear to be in a natural condition and may have the potential for further wilderness consideration. The BLM Interdisciplinary team concluded that 126 acres of public land in islands on the Yellowstone River have wilderness characteristics. None of the island units inventoried on the Clark's Fork of the Yellowstone River were determined to possess wilderness characteristics.

X.4.10 Meeteetse Unit

X.4.10.1 Prior Review:

During initial Wilderness inventory a preliminary staff review identified these lands as meeting the size requirement (over 5,000 acres) but probably mostly lacking naturalness due to the presence of roads, and lacking opportunity for solitude and primitive recreation on most of the lands due to lack of topography and vegetation screening. However, it was noted that a small portion of the area did have potential for further in-depth evaluation, if some private lands were acquired. Subsequent to private land acquisition in 2009, this and the larger BLM lands are the area which is the subject of the following formal review and analysis as a Wilderness Character Inventory Unit.

The lands have never been formally inventoried for their wilderness character. One parcel of lands (560 acres) was acquired by the BLM in 2009 (DOI-BLM-MT-C010-2009-0042 EA). A portion of the remainder of the unit is located within the Meeteetse Spires ACEC (960) acres, established in 1999 for protection and enhancement of the rare plant *Shoshona pulvina*, hazardous cliffs, and the scenic values of the spires. Additional portions are public lands located north, south and east of the ACEC and the recently acquired land parcel.

The western boundary is a combination of private lands and National Forest Service; the southern and northern boundaries are private lands and Montana State lands, and the eastern boundary is private lands. They total approximately 18,940.8 acres in size

X.4.10.2 Unit Analysis:

One parcel of land (560 acres) was acquired by the BLM in 2009 (DOI-BLM-MT-C010-2009-0042 EA). A portion of the remainder of the unit is located within the Meeteetse Spires ACEC (960) acres, established in 1999 for protection and enhancement of the rare plant *Shoshona pulvina,* hazardous cliffs, and the scenic values of the spires. Additional portions are public lands located north, south and east of the ACEC and the recently acquired land parcel.

The area is located on the base of the eastern slope of the Beartooth Mountains, approximately 5 miles south of the community of Red Lodge Montana. The terrain rises steeply from 5,600 feet to 7,200 feet in the distance of less than 1.5 miles. The Meeteetse Spires, the main geological formation in the area, are formed by a tilted layer of sedimentary rocks at the edge of the Beartooth Uplift and are remnants of upturned Madison Limestone.

The area is in the rain shadow of the Beartooth Mountains and exhibit an extremely abrupt change in annual precipitation from 26 inches along the west side of the unit to 6 inches less than one mile to the east of the spires.

The lower slopes are a combination of communities of Limber Pine and Douglas Fire; Limber Pine and Rocky Mountain Juniper; montane riparian forest; and Douglass Fir forests with Lodgepole Pine near the USFS boundary. There is some evidence of blister rust and mountain pine beetle kill, but the vast majority of the timber in the area is healthy.

The public lands are adjacent to National Forest lands managed as the "Line Creek Research Natural Area", a Forest Service "Roadless Area" with roadless prescriptions but not recommended by the USFS for potential Wilderness designation.

A small hunting cabin, constructed in 2007 by the previous private landowner, is located in the recently acquired parcel. It is used under BLM permission for research purposes by Rocky Mountain College. It is located in T. 8 S. R. 20 E., Section 35.

There are a number of blocks of private land in-holdings present which are being developed.

The lands are managed as Visual Resource Management (VRM) Class II and III.

There is a commercial recreation operator conducting activities in the area under permit to the BLM and licensed by the State of Montana. The commercial operator brings international, national, and regional clients to the area. General recreational use levels are considered to be low although most of the information is anecdotal. Most activities are hunting and sightseeing.

The Meeteetse Spires Trail, a county maintained vehicle route, enters the unit from the north and continues southerly. It bisects the unit and isolates several parcels from the rest of the unit.

There are three Montana State land parcels which are either edge holdings or inholdings.

There are six separate inholdings present, which vary in size. Several have been subdivided for development purposes.

The vehicle route to the cabin is maintained only by passage of vehicle and would be maintained only in emergency, not for access, but for natural resource protection if it causes severe erosion. This route ends at the Forest Service boundary. It is approximately 1.5 miles in length. The route itself is open for administrative use only and has a gate on it at the State land boundary.

There is a primitive vehicle route in the southern portion of the unit, running north westerly. It dead-ends at the Forest Service boundary and is approximately 3 miles in length. It is not maintained by the BLM. It was previously considered a road and isolates a portion of the unit south of it from the rest of the unit. It is substantially noticeable and is a main access into the general area.

There are a number of primitive vehicle routes in the south central portion of the unit, generally running westerly or southerly, apparently constructed at one time for private land, range or timber access.

The acquisition lands are not grazed commercially due to very shallow soils. The rest of the proposed area is located in portions of 3 grazing allotments. These are the Bear Creek (4148)

grazing allotment, the Bischoff (5203) grazing allotment, and the Grove Creek (5225) grazing allotment.

There is a 50 foot wide Forest Service Hiking trail (ROW 71926), located in T. 8 S., R 20 E., Section 27. It crosses a portion of the unit from east to west. The actual trail tread width as constructed varies but is not as wide as the ROW.

Some of the lands have been previously leased for potential oil and gas development, although there has been no development.

The public lands south of the recently acquired parcel have been proposed for possible ACEC designation in at least one Alternative in the draft Billings RMP. Under FLPMA, establishment of ACECs for resource concerns is a priority.

X.4.10.3 Finding:

The Meeteetse Spires Trail and several other vehicle routes which have been determined to be roads bisect portions of the unit into separate parcels. These are identified on the field map, in the road inventory files, and described here:

Tract 1: 23.4 acres in size. Isolated from the rest of unit by Meeteetse Trail, less than 5,000 acres in size and thus lack wilderness character. This parcel will not be considered further.

Tract 2: 977 acres in size. Isolated from the rest of unit by Meeteetse Trail and a vehicle route determined to be a road, less than 5,000 acres in size and thus lack wilderness character. This parcel will not be considered further.

Tract 3: 373 acres in size. Isolated from the rest of unit by Meeteetse Trail and a vehicle route determined to be a road, less than 5,000 acres in size and thus lack wilderness character. This parcel will not be considered further.

Tract 4: 87 acres in size. Isolated from the rest of unit by a vehicle route determined to be a road, less than 5,000 acres in size and thus lacks wilderness character. This parcel will not be considered further.

Tract 5: 3,841 acres in size. Isolated from the rest of unit by a vehicle route determined to be a road, less than 5,000 acres in size and thus lacks wilderness character. Additionally, the parcel has a number of other vehicle determined to be roads or vehicle routes which receive routine use, lacks vegetation and topographical screening. This parcel will not be considered further.

Tract 6: 356 acres in size. Isolated from the rest of unit by a vehicle route determined to be a road, less than 5,000 acres in size and thus lacks wilderness character. This parcel will not be considered further.

Tract 7: A very small parcel of 0.6 acres in size in a corner of the unit isolated by Meeteetse Road from the rest of the public lands. It is less than 5,000 acres in size. This parcel will not be considered further.

Tract 8: Approximately 2.9 acres in size in a corner of the unit and isolated from the rest of the unit by a vehicle roué determined to be a road. It is less than 5,000 acres in size and lack wilderness character. This parcel will not be considered further.

Tract 9: Approximately 10,809 acres in size. This large, central region of the unit has a number of vehicle routes which are somewhat noticeable and used on at least an occasional basis, as well as most of the private land inholdings. Several range developments and their access routes are also visible from a distance due to topography and lack of vegetation screening. This parcel will not be considered further.

Tract 10: The remainder of the unit, approximately 2,149 acres along the west side of the unit, has man-made facilities and structures which are substantially unnoticeable and which do not detract from the surrounding environment. Vehicle routes #2 and #3 are minor, naturally rehabbing, and do not substantially attract casual attention. Vehicle route #1, the route to the cabin, is not open to the public except as a non-motorized trail. It is visible within the view shed of the canyon which it goes up, however.

There is a primitive vehicle route in the southern portion of the unit, running north westerly. It dead-ends at the Forest Service boundary and is approximately 1 mile in length. It is not maintained by the BLM and is not being used. It is identified as vehicle route #2 in the Road Analysis Forms.

There is a primitive vehicle route in the south central portion of the unit, running west, apparently constructed at one time for range or timber access. It is approximately 0.25 miles in length and dead-ends near the south eastern corner of the recently acquired private lands. It is not maintained by the BLM. It is not being used. It is identified as vehicle route #3 in the Road Analysis Forms

Conclusion:
There are natural attractions in Tract10 of the unit which have outstanding primitive recreational opportunities, which include the Meeteetse Spires and other local geological formations. There are limited numbers of primitive motorized vehicle routes which may be used for non-motorized access. The FS trails (both designated and non-designated) on public lands within the unit are non-motorized. The terrain is challenging and more visitor risk is assumed to be present. Self-reliance is necessary.

The land in Tract 10 is considered significant for the presence of a rare plant species, *Shoshona pulvinata*, which is known in only three locations in Montana and twelve locations world-wide. It is not a federal species candidate for federal listing, but is a BLM sensitive plant species.

Tract 10 includes the lands already designated as the Meeteetse Spires ACEC.

Additionally, the lands are within the Yellowstone Grizzly Bear Recovery Zone and critical habitat for the Canada Lynx. There are nesting Peregrine Falcons in the rock spires. A wolf pack was eliminated from the area after preying on livestock, but the area is known habitat.

Of the entire Unit, only the lands in Tract 10 are considered to have wilderness characteristics, and these do not meet the size criteria. However, the boundary does provide the opportunity to manage it as a separate unit, so the Staff feels that the exemption criteria apply. The boundary is set as being the Forest Service/ BLM on the west, private lands on the south, and the east has a combination of Montana State lands and the Meeteetse Road, vehicle the north boundary is private lands.

X.4.11 Bad Canyon Unit

X.4.11.1 Prior Review:

No prior wilderness inventory has been done for this parcel. It is less than 5,000 acres in size and is isolated from other BLM lands. Following the new wilderness inventory guidelines in BLM Manual 6301 the BLM staff and members of the public recommended a review be done and an evaluation be prepared. The public lands are located adjacent to lands managed by the Custer National Forest, but which are not recommended for possible Wilderness designation. The lands include approximately 2,036 acres of public lands and there are no private land inholdings.

X.4.11.2 Unit Analysis:

The unit is bordered by private lands on all sides except the south, which are National Forest lands.

There is no motorized access to this parcel. The BLM does have a non motorized ROW across private lands and there is an undeveloped trailhead located on the south side of the unit.

The area is extensively timbered with scenic geological formations.

The riparian corridor is in a natural condition, with few invasive species present.

Bad Creek contains a stable population of Yellowstone Cut-throat trout, which is a native species, listed as endangered, and is a supplemental feature for the unit. The lands are important habitat for Grizzly Bear. The riparian corridor serves as an important wildlife migration corridor.

The trout, and the natural scenery, attract an unknown number of casual recreationists, mostly from the local communities, but the location is advertized as a destination in several publications regionally. There are no known commercial recreation operators. All recreational use is primitive in nature. The surrounding private lands have strictly restricted access as well.

A portion of the unit was previously burned in a wild fire, but is naturally rehabbing.

There is one motorized vehicle route which enters the unit from the east across Forest lands. It is naturally rehabbing and is not open for use. There is one vehicle route which accesses the lands from the south. It is maintained only by use and is not open to general use across private lands.

There are portions of five grazing allotments in the unit. The allotments are 5492, 5582, 5558, 5562, and 5548.

X.4.11.3 Finding:

The unit is in a natural condition. There is plentiful vegetation and topographical screening for an outstanding level of solitude. The area has significant geological, riparian, wildlife, and scenery resources which provide an outstanding level of primitive recreation attractions and experiences. The opportunity for this kind of recreation is further enhanced by the administrative lack of motorized access across the private lands. The lands in the unit are less than the minimum size criteria however, and although the unit is configured in a long and relatively narrow shape which by itself does not lend itself to wilderness management, the canyon within the unit can be managed by itself, or the entire unit along private/public land boundaries.

X.4.12Lake Mason Unit

Prior Review

The area inventoried in this effort was slightly different from the earlier effort since the BLM staff identified several potential changes in vehicle routes which might affect the determination. A number of vehicle routes were inventoried during the course of the BLM Travel Management Planning conducted during FY 2009-2011 as part of the new Billings Field Office RMP effort. Several routes were classified at that time as being less than roads, including Grazing District Road located in the southern region of the unit.

The public lands are completely surrounded by private and Montana State lands. There are two (2) parcels of Montana State lands totaling 800 acres which are completely isolated within the unit, as well as two (2) private lands parcel inholdings which total approximately 170 acres in size. The Inventory area totals approximately 10, 504 acres of public land in size.
The lands are composed of a sage-brush grass steppe ecosystem with only a few scattered trees present. The terrain is one of low rolling hillsides broken by a few small washes with little elevation change. There are few low outcroppings of rock. There are no permanent water sources present. There are invasive plant species which are common throughout the unit.

Unit Analysis:

There is a power line ROW which cuts through a portion of the southern area of the unit.
A portion of the eastern boundary of the unit is formed by an isolated USDI Fish and Wildlife parcel of the Lake Mason National Wildlife Refuge. A portion of the western boundary of the unit is formed by a Montana State land parcel. The remainder of the inventory unit is formed by private/public lands boundary.

A county maintained road (Snowy Mountain Road) cuts through the north portion of the unit from east-west and isolates approximately 320 acres from the rest of the unit. This part of unit does not meet the size criteria and does not have any wilderness characteristics.

On the east side of the unit approximately 1,320 acres of public lands are isolated by another county maintained road (an extension of the Lake Mason Road) running north-south. This portion of the unit has no wilderness characteristics since it does not meet the size criteria either.

The lands are commercially grazed under permit from BLM as part of Grazing Allotments 4981, 4975, and 4988. There are a number of related facilities including stock ponds, a windmill, access routes, and fence lines. These are localized impacts and do not substantially detract from the natural condition.

The unit receives some recreational use, mostly upland game hunting. Use numbers are unknown but are estimated by both BLM staff and State of Montana Fish, Wildlife and Parks staff to be very low. The lands are part of a State of Montana Block Management hunting unit. There are no commercial, competitive or organized groups under permit from the BLM using these lands. The area is not being marketed by any individual or government entity as a major recreational destination.

The lands are critical sage grouse habitat, which extends over a much large area than just this unit.

The BLM route inventory process found that there are 13 separate vehicle routes totaling approximately 21 miles in length.

Finding:
Although current human use levels are apparently very low and the expectation of meeting anyone on the unit is also very low, there is very little vegetation or topographical screening present, so any human caused sights and sounds would be noticeable at a large distance. There is not an outstanding level of solitude present. The area does not offer itself as a recreation destination. There are no specific attractions present other than a large open space of public lands, which are themselves set in the middle of a large expanse of open and undeveloped landscape. The lands will not be evaluated further.

X.4.13Timber Canyon Unit

X.4.13.1 Prior Review:

No prior wilderness inventory was conducted on this land parcel. No clear indication of why it was not is available. Following the new guidelines the BLM staff recommended a review be done and an evaluation be prepared. The public lands are located adjacent to lands managed by the Custer National Forest, but which are not recommended for possible Wilderness designation. The lands include approximately 6,414 acres of public lands and there are no private land inholdings.

The Timber Canyon unit is located about 60 miles east of Red Lodge. The soils in the Timber Canyon area are derived from limestone and sandstone formations. The limestone uplifts and formations contain a number of caves and sinkholes.

This mountain range was never glaciated, is rather dry, and contains some very steep terrain and some of the canyons are deeply incised in the limestone

X.4.13.2 Unit Analysis:

The BLM road analysis determined that there seven (7) routes which meet the criteria as roads. These are identified on the BLM Surface Management Status Map (*Bridger, 2000*) as routes 1039, 1046, 1046, 1047, 1048, 1049, 1050, and 1051. Three of them (1046, 1047, and 1051) connect to designated Forest Service roads, while 1039 connects to 1046 and 1050 connects to a power line located off public lands. Cumulatively, these routes cut the unit into small parcels.

There is a power-line ROW located along portions of the western edge of the unit.

The lands are grazed commercially under permit from BLM as Allotment 4135. There are a number of associated range developments present.

The unit has never received heavy use by recreationists, although it does receive regular use by recreationists passing through it while going to more popular destinations on the Forest lands lying above it. Recreation opportunities include deer and small game hunting, hiking, and snowmobiling. Many primitive trails and old mining roads provide easy motorized access. The unit has no commercial outfitters operating on it.

There are reported to be some archeological and paleontological sites on the unit but an intensive inventory has not been done.

X.4.13.3 Finding:

The lands have a number of established vehicle routes which qualify as roads. These cut the unit into smaller parcels, none of which meet the size criteria. The configuration of the parcel does not lend itself or portions of the unit, to management as wilderness. The area as a whole does offer a level of solitude and primitive recreation but not at an outstanding level. Semi-primitive motorized recreation is the type of activity now occurring on it. There are supplemental resources present. The entire unit does not meet the conditions for further consideration for Wilderness Character.

X.5 Conclusion

Table X-1: Lands with Wilderness Characteristics Review Finding

Lands With Wilderness Characteristics Review Finding			
Name of unit	Total Acres	Wilderness Character	Non-Wilderness Character
A. Pryor Mountain Unit Tract 1	2,873 acres	2,873 acres	0 acres
Tract 2	497 acres	497 acres	0 acres
Tract 3	143 acres	143 acres	0 acres
Tract 4	445 acres	0 acres	445 acres
Tract 5	559 acres	512 acres	47 acres
Tract 6	1,074 acres	1,074 acres	0 acres
Tract 7	327 acres	327 acres	0 acres
Tract 8	269 acres	0 acres	269 acres
B. Dry Creek Unit	6,425 acres	0 acres	6,425 acres
C. Deer Mountain Unit	9,496 acres	0 acres	9,496 acres
D. Bear Creek Unit	8,930 acres	5,659 acres	3,271 acres
E. Burnt Timber Unit Tract 1	1,816 acres	703 acres	1,113 acres
Tract 2	5,388 acres	5,375 acres	13 acres
F. Weatherman Draw Unit	11,603 acres	6,033 acres	5,570 acres
G. Jack Creek Unit	7,823 acres	0 acres	7,823 acres
H. Little Wall Creek Unit	17,816 acres	0 acres	17,816 acres
I. River islands	352 acres	126 acres	226 acres
J. Meeteetse Unit Tract 1	23.4 acres	0 acres	23.4 acres
Tract 2	977 acres	0 acres	977 acres
Tract 3	373 acres	0 acres	373 acres
Tract 4	87 acres	0 acres	87 acres
Tract 5	3,841 acres	0 acres	3,841 acres
Tract 6	356 acres	0 acres	356 acres
Tract 7	0.6 acres	0 acres	0.6 acres
Tract 8	2.9 acres	0 acres	2.9 acres
Tract 9	10,809 acres	0 acres	10,809 acres
Tract 10	2,149 acres	2,149 acres	0 acres
K. Bad Canyon Unit	2,036 acres	2,036 acres	0 acres
L. Lake Mason Unit	10,504 acres	0 acres	10,504 acres
M. Timber Canyon Unit	6,414 acres	0 acres	6,414 acres
TOTAL	113,408.9 acres	27,507 acres	85,901.9 acres

Following management Prescriptions in the BLM Manual 6310, Official Case Files for each of the inventory units have been established. These contain Road/Route determinations, relevant reference documentation, and a detailed analysis of the current resource conditions. These files are available for public review and will be maintained by the Billings Field Office.

Appendix Y:
Screening Criteria Checklist for Ten Year Grazing Permit / Lease Renewal and Transfers

Y. Screening Criteria Checklist for Ten Year Grazing Permit / Lease Renewal and Transfers

To determine if a proposed renewal or transfer is applicable, the following screening criteria should be applied. If the answer to every question here is NO, the proposed renewal or transfer qualifies and NEPA compliance can be achieved by preparing a Documentation of NEPA Adequacy (DNA) that references the Billings/Pompeys Pillar RMP EIS. However, if the answer to any question is Yes, the proposal represents an exception and an individual Environmental Analysis (EA) should be prepared.

1. Do any of the Departmental Categorical Exclusion Exception Criteria apply?

Would the proposed action:

- Have significant adverse effects on public health or safety?
- Have adverse effects on such unique geographic characteristics as historic or cultural resources, park, recreation or refuge lands, wilderness areas, wild or scenic rivers, sole or principal drinking water aquifers, prime farmlands, wetlands, floodplains, or ecologically significant or critical areas, including those listed on the Department's National Register of Natural Landmarks?
- Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources?
- Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?
- Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?
- Be directly related to other actions with individually insignificant but cumulatively significant environmental effects?
- Have adverse effects on properties listed or eligible for listing on the National Register of Historic Place?
- Have adverse effects on species listed or proposed to be listed on the List of Endangered or Threatened Species, or have adverse effects on designated Critical Habitat for these species?
- Have a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898).
- Threaten to violate a Federal, State, local or tribal law or requirement imposed for the protection of the environment?
- Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007).

- Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112)

2. **Is the proposed renewal or transfer on an allotment <u>not</u> meeting Range Health Standards? (This would vary by alternative.)**

3. **Will the proposed renewal or transfer require a change to the mandatory terms and conditions of the expiring or transferring permit / lease?**

4. **Would the proposed renewal or transfer negatively impact crucial/critical wildlife habitat?**

5. **Would the proposed renewal or transfer negatively impact any known Threatened or Endangered (BLM sensitive - special status?) species habitat?**

You must be able to provide documentation or rationale to support all **<u>No</u>** answers, if necessary.

Appendix Z:
PFC – Proper Functioning Condition

Z. PFC – PROPER FUNCTIONING CONDITION

Z.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.

Z.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.

Z.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

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:

_____
_____
_____
_____
_____
_____
_____

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 AA
1975 Memorandum between Montana and Wyoming - Administration of the Pryor Mountain Wild Horse Range

1975 Memorandum between Montana and Wyoming - Administration of the Pryor Mountain Wild Horse Range

APPENDIX 3.5: MEMO ON ADMINISTRATION ON THE PMWHR BETWEEN WYOMING AND MONTANA

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

TO : District Manager, Billings District, Montana
District Manager, Worland District, Wyoming

DATE: MAR 18 1975

FROM : State Director, Montana
State Director, Wyoming

SUBJECT: Administration of the Pryor Mountain Wild Horse Range

This memo supersedes the memo of January 9, 1969, on the same subject. A new memo is deemed necessary for the dual purpose of 1) Shifting jurisdiction of additional national resource lands from the Worland District to the Billings District, and 2) Broadening and clarifying the nature of the responsibilities shifted.

On September 9, 1968, the Secretary of the Interior established the Pryor Mountain Wild Horse Range by so designating a block of approximately 29,700 acres of national resource lands in the State of Montana and 2,300 acres in the State of Wyoming. On September 9, 1969, the Assistant Secretary of the Interior designated an additional 1680 acres in the State of Wyoming as a part of the Pryor Mountain Wild Horse Range. Copies of the Federal Register publications for the two designations are attached.

Since that time, it has been determined and mutually agreed by the State Directors of Wyoming and Montana that an additional 2,360 acres of national resource land in Wyoming and 560 acres of national resource land in Montana be made a part of the Wild Horse Range to facilitate management pursuant to authority contained in Public Law 92-195. A description of this latter 2,360 acres is attached. In total, this will result in approximately 6,340 acres of national resource lands in Wyoming that will be a part of the Pryor Mountain Wild Horse Range.

Subject to valid existing rights, the lands involved in the Pryor Mountain Wild Horse Range are to be primarily administered for the protection and management of wild horses, wildlife, watershed, recreation, archaeological and scenic values.

The administration of the range requires close coordination with several State and Federal agencies and with representatives from a number of interest groups. Proper management of the resources makes it necessary for BLM personnel to spend considerable time on the site and to maintain close surveillance on resource conditions. The conditions and requirements of managing this special purpose area have dictated that one office of the Bureau be the focal point for administration.

Since a fraction of the total area is located in the State of Wyoming, and since the critical wildlife habitat is essential to species originating in Montana and the effect of watershed management accrues principally downstream in the State of Montana, it is only logical that the range in total should be administered by the Montana office of the Bureau.

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

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The logic of total administration by the Montana office has been further demonstrated by the successful management of the range by the Billings office.

In view of the foregoing, it is reaffirmed that the Billings District Office will administer resource management in both the Montana and the Wyoming portions of the Pryor Mountain Wild Horse Range, including but not limited to grazing, wildlife, soil and watershed conservation, recreation, lands, minerals, forestry, fire, cadastral survey, access, etc. No action responsibilities beyond those functions of application or offer and maintenance of official records is intended by Wyoming offices.

As an example, all applications or offers filed pursuant to the public land and mineral leasing laws for national resource land in Wyoming within the range will be filed in Cheyenne and referred to the District Manager, Billings, Montana, for report and recommendations including any special stipulations necessary to further the objectives of the range.

For the purpose of coordination and record keeping, the State Director of Wyoming will be advised of all transactions involving lands in Wyoming in order that land office plats, statistical reports and improvement records may be kept current. Since the State of Wyoming is concerned with the enforcement of livestock sanitary measures, game management, recreation and its share of revenues from the public lands located within the borders of the state, all such matters including news releases and public information programs affecting Wyoming will be coordinated with the Worland District and State Director of Wyoming.

The contents of this memorandum are subject to periodic review and may be modified by mutual consent of the State Directors.

State Director
Wyoming

State Director
Montana

Attachments: Federal Register publications 9/12/68 and 9/13/69
Description of additional 2,360 Wyoming acres.

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September 12, 1968 Federal Register Notice – Establishment of Pryor Mountain Wild Horse Range

FEDERAL REGISTER, VOL. 33, NO. 178—THURSDAY, SEPTEMBER 12, 1968

MONTANA AND WYOMING

Establishment of Pryor Mountain Wild Horse Range

1. Pursuant to the Classification and Multiple Use Act of September 19, 1964 (74 Stat. 986, 43 U.S.C. 1411), R.S. 2478 (43 U.S.C. 1201), the Act of October 15, 1966 (80 Stat. 913; 16 U.S.C. 460t), and the provisions of 43 CFR Subpart 1727, I hereby designate the public lands in the following described area as the Pryor Mountain Wild Horse Range and establish the rules for management of said Range.

MONTANA PRINCIPAL MERIDIAN

CARBON COUNTY, MONT.

T. 8 S., R. 28 E.,
Sec. 19, E½E½;
Sec. 20, all;
Sec. 21, W½, W½E½;
Sec. 28, W½;
Sec. 29, all;
Sec. 30, E½E½;
Sec. 31 E½E½;
Sec. 32 all;
Sec. 33 W½, W½SE¼.

T. 9 S., R. 27 E.,
Sec. 1, all;
Sec. 2, all;
Sec. 11, all;
Sec. 12, all;
Sec. 13, all;
Sec. 14, all;
Sec. 23, NE¼, E½SE¼;
Sec. 24, all;
Sec. 25, W½, NE¼, N½SE¼, SE¼SE¼.
T. 9 S., R. 28 E.,
Sec. 4, W½, W½E½, E½SE¼, SE¼NE¼;
Secs. 5–36, all lying west of the Bighorn River.
T. 9 S., R. 29 E.,
Sec. 18, all lying west of the Bighorn River.
T 10 S., R. 27 E.,
Sec. 1, lots 1 and 2.

SIXTH PRINCIPAL MERIDIAN

BIGHORN COUNTY, WYO.

T. 58 N., R. 95 W.,
Sec. 19, lot 1;
Sec. 20, N½;
Sec. 21, N½, SE¼, northeast diagonal ½ of SW¼;
Sec. 22, all;
Sec. 23, W½W½, E½NW¼, NE¼SW¼, N½SE¼;
Sec. 26, NW¼NW¼;
Sec. 27, N½;
Sec. 28, NE¼NE¼.

The area described aggregates approximately 32,000 acres.

The Pryor Mountain Wild Horse Range is a Class III natural environment area under the Bureau of Outdoor Recreation system of classification.

2. Subject to valid existing rights the area will be primarily administered for the protection and management of wild horses, wildlife, watershed, recreation, archeological, and scenic values.

3. The Pryor Mountain Wild Horse Range shall be in all respects subordinate to the Bighorn Canyon National Recreation Area established by the Act of October 15, 1966 (80 Stat. 913; 16 U.S.C. 460t), so far as it affects lands comprising any part of the Bighorn Canyon National Recreation Area. Wild horses within the area shall be managed by the Bureau of Land Management, in a manner that is compatible with the purposes for which the Bighorn Canyon National Recreation Area was established.

4. The Bureau of Land Management, for the public lands within the Range, and in cooperation with the National Park Service for the lands within the National Recreation Area, will develop and keep current a management plan for the Range which will provide for the management of the wild horses and their habitat within a balanced program which considers all public values and without impairment of the productivity of the land.

5. For purposes of management of the wild horses within the Range, the boundaries thereof shall conform to natural barriers and feasible fencing routes within the area described in paragraph 1 of this order. The lands are more particularly identified and delineated on plats or maps filed in the respective Land Offices. Lands which lie outside the meandering boundaries will be subject to existing domestic livestock grazing under the Taylor Grazing Act.

STEWART L. UDALL,
Secretary of the Interior.

SEPTEMBER 9, 1968.

[F.R. Doc. 68-11056; Filed, Sept. 11, 1968; 8:49 a.m.]

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Appendix AB: Summary of Eligibility, Suitability, and Tentative Classification Determinations for Rivers in the Billings Field Office

SUMMARY OF ELIGIBILITY, SUITABILITY, AND TENTATIVE CLASSIFICATION DETERMINATIONS FOR RIVERS IN THE BILLINGS FIELD OFFICE

Billings Field Office
5001 Southgate Drive
Billings, Montana

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Executive Summary

As part of the land use planning process for the Billings Resource Management Plan (RMP), a US Department of the Interior, Bureau of Land Management (BLM) interdisciplinary team and a contract team of Ecosystem Inc. staff analyzed all river and stream segments in the Billings Field Office administrative area (Planning Area) that were found to be eligible for inclusion in the National Wild and Scenic Rivers System (NWSRS). This included screening all Planning Area rivers to identify those with BLM surface ownership. These initial screening and identification efforts resulted in a list of rivers or river segments for further consideration in the inventory and study process.

Introduction

Section 5(d)(1) of the Wild and Scenic River (WSR) Act directs Federal agencies to consider potential wild and scenic rivers in their land and water planning processes ("..In all planning for the use and development of water and related land resources, consideration shall be given by all Federal agencies involved to potential national wild, scenic and recreational river areas"). To fulfill this requirement, whenever the BLM undertakes a land use planning effort (e.g., an RMP), it analyzes river and stream segments that might be eligible for inclusion in the NWSRS. The BLM, Billings Field Office, is revising its older land use plan. The revised RMP will provide a single, comprehensive land use plan that will guide management of public land administered by the Billings Field Office.

This report is a record of the wild and scenic river study that is being conducted concurrently with the Billings Field Office RMP revision. This report documents BLM's examination of Billings Field Office river segments as they relate to eligibility, suitability, and classification criteria in the WSR Act.

This report incorporates the Eligibility phase work performed under contract by Ecosystem Management Inc. with BLM staff input and support and uses that data for analysis by BLM staff for the completion of the Suitability phase. The two separate reports, the 2009 Wild and Scenic River Eligibility Report and this Suitability report, comprise the complete Wild and Scenic River evaluations process for the Billings Field Office.

What is a Wild and Scenic River?

Congress enacted the WSR Act to provide a national policy for preserving and protecting selected rivers and river segments in their free-flowing condition for the benefit and enjoyment of present and future generations. The WSR Act provides criteria that must be considered during the analysis. No rivers in the Planning Area are currently managed under the WSR Act.

Steps in the Wild and Scenic Rivers Study Process

The wild and scenic river study process is comprised of two main components: the inventory phase and the study phase. The inventory phase includes identifying eligible river and stream segments, assigning tentative classification (Wild, Scenic, or Recreational), and describing

protective management for the eligible segments. The study phase includes determining the suitability of eligible segments for inclusion in the NWSRS and describing interim management measures. The inventory is conducted during the data-gathering stage of RMP revision, and the study phase is done during formulation of the Draft RMP and Proposed RMP.

The inventory and evaluation process used by BLM to identify and evaluate river segments for potential inclusion into the National Wild and Scenic Rivers system is guided by the provisions of the Wild and Scenic Rivers Act and BLM planning guidance. Section 5(d) (1) of the Act directs federal agencies to consider potential wild and scenic rivers in the land and water planning processes. To fulfill this requirement, the BLM inventories and evaluates rivers when it develops comprehensive resource management plans for public lands in a specified area. A Notice of Intent to prepare the RMPs for the BiFO and Pompeys Pillar National Monument was published in the Federal Register on May 15, 2008. This notice served as the beginning of BLM's formal scoping process.

The notice was followed by a news release announcing scoping. In addition, over 1,200 scoping packages were mailed to potential stakeholders, agencies, organizations and tribes. A website for the Billings and Pompeys Pillar National Monument RMP was launched that provides the public access to planning documents, calendars, information on the planning process, as well as a photo gallery of the planning area. The website will continue to be updated throughout the planning process. Another news release was issued and postcards distributed to the mailing list in July 2008 announcing the dates, locations and times of seven public scoping open house meetings across the planning area. All of these outreach tools conveyed information about the planning process, preliminary planning issues, special designations and an overview of the planning area. The BLM hosted scoping open houses providing the public with opportunities to become involved, learn about the planning process, meet the RMP team members, provide scoping comments, and input on the plan.

In April 2009, BLM released the Final Wild and Scenic River Eligibility Report, Billings Field Office, Montana. Seven river segments were identified as eligible for further study in the land use plan. Additional information describing the inventory and evaluation process can be found in the report, which is also attached in Appendix R.

Eligibility Determination Considerations

The first part of BLM's wild and scenic river review process is to identify rivers that are eligible for NWSRS designation by Congress. To be eligible, a body of water must be a free-flowing river and must possess at least one outstandingly remarkable river-related value.

Is It a Free-Flowing River?

To be considered a free-flowing river, it must be a flowing body of water, or estuary, or section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes. A river can be any size or length, and does not have to be floatable or boat-able. For purposes of eligibility determination, the volume of flow is sufficient if it is enough to maintain any outstandingly remarkable river-related values identified. The body of water must be existing or

flowing in a natural condition without major modification of the waterway such as channelization, impoundment, diversion, straightening, and rip-rapping. However, some minor modifications can be allowed such as low dams, diversion works, and minor structures. The river can lie between impoundments or major dams.

Does It Have at Least One Outstandingly Remarkable Value?

The body of water must have at least one outstandingly remarkable river-related value, i.e., scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, such as biological, botanical, ecological, hydrological, and paleontological. In order to be assessed as "outstandingly remarkable," a river-related value must be a unique, rare, or exemplary feature that is significant at a regional or national level. A list of criteria used to help make this determination is included later in this appendix.

Tentative Classification Considerations

To protect wild and scenic values prior to Congressional designation, eligible river segments are tentatively classified and management measures instituted as necessary to ensure appropriate protection of the values supporting the eligibility and classification determinations.

Section 2(b) of the WSR Act specifies three classification categories: wild, scenic, and recreational. Classification is based on the type and degree of human developments associated with the river and adjacent lands as they exist at the time of the evaluation. Classifications cannot overlap.

- Wild rivers are free of impoundments and are generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted.
- Scenic rivers are generally free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped but accessible in places by roads.
- Recreational rivers are readily accessible by road or railroad, may have some development along their shorelines, and may have small diversions and dams.

Eligibility Determinations for Rivers in the Billings Field Office

Review of Rivers Considered

All water bodies in Billings Field Office were evaluated for possible eligibility. Sources used to identify water bodies included the Nationwide Rivers Inventory (NRI) (National Park Service, 1982, 1986, 1988); any named stream found on a 1:100,000 map; the American Rivers Outstanding Rivers List: Montana (American Rivers, Inc., 1988).

Additional information was gathered from other federal and state agencies from scoping letters, existing documents, and applicable rivers lists on the internet. A Notice of Intent to prepare the RMP for the Billings and Pompeys Pillar National Monument was published in the Federal Register on May 15, 2008. This notice served as the beginning of BLM's formal scoping

process. The notice was followed by a news release announcing scoping. Over 1,200 scoping packages were mailed to stakeholders, agencies, organizations and tribes. News release and postcards were distributed in July 2008 announcing the dates, locations and times of seven public scoping open house meetings across the planning area. All of these outreach tools conveyed information about the planning process, preliminary planning issues, special designations and an overview of the planning area, including requests for information for special designations, including Areas of Critical Environmental Concern (ACECs) and Wild and Scenic River information and nominations.

A total of 129 written submissions and e-mails were received by September 19, 2008. Only one scoping comment was received on wild and scenic rivers. The commenter requested that no rivers be designated.

The Draft Wild and Scenic Eligibility Report was prepared and submitted for review to the RMP cooperating agencies. Comments were received from Montana Fish, Wildlife and Parks (MFWP), the Yellowstone Conservation District and the Eastern Montana Resource Advisory Council (RAC).

MTFWP concurred with BLM's findings regarding fish values. They also suggested that the entire Yellowstone River segment through the planning area met the criteria for outstandingly remarkable recreational values. BLM has no authority to determine eligibility of river segments that adjoin private, state, or other federally administered lands.

The Yellowstone Conservation District requested clarification on whether eligibility findings affect other lands. BLM clarified that the agency only considers values on segments adjacent to BLM-administered lands.

The Eastern Montana Resource Advisory Council (RAC) appointed several members to serve as liaisons to the planning process. The RAC liaison input with regard to the Bear Canyon Creek segment involved additional research and site visits. Through this process, it was determined that the Bear Canyon Creek segment length would be 1.6 miles (instead of ¼ mile in the preliminary findings) to include the furthest extent of the intermittent cottonwood riparian zone.

In addition, the following other sources were used to identify potentially eligible rivers:

- Montana Department of Fish, Wildlife and Parks databases;
- Forest Management Plans and Wild and Scenic Rivers Eligibility Assessments from the Custer and Gallatin National Forests.

From these sources and information, the BiFO developed an inventory list for consideration. The identification of river and stream segments evaluated for potential eligibility included 14 individual river segments within the BiFO decision area. Refer to Billings Field Office Rivers and Streams Analyzed for Eligibility – Appendix D for a list of the results from the identification effort (http://www.blm.gov/mt/st/en/fo/billings_field_office/rmp/docs.html).

Region of Consideration

To be considered outstandingly remarkable, wild and scenic river values must be outstanding in a regional context. Each identified free-flowing river was considered in the context of which of the above regional types it flows within.

Summary of Determinations

The segments above were plotted on BLM 1:100,000 Surface Management Maps and measured. Based on the eight Outstandingly Remarkable Values (ORV) categories, a list of potential values was developed for each segment. For each value of each segment, information was developed then compared with similar values outside the general region and evaluated against the ORV criteria**.** The BLM resource specialists conducted this review for each of their areas of expertise using their knowledge, available inventory information and publications. A team review for all segments was conducted on three separate occasions to assure the information was accurate and met the criteria of the study. Seven of the 14 segments evaluated were determined eligible because they contained one or more ORVs. A complete list of all segments and the resource values that were evaluated is found in Appendix R under "Final Eligibility Report (April, 2009). This appendix displays all the resource values that were evaluated, whether they did or did not meet the ORV criteria and the rationale for the determination.

Documentation of Eligibility: Criteria for Determining Outstandingly Remarkable Values

1. **Scenic.** The landscape elements of landform, vegetation, water, color, and related factors must result in notable or exemplary river-related visual features and/or attractions within the geographic region. The BLM Visual Resource Inventory Handbook, H-8410-1, may be used in assessing visual quality and in evaluating the extent of development upon scenic values. The rating area must be scenic quality "A" as defined in the Handbook. However, scenic quality "A" does not, by itself, constitute an outstandingly remarkable value. When analyzing scenic values, additional factors such as seasonal variations in vegetation, scale of cultural modifications, and length of time negative intrusions are viewed may be considered. Scenery and visual attractions may be highly diverse over the majority of the river segment length and not common to other rivers in the geographic region.

2. **Recreational.** Recreational opportunities are or have the potential to be unusual enough to attract visitors to the geographic region. Visitors are willing to travel long distances to use the river resources for recreational purposes. River-related recreation opportunities could include, but not be limited to: sightseeing, wildlife observation, camping, photography, hiking, fishing, hunting, and boating. Interpretive opportunities may be exceptional and attract or have the potential to attract visitors from outside the geographic area. The river may provide or have the potential to provide settings for national or regional commercial usage or competitive events. In addition, the river may be eligible if it is determined to provide a critically important regional recreation opportunity or be a significant component of a regional recreation opportunity spectrum setting.

3. **Geologic**. The river or the area within the river corridor contains an example(s) of a geologic feature, process, or phenomenon that is rare, unusual, or unique to the geographic region. The feature(s) may be in an unusually active stage of development, represent a textbook example, and/or represent a unique or rare combination of geologic features (erosional, volcanic, glacial, and other geologic structures).

4. **Fish**. Fish values may be judged on the relative merits of either fish populations or habitat, or a combination of these river-related conditions.

   a) Populations. The river is nationally or regionally one of the top producers of resident, indigenous, and/or anadromous fish species. Of particular significance may be the presence of wild or unique stocks, or populations of State, federally listed, or candidate threatened and endangered species.
   b) Habitat. The river provides exceptionally high-quality habitat for fish species indigenous to the region. Of particular significance is habitat for state, federally listed, or candidate threatened and endangered species.

5. **Wildlife.** Wildlife values may be judged on the relative merits of either river-related wildlife populations or habitat, or a combination of these conditions.

   a) Populations. The river or area within the river corridor contains nationally or regionally important populations of resident or indigenous wildlife species dependent on the river environment. Of particular significance may be species considered to be unique or populations of state, federally listed, or candidate threatened and endangered species.
   b) Habitat. The river or area within the river corridor provides exceptionally high-quality habitat for wildlife of national or regional significance, or may provide unique habitat or a critical link in habitat conditions for state, federally listed, or candidate threatened and endangered species. Contiguous habitat conditions are such that the biological needs of the species are met.

6. **Cultural**. The river or area within the river corridor contains a site(s) where there is evidence of river-related occupation or use by Native Americans. Sites must be rare, have unusual characteristics, or exceptional human interest value(s). Sites may have national or regional importance for interpreting prehistory, may represent an area where a culture or cultural period was first identified and described, may have been used concurrently by two or more cultural groups, or may have been used by cultural groups for rare or sacred purposes.

7. **Historic.** The river or area within the river corridor contains a site(s) or feature(s) associated with a significant river-related event, an important person, or a cultural activity of the past that was rare or unusual in the region. A historic site(s) and/or feature(s) in most cases is 50 years old or older. Sites or features listed in, or eligible for inclusion in, the National Register of Historic Places, may be of particular significance.

8. **Other Similar Values**. While no specific evaluation guidelines have been developed for this category, additional values deemed relevant to the eligibility of the river segment include, but are not limited to, hydrologic, ecologic/biologic diversity, paleontological, botanic, and scientific study opportunities. They should be considered in a manner consistent with the foregoing guidance.

Eligibility Findings

The resource specialists identified seven river segments (Figure 1) (for the entire list, see the Final Eligibility Report, section 3.1) that contain one or more ORVs and are determined eligible for study. These were the following:

- Bad Canyon Creek
- Bear Canyon Creek
- Crooked Creek – Above Fish Barrier
- Crooked Creek – Below Fish Barrier
- Gyp Spring
- Piney Creek
- Yellowstone River – Pompeys Pillar

The following provides a brief description of each of the eligible segments that were evaluated for study. For more detailed overview and description of outstandingly remarkable values associated with each of the following seven segments, refer to the **Billings Field Office Rivers and Streams Analyzed for Eligibility** (http://www.blm.gov/mt/st/en/fo/billings_field_office/rmp/docs.html).

Figure 1: Maps of River Segments

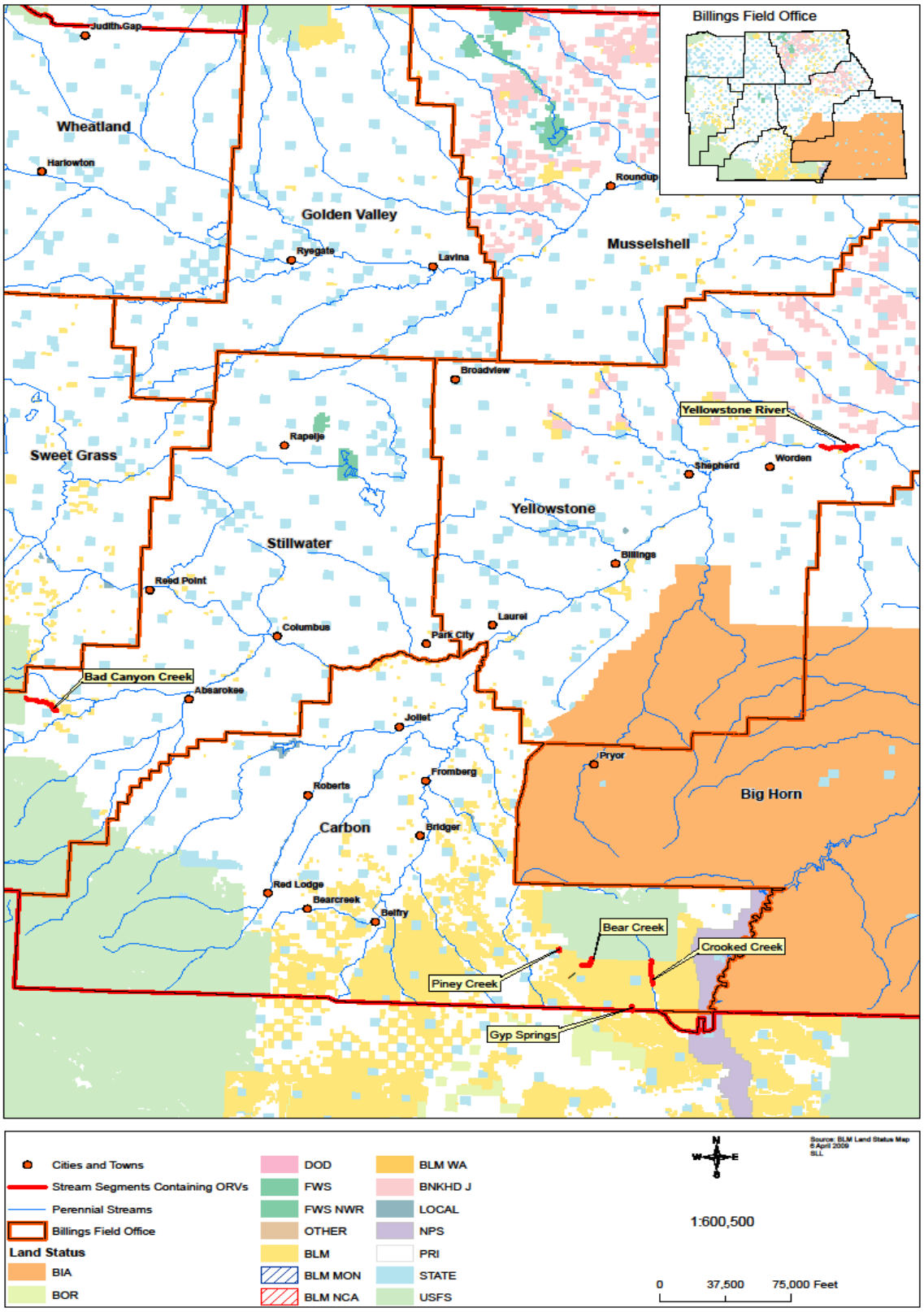


Figure 2: Bad Canyon

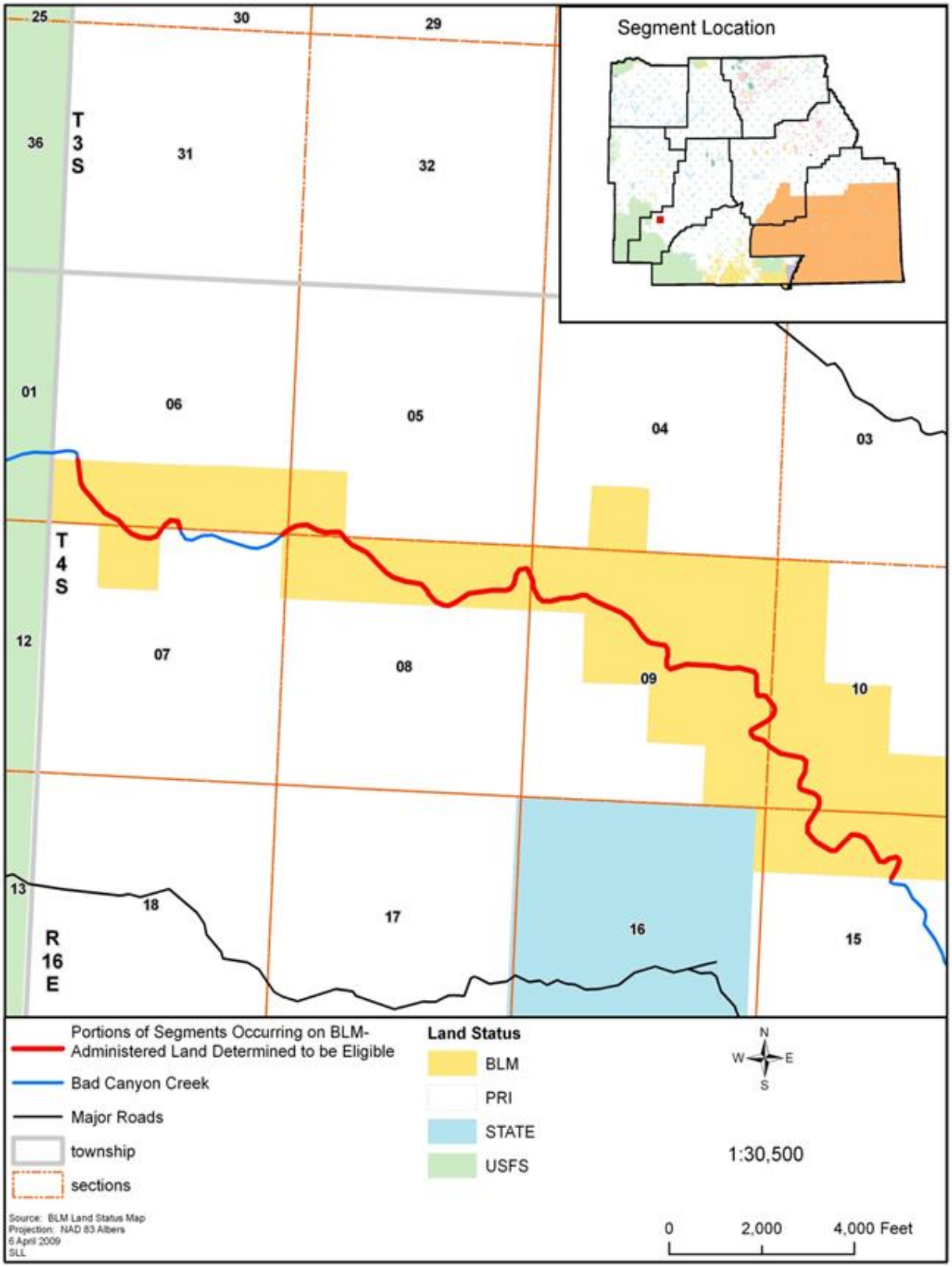


Figure 3: Bear Canyon

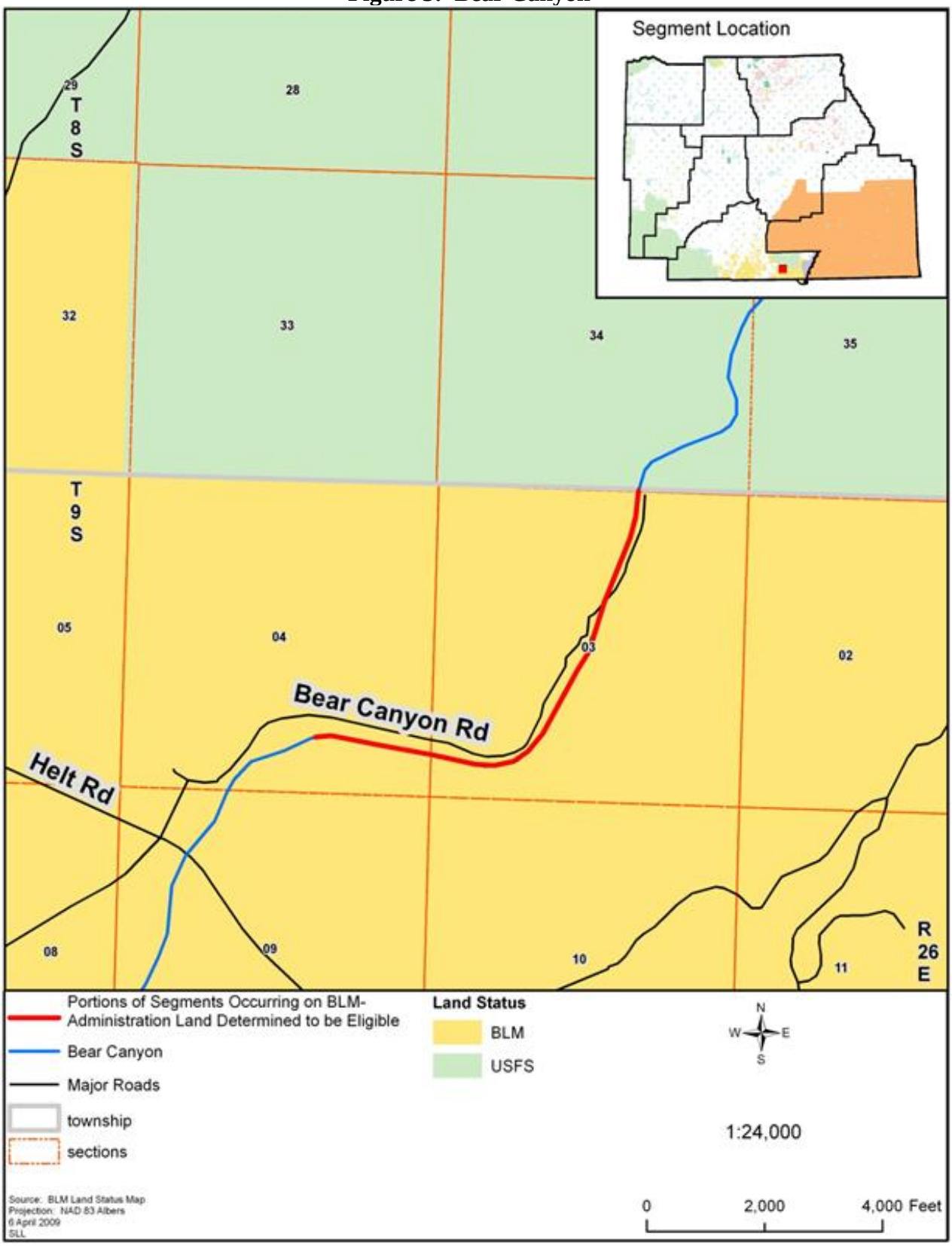


Figure 4: Crooked Creek – Above Fish Barrier

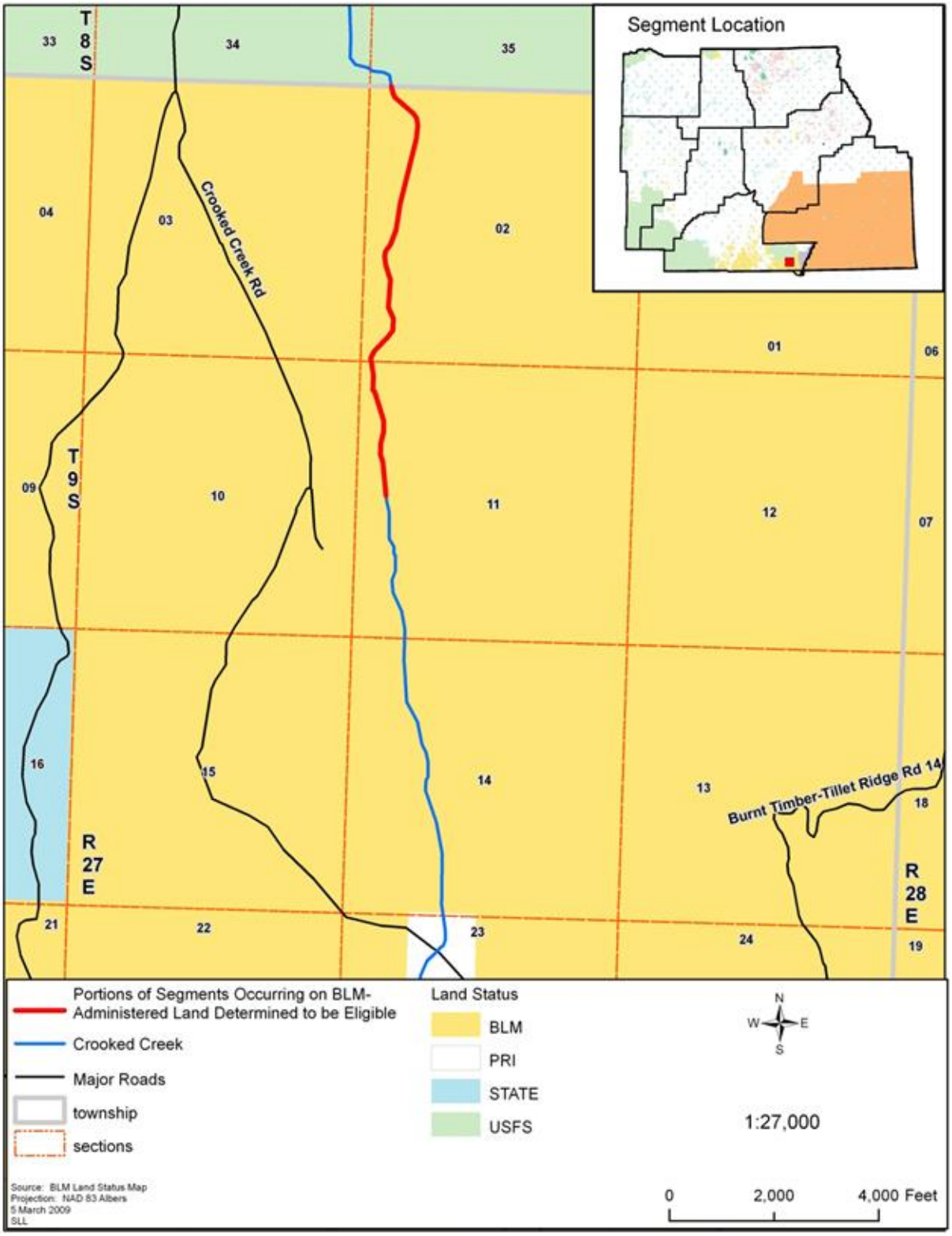


Figure 5: Crooked Creek – Below Fish Barrier

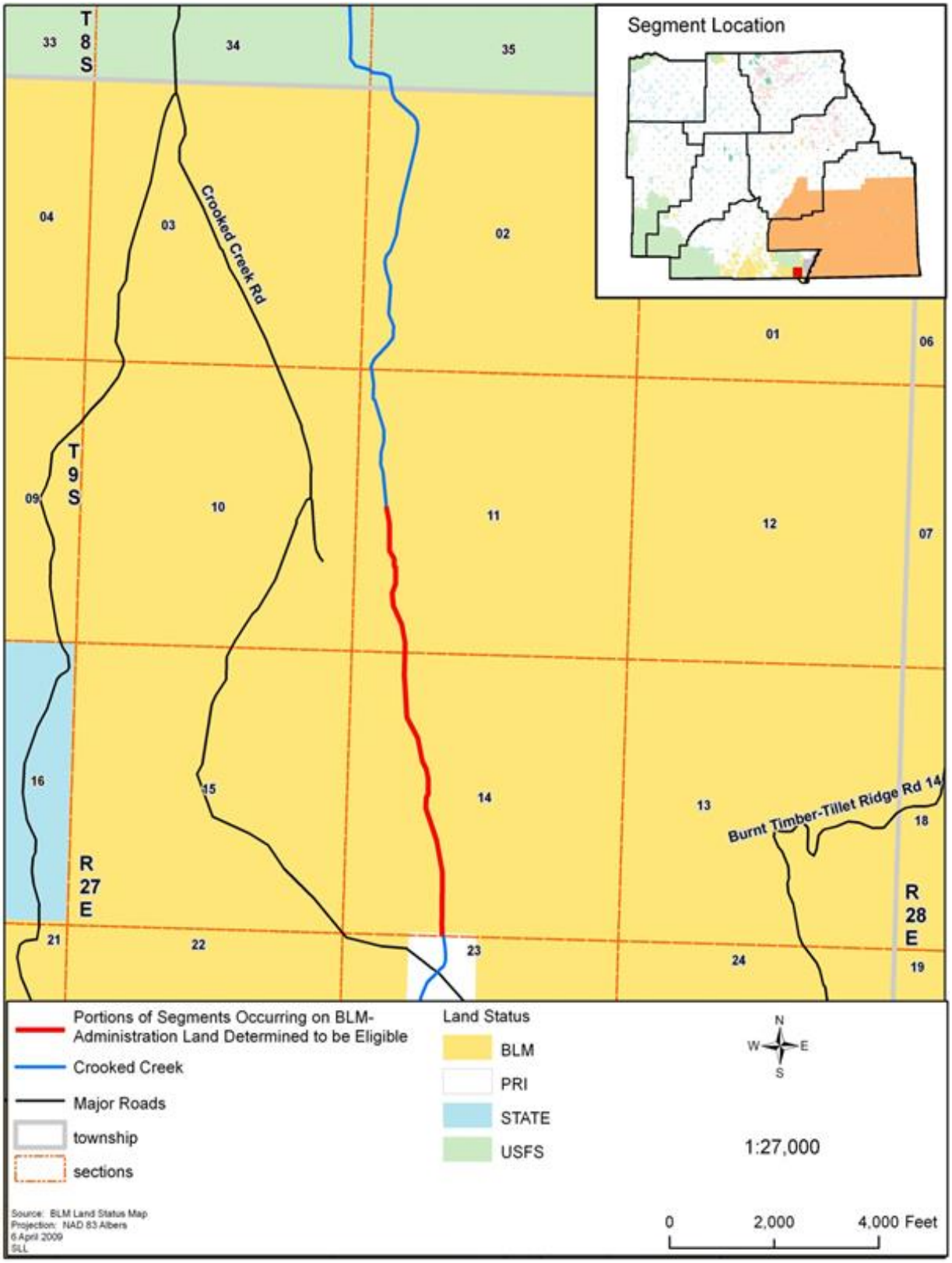


Figure 6: Gyp Springs

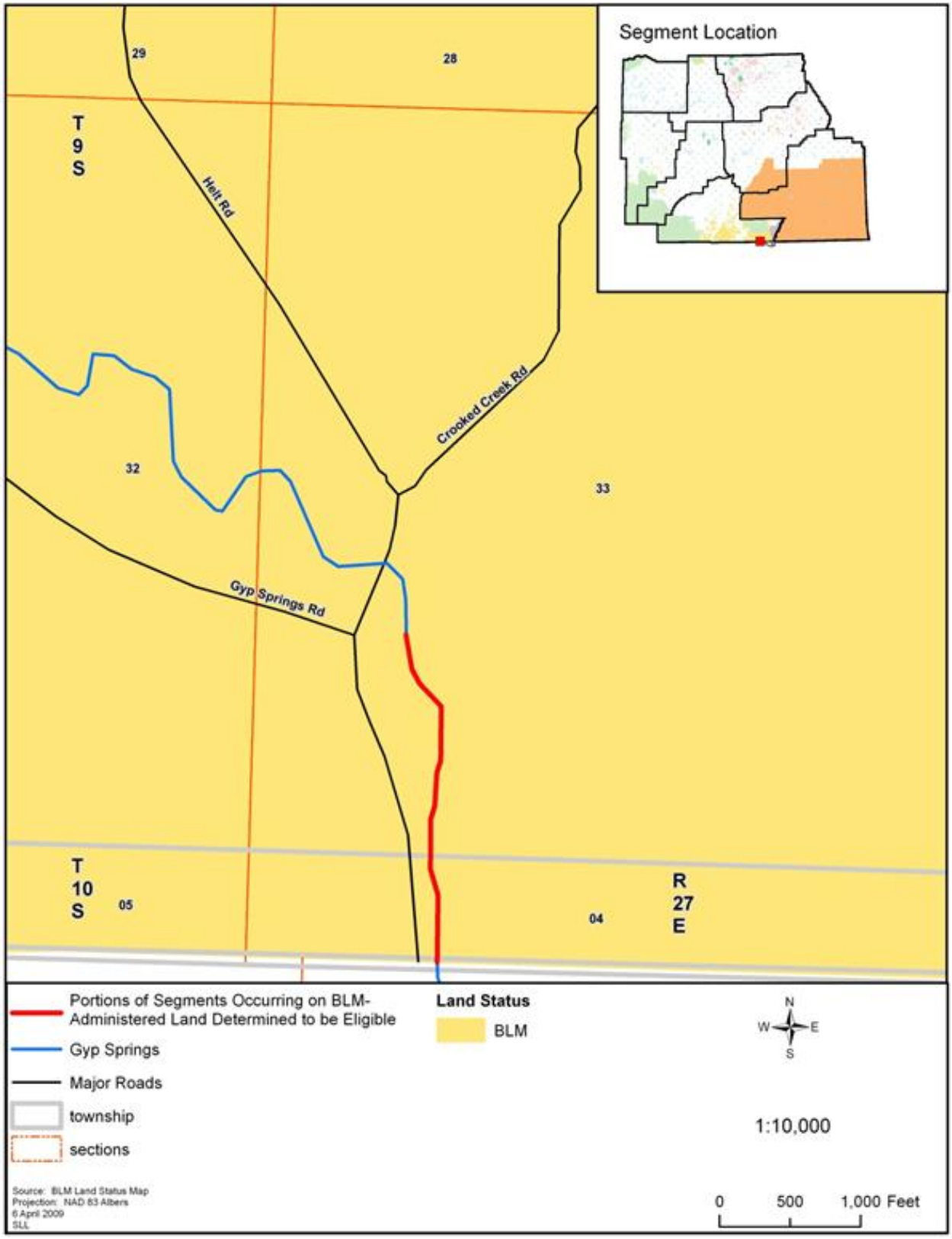


Figure 7: Piney Creek

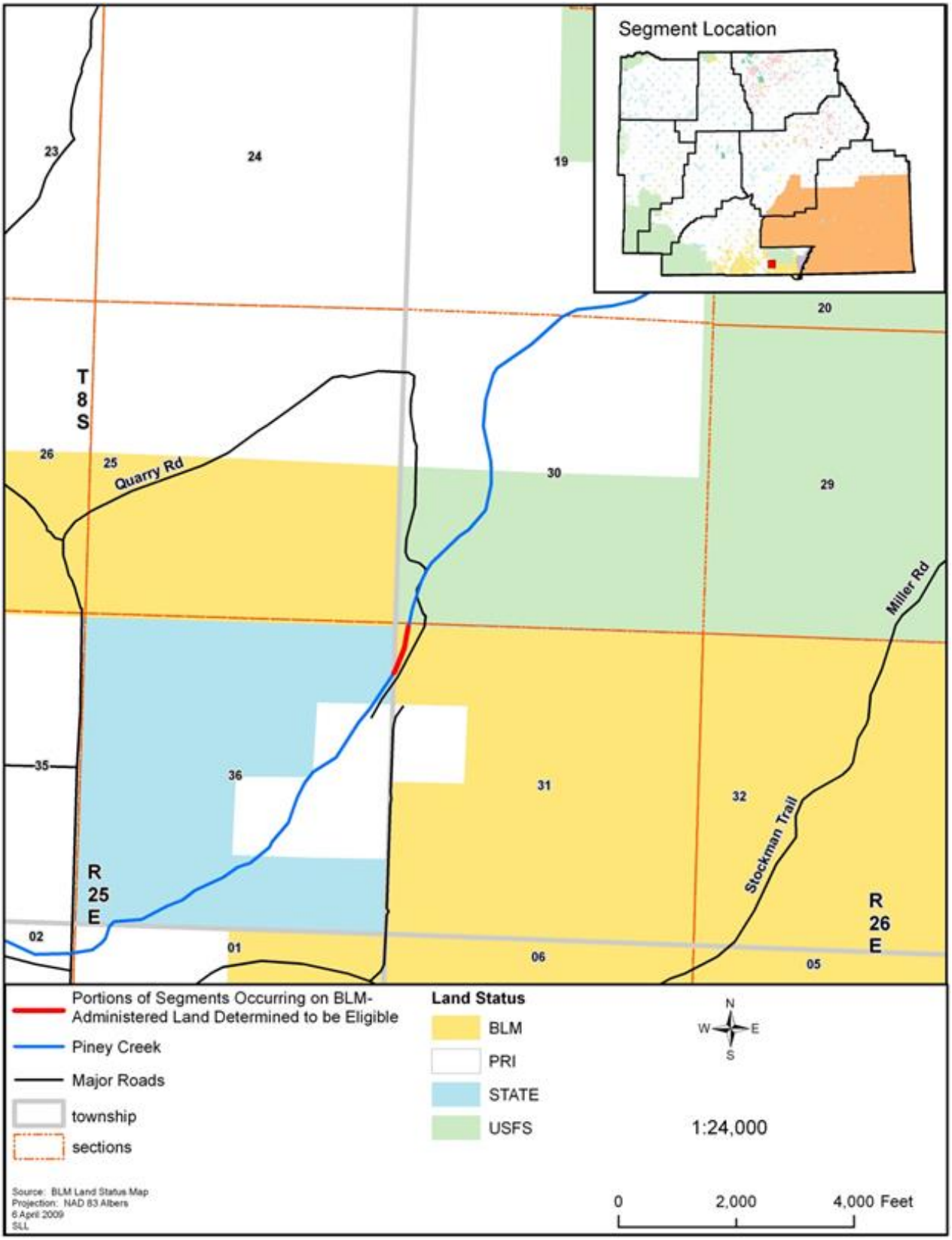
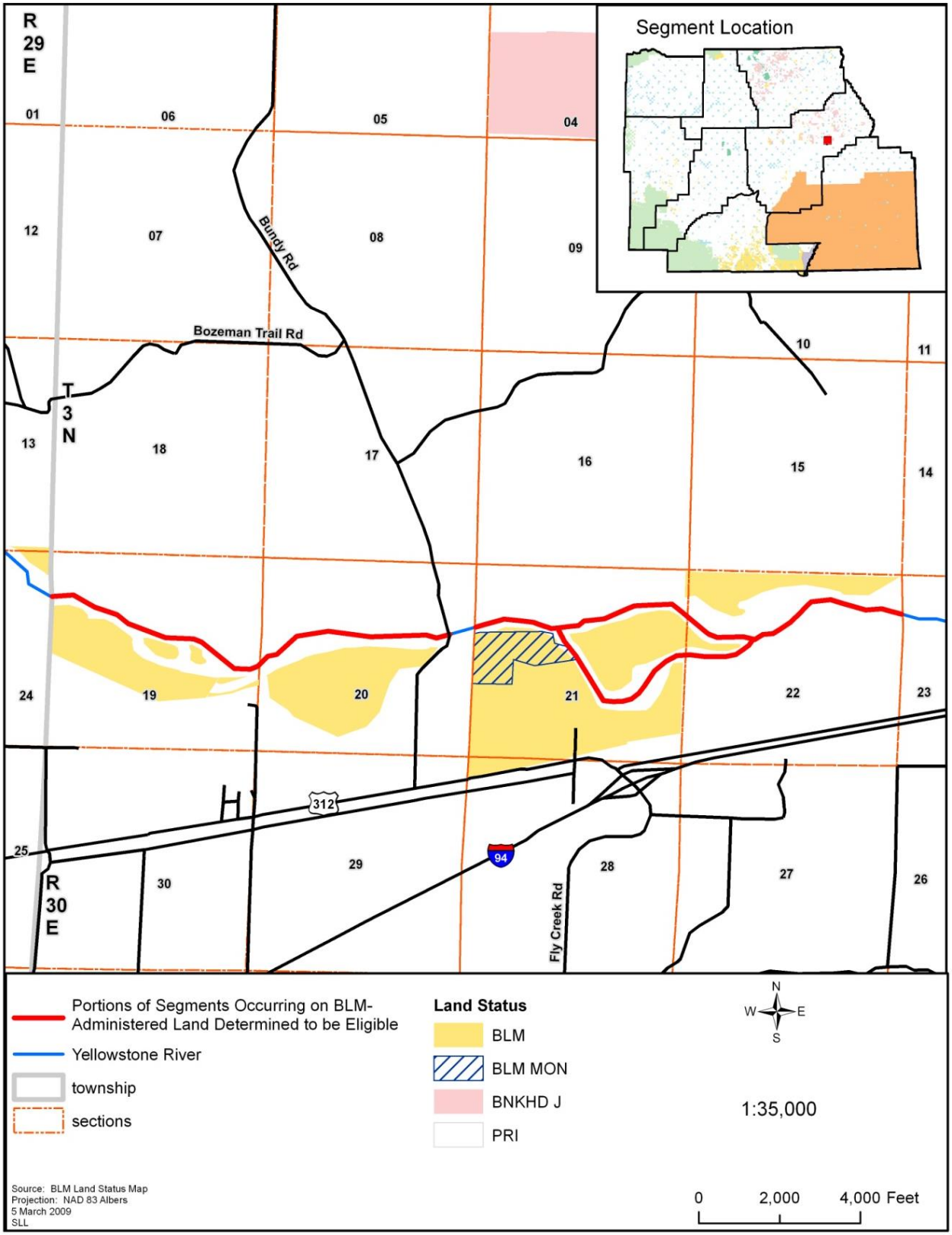


Figure 8: Yellowstone River – Pompeys Pillar



Suitability Determinations for Rivers in the Billings Field Office

Following the Eligibility Determination, the next step in the river assessment process is the determination of suitability. The purpose of the study phase is to determine whether eligible river segments are suitable or unsuitable for inclusion in the NWSRS, per WSR Act criteria. BLM Manual guidance identifies certain factors to be considered when completing the suitability study. The suitability determination is influenced by the unique characteristics and conditions associated with each particular river. Additional factors may be considered as they apply to a specific segment.

The suitability evaluation does not result in actual designation but only a recommendation for those river segments identified as suitable for designation. Only Congress can designate a wild and scenic river. In some instances, the Secretary of the Interior may designate a wild and scenic river when the governor of a state, under certain conditions, petitions for a river to be designated. Congress would ultimately choose the legislative language if any suitable segments are presented to them. Water-protection strategies and measures to meet the purposes of the WSR Act would be the responsibility of Congress in any legislation proposed. Rivers found unsuitable would be dropped from further consideration and would be managed according to the objectives outlined in the RMP.

Suitability is designed to answer these questions:

1. Should the river's free-flowing character, water quality, and ORVs be protected, or are one or more other uses important enough to warrant otherwise?

2. Will the river's free flowing character, water quality, and ORVs be protected through designation? Is it the best method for protecting the river corridor? In answering these questions, the benefits and impacts of WSR designation must be evaluated, and alternative protection measures considered.

3. Is there a demonstrated commitment to protect the river by any nonfederal entities that may be partially responsible for implementing protective management?

As provided by Sections 4(a) and 5(c) of the Wild and Scenic Rivers Act, the following factors were considered and documented as appropriate, as the basis of the study:

1. Characteristics which do or do not make the area a worthy addition to the National System.

2. The current status of land ownership, minerals (surface and subsurface), use in the area, including the amount of private land involved and associated or incompatible uses. Jurisdictional consideration must be taken into account to the extent that management would be affected.

3. The reasonably foreseeable potential uses of the land and water that would be enhanced foreclosed or curtailed if the area were included in the National System and the values which could be foreclosed or diminished if the area is not protected as part of the system.

4. The federal agency that will administer the area should it be added to the National System.

5. Federal, state, local, tribal, or other interests in designation or non-designation of the river, including the extent to which the agency proposes that administration of the river, including the costs thereof, are shared by state and local agencies.

6. The estimated cost to the United States of acquiring necessary lands and interests in lands and of administering the area should it be added to the National System. Section 6 of the WSRA outlines policies and limitations of acquiring lands or interests in land by donation, exchange, consent of owners, easement, transfer, assignment of rights, or condemnation within and outside established river boundaries.

7. A determination of the degree to which the state or its political subdivisions might participate in the preservation and administration of the river should it be proposed for inclusion in the National System.

8. The federal agency's ability or other mechanisms (existing or potential) to protect and manage the identified river related values other than WSR designation and the state/local government's ability to manage and protect the ORVs on nonfederal lands. Such mechanisms may include, for example, statewide programs related to population growth management, vegetation management, water quantity or quality, or protection of river-related values such as open space and historic areas.

9. An evaluation of the adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development. This evaluation may result in a formal finding that the local zoning fulfills Section 6(c)'s requirements, which in turn preempts the federal government's ability to acquire land through eminent domain if the river is designated.

10. Support or opposition to designation. Assessment of this factor will define the political context. The interest in designation or non-designation by federal, state, local and tribal governments and national and local publics should be considered, as well as the state's political delegation.

11. Historical or existing rights which could be adversely affected. In determining suitability, consideration of any valid existing rights must be afforded under applicable laws (including the WSRA), regulations, and/or policies.

12. The consistency of designation with other agency plans, programs or policies and in meeting regional objectives. Designation may help or impede the "goals" of other tribal, federal, state or local agencies. For example, designation of a river may contribute to state or regional protection objectives for fish and wildlife resources. Similarly, adding a river which includes a limited recreation activity or setting to the National System may

help meet statewide recreation goals. Designation might, however, limit irrigation and/or flood control measures in a manner inconsistent with regional socioeconomic goals.

13. The contribution to river system or basin integrity. This factor reflects the benefits of a "systems" approach, i.e., expanding the designated portion of a river in the National System or developing a legislative proposal for an entire river system (headwaters to mouth) or watershed. Numerous benefits are likely to result from managing an entire river or watershed, including the ability to design a holistic protection strategy in partnership with other agencies and the public.

River Segment Suitability Discussion and Findings

River Name: Bad Canyon Creek

Location, ORV description, and classification:
The Bad Canyon Creek segment is located on the east side of the Beartooth Mountains in Stillwater County, approximately 34 miles northwest of Red Lodge, Montana (Figure 2). Most of the immediate surrounding lands are public lands managed by BLM.

Bad Canyon Creek supports a population of Yellowstone Cutthroat Trout (YCT) (*Oncorhynchus clarkii bouvieri*) that has been designated a "core population" by the Interstate YCT Coordination Team. A core population is one that exhibits no hybridization and is essentially a genetically pure strain. This pure strain of YCT is very valuable in that they can be used to enhance other YCT populations or establish new populations in suitable waters.

These fish values are recognized nationally by the fisheries community. The ecological and sociological impact of losing a pure strain species is significant in itself. YCT are also listed as a Species of Concern by the MFWP and a federally sensitive species by the BLM and U.S. Forest Service (USFS). The BLM, MFWP, and USFS reinforced a significant natural barrier to upstream migration of non-native species in 2003. This barrier is located approximately five miles upstream from the lower BLM boundary; therefore most of the segment is not safe from the potential for non-native hybridization.

Access to the canyon is difficult resulting in little impact from adjacent land uses. High canyon walls, rock armoring, and limited access combine to provide excellent fish habitat and a setting that is primitive in nature. The presence of the core population of YCT in Bad Canyon Creek combined with the isolated, primitive setting of the canyon meets the criteria of an outstandingly remarkable value.

The proposed boundary is approximately 0.25 mile on from river bank on either side of the river. This river segment has been tentatively classified as scenic through the eligibility phase.

The current status of land ownership, minerals (surface and subsurface), use in the area, including the amount of private land involved and associated or incompatible uses. (Jurisdictional consideration must be taken into account to the extent that management would be affected.):
BLM Segment Length: 4.5 miles
Total Segment Length: 5.0 miles

This stream originates in the USFS Custer National Forest and flows easterly to its confluence with the Stillwater River. The stream is too narrow and shallow for navigation by watercraft of any size. Access to the segment is limited by private land. Although there is a primitive road to the segment, the private landowner does not grant motorized access to public lands. Public access to Bad Canyon Creek on public lands is limited to walk-in access, requiring a strenuous hike on an unmarked and unmaintained 2½ mile trail with 1,300 feet of elevation change.

The BLM lands along this segment are available for livestock grazing. Private lands in the area are primarily used for livestock grazing.

It is free of impoundments although in the upper portion of the segment there is the small natural barrier noted above that was reinforced to serve as a fish barrier. The shoreline is mostly undeveloped and mostly primitive in nature. There are a few visible livestock fences that cross the segment and an ATV trail used by the local rancher for livestock management on his lands.

There is one access road that that follows the creek a short distance near the upper end of the segment.

The lands were burned extensively during the Derby fire in 2006. This transformed much the lands from an extensively timbered landscape to a grassland complex. The fire burned the riparian zone as well as most infrastructures (range developments, an illegal cabin, etc.). Most of the large cottonwoods survived and there has been substantial natural rehabilitation all along the fire path**.**

There are no active oil and gas leases present.

The reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed or curtailed if the area were included in the NWSRS, and the values which could be foreclosed or diminished if the area is not protected as part of the NWSRS:

The YCT core population could be further enhanced and protected. Existing cooperative efforts between BLM, Custer NF and MFWP have been managing the YCT core population in this segment. Efforts to further protect core populations could occur with or without inclusion in the NWSRS.

Potential opportunities exist to acquire additional lands or easements around this segment, with or without inclusion in the NWSRS. Possible, but not anticipated, increased visitation due to the inclusion in the NWSRS of this segment could jeopardize public access opportunities and/or create user/private landowner conflicts.

Existing water rights could potentially impact management of this segment if included in the NWSRS

Grazing on the BLM land could be subject to increased restrictions if the segment were included in the NWSRS. The BLM would monitor the effects of cattle access to the river to ensure that grazing use is not adversely affecting the outstandingly remarkable values. If restrictions are necessary to protect river values, the BLM would work with the grazing allotment permittee to establish adequate restrictions.

The federal agency or state agency that will administer the river and/or area should it be added to the NWSRS:
The Bureau of Land Management would have sole responsibility for this segment; if the National Forest finds its segment suitable, the management may be shared.

Federal, state, local, tribal, or other interests in the designation or non-designation of the river, including the extent to which the agency proposes that administration of the river, including the costs thereof, be shared by state, local, or other agencies and individuals:
Local and State Government have not indicated whether they support or oppose designation of Bad Canyon Creek as a WSR segment.

The USDA-Forest Service Gallatin/Custer NF may be interested in participating in joint management if their adjacent river segment is also designated. The BLM, MFWP and USFS already cooperate jointly in management actions for the protection of the YCT and this would continue.

The estimated cost to the United States of acquiring necessary lands and interest in lands and of administering the area should it be added to the NWSRS:
Any land acquisition would only be accomplished with willing sellers and it is unlikely that private land holders would be willing to sell the land. The BLM would be capable of managing for the protection and enhancement of the outstandingly remarkable values without acquiring any lands. However, if BLM seeks acquisition of this small parcel of private land in order to have a continuous 0.25-mile corridor, land prices would be set at current prices. Costs of administration would be minimal.

A determination of the degree to which the state or its political subdivisions might participate in the preservation and administration of the river should it be proposed for inclusion in the NWSRS:
It is not anticipated that the state or local governments would participate beyond what is currently being done for the protection of the YCT and the elimination of invasive weeds. MFWP would likely want to continue to manage for the recreational fisheries in this segment. This would be complimentary to the recreational outstandingly remarkable value that is linked to fishing opportunities.

The federal agency's ability or other mechanisms (existing or potential) to protect and manage the identified river-related values other than WSR designation and/or the state/local government's ability to manage and protect the ORVs on non-federal lands:
BLM is a cooperating agency in the YCT Conservation Strategy and existing agreements with MWFP and the Custer NF are in place to protect the species in this river segment.

The BLM is able to manage its lands along the west bank of the segment for the protection of identified river-related values through its RMP. In this RMP a Class II VRM classification would protect the scenic and geologic values along the segment. This classification would not limit development but would provide protection through project design mitigation. Other methods of managing to protect values would be with-drawing the corridor from all mineral entry and proposing a No Surface Occupancy for Oil and Gas.

The agency might also assist in placement of conservation easements on adjacent private lands.

An evaluation of the adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development:
No local zoning for the private lands.

Support or opposition to designation:
During the scoping period for the RMP, no support or opposition to designation of this segment was submitted. The public review of the draft RMP provided an opportunity for other agencies and the public to review the preliminary findings and voice opposition or support. There was no opposition. The lands were also evaluated for their wilderness characteristics (Naturalness, Primitive Recreation, Outstanding Solitude and its unique resources – archeological, geological, wildlife, etc.), and there was support for management for these attributes.

Historical or existing rights which could be adversely affected:
There are water claims on Bad Canyon Creek for various uses along its entire length. It does not appear that there is a reserve water right on the creek to maintain a minimum flow. There are active grazing permits (Allotments 5492, 5585, 55548, 5562, and 5558) for the BLM land and grazing is the historic use of the private land along Bad Canyon Creek and these would be affected if there is a management decision to restrict this activity. There is a newly proposed (FY 2014) 100 KV power line which is being prepared by Northwest Energy, the path of which would cross the canyon in T 4 S., R 16 E., Sections 9 and 10, and there is an existing 15 KV power-line owned by Beartooth Electric in T. 4 S., R. 16 E., section 14.

The consistency of designation with other agency plans, programs or policies and in meeting regional objectives:
Designation of this segment would be consistent with the objectives of the BLM's Billings Field Office RMP. Designation of this segment would complement the fisheries and recreational goals of the MFWP.

The USFS has not completed a study for this river unit. Designation would be consistent with the USFS eligibility determination, but successful management in part would depend on a similar suitability determination from USFS.

The contribution to river system or basin integrity:
From a practical standpoint it is likely in this case that a total system management strategy can be pursued with a focus on the total watershed in conjunction with the National Forest. Some benefits are likely to result from managing the entire river, including the ability to design and then implement a holistic protection strategy in partnership with other agencies and the public.

The potential for water resources development:
It is unlikely that further water impoundments would be installed on Bad Canyon Creek. It is unlikely flood control, hydropower facilities, dredging or diversions or channelization of Bad Canyon Creek will occur.

Finding: Suitable □Non-suitable X
Rationale: Management policies, goals and objectives are already in place to protect the values of this segment. Existing agreements between local, state, and federal agencies are in place to specifically protect and further enhance the YCT core population.

River Name: Bear Canyon Creek

Location, ORV description, and classification:
The Bear Canyon Creek segment is located at the south end of the Pryor Mountains in Carbon County approximately seven miles east of Warren, Montana (Figure 3). Water for this segment originates from a spring at the BLM-National Forest boundary. The length of flowing water in the canyon varies from ¼ mile to over a mile depending upon moisture conditions and time of year. The stream is too narrow and shallow for navigation by watercraft of any size. Originally, the segment length was ¼ mile; however, public comments during review of the draft report suggested the segment should be longer. After an on-site evaluation, the segment was lengthened to include the lower extent of the cottonwood intermittent riparian zone.

Visitors to Montana who want to see Blue-gray Gnatcatchers (*Polioptila caerulea*) and Black-throated Gray Warblers (*Dendroica nigrescens*) visit Bear Canyon because this is only place in Montana where these birds can be seen. This opportunity receives international attention through the National Audubon Society via their website (http://mtaudubon.org/birds/areas.html).

Listed by the National Audubon Society as an IBA (important bird area), Bear Canyon supports breeding populations of more than a dozen species on the Montana Priority Bird Species List. In particular, Bear Canyon has the highest known number of nesting Blue-gray gnatcatcher in Montana. Bear Canyon and a few nearby foothill canyons at the base of the Pryor Mountains constitute the entire range in Montana of this bird species. The State of Montana ranks this species as "S1" or at high risk due to extremely limited and potentially declining numbers. Both the BLM and the Forest Service also consider the Blue-gray Gnatcatcher a sensitive species. The riparian area and adjacent uplands of Bear Canyon also support other State Sensitive bird species such as the Loggerhead Shrike (*Lanius ludovicianus*), Sage Thrasher (*Oreoscoptes montanus*), Common Poorwill (*Phalaenoptilos nuttallii*) and Pinyon Jay (*Gymnorhinus cyanocephalus*).

Cultural elements in the landscape include a vision quest site, a buffalo kill site, tipi rings, petroglyphs, and habitation sites. The vision quest site was noted at the time of recording to

have a vision quest structure on top of a rock formation. The evidence of occupation and use, especially for sacred purposes, meets the criteria for being an outstandingly remarkable value.

This segment has been tentatively classified as recreational through the eligibility phase process. The proposed boundary is approximately 0.25-mile on from river bank on either side of the river.

The current status of land ownership, minerals (surface and subsurface), use in the area, including the amount of private land involved and associated or incompatible uses. (Jurisdictional consideration must be taken into account to the extent that management would be affected.):
BLM Segment Length: 1.62 miles
Total Segment Length: 1.62 miles

All BLM lands in the proposed WSR segment are in public ownership and Custer NF forms the northern boundary of this segment. There are some possible valid existing rights (mining claims).

There are no active oil and gas leases present.

A variety of opportunities currently exist in this area, including wildlife viewing, hunting, and dispersed recreation. It is free of impoundments. Livestock grazing is readily evident throughout the entire corridor. Public access is through a two-track road that parallels a portion of the lower segment, often within several hundred feet of the segment. There is a non-motorized trail which follows the upper segment.

The reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed or curtailed if the area were included in the NWSRS, and the values which could be foreclosed or diminished if the area is not protected as part of the NWSRS:
Inclusion in the NWSRS could further protect the bird species (Audubon IBA); however, this may negatively impact hunting, if restricted. Dispersed recreation and primitive camping could be enhanced, while motorized recreation may be adversely affected if restricted.

The federal agency or state agency that will administer the river and/or area should it be added to the NWSRS:
Bureau of Land Management

Federal, state, local, tribal, or other interests in the designation or non-designation of the river, including the extent to which the agency proposes that administration of the river, including the costs thereof, be shared by state, local, or other agencies and individuals:
Local and State Government have not indicated whether they support or oppose designation of Bad Canyon Creek as a WSR segment. No comments have been received through the planning process in either support or opposition to designation.

The USDA-Forest Service Gallatin/Custer NF may be interested in participating in joint management if their adjacent river segment upstream is also designated.

The estimated cost to the United States of acquiring necessary lands and interest in lands and of administering the area should it be added to the NWSRS:
No lands would need to be acquired since all lands are public and costs of administration would be minimal.

A determination of the degree to which the state or its political subdivisions might participate in the preservation and administration of the river should it be proposed for inclusion in the NWSRS:
It is not anticipated that the state or local governments would participate beyond what is currently being done for the elimination of invasive weeds.

The federal agency's ability or other mechanisms (existing or potential) to protect and manage the identified river-related values other than WSR designation and/or the state/local government's ability to manage and protect the ORVs on non-federal lands:
The Billings RMP has identified some management measures which would protect the resources. These include closure of the existing vehicle route on the top end of the canyon and its designation as a non-motorized trail, an ongoing effort with the local county for invasive weed management, etc.

An evaluation of the adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development: Local zoning and other land use controls do not pertain to this segment because it is entirely located on Federal lands.

Support or opposition to designation:
There is support from certain non-governmental organizations (ex: Wilderness society, National Audubon Society, American Rivers, Pryor Coalition, etc.) to further acknowledge the important values associated with this segment. A finding of suitability may further their goals/objectives particularly for the bird species in this area. It is unknown whether the Native American tribes with affinity to this area would support or oppose a WSR designation. OHV users may object to designation due to the proximity of a major travel access in the lower reaches of the canyon and fear that its use may be restricted or lost.

Local and State Government support or opposition is unknown. Neither viewpoint has been expressed in the planning responses.

Historical or existing rights which could be adversely affected:
There is an active grazing permit (Allotment 4115) for the BLM land and grazing is the historic use of the private land along Bear Canyon Creek and this would be affected if there is a management decision to restrict this activity.

There are no ROWs present.

The consistency of designation with other agency plans, programs or policies and in meeting regional objectives:
BLM management policies address protection for cultural, wildlife and special status species. Current recreational use is compatible with the bird population. Motorized recreation is

currently limited to designated routes and the trail within the upper canyon is only open for non-motorized use with a major motorized route in proximity to the lower portion. Current BLM policies provide protection for the sensitive bird species and cultural resources. The designation would be consistent with the Billings RMP.

The contribution to river system or basin integrity:
A limited contribution based on the size of the watershed and the size of the river segment.

The potential for water resources development:
Not enough year-round flow to lead to water development. Direct recreational use of water (fishing, floating, etc.) is not a feature of the area or Bear Creek and is unlikely in the future.

Values foreclosed/diminished:
Inclusion of this segment in the NWSRS could increase visitation and possibly this could impact the bird species in the IBA. Currently, visitation levels to the entire Pryor Mountain area are increasing as its resources are being actively marketed and are becoming better known. An additional designation may possibly attract additional users.

An increase in visitation to the area could adversely impact the integrity of the archeological sites.

Finding: **Suitable □ Non-suitable X**
Rationale: Current BLM policies provide protection for the sensitive bird species and cultural resources, while providing for the recreational opportunities and experiences. The motorized route along the lower portion of the river segment is a major access route into the Pryor Mountain and the type of activity is in conflict with the type of recreational activity expected for a suitable river segment. The upper portion which is a non-motorized trail along the river segment is the only portion appropriate to designation for the recreation ORV.

River Name: Crooked Creek above the Fish Barrier

Location, ORV description, and classification:
Located in Carbon County, Crooked Creek originates in the southern portion of the Pryor Mountains within the Custer National Forest and flows south onto public lands and towards Wyoming (Figure 4). The stream is too narrow and shallow for navigation by watercraft of any size and is inaccessible except with extreme difficulty by foot. See map 3 in the Eligibility Section.

This segment flows through the Burnt Timber Canyon Wilderness Study Area (WSA) and is rated as Class I for visual resource management. The current management objective is to maintain the existing character of the landscape. The deeply incised Crooked Creek Canyon cuts through several hundred feet of the Pryor Mountain limestone strata. The combination of the dense riparian vegetation along Crooked Creek and the steep talus slopes of the canyon walls offer unique and outstandingly remarkable scenery.

The Pryor Mountains offer a unique combination of resource values that attract local, regional, and national visitors. This segment offers access to opportunities including fishing for a

genetically pure strain of Yellowstone Cutthroat Trout, bushwhacking in a pristine riparian canyon, viewing Pryor Mountain wild horses at one of their limited watering sources and exploring for caves and bats in the canyon's limestone walls.

The Crooked Creek – Above Fish Barrier segment supports a population of Yellowstone Cutthroat Trout (YCT) (*Oncorhynchus clarkii bouvieri*) that has been designated a "core population" by the Interstate YCT Coordination Team. A core population is one that exhibits no hybridization and is essentially a genetically pure strain. This pure strain YCT is very valuable in that fish can be used to enhance other YCT populations or establish new populations in suitable waters. These fish values are recognized nationally by the fisheries community. The ecological and sociological impact of losing a pure strain species is significant in itself. YCT are listed as a Species of Concern by the MFWP and a federally sensitive species by the BLM and U.S. Forest Service. A fish barrier at the downstream end of the segment will maintain the genetic purity of this YCT population. Adjacent land uses have had little effect on this segment because the segment is within the WSA. The fish habitat is in good condition. High canyon walls, rock armoring, and limited access combine to provide a setting that is primitive in nature.

Although there is public motorized to within ¼ mile of the canyon bottom, visitors must hike through dense brush with no trails to reach the canyon bottom. The presence of the core population of YCT in Crooked Creek combined with the isolated, primitive setting of the canyon meets the criteria of an outstandingly remarkable value.

The Crooked Creek – Above Fish Barrier segment has a landscape with significant archaeological properties. The Demijohn Flat Archaeological District was listed on the National Register of Historic Places (NRHP) in 1974 as District # 74001092 (24CB478).

The Demijohn Flat Archaeological District retains archaeologically intact remnants of proto-historic period Crow tipi habitation. The size and relatively pristine nature of the site warrants protection. Beyond the registered archaeological district other sites include the petroglyphs (24CB205) and other nearby sites (additional tipi rings) possibly could be considered elements in a broad landscape associated with the archaeological district. This segment of the Crooked Creek Demijohn Flat Archaeological District retains unique qualities of outstanding scientific value on at least a regional level.

The tentative Classification is wild.
The proposed boundary is approximately 0.25-mile from river bank on either side of the river segment.

The current status of land ownership, minerals (surface and subsurface), use in the area, including the amount of private land involved and associated or incompatible uses. (Jurisdictional consideration must be taken into account to the extent that management would be affected.):
BLM Segment Length: 1.59 miles
Total Segment Length: 1.59 miles

In a 1992 Forest Plan amendment, the Custer National Forest determined Crooked Creek as being eligible for WSR study with cultural, fisheries, geologic and scenic values being outstandingly remarkable. At the forest boundary Crooked Creek flows onto BLM-administered lands for three miles before entering private lands. This three-mile reach on BLM was segmented at a fish barrier which is located close to the middle of the reach.

The area is currently used predominantly for recreational purposes such as hiking, camping, and providing access to climbing and caving areas.

There are no private lands along the river segment.

The BLM constructed the fish barrier for the protection of the native trout species.

The BLM and partners have monitored the canyon for the presence and condition of several bat species.

Extraction of minerals in the area does not currently occur in accordance with the WSA designation.

There are no active oil and gas leases present.

The reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed or curtailed if the area were included in the NWSRS, and the values which could be foreclosed or diminished if the area is not protected as part of the NWSRS:
If the lands continue to be a WSA or becomes a designated Wilderness, reasonably foreseeable potential land uses would be compatible with the protection and enhancement of the segment's outstandingly remarkable values. If the WSA designation is removed by Congress without designating it as Wilderness, then the area could be opened to an array of potential land uses.

Inclusion in the NWSRS may attract additional visitation which could impair the values associated with the segment by potential introduction of aquatic nuisance and/or undesirable species.

If the WSA designation was removed and the segment was designated in the NWSRS, mineral leasing and extraction would continue to be restricted under the RMP.

The federal agency or state agency that will administer the river and/or area should it be added to the NWSRS:
The Bureau of Land Management for the public lands and the Custer/Gallatin National Forest for the river segment on their lands.

Federal, state, local, tribal, or other interests in the designation or non-designation of the river, including the extent to which the agency proposes that administration of the river, including the costs thereof, be shared by state, local, or other agencies and individuals:
This segment is entirely within BLM-administered lands and adjacent to Custer NF lands in which Crooked Creek was determined to be eligible for further WSR study. Cost could be

shared with the Custer National Forest if the entire stream length is acted upon and designated. It is not anticipated that State or Local Agencies would assume management responsibility.

The estimated cost to the United States of acquiring necessary lands and interest in lands and of administering the area should it be added to the NWSRS:
All lands are public lands, so there are no acquisition costs. Costs of administration would be minimal.

A determination of the degree to which the state or its political subdivisions might participate in the preservation and administration of the river should it be proposed for inclusion in the NWSRS:
It is not anticipated that the state or local governments would participate in the preservation and administration of the river segment beyond the current management efforts (control of invasive species, management of sensitive species, etc.).

The federal agency's ability or other mechanisms (existing or potential) to protect and manage the identified river-related values other than WSR designation and/or the state/local government's ability to manage and protect the ORVs on non-federal lands:
BLM does not have the authority to regulate land uses upstream of the eligible segment, however, the Custer NF determined the Crooked Creek segment (on forest lands) to be eligible for further study. There are no non-federal lands present.

The area is recognized as containing wilderness characteristics through the WSA designation and additional Lands with Wilderness Characteristics (LWC) inventory. With or without inclusion in the NWSRS, certain management policies are in place through the WSA and the Resource Management Plan decisions to protect the values associated with this segment.

Protection and enhancement of the recreational and scenic outstandingly remarkable values are currently provided by the areas designation as a WSA. The management goals and objectives within the WSA are compatible with management as an eligible segment. WSA designation is temporary. Congress has the ability to either designate the area as Wilderness under the Wilderness Act, or remove the WSA designation entirely. If WSA designation is removed, the area would be managed in accordance with the RMP. Removal of WSA designation, without making it a designated Wilderness area, could open the area to land uses such as timber harvest and mineral activity. Introduction of these land uses in the area could degrade the riparian corridor and result in impacts on the recreational and scenic outstandingly remarkable values that make the segment a worthy addition to the NWSRS.

An evaluation of the adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development:
Local zoning and other land use controls do not pertain to this segment because it is entirely located on Federal lands.

Support or opposition to designation:
There is support from a range of non-governmental entities for the potential designation of this segment of the rivers as a WSR. It is recognized as possessing significant resources and

warranting protection. Local and State Governments have not made their position known, however they have been generally opposed to special designations of most kinds due to the perception of additional restrictions. Native American tribes with affinity to the area generally favor additional restrictions for cultural resources, however it is unknown whether they support or oppose designation.

Historical or existing rights which could be adversely affected:
There are no known historical or existing rights that could be adversely affected with designation. There are no Rights of Ways (ROWs) present.

The consistency of designation with other agency plans, programs or policies and in meeting regional objectives:
These uses are compatible with the protection and enhancement of the segment's outstandingly remarkable values. The Wilderness Study Area (WSA) protects the ORVs associated with this segment. WSA management policies protect the WSA values from impairment. Inclusion in the NWSRS could further enhance the ORVs, could be compatible with the Custer NF eligibility determination and would be compatible with the Billings FO RMP.

Existing cooperative efforts between BLM, Custer NF and MFWP have been managing the Yellowstone Cutthroat Trout core population in this segment. Efforts to further protect core populations could occur with or without inclusion in the NWSRS. The WSA Management Protection prescriptions found in the BLM Manual currently protects the ORVs associated with this segment. Lands within the PMWHR are also managed for the benefit of the wild horses and there are secondary values that the PMWHR are also managed for, including cultural, paleontological and wildlife values.

The contribution to river system or basin integrity:
Some benefits are likely to result from managing the entire river, including the ability to design and then implement a holistic protection strategy in partnership with other agencies and the public.

The potential for water resources development:
The flows in the river segment are generally low except for the spring runoff. The potential for water resource development is low. It is unlikely flood control, hydropower facilities, dredging or diversions or channelization of will occur.

Finding: Suitable X Non-suitable □
Rationale: existing management, WSA, PMWHR, YCT Conservation strategy, etc.) currently protects wilderness characteristics and ORVs, should Congress release the WSA from further study, the area would be managed as an ACEC. Inclusion in the NWSRS has the potential to attract regional/national visitation to the area and may negatively impact the ORVs but BLM management measures are in place to control the use. Additional visitation could also be positive in terms of marketing the resources and acquiring funding. The river segment should be designated as "wild" due to its inclusion in the existing WSA, the quantity, diversity, and quality of the resources present. Existing agreements between local, state, and federal agencies are in place to specifically protect and further enhance the YCT core population.

River Name: Crooked Creek below the Fish Barrier

Location, ORV description, and classification:
Located in Carbon County, Montana, Crooked Creek originates in the southern portion of the Pryor Mountains within the Custer National Forest (Figure 5). The creek flows out of the national forest onto BLM-administered lands for approximately three miles before entering private lands. The stream is too narrow and shallow for navigation by watercraft of any size, and is inaccessible except by foot with extreme difficulty. This three-mile reach on BLM was segmented above and below an existing fish barrier. This segment is below the fish barrier and is shown on Map 3.

This segment flows through the Burnt Timber Canyon Wilderness Study Area (WSA) and is rated as Class I for visual resource management. The current management objective is to maintain the existing character of the landscape. The deeply incised Crooked Creek Canyon cuts through several hundred feet of the Pryor Mountain limestone strata. The combination of the dense riparian vegetation along Crooked Creek and the steep talus slopes of the canyon walls offer unique and outstandingly remarkable scenery.

The Pryor Mountains offer a unique combination of resource values that attract local, regional and national visitors. This segment offers access to opportunities including bushwhacking in a pristine riparian canyon, viewing Pryor Mountain wild horses at one of their limited watering sources and exploring for caves and bats in canyon's limestone canyon walls.

The Crooked Creek – Below Fish Barrier segment has a landscape with significant archaeological properties. The Demijohn Flat Archaeological District was listed on the NRHP in 1974 as District # 74001092 (24CB478). The Demijohn Flat Archaeological District retains archaeologically intact remnants of proto-historic period Crow tipi habitation. The size and relatively pristine nature of the site warrants protection. Beyond the registered district other sites include the petroglyphs (24CB205) and other nearby sites (additional tipi rings) possibly could be considered elements in a broad landscape associated with the district area. This segment of the Crooked Creek Demijohn Flat Archaeological District retains unique qualities of outstanding scientific value on at least a regional level.

This segment has been tentatively classified as scenic through the eligibility phase of the process.

The proposed boundary is approximately 0.25-mile on from river bank on either side of the river.

The current status of land ownership, minerals (surface and subsurface), use in the area, including the amount of private land involved and associated or incompatible uses. (Jurisdictional consideration must be taken into account to the extent that management would be affected.):
BLM Segment Length: 1.56 miles
Total Segment Length: 1.56 miles

This segment is entirely within the Burnt Timber Canyon WSA and has motorized public access to within less than ¼ mile of the canyon rim. It is free of impoundments, although there is a man-made fish barrier at the beginning of the segment. The shoreline is undeveloped and primitive. There is little evidence of livestock grazing. There are no improvements or evidence of man (except for the old road which has been designated as a non-motorized trail).

This segment is currently managed as a WSA and part of the Pryor Mountain Wild Horse Range PMWHR).

There are no active oil and gas leases present.

The reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed or curtailed if the area were included in the NWSRS, and the values which could be foreclosed or diminished if the area is not protected as part of the NWSRS:
The Wilderness Study Area (WSA) generally protects the ORVs associated with this segment. Management policies protect the WSA values from impairment and restrict actions which could have adverse effects on WSR values. Inclusion in the NWSRS could further enhance the ORVs, similarity, enhance and protect the WSA values, and could be compatible with the Custer NF eligibility determination.

No additional restrictions would likely occur (the WSA designation provides management to protect the values of the area).

Potential exists to create user conflicts if or not included in the NWSRS with the private landowners on the southern boundary of this segment. (Note: Members of the public expressed concern regarding the tentative management classification of this segment (scenic) and felt it qualified to be classified as “wild”, considering it is already within a WSA).

The federal agency or state agency that will administer the river and/or area should it be added to the NWSRS:
The Bureau of Land Management for the public lands and the US Forest Service for the river segment on adjacent FS lands managed by them.

Federal, state, local, tribal, or other interests in the designation or non-designation of the river, including the extent to which the agency proposes that administration of the river, including the costs thereof, be shared by state, local, or other agencies and individuals:
This segment is entirely within BLM administered public lands. This segment terminates on the southern boundary at private property.

The estimated cost to the United States of acquiring necessary lands and interest in lands and of administering the area should it be added to the NWSRS:
Acquisition of lands or interest in lands (willing buyer/willing seller) is possible but not likely and would not be necessary.

A determination of the degree to which the state or its political subdivisions might participate in the preservation and administration of the river should it be proposed for inclusion in the NWSRS:
MFWP is actively involved in a cutthroat trout restoration and protection program with the BLM and USFS in this river segment. It is expected that their involvement in the protection and enhancement of the fisheries outstandingly remarkable values would continue.

The federal agency's ability or other mechanisms (existing or potential) to protect and manage the identified river-related values other than WSR designation and/or the state/local government's ability to manage and protect the ORVs on non-federal lands:
The WSA Management Protection policies currently protect the ORVs associated with this segment. Lands within the PMWHR are managed for the benefit of the wild horses as well as other resources. There are secondary values that the PMWHR are managed for, including cultural, paleontological and wildlife.

The Custer NF determined the Crooked Creek segment (on forest lands) to be eligible for further study. The area is recognized as containing wilderness characteristics through the WSA designation. With or without inclusion in the NWSRS, management policies are in place through the WSA and PMWHR management prescriptions to protect the values associated with this segment. Other methods of managing to protect values would be with-drawing the corridor from all mineral entry and proposing a No Surface Occupancy for Oil and Gas.

An evaluation of the adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development:
Local zoning and other land use controls do not pertain to this segment because it is entirely located on Federal lands.

Support or opposition to designation:
There is both support and opposition to the potential designation of this segment as a WSR. It is recognized as having significant resources and warranting some level of protection, including the adjacent landowner, but there are also individuals and organizations opposed for a variety of reasons, chiefly for the perceived consequences of designation. It is unknown whether the Native American tribes with affinity to this area would support or oppose a WSR designation.

Historical or existing rights which could be adversely affected:
There are no known historical or existing rights that would be adversely affected by designation. There are no Rights of Ways (ROWs) present.

The consistency of designation with other agency plans, programs or policies and in meeting regional objectives:
Designation would be consistent with the Billings BLM RMP and the work being done with other agencies regarding management of this segment.

The contribution to river system or basin integrity:
Some benefits are likely to result from managing the entire river, including the ability to design and then implement a holistic protection strategy in partnership with other agencies and the public.

The potential for water resources development:
The flows in the river segment are generally low except for the spring runoff. The potential for water resource development is low. It is unlikely flood control, hydropower facilities, dredging or diversions or channelization of will occur.

Finding: Suitable X Non-suitable □
Rationale: Although current management prescriptions (WSA, PMWHR, LWC, etc.) currently protects wilderness characteristics and ORVs, should Congress release the WSA from further study, the area would be managed as an ACEC, but not necessarily protect other values. Inclusion in the NWSRS has the potential to attract regional/national visitation to the area and may negatively impact the ORVs but management prescriptions are in place to protect the resources. The inclusion of the river segment as suitable would be consistent with WSA, PMWHR, and LWC prescriptions. Existing agreements between local, state, and federal agencies are in place to specifically protect and further enhance the YCT core population.

River Name: Gyp Spring

Location, ORV description, and classification:
The Gyp Springs segment is located in Carbon County, approximately 12 miles southeast of Warren, Montana (Figure 6). This segment originates from Gyp Springs, an important source of livestock and wildlife water. The stream is too narrow and shallow for any navigation by watercraft of any size. Access to segment is through well maintained county and BLM graveled roads. .

In 1864, Jim Bridger, famed early trapper and mountain man, and later guide for the Captain William Reynolds Exploration military and emigrant parties, blazed what would become known as Bridger Cutoff, an alternative route for a section of the Bozeman Trail emigrant route. The present day Gyp Springs Road (still in-use) follows generally along the Bridger Cutoff through the Gyp Springs area. The trail passes directly through and continues west of Gyp Springs. The spring was likely used historically as a watering and camp site and was an integral part of Bridger Cutoff of the Bozeman Trail. The trail was designated as site number 24CB1242 within the Montana portion in 1991 (Taylor 1991) beginning below Gyp Springs, following Gyp Springs Creek north from the border with Wyoming and continuing along the creek, through the springs, and then continuing to the northwest. The Bridger Cutoff was determined eligible for inclusion to the NRHP on a state level. The trail has at least regional significance because it is associated with events that have made a significant contribution to the broad pattern of European settlement and it is associated with the lives of persons significant in the past.

Gyp Springs and the immediate vicinity retain archaeological evidence of both historic and prehistoric use and it is documented as site 24CB604. Confirmed substantial surface and subsurface cultural remains indicate possible long, intensive and continued use of the springs in

prehistoric through historic periods. The prehistoric component is comprised of artifact scatter and intact subsurface deposits indicative of a habitation site. Diagnostic materials indicate an occupation or occupations as early as late Paleolithic/archaic period up to late prehistoric period.

A Recreation Site Inventory and Evaluation Form completed by BLM before 1969 indicates a consideration of Gyp Springs and "Tipi Rings Area nearby" as contributing to the recreational attraction for the Crooked Creek Program Area. The "Tipi Rings Area" was recorded as 24CB604 in 1967. The combination of the historic and prehistoric values makes the cultural values outstandingly remarkable.

This segment has been tentatively classified as recreational through the eligibility phase.

The current status of land ownership, minerals (surface and subsurface), use in the area, including the amount of private land involved and associated or incompatible uses. (Jurisdictional consideration must be taken into account to the extent that management would be affected.):
BLM Segment Length: 0.46 miles,
Total Segment Length: 0.46 miles

It is free of impoundments. Livestock grazing, livestock fences, and the adjacent access road are readily evident along much of this short segment.

The segment is heavily infested with exotic invasive Russian olive trees. The most common concern expressed regarding this segment was the need to preserve the character of the corridor and that the current weed infestation was the largest threat. Weed infestation is apparent throughout the river corridor. Weeds are threatening scenic values, adjacent land and watersheds, and ecological functions within the river area.

Valid existing rights (mining claims) may be present. There are no active oil and gas leases present.

The amount and timing of stream flow is dependent on the climate and fluctuates yearly and seasonally.

The entire Gyp Springs site is eligible for the National Register of Historic Places for cultural and historic values. This area is being considered in the DRMP/DEIS as an RNA/ACEC and management actions would protect the cultural and historic values identified.

This segment is entirely within BLM-administered lands. The area below the segment is private and used for grazing.

The reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed or curtailed if the area were included in the NWSRS, and the values which could be foreclosed or diminished if the area is not protected as part of the NWSRS:
Valid existing rights (mining claims) may be present. Inclusion of this segment into the NWSRS would not enhance any of the uses (livestock grazing, dispersed recreation). Direct recreational

use of water (fishing, floating, etc.) is not a feature of the area or this river segment and is unlikely to be so in the future. The historical and cultural values could potentially be diminished by inclusion in the NWSRS by increased visitation and potential vandalism.

The federal agency or state agency that will administer the river and/or area should it be added to the NWSRS:
Bureau of land Management

Federal, state, local, tribal, or other interests in the designation or non-designation of the river, including the extent to which the agency proposes that administration of the river, including the costs thereof, be shared by state, local, or other agencies and individuals:
Interest in designation or non-designation of this particular segment appears to be very low. No comments have been received. It is unknown whether the Native American tribes with affinity to this area would support or oppose a WSR designation

The estimated cost to the United States of acquiring necessary lands and interest in lands and of administering the area should it be added to the NWSRS:
No costs relating to acquiring lands since none are proposed for acquisition. Recurring activities such as patrols and monitoring would continue with or without designation. There would be no change in annual costs from current administration.

A determination of the degree to which the state or its political subdivisions might participate in the preservation and administration of the river should it be proposed for inclusion in the NWSRS:
Any costs associated with the administration of this segment would be the sole responsibility of the BLM.

The federal agency's ability or other mechanisms (existing or potential) to protect and manage the identified river-related values other than WSR designation and/or the state/local government's ability to manage and protect the ORVs on non-federal lands:
This area will be considered as an ACEC (Pryor Mountain Foothills RNA /ACEC) and has identified management actions to protect historical and cultural values.

An evaluation of the adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development:
Local zoning and other land use controls do not pertain to this segment because it is entirely located on Federal lands.

Support or opposition to designation:
Public comment showed little interest or support either for or against designation.

Historical or existing rights which could be adversely affected:
There are no Rights of Ways (ROWs) present.

There is an active grazing permit (Allotment 4105) for the BLM land and grazing is the historic use of the private land along and south of the Gyp Springs segment and these would be affected if there is a management decision to restrict this activity.

The consistency of designation with other agency plans, programs or policies and in meeting regional objectives:
Existing agreements and management policies are in place to protect and enhance the ORVs of this segment, particularly the portion located on the PPNM, which overlaps the Lewis and Clark NHT (which cover the entire segment).

The contribution to river system or basin integrity:
A limited contribution based on the size of the watershed and the size of the river segment as well as its physical location.

The potential for water resources development:
It is unlikely that water impoundments would be installed on the river segment. It is unlikely flood control, hydropower facilities, dredging or diversions or channelization will occur.

Finding: Suitable □ Non-suitable X
Rationale: The entire Gyp Springs site is eligible for the National Register for cultural and historic values. This area is being considered in the DRMP/DEIS as an RNA/ACEC, and management actions would protect the cultural and historic values identified. Non designation would be more consistent with current management efforts and the long term goals found in the RMP, while management prescriptions in the RMP are in place to protect the river segment. The human impacts from the major travel routes all along the west boundary of the river segment substantially detract from the wild and scenic river values.

River Name: Piney Creek

Location, ORV description, and classification:
The Piney Creek segment is located in the southern Pryor Mountains in Carbon County approximately four miles northeast of Warren, Montana (Figure 7). Piney Creek flows for about ¼ mile on the Custer National Forest before entering BLM-administered land at the upper end of the segment. The stream is too narrow and shallow for any navigation by watercraft of any size, and heavy brush prevents even foot access along most of the segment.

The Piney Creek segment supports a population of Yellowstone Cutthroat Trout (YCT) (*Oncorhynchus clarkii bouvieri*) that has been designated a "core population" by the Interstate YCT Coordination Team. A core population is one that exhibits no hybridization and is essentially a genetically pure strain. YCT are listed as a Species of Concern by the MFWP and a federally sensitive species by the BLM and U.S. Forest Service. This pure strain YCT is very valuable in that they can be used to enhance other YCT populations or establish new populations in suitable waters. These fish values are recognized nationally by the fisheries community. The ecological and sociological impact of losing a pure strain species is significant in itself. These unique fish are recognized nationally within the fisheries community. The creek is accessible by road and the habitat is in fair condition. The threats to this population are the small size of the

population, the irrigation diversion immediately downstream of the segment and the fact that it is an isolated stream. The presence of the core population of YCT meets the criteria of an outstandingly remarkable value.

This segment has been tentatively classified as recreational.

The current status of land ownership, minerals (surface and subsurface), use in the area, including the amount of private land involved and associated or incompatible uses.
BLM Segment Length: 0.16 miles
Total Segment Length: 0.16 miles

There is vehicle access to and along (within ¼ mile) the segment; there is no legal public access although current access across private property is currently unrestricted. An improved dirt road parallels the entire segment within ¼ mile.

The river segment is free of impoundments.

Livestock grazing is readily evident along the entire river segment.

There is a scattered land ownership pattern along Piney Creek which includes: BLM, Custer NF, state lands and private.

There are no active oil and gas leases present.

The reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed or curtailed if the area were included in the NWSRS, and the values which could be foreclosed or diminished if the area is not protected as part of the NWSRS:
No foreseeable changes or values diminished.

The federal agency or state agency that will administer the river and/or area should it be added to the NWSRS:
Bureau of Land Management

Federal, state, local, tribal, or other interests in the designation or non-designation of the river, including the extent to which the agency proposes that administration of the river, including the costs thereof, be shared by state, local, or other agencies and individuals:
The BLM manages only 0.16 miles of Piney Creek. Management of this segment, if included in the NWSRS would be difficult.

The estimated cost to the United States of acquiring necessary lands and interest in lands and of administering the area should it be added to the NWSRS:
Potential opportunities to acquire lands or interest in lands (willing buyer/willing seller) exist but are unlikely to occur.

A determination of the degree to which the state or its political subdivisions might participate in the preservation and administration of the river should it be proposed for inclusion in the NWSRS:
It is anticipated that costs associated with the administration of this segment would be the sole responsibility of the BLM.

The federal agency's ability or other mechanisms (existing or potential) to protect and manage the identified river-related values other than WSR designation and/or the state/local government's ability to manage and protect the ORVs on non-federal lands:
Due to the limited BLM public land ownership and length of this segment, the YCT core population would not necessarily be enhanced by inclusion in the NWSRS. Recurring activities such as patrols and monitoring would continue with or without designation.

An evaluation of the adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development:
Local zoning and other land use controls do not pertain to this segment because it is entirely located on Federal lands.

Support or opposition to designation:
Interest in designation or non-designation of this particular segment appears to be very low.

Historical or existing rights which could be adversely affected:
Historical or valid existing rights may be impacted through inclusion in the NWSRS. There is an active grazing permit (Allotment 4115) for the BLM land and grazing is one of the historic uses of the State, Forest and public lands along or on this segment and these would be affected if there is a management decision to restrict this activity. There is a telephone line Right of Way (Quest ROW Case File 57657 and a Big Horn Electrical 7.2 KV overhead line (Case File 74878).

The consistency of designation with other agency plans, programs or policies and in meeting regional objectives:
Current partnerships and management is working to protect the YCT core population of this segment. Existing agreements and management policies are in place to protect and enhance the ORV (YCT core population) of this segment.

The contribution to river system or basin integrity:
A limited contribution based on the size of the watershed and the size of the river segment as well as its physical location.

The potential for water resources development:
It is unlikely that water impoundments would be installed on the river segment. It is unlikely flood control, hydropower facilities, dredging or diversions or channelization will occur.

Finding: Suitable □ Non-suitable X
Rationale: Due to the limited BLM public land ownership and length of this segment, the YCT core population would not necessarily be enhanced by inclusion in the NWSRS. Existing agreements between local, state, and federal agencies are also in place to specifically protect and

further enhance the YCT core population. The road along the river segment and the travel on it would detract from the recreational opportunity and experience since the types of activities on the river segment and on the roadway are very different.

River Name: Yellowstone River, Pompeys Pillar

Location, ORV description, and classification:
The Yellowstone River – Pompeys Pillar is located in Yellowstone County approximated 25 miles northeast of Billings, Montana (Figure 8). The Yellowstone River flows over 500 miles through Montana from the Montana-Wyoming border near Gardiner, northeasterly to the Montana-North Dakota boundary northeast of Sidney. About 180 miles of the river flows through the BiFO planning area. Within this 180-mile river reach BLM administers approximately 30 miles of shoreline and islands, most of which are small, scattered parcels.

Recreational opportunities attract local, regional, national and international visitors. In addition to being part of the Lewis and Clark National Historic Trail (NHT), this segment includes the Pompeys Pillar National Monument which provides visitors the unique and rare opportunity to view one of the most important landmarks along the entire Lewis and Clark NHT - Captain William Clark's signature and date of passage carved in the soft sandstone. Wildlife viewing, especially birding, is exceptional and attracts local and regional visitors.

The Pillar is a prominent sandstone outcrop separated by erosion from the bluffs on the north side of the Yellowstone River. No other similar geologic features are found along Yellowstone River between Livingston, Montana and the confluence with the Missouri River.

Pompeys Pillar National Historic Landmark was designated in 1996, and the National Monument was designated in 2001. Pompeys Pillar itself is a massive sandstone outcrop with tall vertical cliffs, and is marked with over 5,000 inscriptions including petroglyphs, pictographs and historic names and dates. Native Americans of prehistoric and historic periods considered Pompeys Pillar a notable place on the river. It served as a viewpoint and a camping area, as well as ritual location. The location is known to have been a Crow encampment according to the diaries and memoirs and stories of both the Crow people and the Euro-Americans. Euro-American explorers, trappers and the military used the area as a convenient stopping place on the river. Described in diaries by Francois Antoine Larocque, followed by Lewis and Clark and members of their expedition, James P. Beckwourth and others, the rock becomes the focus of a variety of historic events. Pompeys Pillar is recorded as archaeological site 24YL0176. A rock shelter at the pillar may have been a burial area. The Lewis and Clark National Historic Trail is documented here with Clarks name and date of July 25, 1806 carved on the pillar during his return trip from the west. Clark's name and date carved on the pillar represents the only remaining on-site physical evidence of one of this nation's most important historical events.

Cultural Values: Pompeys Pillar has been a natural landmark for the native people of the northern plains through the region's more than 11,000 years of occupation. Most recently it was acknowledged as within the homeland of the Crow people. There is archaeological evidence the Pillar was used for religious and burial purposes.

The proposed Boundary is approximately 0.25-mile on from river bank on the south side of the river. The tentative classification is Recreational.

The current status of land ownership, minerals (surface and subsurface), use in the area, including the amount of private land involved and associated or incompatible uses. (Jurisdictional consideration must be taken into account to the extent that management would be affected.):
BLM Segment Length: 4.19 miles
Total Segment Lengths: 4.46 miles

The Pompeys Pillar segment is accessible by road and the river. Development along the segment is confined to the area near the Pillar, which includes a large visitor center and associated administrative facilities and two bridges. Public land on Bundy Island has been developed by MFWP into a Fishing Access Site with a gravel parking area, unpaved boat ramp and vault toilet.

The river is free of impoundments. Although most of the shoreline is undeveloped, the facilities associated with the Pompeys Pillar National Monument constitute substantial evidence of human activity. There is active farming on some of the public lands within the corridor. There are two bridge crossings. One provides northbound motorized travel and the other is an abandoned highway bridge converted to foot traffic.

BLM-administered lands are primarily located along south bank of this segment with one parcel of private lands. Pompeys Pillar is currently managed within various zones, including an ACEC and a separate National Monument, which already affords protective management. Bundy Island is a proposed Special Recreation Management Area, and would be considered no surface occupancy (oil and gas) to protect the values of the area. MFWP currently holds a right-of-way to maintain a Fishing Access Site. The north bank of this segment is privately owned except for a small stretch east of the Pillar; current primary uses include grazing, and residential development.

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 Pompeys Pillar National Monument and ACEC, they are withdrawn through a Secretarial Withdrawal which was put in place when the BLM acquired the National Monument and ACEC.

There are no active oil and gas leases present.

There are two major bridges which cross the river at this location. One is an abandoned highway structure and the other is newer bridge which replaced it. It is the major access portal in the area north of the river.

The reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed or curtailed if the area were included in the NWSRS, and the values which could be foreclosed or diminished if the area is not protected as part of the NWSRS:
There are multiple local, state and federal agency jurisdictional authorities that partner to address impacts to the Yellowstone River. This segment of the Yellowstone River is a part of the Huntley Project Irrigation District (which was established in the early 1900s) and there are valid existing rights associated with municipal water supplies and irrigation (diversions, distribution and return flows) and there are likely incompatible uses already in place. Many of these agencies have differing goals and objectives for management and inclusion of this segment in the NWSRS could potentially conflict with those mandates and policies.

The existing multi-agency task force sponsored by the United States Army Corps of Engineers (USCOE) is addressing management and development along the entire Yellowstone River corridor. The goals of this task force are to enhance river values and protect the river environment. There could be some partnership opportunities to provide additional river management with MFWP, Yellowstone County, Crow Tribe, USCOE, Bureau of Reclamation and local communities or organizations. Concern has been expressed (through Yellowstone County Conservation District) about impacts to water rights from any designation. Yellowstone County Growth Plan addresses river-related values through their management goals and objectives. There are existing regulations in place for floodplain management.

If this segment is included in the NWSRS it could potentially attract more visitors to Pompeys Pillar and Bundy Island and could provide economic benefits to the local communities. The facilities are such that the area could accommodate increased visitation at Pompeys Pillar without impacting the resource values, as well as increase access opportunities to the Yellowstone River in this segment. The overall visitation to the area that may be generated as a result of a NWSRS designation is likely to be slight, but could diminish the current recreation experience, displace wildlife and create user conflicts. Peak visitation to the area occurred in 2006 during the Lewis and Clark Bicentennial celebration with visitation nearly 200% of typical levels. Since the bicentennial visitation has returned to pre-event levels and is increasing at less than 1% per year.

The federal agency or state agency that will administer the river and/or area should it be added to the NWSRS:
Bureau of Land Management

Federal, state, local, tribal, or other interests in the designation or non-designation of the river, including the extent to which the agency proposes that administration of the river, including the costs thereof, be shared by state, local, or other agencies and individuals:
The interest in designation or no designation by federal, state, local and tribal governments and national and local publics, as well as the State's political delegation, is beyond the scope of this RMP to consider. It is unknown whether the Native American tribes with affinity to this area would support or oppose a WSR designation

The estimated cost to the United States of acquiring necessary lands and interest in lands and of administering the area should it be added to the NWSRS:
The BLM has expressed interest in acquiring lands or interest in lands (willing buyer/willing seller basis) in the vicinity of Pompeys Pillar. This would enhance the opportunity to manage river-related values.

Several small scattered tracts located south of Interstate 94 have been identified for sale of exchange if the opportunity arises to consolidate land tenure patterns.

The interest in designation or no designation by federal, state, local and tribal governments and national and local publics, as well as the State's political delegation, is beyond the scope of this RMP to consider.
The interest in designation or no designation by federal, state, local and tribal governments and national and local publics, as well as the State's political delegation, is beyond the scope of this RMP to consider.

The federal agency's ability or other mechanisms (existing or potential) to protect and manage the identified river-related values other than WSR designation and/or the state/local government's ability to manage and protect the ORVs on non-federal lands:
Other methods of managing to protect values would be withdrawing the corridor from all mineral entry and proposing a No Surface Occupancy for Oil and Gas. All lands along the corridor could be placed in a retention zone or the agency could assist in placing conservation easements on adjacent private lands. Establishing all lands as VRM class II would help in preserving all values along the segment. This classification would not limit development but would provide protection through project design mitigation. Historic values could be protected through current historic preservation law. Historic and cultural properties could be better protected by providing additional educational and interpretive materials for the public. An evaluation of the adequacy of local zoning and other land use controls in protecting the river's ORVs by preventing incompatible development:

Support or opposition to designation:
The interest in designation or no designation by federal, state, local and tribal governments and national and local publics, as well as the State's political delegation, is beyond the scope of this RMP to consider.

Historical or existing rights which could be adversely affected:
There are number of existing Rights of Ways (ROWs) which cross the Yellowstone River at this location. These rights may be impacted through inclusion in the NWSRS. These include the following:

- Case File 27180, a 50' wide ROW for a 69 KV Power-line owned by Yellowstone Valley Electric Co., located in Section 22.
- Case File 94051, an underground ROW owned by Yellowstone Valley Electric Co., located in Section 21.
- Case File 90329, a 4.5 'wide ROW in Section 21 for the PPNM Visitor Center and associated facilities.

- A 7.2 KV Power-line for Yellowstone Valley Electric Co. in Section 20.
- Case File 82286 for the Sikes Act Habitat Agreement in Section 21.

The consistency of designation with other agency plans, programs or policies and in meeting regional objectives:
Designation may help or impede the goals of other tribal, federal, State, or Local agencies. Designation may contribute to some resource management actions, such as federal, state, or regional protection objectives for fish, wildlife, or cultural and historical resources. Similarly, the river or a segment portion such as this segment may have a limited recreation activity or setting that might better meet statewide, local, or regional goals. In this case as well however, designation might limit irrigation and/or flood control measures inconsistent with some regional socioeconomic goals. The designation for the public lands described in this river segment would be consistent and complementary with the BLM Billings RMP, as well as the Lewis and Clark National Historic Trail and the Pompeys Pillar National Monument designations by Congress.

The PPNM Proclamation is number 7396, with a date of 1/17/2001 and is Case File 91363.

The contribution to river system or basin integrity:
Many benefits are likely to result from managing the entire river, including the ability to design and then implement a holistic protection strategy in partnership with other agencies and the public. The Yellowstone River is the longest undammed river in the lower 48 states of the USA and has significant resources and activities occurring all along its entire course. BLM management responsibilities in the Billings Field Office are very limited and in most cases limited only to the public lands it directly manages (with exceptions such as the Lewis and Clark National Historic Trail).

The potential for water resources development:
The intent of the Act is to preserve selected waters from what would be considered harmful effects of water development projects. A designation could limit development of water resource projects as diverse as irrigation and flood control measures, hydropower facilities, dredging, diversion and channelization. None of these types of projects are being considered on the public lands in this segment since the lands have already been reserved as a National Monument and an ACEC to protect resource values. However, these projects could be proposed elsewhere on the Yellowstone River.

Finding: **Suitable □ Non-suitable X**
Rationale: All relevant ORVs are provided protection through existing BLM designations and other agency management policies. Recreational opportunities could continue to be enhanced with or without inclusion in the NWSRS. The human improvements which cross the river (ROWs and the two bridges) substantially affect the suitability factor for the tentative recreational classification. The existence of large agricultural fields and private residences on private lands within the corridor on both sides of the river also affects the determination.

Wild and Scenic River Management Guidelines

Interim Management of Suitable Segments

The WSR Act requires that interim management measures be developed to protect the free flowing nature, outstandingly remarkable values, and recommended classification of suitable segments until Congressional action regarding designation is taken.

The Billings RMP ID Team met in the summer of 2009 to study the seven (7) river segments in consideration of the suitability criteria. Discussions from this meeting, as well as other public comment form the basis of this suitability assessment. For maps of the river segments, refer to the maps at the end of the Eligibility section of this Appendix (above).

Wild and scenic rivers shall be managed with plans prepared in accordance with the requirements of the Act, other applicable laws, and the following general management principles. Management plans will state: General principles for any land acquisition which may be necessary; the kinds and amounts of public use which the river area can sustain without impact to the values for which it was designated; and specific management measures which will be used to implement the management objectives for each of the various river segments and protect esthetic, scenic, historic, archaeological and scientific features.

If the classification or classifications determined in the management plan differ from those stated in the study report, the management plan will describe the changes in the existing condition of the river area or other considerations which required the change in classification.
General Management Principles Section 10(a) states:

> "*…Each component of the nation's wild and scenic rivers systems shall be administered in such a manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration primary emphasis shall be given to protecting its esthetic, scenic, historic, archaeologic and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development on the special attributes of the area."*

This section is interpreted as stating a non-degradation and enhancement policy for all designated river areas, regardless of classification. Each component will be managed to protect and enhance the values for which the river was designated, while providing for public recreation and resource uses which do not adversely impact or degrade those values. Specific management strategies will vary according to classification but will always be designed to protect and enhance the values of the river area. Land uses and developments on private lands within the river area which were in existence when the river was designated may be permitted to continue. New land uses must be evaluated for their compatibility with the purposes of the Act.

The management principles which follow stem from section 10(a). Managing principles will be implemented to the fullest extent possible under their general statutory authorities and existing Federal, State and local laws. Because of these limitations, however, implementation of the

principles may differ among and within components of the system depending on whether the land areas involved are federally, State, locally or privately owned.

Carrying Capacity: Studies will be made during preparation of the management plan and periodically thereafter to determine the quantity and mixture of recreation and other public use which can be permitted without adverse impact on the resource values of the river area. Management of the river area can then be planned accordingly.

Public Use and Access: Public use will be regulated and distributed where necessary to protect and enhance (by allowing natural recovery where resources have been damaged) the resource values of the river area. Public use may be controlled by limiting access to the river, by issuing permits, or by other means available to the managing agency through its general statutory authorities.

Basic Facilities: The managing agency may provide basic facilities to absorb user impacts on the resource. Wild river areas will contain only the basic minimum facilities in keeping with the "essentially primitive" nature of the area. If facilities such as toilets and refuse containers are necessary, they will generally be located at access points or at a sufficient distance from the river bank to minimize their intrusive impact. In scenic and recreational river areas, simple comfort and convenience facilities such as toilets, shelters, fireplaces, picnic tables and refuse containers are appropriate. These, when placed within the river area, will be judiciously located to protect the values of the popular areas from the impacts of public use.

Major Facilities: Major public use facilities such as developed campgrounds, major visitor centers and administrative headquarters will, where feasible, be located outside the river area. If such facilities are necessary to provide for public use and/or to protect the river resource, and location outside the river area is infeasible, such facilities may be located within the river area provided they do not have an adverse effect on the values for which the river area was designated.

Motorized Travel: Motorized travel on land or water is generally permitted in wild, scenic and recreational river areas, but will be restricted or prohibited where necessary to protect the values for which the river area was designated.

Agricultural and Forestry Practices: Agricultural and forestry practices should be similar in nature and intensity to those present in the area at the time of designation. Generally, uses more intensive then grazing and hay production are incompatible with river classification. Row crop production and timber harvest may be practiced in recreational and scenic river areas. Recreational river areas may contain an even larger range of agricultural and forestry uses. Timber harvest in any river area will be conducted so as to avoid adverse impacts on the river area values.

Other Resource Management Practices: Resource management practices will be limited to those which are necessary for protection, conservation, rehabilitation or enhancement or the river area resources. Such features as trail bridges, fences, water bars and drainage ditches, flow measurement devices and other minor structures or management practices are permitted when

compatible with the classification of the river area and provided that the area remains natural in appearance and the practices or structures harmonize with the surrounding environment.

Water Quality: Consistent with the Clean Water Act, water quality in wild, scenic and recreational river areas will be maintained or, where necessary, improved to levels which meet Federal criteria or federally approved State standards for aesthetics and fish and wildlife propagation. River managers will work with local authorities to abate activities with the river area which are degrading or would degrade existing water quality.

Additional management principles stem from other sections of the Act as follows:

- Land Acquisition: Section 6
- Water Resource Development: Section 7
- Mining: Section 9
- Management of Adjacent Federal Lands: Section 12(a)
- Hunting and Fishing: Section 13(a)
- Water Rights: Section 13(b)-(f)
- Rights-of-Way: Section 13(a)

The following policies are consistent with and supplement the management principles stated in the Act:

Land Use Controls: Existing patterns of land use and ownership should be maintained, provided they remain consistent with the purposes of the Act. Where land use controls are necessary to protect river area values, the managing agency will utilize a full range of land-use control measures including zoning, easements and fee acquisition.

Rights-of Way: In the absence of reasonable alternative routes, new public utility rights-of-way on Federal lands affecting a Wild and Scenic River area or study area will be permitted. Where new rights-of-ways are unavoidable, locations and construction techniques will be selected to minimize adverse effects on scenic, recreational, fish and wildlife and other values of the river area.

Other legislation applicable to the various managing agencies may also apply to wild and scenic river areas. Where conflicts exist between the provisions of the Wild and Scenic Rivers Act and acts applicable within the system, the more restrictive provisions providing for protection of the river values shall apply.

An interdisciplinary team of BLM resource specialists prepared this Suitability Study.

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American Whitewater 2006. Internet Website:
http://www.americanwhitewater.org/content/River/state-summary/state/MT

BLM Master Title Plats (MTPs):

T. 9 S., R. 27 E.
T. 9 S., R. 26 E.
T. 4 S., R. 16 E.
T. 8 S., R. 26 E.
T. 3 N., R. 30 E.

BLM Range Allotment Files

BLM Right of Way (ROW) Case Files

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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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