

HiLine District Office Approved Resource Management Plan

Attachment 8

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
HiLine District Office, Montana

September 2015



MISSION STATEMENT

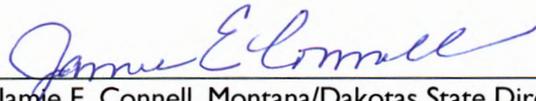
The BLM manages more than 245 million acres of public land, the most of any Federal agency. This land, known as the National System of Public Lands, is primarily located in 12 Western states, including Alaska.

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.

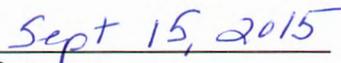
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State Director Recommendation for Approval

I hereby recommend for approval the HiLine Resource Management Plan.



Jamie E. Connell, Montana/Dakotas State Director



Date

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- M Reclamation
- N Oil and Gas Best Management Practices (General Conditions of Approval)
- O Fire and Emergency Stabilization and Rehabilitation
- P Recreation Sites and Management Areas

ACRONYMS AND ABBREVIATIONS

Full Phrase

ACEC	area of critical environmental concern
AML	abandoned mine land
AMP	allotment management plan
APD	application for permit to drill
APHIS	Animal and Plant Health Inspection Service
APLIC	Avian Power Line Interaction Committee
AQRV	air quality related value
ARM	Administrative Rules of Montana
ARMP	approved resource management plan
ATV	all-terrain vehicle
AUM	animal unit month
BA	biological assessment
BLM	Bureau of Land Management
BMP	best management practice
BSU	biologically significant unit
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
COA	condition of approval
COT	Conservation Objectives Team
CSU	controlled surface use
EA	environmental assessment
EE/CA	engineering evaluation/cost analysis
EIS	environmental impact statement
EPA	Environmental Protection Agency
ERMA	extensive recreation management area
ES&R	Emergency Stabilization and Rehabilitation
ESA	Endangered Species Act
FAMS	facility asset management system
FIAT	fire and invasives assessment tool
FLPMA	Federal Land Policy and Management Act
FMP	fire management plan
FMU	fire management unit
GHG	greenhouse gas
GHMA	general habitat management area(s)
GIS	geographic information system
GRSG	Greater Sage-Grouse
HMP	habitat management plan
IM	instruction memorandum
KGRA	known geothermal resource area
LND	lands not designated as recreation management areas
LWCF	Land and Water Conservation Fund
MAAQS	Montana Ambient Air Quality Standards
MDEQ	Montana Department of Environmental Quality
MFP	management framework plan

ACRONYMS AND ABBREVIATIONS *(continued)*Full Phrase

MFWP	Montana Fish, Wildlife and Parks
MOU	memorandum of understanding
MPDES	Montana Pollution Discharge Elimination System
MSGOT	Montana Sage Grouse Oversight Team
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NIFC	National Interagency Fire Center
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NSO	no surface occupancy
OHV	off-highway vehicle
PA	programmatic agreement
PFC	proper functioning condition
PFYC	potential fossil yield classification
PHMA	priority habitat management area(s)
PSQ	probable sale quantity
R&PP	Recreation and Public Purposes
RDF	required design feature
RMP	resource management plan
RMZ	recreation management zone
ROS	recreation opportunity spectrum
ROW	right-of-way
RS	revised statute
SFA	sagebrush focal area(s)
SHPO	State Historic Preservation Office
SMZ	streamside management zone
SRMA	special recreation management area
SRP	special recreation permit
TCP	traditional cultural property
TL	timing limitation
TMDL	total maximum daily load
USDA	United States Department of Agriculture
USDI	United States Department of the Interior
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VRM	visual resource management
WEM	waiver, exception, and modification
WAFWA	Western Association of Fish and Wildlife Agencies
WO	Washington Office
WQRP	water quality restoration plan
WSA	wilderness study area
WUI	wildland urban interface

CHAPTER I

INTRODUCTION

The US Department of the Interior (USDI), Bureau of Land Management (BLM) prepared this Approved Resource Management Plan (ARMP) to provide direction for managing BLM-administered lands and federal minerals in north central Montana under the jurisdiction of the BLM's HiLine District. This ARMP follows completion of the HiLine Proposed Resource Management Plan (RMP) and Final Environmental Impact Statement (EIS; BLM 2015). Under the Federal Land Policy and Management Act of 1976 (FLPMA), lands administered by the BLM are defined as public lands. Throughout this document, public lands administered by the BLM are referred to as BLM-administered lands.

The affected lands were previously managed under two RMPs: the West HiLine RMP (BLM 1988) and the Judith-Valley-Phillips RMP (BLM 1994). Oil and gas leasing in Phillips and Valley Counties was previously managed under four Management Framework Plans (MFPs): the Phillips MFP (BLM 1977a), Valley MFP (BLM 1977b), Little Rocky Mountains MFP (BLM 1977c), and UL Bend/Zortman MFP (BLM 1977d).

The Judith-Valley-Phillips RMP was amended on five occasions and the West HiLine RMP was amended on seven occasions (**Table I-1**). In addition, several new laws, regulations, and policies have affected management of public lands since approval of both plans.

The two previous RMPs and four MFPs were revised according to guidance in FLPMA and the BLM's Land Use Planning Handbook, H-1601-1.

Land use plan decisions establish goals and objectives for resource management (desired outcomes) and the measures needed to achieve these goals and objectives (allowable uses and management actions) in coordination with federal, tribal, state, and local governments, land users, and interested members of the public. This ARMP incorporates new information and regulatory guidance, and provides management direction where it may be lacking or requires clarification. Current management direction that has proven effective and requires no change was carried forward into the ARMP.

The BLM's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. Management is based on the principles of multiple use and sustained yield within a framework of environmental responsibility and scientific technology.

**Table I-1
Resource Management Plan Amendments**

Amendment	RMP Amended	
	Judith-Valley-Phillips	West HiLine
Bitter Creek and Mountain Plover Areas of Critical Environmental Concern Plan Amendment and Environmental Assessment (BLM 2001a)	✓	
Fire/Fuels Management Plan Environmental Assessment/Plan Amendment for Montana and the Dakotas (BLM 2003a)	✓	✓
Loma/Vimy Ridge Watershed Environmental Assessment and Plan Amendment (BLM 2002)		✓
Lonesome Lake Management Area Environmental Assessment and Resource Management Plan Amendment (BLM 1996a)		✓
Montana/Dakotas Standards for Rangeland Health and Guidelines for Livestock Grazing Management (BLM 1997a)	✓	✓
Off-Highway Vehicle Environmental Impact Statement and Proposed Plan Amendment for Montana, North Dakota and South Dakota (BLM 2001b)	✓	✓
Sweet Grass Hills Plan Amendment and Environmental Impact Statement (BLM 1996b)		✓
Wind Energy Development on BLM-Administered Lands in the Western United States, Final Programmatic Environmental Impact Statement (BLM 2005)	✓	✓

The BLM is responsible for resource protection, resource use, and recreation and for serving the community on public lands and federal subsurface mineral estate. It manages air, cultural, and visual resources, fish and wildlife habitat, minerals, rangelands, timber, watersheds, and wilderness.

I.1 DESCRIPTION OF THE PLANNING AREA

The BLM administers approximately 2,437,000 acres of public land and 4,240,000 acres of federal minerals in the planning area in Blaine, Chouteau, Glacier, Hill, Liberty, Phillips, Toole, and Valley Counties (**Table I.1-1**). These lands and minerals are managed by three BLM Field Offices in Havre, Malta, and Glasgow along with the Great Falls Oil and Gas Field Office, which provides oil and gas program support in western, central, and north central Montana. **Figure I.1-1** shows surface landownership in the planning area, and **Figure I.1-2** shows the federal mineral estate.

**Table I.1-1
BLM Surface and Subsurface Ownership by County**

County	Total Area (Acres)	BLM Surface Acres	Percent BLM Surface	BLM Subsurface Acres	Percent BLM Subsurface
Blaine	2,705,755	299,201	11	615,688	23
Chouteau	2,542,874	45,025	2	174,281	7
Glacier	1,916,621	1,040	<1	6,184	<1
Hill	1,853,670	14,448	1	156,967	8
Liberty	915,046	7,543	1	66,990	7
Phillips	3,289,325	1,029,362	31	1,744,612	53
Toole	1,223,008	27,646	2	123,203	10

**Table I.1-1
BLM Surface and Subsurface Ownership by County**

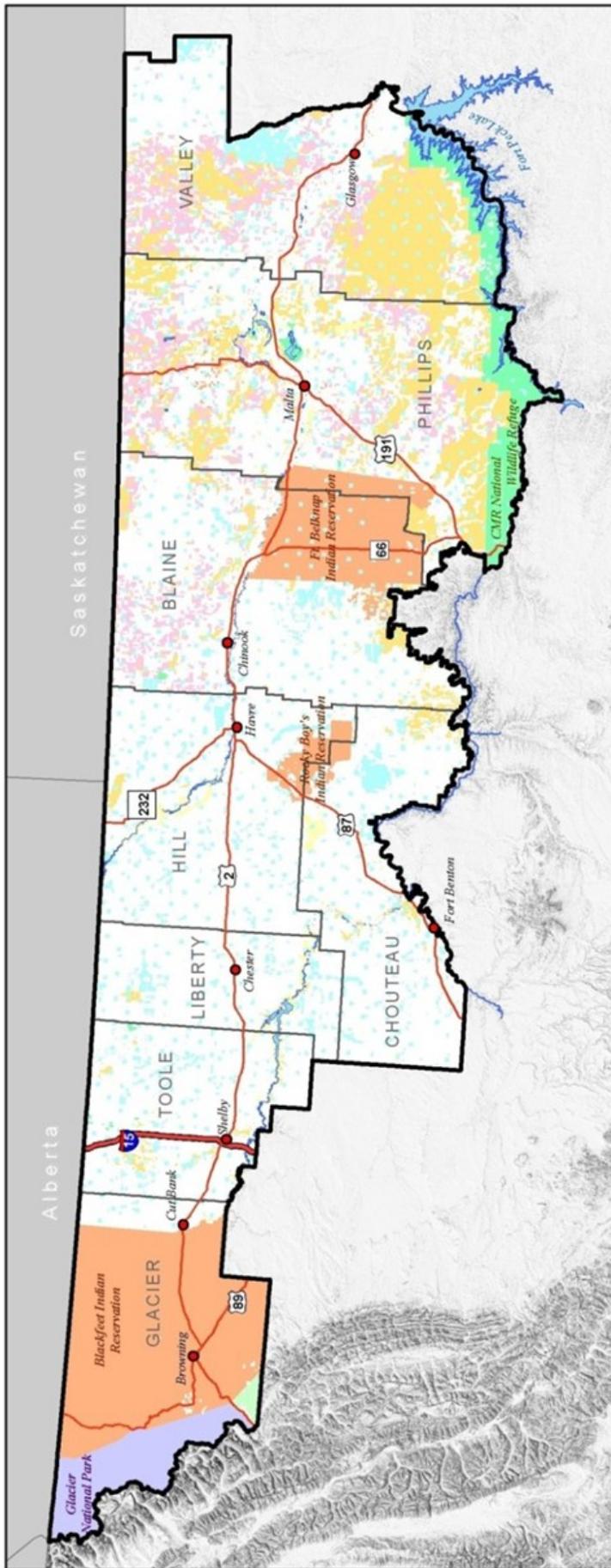
County	Total Area (Acres)	BLM Surface Acres	Percent BLM Surface	BLM Subsurface Acres	Percent BLM Subsurface
Valley	3,149,440	1,013,209	32	1,351,730	43
Total	17,595,739	2,437,474	14	4,239,655	24

Source: BLM 2014



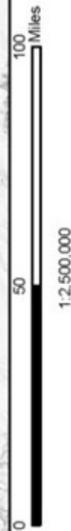
Sage Creek Area, Valley County

Photo by Kathy Tribby



Created by the Malta Field Office in December 2012

Albers Equal Area, NAD83, Meters



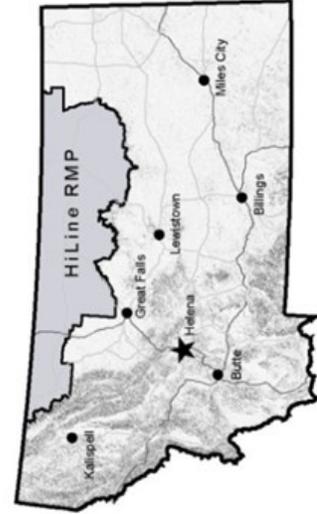
U.S. DEPARTMENT OF THE INTERIOR
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 HilLine District
Surface Management

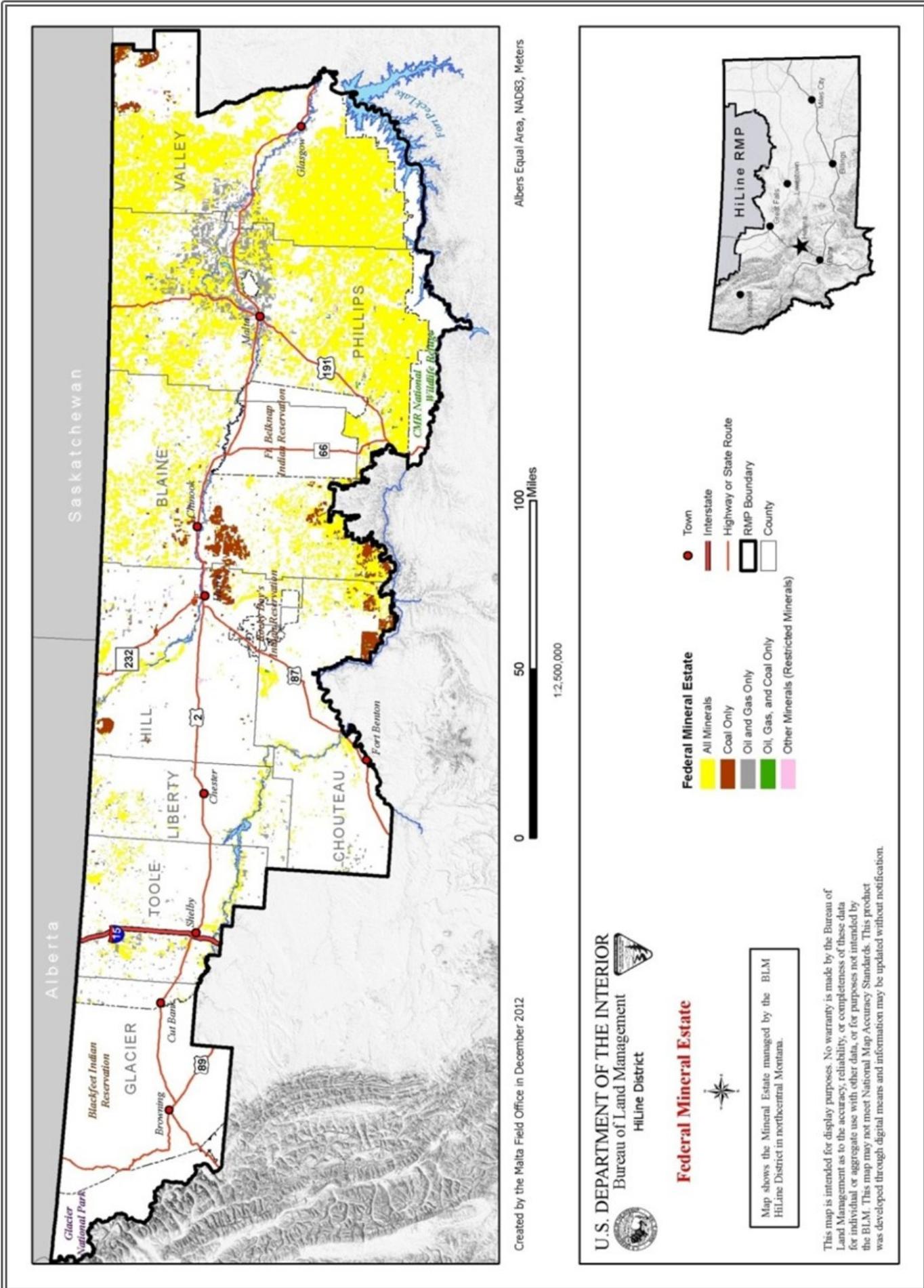


Map shows the general location of the BLM HilLine District Planning Area in northcentral Montana.

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- Bureau of Land Management (BLM)
- Bankhead-Jones Land Use Lands
- USDA Forest Service (USFS)
- National Park Service (NPS)
- US Fish and Wildlife Service (USFWS)
- Bureau of Reclamation
- Indian Reservation
- State
- Private
- Water
- RMP Boundary
- County
- Highway or State Route
- Interstate
- Town





Albers Equal Area, NAD83, Meters

0 50 100 Miles

1:2,500,000

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

Federal Mineral Estate

- All Minerals
- Coal Only
- Oil and Gas Only
- Oil, Gas, and Coal Only
- Other Minerals (Restricted Minerals)
- Town
- Interstate
- Highway or State Route
- RMP Boundary
- County

Map shows the Mineral Estate managed by the BLM HiLine District in northcentral Montana.

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I.2 PURPOSE AND NEED

The purpose of this ARMP is to provide a single, comprehensive land use plan to guide management of public lands and minerals administered by the HiLine District. The plan 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.

The need for the revision is the result of considerable changes in the planning area since completion of the Judith-Valley-Phillips and the West HiLine RMPs. Additional plan amendments and maintenance actions are not adequate to address these changes, as follows:

- Increased oil and gas leasing
- Exploration and development
- Heightened public awareness and interest in BLM management actions and permitted uses
- Increased demand for recreation on public lands
- Increased conflicts between land use and wildlife/wildlife habitat
- Changes in BLM policy
- Expanded scientific knowledge and data

In March 2010, the U.S. Fish and Wildlife Service (USFWS) published its listing decision for the Greater Sage-Grouse (GRSG) as “warranted, but precluded.” Inadequacy of regulatory mechanisms was identified as a major threat in the USFWS finding on the petition to list the GRSG. The USFWS has identified the principal regulatory mechanism for the BLM as conservation measures in RMPs. Based on the identified threats to the GRSG and the USFWS timeline for making a listing decision on this species, the BLM needs to incorporate objectives and adequate measures into RMPs in order to conserve, enhance, and restore GRSG habitat.

This ARMP incorporates specific management actions and measures to conserve, enhance, and restore GRSG and its habitats on BLM land.

I.3 PLANNING CRITERIA

The BLM planning regulations (43 Code of Federal Regulations (CFR), Part 1610.4-2) require planning criteria to guide preparation of an RMP. Planning criteria are the constraints or ground rules that guide and direct the preparation of the plan. They ensure the plan is tailored to the identified issues and that unnecessary data collection and analyses are avoided.

The following criteria were developed based on applicable laws and regulations, agency guidance, and the result of public comment.

- The RMP will address public lands and federal minerals managed by the BLM. Decisions will not be made in the RMP relative to the management of lands not managed by the BLM.
- The RMP will be in compliance with FLPMA and all other applicable laws, regulations, and policies. Management is based on the principles of multiple use and sustained yield within a framework of environmental responsibility and scientific technology.

- Impacts from the management alternatives considered in the RMP will be analyzed in an EIS developed in accordance with regulations at 43 CFR, Part 1610 and 40 CFR, Part 1500.
- Broad-based public participation will be an integral part of the planning and EIS process.
- Decisions in the plan will strive to be compatible with the existing plans and policies of adjacent local, state, and federal agencies as long as the decisions are consistent with the purposes, policies, and programs of federal law and regulations applicable to public lands.
- The RMP will recognize the State of Montana's responsibility and authority to manage wildlife. The BLM will consult with Montana Fish, Wildlife, and Parks (MFWP) as necessary. The RMP will incorporate state or region-wide planning efforts for wildlife to the fullest extent possible.
- The National Sage-Grouse Habitat Conservation Strategy (BLM 2004) requires that impacts on sagebrush habitat and sagebrush-dependent wildlife species (including GRSG) be analyzed and considered in BLM land use planning for the 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).
- The RMP will recognize valid existing rights.
- The RMP will incorporate management decisions brought forward from existing planning documents.
- Based on the assumptions of adequate funding, this plan will be periodically reviewed and amended if necessary. Plans would be evaluated every five years per 43 CFR, Part 1610.4-9. Information gathered from the five-year evaluation would be used to determine planning needs and priorities for plan revisions and amendments.
- The planning team will work cooperatively and collaboratively with the State of Montana, tribal governments, county and municipal governments, other federal agencies, the Central Montana Resource Advisory Council, and all other interested groups, agencies and individuals.
- The planning process will provide strategies for the protection of recognized traditional and cultural uses.
- The BLM and cooperating agencies and governments will jointly develop alternatives for resolving resource management issues that are within the authority of the BLM.
- The planning process will incorporate Standards for Rangeland Health and Guidelines for Livestock Grazing Management (BLM 1997a) developed in accordance with regulations in 43 CFR, Part 4180, and approved by the Secretary of the Interior.
- The State Historic Preservation Office (SHPO) was invited to participate throughout the planning process, in accordance with the state protocol developed between the BLM and the Montana SHPO (BLM 1998).

- Areas with special environmental qualities will be protected and, if necessary, designated as Areas of Critical Environmental Concern (ACECs), Wild and Scenic Rivers, or other appropriate designations.
- The RMP will emphasize the protection and enhancement of the planning area's biodiversity, while providing the public with opportunities for compatible activities on public lands.
- The RMP will recognize local, statewide, and national concerns and lifestyles.
- Lands acquired by the BLM will be managed in the manner the RMP prescribes for adjacent public land, subject to any constraints associated with the acquisition.
- The RMP will provide management direction for lands returned to BLM management by revoking withdrawals. The plan will also address lands acquired through other means.
- Forest management strategies will be consistent with the Healthy Forests Restoration Act and the Tribal Forest Protection Act, where appropriate.
- All proposed management actions will be based on best available scientific information, research, and technology, as well as existing inventory and monitoring information.
- The BLM released Handbook H-8320-1, Planning for Recreation and Visitor Services, on August 22, 2014. The handbook assists BLM staff in planning and managing recreation and visitor services on public land. The release of the handbook coincided with the final development of the Proposed RMP/Final EIS. Accordingly, not all recreation and visitor services decisions in this Proposed RMP/Final EIS follow the recommended format provided in the handbook. However, the Proposed RMP/Final EIS complies with the requirements for establishing desired conditions, allowable uses, and actions related to the management of recreation and visitor services, as discussed in Handbook H-8320-1.
- Fire management strategies will be consistent with the Federal Wildland Fire Policy (NIFC 2001), National Fire Plan (2000), Interagency Prescribed Fire Planning and Implementation Procedures Guide with BLM supplemental guidance (NIFC 2008), Interagency Standards for Fire and Fire Aviation Operations (Redbook; NIFC, updated annually), and other BLM handbooks.
- Geographic information system (GIS) and metadata information will meet Federal Geographic Data Committee standards, as required by Executive Order 12906, signed April 11, 1994. Other applicable BLM data standards will be followed. The goal is to develop an RMP with spatial and temporal data that can be easily accessed for use in subsequent environmental review. At times, GIS analysis may result in acres that are different than other published data sources for BLM-administered lands and minerals.



Rock Creek, Phillips County

BLM Photo

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CHAPTER 2

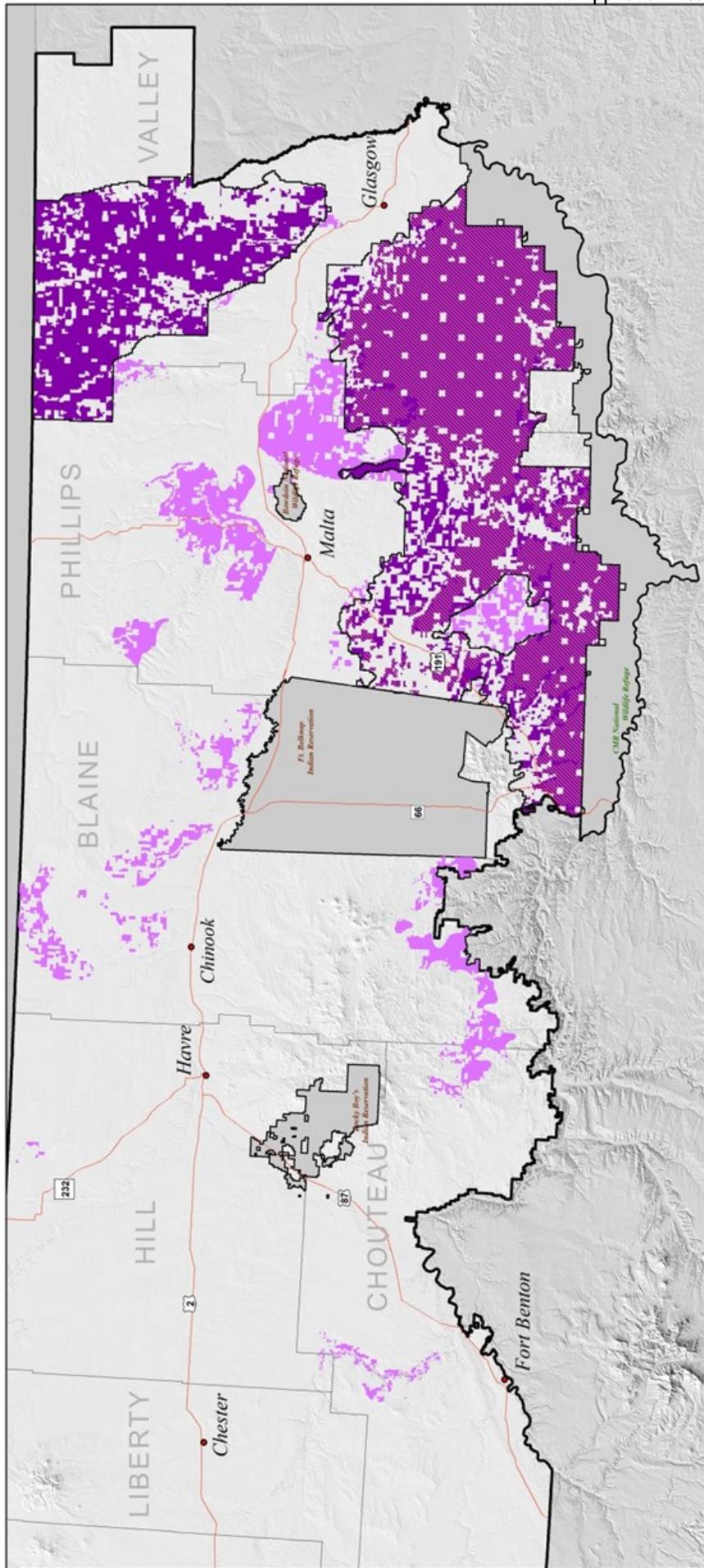
APPROVED RESOURCE MANAGEMENT PLAN FOR GRSG HABITAT

2.1 DESCRIPTION OF GRSG HABITAT MANAGEMENT AREAS

The decision area for GRSG habitat management in 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 priority habitat management areas (PHMA) and general habitat management areas (GHMA; see **Table 2.1-1**, **Table 2.1-2**, and **Table 2.1-3**, **Figure 2.1-1**, HiLine Greater Sage-Grouse Habitat Management Areas for BLM-Administered Lands, and **Appendix AI**, Figures I-1, I-2, and I-3).

PHMA and GHMA are defined as follows:

- PHMA—BLM-administered lands with limited impacts containing substantial and high quality GRSG habitat that supports high density GRSG populations. Management actions would emphasize the conservation and enhancement of sustainable GRSG habitat. The area is delineated by using key, core, and connectivity data and maps, landownership patterns, and other resource information. The boundaries and management strategies for PHMA are derived from and generally follow the Protection Priority Area boundaries identified in the Draft RMP/EIS. Areas of PHMA largely coincide with areas identified as Priority Areas for Conservation in the Conservation Objectives Team (COT) report and the Core Habitat Areas delineated by the MFWP.
- GHMA—BLM-administered lands with or without ongoing or imminent impacts containing sage-grouse habitat outside of the priority areas. Management actions would maintain habitat for sustainable sage-grouse populations to promote movement and genetic diversity. Areas are delineated based on sage-grouse habitat. The boundaries and management strategies for GHMA are derived from and generally follow the general habitat boundaries identified in the Draft RMP/EIS.



Created by the HiLine District Office in August 2015

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Map shows the priority and general habitat management areas for Greater Sage-Grouse and the Sagebrush Focal Areas in the HiLine planning area. Management actions proposed for these habitats apply only to BLM managed lands, surface and mineral estate, within these areas.



11,013,827

Albert Equal Area, NAD83, Meters

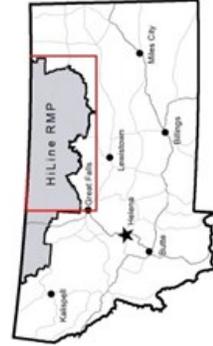


Table 2.1-1
Acres PHMA and GHMA in the Decision Area for the ARMP

Surface Land Management	PHMA	GHMA
BLM-administered surface estate	1,432,689	289,756
BLM-administered mineral estate	1,615,876	537,304

Source: BLM GIS 2015

Table 2.1-2
Acres of GRSG Habitat by County in the Decision Area
(BLM-Administered Lands Only)

County Name¹	PHMA²	GHMA	Total³
Blaine	0	147,652	147,652
Chouteau	0	31,227	31,227
Glacier	0	0	0
Hill	0	1,815	1,815
Liberty	0	0	0
Phillips	638,575	275,432	914,007
Toole	0	0	0
Valley	994,398	23,318	1,017,716
Total	1,632,973	479,444	2,112,417

Source: BLM GIS 2015

¹: Glacier, Liberty and Toole Counties in the planning area do not contain mapped GRSG habitat.

²PHMA acres in the proposed plan include 963,627 acres in Phillips and Valley Counties associated with SFA.

³Federal mineral estate is included in these acreage figures.

Table 2.1-3
Surface Acres of GRSG Habitat by BLM Field Office in the Decision Area

BLM Field Office¹	PHMA	GHMA	Total²
Glasgow	994,398	23,318	1,017,716
Havre	0	180,694	180,694
Malta	638,575	275,432	914,007
HiLine District	1,632,973	479,444	2,112,417

Source: BLM GIS 2015

¹Includes 501,622 acres of SFA in the Glasgow Field Office and 462,005 acres of SFA in the Malta Field Office.

²Federal mineral estate is included in these acreage figures.

The ARMP also identifies a specific Sagebrush Focal Area (SFA), which is an allocation that is a subset of PHMA (see **Figure 2.1-1**). The SFA was 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 that have been noted and referenced as having the highest densities of GRSG and other criteria important for the persistence of the species.



Greens Bench, Chouteau County

Photo by Brian Hockett

2.2 HiLine District 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, by the USFWS in the March 2010 listing decision, as well as those threats described in the USFWS's COT report. In accordance with that report, the USFWS identified threats by GRSG population across the range and stated whether that threat is present and widespread, present but localized, or unknown for that specific population. **Table 2.2-1** identifies the GRSG populations and the threats identified by the COT in the HiLine District.

Table 2.2-1

Threats to GRSG in the HiLine District as Identified by the Conservation Objectives Team

GRSG Identified Populations from the COT Report Applicable to the HiLine District	Unit Number	Isolated Small Size	Sagebrush Elimination	Agriculture Conversion	Fire	Conifers	Weeds/Annual Grasses	Energy	Mining	Infrastructure	Improper Grazing	Free-Roaming Equids	Recreation	Urbanization
Northern Montana (MT)	2	N	L	L	L	N	L	Y	N	Y	Y	N	L	N

Source: USFWS 2013

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

Table 2.2-2 provides a crosswalk as to how the ARMP for the HiLine District addresses the threats from the COT Report.

**Table 2.2-2
Key Components of the HiLine Proposed Plan Addressing COT Report Threats**

Threats to GRSG and its Habitat (from the COT Report)	Key Component of the HiLine ARMP
All threats	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • PHMA—Implement a human disturbance cap of 3% at the biologically significant unit (BSU) and project area scale. • GHMA—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 (RDFs) when authorizing actions in GRSG habitat.
Energy development—fluid minerals	<ul style="list-style-type: none"> • PHMA—Open to fluid mineral leasing subject to no surface occupancy (NSO) stipulation without waiver or modification and with limited exception. In SFA, NSO without waiver, modification, or exception. • GHMA—Open to fluid mineral leasing subject to NSO within 0.6 mile of an occupied lek and timing limitation (TL) stipulations. • Prioritize the leasing and development of fluid mineral resources outside GRSG habitat.
Energy development—wind energy	<ul style="list-style-type: none"> • 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)
Energy development—solar energy	<ul style="list-style-type: none"> • 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)
Infrastructure—major rights-of-way (ROWs)	<ul style="list-style-type: none"> • PHMA—Avoidance area (may be available for major ROWs with special stipulations) • GHMA—Avoidance area (may be available for major ROWs with special stipulations)
Infrastructure—minor ROWs	<ul style="list-style-type: none"> • PHMA—avoidance area (may be available for minor ROWs with special stipulations)
Mining—locatable minerals	<ul style="list-style-type: none"> • SFA—Recommend withdrawal from the Mining Law of 1872.
Mining—nonenergy leasable minerals	<ul style="list-style-type: none"> • PHMA—Closed area (not available for nonenergy leasable minerals)

**Table 2.2-2
Key Components of the HiLine Proposed Plan Addressing COT Report Threats**

Threats to GRSG and its Habitat (from the COT Report)	Key Component of the HiLine ARMP
Mining—salable minerals	<ul style="list-style-type: none"> • PHMA—Closed area (not available for salable mineral development) with a limited exception (may remain open to free use permits and expansion of existing active pits if criteria are met)
Mining—coal	<ul style="list-style-type: none"> • PHMA is essential habitat for GRSG for purposes of the suitability criteria set forth at 43 CFR, Part 3461.5(o)(1).
Improper livestock grazing	<ul style="list-style-type: none"> • Prioritize the review and processing of grazing permits and leases in SFA, followed by PHMA. • Include in the National Environmental Policy Act (NEPA) analysis for renewals and modifications of grazing permits 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 SFA, followed by PHMA to ensure compliance with the terms and conditions of grazing permits.
Free-roaming equid management (horses and burros)	<ul style="list-style-type: none"> • Not applicable; none present in the planning area
Range management structures	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • PHMA—Do not construct new recreation facilities.
Fire	<ul style="list-style-type: none"> • PHMA—Prioritize suppression immediately after life and property to conserve the habitat. • GHMA—Prioritize suppression where wildfires threaten PHMA.
Nonnative, invasive plants species	<ul style="list-style-type: none"> • Improve GRSG habitat by treating annual grasses. • Treat sites in PHMA and GHMA that contain invasive species infestations through an integrated pest management approach.
Sagebrush removal	<ul style="list-style-type: none"> • PHMA—Maintain all lands ecologically capable of producing sagebrush (such as big sagebrush) at 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	<ul style="list-style-type: none"> • Remove conifers encroaching into sagebrush habitats, in a manner that considers tribal cultural values, prioritizing occupied GRSG habitat.
Agricultural conversion and ex-urban development	<ul style="list-style-type: none"> • Retain GRSG habitat in federal management.

The ARMP also identifies conservation measures that are designed to conserve, enhance, and restore GRSG habitat. The ARMP applies the following summarized management decisions, subject to valid existing rights, to other uses and resources:

- Providing a framework for prioritizing areas in PHMA and GHMA for wildfire, invasive annual grass, and conifer treatments
- Requiring specific design features for certain lands and realty uses
- Implementing a disturbance cap to limit disturbance in PHMA
- Including GRSG habitat objectives in land health standards
- Adjusting grazing practices as necessary, based on GRSG habitat objectives, land health standards, and ecological site potential

The ARMP also establishes screening criteria and conditions for new human activities in PHMA and GHMA to ensure a net conservation gain to GRSG. The ARMP will reduce habitat disturbance and fragmentation by limiting surface-disturbing activities, while addressing changes in resource condition and use through monitoring and adaptive management.

The ARMP's GRSG habitat management approach was built on the foundation for GRSG management established by and complementary to the Montana Governor's Executive Order 10-2014. This created the Montana Sage Grouse Oversight Team (MSGOT) and the Montana Sage Grouse Habitat Conservation Program by establishing similar conservation measures and focusing restoration in the same key areas most valuable to GRSG.

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 HiLine District. A *Monitoring Framework* is also included (in **Appendix D**) to describe how the program decisions will be tracked to ensure implementation.

Many of these goals, objectives, and management actions identified in this section can also be found in Section 3.2 of this ARMP for other resources and/or program areas (e.g., Fire Management and Ecology) and have been consolidated in this section to depict how the agency will manage GRSG habitat. For this reason, the goals, objectives, and management actions in this section are not paginated and still retain the title/record number as they are presented in Section 3.2.

Table 2.3-1 is a summary of the allocation decisions presented for each GRSG habitat management area. For allocation decisions specific to PHMA and GHMA, refer to Figures 2-1 through 2-10 in **Appendix A1**).

Table 2.3-1
Summary of Allocation Decisions by Greater Sage-Grouse Habitat Management Areas

Resource	PHMA	GHMA
Land Tenure	Retain	Retain
Solar	Exclusion	Avoidance
Wind	Exclusion	Avoidance
Major ROWs	Avoidance	Avoidance
Minor ROWs	Avoidance	Open
Oil and Gas	Open with Major Stipulations	Open with Minor Stipulations

Table 2.3-1
Summary of Allocation Decisions by Greater Sage-Grouse Habitat Management Areas

Resource	PHMA	GHMA
Geothermal	Open with Major Stipulations	Open with Minor Stipulations
Non-energy Leasables	Closed	Open
Salable Minerals	Closed	Open
Locatable Minerals	SFA = Recommend Withdrawal Other PHMA = Open	Open
Travel Management	Limited	Limited
Livestock Grazing	Open	Open

2.3.1 BLM ARMP for Greater Sage-Grouse Habitat Management

Many of the approved plan goals, objectives, management actions and allowable uses identified in this section originate from the specific BLM resource/program areas and have been determined to be applicable to the approved management of Greater Sage-Grouse habitat. The information presented below is the same as that presented in the resource sections of Chapter 2 and has simply been consolidated here to depict how the agency will manage Greater Sage-Grouse habitat.

Fire Management and Ecology

Actions

- The BLM will protect sensitive status species habitat (such as sage-grouse) during suppression and prescribed fire activities as described in this document and consistent with BLM Policy. Fire management-related activities, including prescribed fire, should preserve or enhance the habitat quality for sage-grouse and other sensitive status species, especially in priority habitat areas. Where applicable, the BLM will use BMPs (**Appendix H**) to design fuels treatment objectives to protect existing sagebrush ecosystems, modify fire behavior, restore native plants, and create landscape patterns which benefit sage-grouse habitat (**Appendix I**). The use of heavy equipment during wildfire suppression and rehabilitation is allowable in sage-grouse habitat although cross-country travel should be limited through these areas. Wildfire suppression facilities shall be located to the extent possible in areas that minimize disturbance to high quality sage-grouse habitat.
- 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 viable options;
 - how Greater Sage-Grouse goals and objectives would be met by its use;
 - how the COT Report objectives would be addressed and met;
 - a risk assessment to address how potential threats to Greater Sage-Grouse habitat would 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 would protect Greater Sage-Grouse habitat in PHMA (e.g., creation of fuel breaks that would 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 would need to be designed to strategically reduce wildfire risk around and/or in the winter range and designed to protect winter range habitat quality.

Fluid Minerals (oil, gas and geothermal)

Objectives

- 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).
- Where a proposed fluid mineral development project on an existing lease could adversely affect Greater Sage-Grouse populations or habitat, the BLM will work with the lessees, operators, or other project proponents to avoid, minimize and apply compensatory mitigation 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 application for permit to drill (APD) for the lease to avoid and minimize impacts on sage-grouse or its habitat and will ensure that the best information about the Greater Sage-Grouse and its habitat informs and helps to guide development of such federal leases.

Actions

- Where the federal government owns the mineral estate in PHMA and GHMA, and the surface is in non-federal ownership, apply the same stipulations, conditions of approval (COA), and/or conservation measures and RDFs (**Appendix C**) 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.
- 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.
- No waivers or modifications to a fluid mineral lease NSO stipulation will be granted in PHMA. The authorized officer may grant an exception to a fluid mineral lease NSO stipulation only where the proposed action:

- (i) would not have direct, indirect, or cumulative effects on Greater Sage-Grouse 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 Greater Sage-Grouse.
- 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 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 Greater Sage-Grouse 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.
 - The SFA are open to leasing with NSO with no waivers, exceptions, or modifications (WEMs).

Lands and Realty

Objectives

- Effects of infrastructure projects, including siting, will be minimized using the best available science, updated as monitoring information on current infrastructure projects becomes available.

Actions

Land Tenure

- 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, including land exchanges, of the lands will have no direct or indirect adverse impact on conservation of the Greater Sage-Grouse.

Solar and Wind

- PHMA will be exclusion areas for solar and wind energy rights-of-way. GHMA will be avoidance areas for solar and wind energy rights-of-way.

Livestock Grazing

Actions

- If monitoring data demonstrate that livestock use on an allotment in a priority Greater Sage-Grouse area is adversely affecting Greater Sage-Grouse or their habitat, the terms and conditions of grazing permits may be modified, or changes in active use could be considered in order to meet the standards for rangeland health as described in 43 CFR, Part 4180 and the Standards for Rangeland Health and Guidelines for Livestock Grazing Management (**Appendix L**) or to otherwise manage, maintain, or improve sage-grouse habitat.
- Appropriate indicators and measurements specific to habitat for Greater Sage-Grouse, or any other wildlife species of concern, will be evaluated as part of standards and guidelines assessment and any necessary and appropriate habitat objectives specific to meeting the wildlife health standard for the site will be identified and incorporated into allotment management plans (AMPs) or the terms and conditions of livestock grazing permits
- Processing Grazing Permits/Leases:
 - 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 SFA followed by PHMA outside of the SFA. 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 (e.g., fire) and legal obligations.
 - The NEPA analysis for renewals and modifications of livestock grazing permits/leases that include lands within SFA and PHMA will include specific management thresholds based on the Greater Sage-Grouse habitat objectives Table 2.2, Desired Conditions for Greater Sage-Grouse Habitat, Land Health Standards (43 CFR, Part 4180.2) 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.
 - Allotments within SFA, followed by those 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.
 - 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.

Off-Highway Vehicle Use and Travel and Transportation Management

Actions

- The BLM will pursue opportunities to conduct restoration of roads, primitive roads and trails not designated during travel management planning, with priority given to areas with special management concerns. This includes primitive routes that have not been designated as “primitive routes” within wilderness study areas (WSAs) and those that have been closed within areas that are being managed to protect or enhance wilderness characteristics or special status species such as the Greater Sage-Grouse. Restoration activities will be done in accordance with guidelines described in **Appendix M**, Reclamation. Applicable requirements such as specific seed mixes or transplanting recommendations will also be applied where special status species or issues are a concern (e.g., mitigation for Greater Sage-Grouse).
- 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 6302 (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 authorized officer to resolve management conflicts and protect persons, property, and public lands and resources. Where an authorized officer determines that off-highway vehicles (OHV) 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.

Recreation and Visitor Services

Actions

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

Salable (Mineral Materials)

Actions

- PHMA are closed to new mineral material sales. 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**); and
- all applicable RDFs are applied and the activity is permissible under the specific subregional screening criteria (**Appendix C**).

Solid Minerals – Leasable

Actions

- 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 Greater Sage-Grouse for purposes of the suitability criteria set forth at 43 CFR, Part 3461.5(o)(1).

Solid Minerals – Locatable

Actions

- Within the limits of the Mining Laws, the BLM will apply COAs (**Appendix I**) to Plans of Operations to prevent undue and unnecessary degradation to Greater Sage-Grouse habitat.
- A recommended withdrawal for 927,074 acres from locatable mineral entry to protect the SFA.

Vegetation – Rangeland

Objectives

- In all SFA and PHMA, the desired condition is to maintain all lands ecologically capable of producing sagebrush (such as big 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).

Actions

- The BLM will consult with MFWP and seek concurrence regarding the anticipated benefits and/or impacts of any vegetation treatments that may impact wildlife habitat including priority sage-grouse habitat.
- Quantifiable vegetation objectives for sage-grouse habitat are presented in Table 2.3-2. The actions needed to meet or progress toward meeting these objectives will be incorporated into the respective AMPs or livestock grazing permits as appropriate.
- Water developments will be installed and/or maintained to facilitate control of livestock use of vegetation, support other uses, and protect resource values. In order to minimize surface disturbance, have reliable water of better quality and not alter normal surface flow of water, alternative water developments will be emphasized before constructing new pits and

reservoirs. The BLM will manage water developments within Greater Sage-Grouse habitat to reduce the spread of West Nile virus (**Appendix I**).

- The BLM will use land treatments to achieve and maintain fire regimes, and watershed, grazing management, and wildlife objectives. Within the Greater Sage-Grouse PHMA and the Grassland Bird/Greater Sage-Grouse PHMA, treatments that conserve, enhance or restore Greater Sage-Grouse habitat will be allowed as well as treatments that benefit other resources and do not adversely affect sage-grouse or their habitat.
- Rangeland health monitoring and assessments will be conducted within current staffing capabilities. The allotments within the Greater Sage-Grouse PHMA and the Grassland Bird/Greater Sage-Grouse PHMA will be high priority for reassessment of land health standards and processing grazing permits as detailed in **Appendix I**. Rangeland health monitoring plans will be developed and implemented at the field office level.
- Conifers encroaching into sagebrush habitats will be removed, in a manner that considers tribal cultural values. Treatments will be prioritized 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 Fire and Invasives Assessment Tool (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.

Vegetation – Riparian and Wetland

Actions

- The BLM will enhance or restore riparian composition and structure beyond proper functioning condition (PFC) in riparian areas where and when appropriate for other resource values.
- Riparian areas with unique values (e.g., where water quality habitat for special status species is an issue) will be treated as avoidance areas for rights-of-way (installation of infrastructure that requires surface disturbance and/or permanent surface occupancy).
- Grazing techniques and practices detailed in **Appendix I** will be implemented to reduce hot season (summer) grazing on riparian and meadow complexes within the PHMA. Alternative water facilities will be installed to relieve grazing impacts on riparian areas inside of priority sage-grouse habitat.

Wildlife

Goals

- Identify, conserve, enhance and monitor rare, vulnerable, and representative habitats, communities, and ecosystems to ensure self-sustaining persistence of special status species.
- Ensure that proposed land uses initiated or authorized by the BLM minimize damage to wildlife habitat and populations of special status species.
- Maintain and/or increase Greater Sage-Grouse abundance and distribution by conserving, enhancing or restoring the sagebrush ecosystem upon which populations depend in cooperation with other conservation partners.

Objectives

- Manage priority wildlife habitat, special status species habitat, and populations using multi-scale assessments to identify current conditions, risks, and opportunities.
- Maintain, enhance, or restore habitat availability and condition for special status species, and minimize habitat loss.
- Protect priority Greater Sage-Grouse habitats from anthropogenic disturbances that would reduce distribution or abundance of sage-grouse.
- Minimize fragmentation of large intact blocks of important wildlife habitat, particularly habitat areas for Greater Sage-Grouse and grassland birds.

Actions

- The BLM will initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing of these species under the Endangered Species Act (ESA).
- The BLM will ensure habitat is provided for special status species (BLM 2015, Tables 3.58 and 3.59). Proposed actions will not jeopardize the continued existence of a threatened or endangered species, or cause its habitat to be adversely modified or destroyed.
- The BLM will continue cooperative participation in recovery plans, management plans and conservation strategies for special status species.
- Fragmentation of large intact blocks of important wildlife habitat will be minimized, particularly in PHMA for Greater Sage-Grouse and grassland birds.
- 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.

Greater Sage-Grouse Priority Habitat Management Areas

- The area will include a NSO stipulation, without modifications or waivers, for oil and gas leasing unless there is a more restrictive stipulation in place to protect other resource values (e.g., no lease in the Mountain Plover ACEC).
- Exploration and development activities for existing oil and gas leases will be managed according to BMPs (**Appendix N**), or other mitigation measures, through COA in authorizing APDs or plans of development. Consistent with surface use rights granted, the existing lease may be subject to “restrictions deriving from specific, nondiscretionary statutes; and such reasonable measures as may be required by the authorized officer to minimize adverse impacts on other resource values, land uses or users not addressed in the lease stipulations at the time operations are proposed” (43 CFR, Part 3101.1-2). Overall consideration shall be given to minimizing the impact on sage-grouse through a project design that avoids, minimizes, and applies compensatory mitigation for direct and indirect impacts on sage-grouse habitat or use and includes applicable and technically feasible COA (**Appendix I**). Selection and application of these measures shall be based on current science and research on the impacts on important breeding, nesting, brood-rearing, and wintering areas.

- The area will be an avoidance area for the issuance of rights-of-way except within designated corridors. Rights-of-way and similar facilities will be located adjacent to other facilities in a corridor where practical. The BLM will consider opportunities to remove, bury, or modify existing power lines (e.g., burying, anti-perching devices or line location).
- Where leases or rights-of-way have some level of development (e.g., road, fence, well, etc.) that are no longer in use, the site will be reclaimed by removing the features and restoring the habitat. Upon project completion or right-of-way (ROW) expiration, roads built and maintained for commercial use across BLM land will be reclaimed, unless based on site-specific analysis, the route provides specific benefits to the public and the continued public use does not contribute to resource conflicts.
- The area will remain available for livestock grazing. Site-specific Greater Sage-Grouse habitat and management objectives will be developed for BLM land and incorporated into the respective AMPs or livestock grazing permits as appropriate. Third order (fine-scale) and fourth order (site-scale) habitat indicators and characteristics for sage-grouse habitat seasonal use areas as described in the Sage-Grouse Habitat Assessment Framework (Stiver, et al. 2015) will be used to quantify habitat objectives.
- Existing range improvements, including the location of supplements, will be evaluated and if necessary modified to conserve, enhance or restore sage-grouse habitat.
- If prescribed fire is to be used for vegetation treatments, the burn plan will clearly indicate how COT objectives will be addressed and met by its use, and why alternative techniques were not selected.
- A Fire Risk Assessment will be completed for implementation of prescribed fire in relation to sage-grouse goals and objectives.
- The area will be an exclusion area for solar and wind energy rights-of-way.
- The area will be closed to solid leasable minerals, including non-energy leasable minerals.
- PHMA are closed to new mineral material sales. 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 I**); and
 - all applicable RDFs are applied (**Appendix C**).
- New road construction will be limited to realignments of existing roads, if that realignment has a minimal impact on Greater Sage-Grouse habitat, eliminates the need to construct a new road, or is necessary for public safety. New road construction will include appropriate BMPs and mitigation (**Appendices H and I**).
- Existing roads, or realignments, will be used to access valid existing rights. If valid existing rights cannot be accessed via existing roads, then any new road would be constructed to the absolute minimum standard necessary with appropriate BMPs and mitigation (**Appendices H and I**).

Greater Sage-Grouse General Habitat Management Areas

- Sagebrush habitats will be managed so that mid-scale (i.e. landscape level) shrub cover should include a mix of height classes with herbaceous understory adequate for meeting Greater Sage-Grouse requirements as well as habitat requirements for other sage-associated species such as mule deer and pronghorn.
- Consideration will be given to incorporating fine-scale and site-specific Greater Sage-Grouse habitat and management objectives as appropriate to the area into AMPs or livestock grazing permits.
- GHMA will be an avoidance area for solar and wind energy rights-of-way.
- GHMA are open to minor ROWs and avoidance for major ROWs (high voltage transmission lines of 100 kilovolts or greater and pipelines 24 inches or greater in diameter).
- GHMA are open to fluid mineral leasing with moderate and standard constraints.
- Greater Sage-Grouse habitat suitability determinations will be based upon existing guidelines modified with data from recent habitat inventories and assessments in the planning area. Relevant range-wide research findings will also be included in habitat suitability determinations.
- The BLM will emphasize restoration and rehabilitation of sagebrush in areas that are capable of, but no longer support sagebrush to contribute to the distribution and connectivity of habitat patches.
- Greater Sage-Grouse habitats associated with silver sagebrush north of the Milk River will be enhanced to improve habitat conditions for nesting and brood rearing. Specific management actions will be derived from the results of ongoing research and best available science.
- New distribution power lines on BLM land within 1 mile of Greater Sage-Grouse leks will be buried.
- Fragmentation of large intact blocks of habitat for special status species will be minimized, particularly in habitat protection areas for Greater Sage-Grouse and grassland birds.

Adaptive Management Strategy for Greater Sage-Grouse Management

Action

- Follow the adaptive management strategy outlined in **Appendix J**.

Mitigation

Mitigation measures for all resources are included in **Appendices H** and **I**. The BLM may add additional mitigation measures as deemed necessary by further environmental analysis and as developed through consultation with other federal, state, and local regulatory and resource agencies.

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.

Application of Lek Buffers

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 U.S. Geological Survey (USGS) Report Conservation Buffer Distance Estimates for Greater Sage-Grouse – A Review ([Open File Report 2014-1239](#)) in accordance with **Appendix B**.

Development in Highly Important Landscapes

The BLM will designate SFA as shown in **Figure 2.3-1** (927,074 acres). All BLM-administered lands within the SFA boundary will be managed as PHMA with the following additional management:

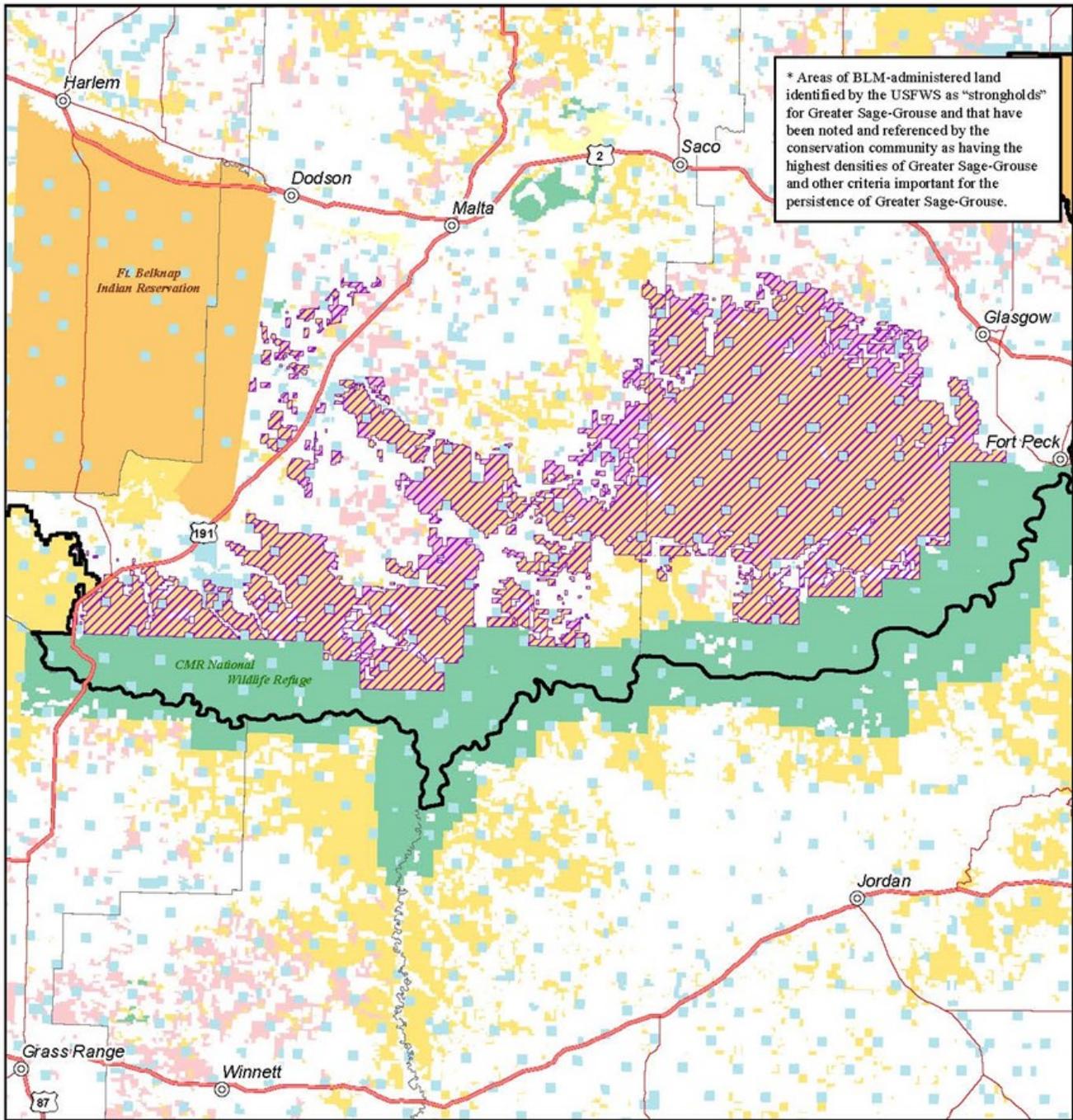
- 1) Recommended for withdrawal from the General Mining Act of 1872, subject to valid existing rights.
- 2) Managed as NSO, without WEMs, for fluid mineral leasing.
- 3) Prioritized for vegetation management and conservation actions in these areas, including, but not limited to land health assessments, review of livestock grazing permits/leases, and habitat restoration (see specific management sections).

2.3.2 Disturbance

The Montana/Dakotas BLM will use a 3% disturbance cap at the BSU and project scale, until the State strategy, similar to Wyoming's Core Strategy of 5% for all lands and all disturbances, is fully implemented. The density calculation (an average of 1 facility per 640 acres) applies to energy and mining facilities. The disturbance cap will not be applied to foreclose development of locatable minerals on unpatented claims located under the General Mining Act of 1872; the disturbance from locatable mining will be accounted for in determining the percent disturbance and whether the cap has been exceeded.

If the 3% anthropogenic disturbance cap is exceeded on lands (regardless of landownership) or if anthropogenic disturbance and habitat loss associated with conversion to agricultural tillage or fire exceed 5% within a project analysis area, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the General Mining Act of 1872, valid existing rights, etc.) will be permitted by the BLM within a project analysis area 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.

If the BLM determines that the State of Montana has adopted a Greater Sage-Grouse 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.



* Areas of BLM-administered land identified by the USFWS as "strongholds" for Greater Sage-Grouse and that have been noted and referenced by the conservation community as having the highest densities of Greater Sage-Grouse and other criteria important for the persistence of Greater Sage-Grouse.

Created by the Malta Field Office in April 2015



Albers Equal Area, NAD83, Meters

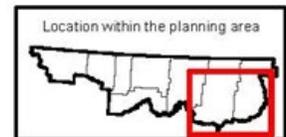
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management
HiLine District



Sagebrush Focal Areas

- Indian Reservation
- Bureau of Land Management (BLM)
- Bankhead-Jones Land Use Lands
- Bureau of Reclamation
- Sagebrush Focal Area *
- Planning Area Boundary
- State Lands
- US Fish and Wildlife Service
- Private

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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 landownership) 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.

Greater Sage-Grouse: Quantifiable 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 in Table 2.3-2 are based on recommendations in current literature (Stiver, et al. 2015, 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 Major Land Resource Areas 52C and 58A (USDA 2005). **Table 2.3-2, Desired Conditions for Greater Sage-Grouse Habitat**, is to be used as a minimum to meet the applicable Land Health Standard in sage-grouse habitats.



Greater Sage-Grouse Photo by Craig Miller

The assessment and evaluation of these objectives will follow the steps described in the Sage-Grouse Habitat Assessment Framework (Stiver, et al. 2015).

These habitat objectives in **Table 2.3-2** 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 subregion. 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 (see **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 significant factor in failing to achieve the standards for healthy rangelands, cause, the use will be adjusted by the response specified in the instrument that authorized the use.

**Table 2.3-2
Desired Conditions for Greater Sage-Grouse Habitat**

Habitat Indicators	Dominant Sagebrush, Soil Type and/or Ecological Site				
	Sagebrush on Saline and/or Sodic Soils	Sagebrush on Acid Shale Parent Materials	Silver Sagebrush on Overflow Sites	Silver Sagebrush on All Other Soils/Sites	Wyoming Big Sagebrush on All Other Soils/Sites
Sage-Grouse Breeding Habitat					
Sagebrush Canopy Cover	≥ 5%	≥ 5%	10-25%	≥ 2%	15-25%
Sagebrush Height	≥ 6 inches	≥ 6 inches	≥ 12 inches	≥ 12 inches	≥ 12 inches
Perennial Grass Heights (includes residual grasses)	≥ 5 inches	≥ 7 inches	≥ 7 inches	≥ 7 inches	≥ 7 inches
Perennial Grass Canopy Cover (such as green needlegrass)	≥ 10%	≥ 10%	≥ 15%	≥ 15%	≥ 10%
Perennial Forb Canopy Cover	≥ 3%	≥ 3%	≥ 10%	≥ 5%	≥ 5%
Perennial Forb Availability	≥ 3 species	≥ 3 species	≥ 5 species	≥ 5 species	≥ 5 species
Riparian Areas & Wet Meadows	Proper Functioning Condition				
Lek Security	Rocky Mountain juniper and/or Ponderosa pine with less than 1% canopy cover on shrub/grassland ecological sites within 3 kilometers (1.86 miles) of occupied leks				
Sage-Grouse Winter Habitat					
Sagebrush Availability	>10% canopy and >10 inches visible above snow				

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CHAPTER 3

APPROVED RESOURCE MANAGEMENT PLAN

3.1 APPROVED RESOURCE MANAGEMENT PLAN INSTRUCTIONS

This section describes the management decisions for the HiLine District. The management decisions replace the relevant decisions in the West HiLine RMP and Judith-Valley-Phillips RMP. These management decisions are presented by program area and now combine the Decisions Common to All Alternatives and the Proposed Plan (Alternative E, Preferred Alternative) from the Proposed RMP and Final EIS (BLM 2015).

For a description of the physical, biological, cultural, economic and social conditions of the HiLine planning area, refer to the Proposed RMP/Final EIS (BLM 2015).

3.2 GOALS, OBJECTIVES, AND MANAGEMENT DECISIONS

3.2.1 Air Resources and Climate Change

Goals: *Protect air resources, including air quality and air quality related values (AQRVs).*

Improve greenhouse gas (GHG) emission reduction methods for BLM-authorized activities.

Objectives: Reduce air pollutant and GHG emissions from BLM-authorized activities, while recognizing the multiple use-sustained yield mission of the BLM.

Comply with national and state air resource standards to protect existing air quality and AQRVs.

Work with the Montana Department of Environmental Quality (MDEQ) to coordinate data exchange and air quality protection strategies.

Management Actions

The BLM will not authorize management actions that exceed applicable Montana and National Ambient Air Quality Standards (MAAQS, NAAQS).

Actions authorized on BLM land and federal minerals will comply with Clean Air Act requirements, including the State of Montana Air Quality Implementation Plan, through the use of BMPs (**Appendix H**) and the Air Resource Management Plan (BLM 2015, Appendix B).

To ensure actions authorized by the BLM comply with air quality regulations, requirements and implementation plans, the BLM will evaluate impacts on air quality at the activity planning level, and prepare detailed monitoring and mitigation prescriptions for proposals that could degrade air resources.

The BLM will coordinate with the Montana/Idaho Airshed Group, Smoke Monitoring Unit and the appropriate airshed zone coordinator to ensure that prescribed fires comply with smoke management rules and regulations. The BLM will use timing and atmospheric dispersal to control particulate emissions and record and review data on fire prescriptions and mitigation measures (location, size, and date of burns).

For oil and gas operations, venting or flaring of hydrocarbon gas requires approval under provisions of Notice to Lessee – 4A (NTL-4A). MDEQ, Air Quality Protection Division, monitors this activity for compliance. The use of green or flareless well completions as a BMP for oil and gas operations will be encouraged to reduce GHG emissions.

3.2.2 Cultural Resources

Goal: *Protect, preserve and interpret the cultural resources within the planning area and ensure they are available for appropriate uses by present and future generations.*

Objectives: Manage important archaeological and historical sites, or areas where concentrations of cultural resources occur, for their use based on the nature of the cultural resource and relative preservation value.

Reduce imminent threats from natural or human-caused deterioration, and/or reduce potential conflicts with other resource uses.

Promote stewardship, conservation, and appreciation of cultural resources through educational and public outreach programs in accordance with the BLM Heritage Education Program.

Management Actions

Protection for all cultural resources will occur according to federal laws and BLM regulations and agreements. The BLM must evaluate all proposed actions, initiated or authorized by the BLM, to determine potential impacts on historic properties. This evaluation process occurs under Section 106 of the National Historic Preservation Act (NHPA). The BLM must determine, based on inventory and evaluation data, whether the proposed action could impact important cultural resources and, if necessary, take steps to avoid or mitigate possible impacts.

The BLM will mitigate impacts on cultural resources from authorized uses through project abandonment, redesign, and if necessary, data recovery investigations in accordance with the national Programmatic Agreement (PA) among the BLM, Advisory Council on Historic Preservation, and National Conference of State Historic Preservation Officers (BLM 2012a); and the State Protocol Agreement between the BLM Montana State Director and the Montana SHPO (BLM 1998).

Several steps are available to mitigate an occurrence of a potential adverse impact on cultural resources, including a requirement for on-the-ground inventory prior to proposed projects that include surface-disturbing activities; avoidance or modification of the proposed project; and if effective modification cannot be reached, excavation for archaeological information retrieval and/or consultation with the SHPO and the Advisory Council on Historic Preservation. Further, consultation with knowledgeable tribal elders is used to identify important cultural properties which might otherwise be missed by a standard archaeological inventory.

To consider potential impacts on historic properties where a federal action is occurring, the BLM will comply with Section 106 of the NHPA. Commonly, a Class III survey (inventory) is required prior to surface disturbance to identify significant cultural properties.

The BLM will consult with Indian tribes when its actions have the potential to affect areas of concern to the practitioners of traditional religions. The activities of concern are those that might degrade the visual or aesthetic nature of an area, or cause the loss of plant species or other resources important to traditional uses. The BLM is required to consult with traditional religious practitioners on policies and procedures to ensure they are considered when implementing agency actions. This includes consultations with federally recognized Indian tribes as sovereign nations in a government-to-government relationship with the United States.

Potential impacts on the Little Rocky Mountains and Sweet Grass Hills Traditional Cultural Properties (TCPs) will be avoided, if possible, or mitigated (**Figure 3.2-1**).

To promote the appreciation of cultural resources the BLM will continue to provide traveling museum exhibits consisting of replica artifacts from local sites. These exhibits will provide outreach and local identification with cultural resources across the planning area.

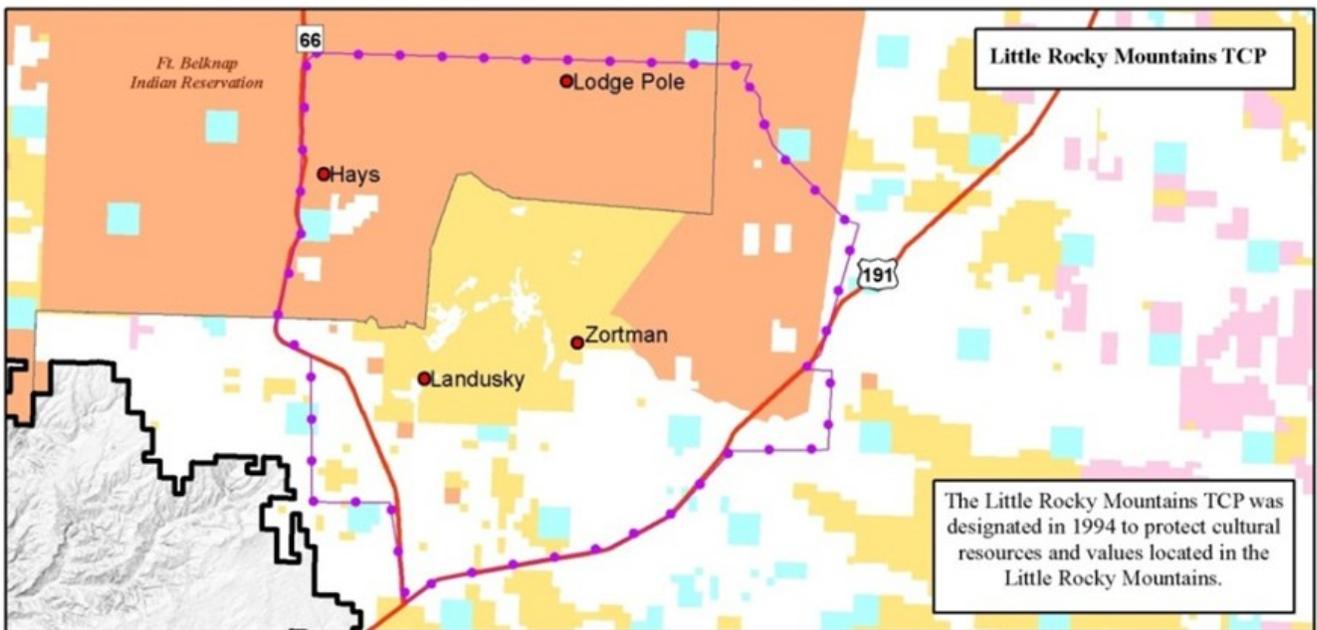
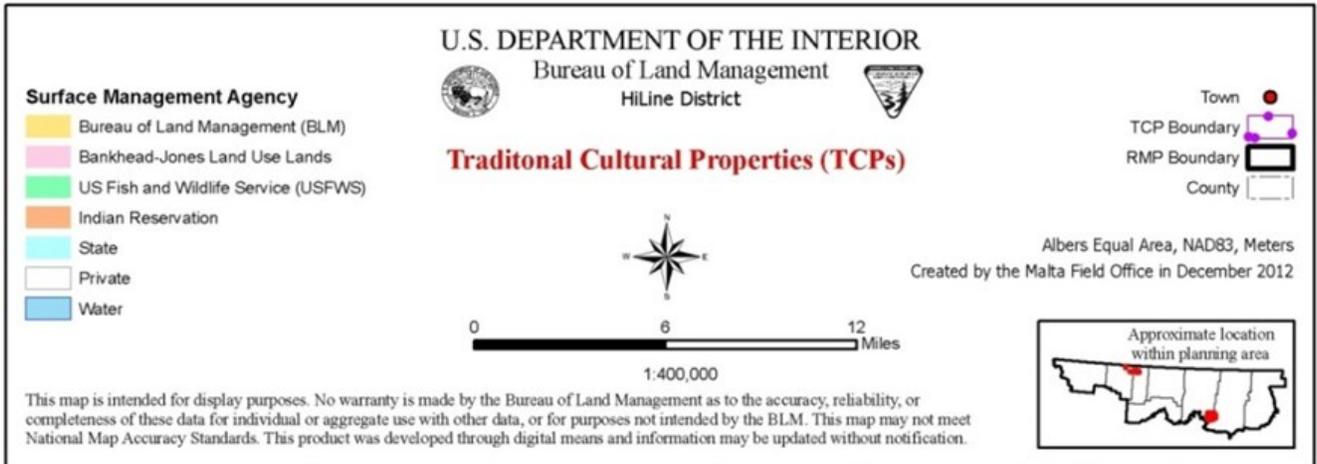
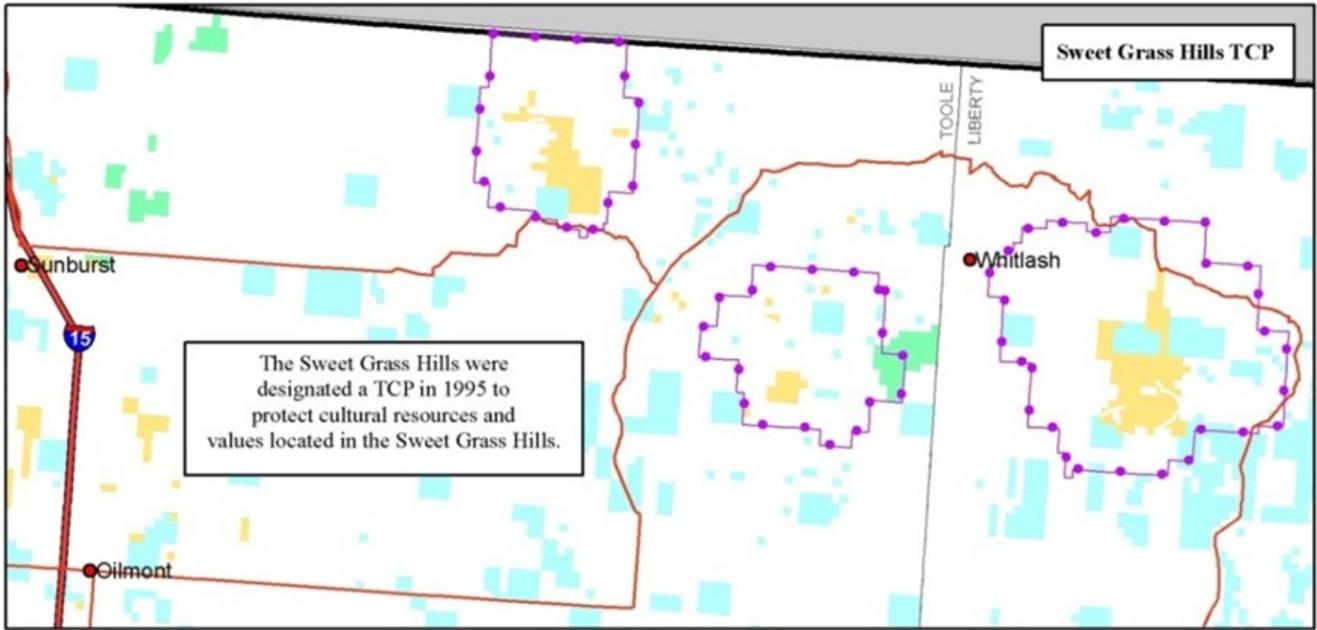
The BLM will monitor cultural sites to ensure that sites retain integrity and are not being vandalized or degraded through other processes.

The Big Bend of the Milk River, Kevin Rim, and Sweet Grass Hills ACEC, along with the potential Little Rocky Mountains ACEC, contain diverse cultural resources and historic sites of significance. Special management for these areas is addressed in the Special Designations section of Chapter 2.

National Register of Historic Places

Cultural sites with characteristics that make them eligible for the National Register of Historic Places require additional attention beyond recordation. The National Register of Historic Places sites would be categorized for use allocations based on their nature and relative preservation value, and appropriately managed.

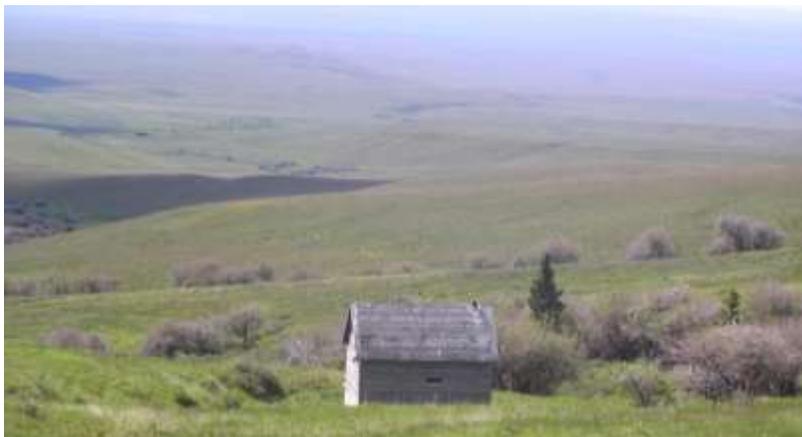
Pursuant to Section 110 of the NHPA, the BLM will identify other cultural resources in the planning area by defining priority geographic areas for new field inventory based on a probability for unrecorded significant resources. Any new National Register eligible sites recorded will be categorized in use allocations and specific management will be prescribed.



Use Allocation Categories

Cultural resources within the planning area are diverse, extensive and rich in history. Sacred sites consist of vision quest sites, graves, ceremonial sites and spiritual sites. Prehistoric cultural sites consist of habitation/camp sites such as stone circle sites, bison kill sites, cairns, lithic scatters, quarries, animal processing sites, etc. Historic sites range from early railroads, homestead sites, early farming and ranching infrastructure, town sites, building foundations, and dumps, to sites associated with early mining.

Categorizing cultural resources according to their potential uses is the culmination of the identification process and the bridge to protection and utilization decisions. Use categories establish what needs to be protected, and when or how use should be authorized. All cultural resources have uses, but not all should be used in the same way (BLM 8110 Manual, 2004).



Sweet Grass Hills

Photo by Kathy Tribby

All recorded cultural resources will be assessed according to six use categories for prehistoric and historic resources, as identified below.

- **Scientific Use:** This category applies to any cultural property determined to be available for consideration as the subject of scientific or historical study at the present time, using currently available research techniques. Study includes methods that would result in the property's physical alteration or destruction. This category applies almost entirely to prehistoric and historic archaeological properties, where the method of use is generally archaeological excavation, controlled surface collection, and/or controlled recordation (data recovery). Recommendations to allocate individual properties to this use must be based on documentation of the kinds of data the property is thought to contain and the data's importance for pursuing specified research topics. Properties in this category need not be conserved in the face of a research or data recovery (mitigation) proposal that would make adequate and appropriate use of the property's research importance. Scientific Use properties include sites similar in composition to:
 - **Beaucoup Site (24PH188/189).** This site complex is important because it contains a bison kill site, extensive drive lines, stone circle sites and unusual ceremonial features. The site is part of the Big Bend of the Milk River ACEC.

- Fantasy Complex (24PH1206). This site is a kill site complex indicating use over several time periods.
 - Kevin Rim (Toole County). This site complex consists of extensive prehistoric stone feature sites and drive lines with potential bison kill sites located on a unique geological bluff.
 - Laundry Springs (24VLI679). This site has buried features and is located next to a natural spring. Evidence shows that the site was much larger at one time before early homesteading and farming.
 - Lonesome Lake Complex (Chouteau County). This site is important because it contains over 1,000 stone circles along with other stone features and prehistoric sites.
- **Public Use:** This category may be applied to any cultural property found to be appropriate for use as an interpretive exhibit in place, or for related educational and recreational uses by members of the general public. The category may also be applied to buildings suitable for continued use or adaptive use, for example as staff housing or administrative facilities at a visitor contact or interpretive site. Public Use properties include sites of similar composition to:
 - Henry Smith (24PH794). This site complex is important because it contains a bison kill site, extensive drive lines, stone circle features and unique stone effigies. The site is part of the Big Bend of the Milk River ACEC.
 - Little Rocky Mountains Ranger Station (24PH2151). The Little Rocky Mountains Ranger Station was built in 1908 by the USDA, Forest Service (USFS) as a Fire Lookout in the Little Rocky Mountains. It is the only station of its kind in the HiLine District. The cabin was also used as an administrative site for the BLM Fire Program.
 - **Conservation for Future Use:** This category is reserved for any unusual cultural property which, because of scarcity, a research potential that surpasses the current state of the art, singular historic importance, cultural importance, architectural interest, or comparable reasons, is not currently available for consideration as the subject of scientific or historical study that would result in its physical alteration. A cultural property included in this category is deemed worthy of segregation from all other land or resource uses, including cultural resource uses that would threaten the maintenance of its present condition or setting, as pertinent, and would remain in this use category until specified provisions are met in the future. Conservation for Future Use properties include sites of similar composition to:
 - Grouse Gulch Cave (24PH1121). This cave is unique for its petroglyph images.
 - Lookout Cave (24PH402). This cave is unique as it has yielded a wealth of information from excavations. The cave is also unique for its petroglyph images.
 - Two Hands Cave (24PH404). This cave is unique for its petroglyph images.
 - **Experimental Use:** This category may be applied to a cultural property judged well-suited for controlled experimental study, to be conducted by the BLM or others concerned with the techniques of managing cultural properties, which would result in the property's

alteration, possibly including loss of integrity and destruction of physical elements. Committing cultural properties or the data they contain to loss must be justified in terms of specific information that would be gained and how it would aid in the management of other cultural properties. Experimental study should aim toward understanding the kinds and rates of natural or human-caused deterioration, testing the effectiveness of protection measures, or developing new research or interpretation methods and similar kinds of practical management information. It should not be applied to cultural properties with strong research potential, traditional cultural importance, or good public use potential, if it would significantly diminish those uses. No Experimental Use properties have been identified at this time.

- **Traditional Use:** This category is to be applied to any cultural resource known to be perceived by a specified social and/or cultural group as important in maintaining the cultural identity, heritage, or well-being of the group. Cultural properties assigned to this category are to be managed in ways that recognize the importance ascribed to them and seek to accommodate their continuing traditional use. Traditional Use properties include sites of similar composition to:
 - Little Rocky Mountains TCP (24PH3197/24BL1341). This area was determined eligible for the National Register of Historic Places as a TCP based on significance derived from the role the property plays in a community’s historically rooted beliefs, customs, and practices.
 - Sweet Grass Hills TCP (24TL771/24LT171). The Sweet Grass Hills was determined eligible for the National Register of Historic Places as a TCP based on significance derived from the role the property plays in a community’s historically rooted beliefs, customs, and practices.
 - Medicine Rock (24PH1008). This is a large petroglyph boulder located on the prairie. The boulder is an erratic left by the retreating glaciers several thousand years ago. Native Americans often leave offerings at this site.
- **Discharged from Management:** This category is assigned to cultural properties that have no remaining identifiable use. Most often these are prehistoric and historic archaeological properties, such as small surface scatters of artifacts or debris, whose limited research potential is effectively exhausted as soon as they have been documented. Also, more complex archaeological properties that have had their salient information collected and preserved through mitigation or research may be discharged from management, as should cultural properties destroyed by any natural event or human activity. Properties discharged from management remain in the inventory, but they are removed from further management attention and do not constrain other land uses. Particular classes of unrecorded cultural properties may be named and described in advance as dischargeable upon documentation, but specific cultural properties must be inspected in the field and recorded before they may be discharged from management. No Discharged from Management properties have been identified at this time.

Little Rocky Mountains Traditional Cultural Property

A portion of the TCP will be closed to oil and gas leasing. The remaining area will be open to leasing with an NSO stipulation. See **Appendix A2**, Map B.

Through vegetation management or forest health treatments the BLM may restore natural meadows to enhance traditional uses and viewsheds.

The TCP will be an avoidance area for rights-of-way.

The TCP will be an exclusion area for wind energy rights-of-way.

A portion of the TCP will be closed to solid mineral leasing (e.g., coal). The remaining area will be open.

A portion of the TCP will be limited to those mineral material uses necessary for reclamation activities and maintenance of the existing road system.

Sweet Grass Hills Traditional Cultural Property

The TCP will be closed to oil and gas leasing.

The TCP will be an avoidance area for rights-of-way.

The TCP will be an exclusion area for wind energy rights-of-way.

The TCP will be closed to solid mineral leasing (e.g., coal).

The TCP is currently withdrawn from locatable mineral entry under the Mining Law until 2017. The BLM will recommend a 20-year extension of the current withdrawal to protect the TCP.

The TCP will be closed to solid mineral material sales (e.g., sand and gravel).

3.2.3 Fire Management and Ecology

Goal: *Manage fire and fuels to protect life and property and to protect or enhance resource values.*

Objectives: For wildland fire, protection of firefighter and public safety is the first priority, with threats to resources and property being evaluated on their own merits, case by case. 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.

Secretarial Order 3336, issued by the Secretary of the Interior on January 5, 2015, emphasized that “protecting, conserving, and restoring the health of the sagebrush-steppe ecosystem and, in particular, greater sage-grouse habitat, while maintaining safe and efficient operations, is a critical fire management priority for the Department.”

Use fire to protect, maintain, and enhance resources; and to function in its ecological role where appropriate.

Integrate fire and fuels management across landscape, agency, federal, and international boundaries.

Management Actions

The BLM's 2012 Fire Planning Manual Guidance (M-9211) and Fire Planning Handbook (H-9211-1), along with Chapter 09 of the Interagency Standards for Fire and Fire Aviation Operations (NIFC, updated annually), and the BLM's updated policy for Implementation of Federal Wildland Fire Management Policy (2009), April 30, 2010 (NWCG #024-2010), the Guidance for Implementation of Federal Wildland Fire Management Policy (February 2009), and Secretarial Order 3336 and the Final Report dated May 1, 2015, summarize national fire policy, regulations, guidance documents, and BLM fire planning policy. The key points of this policy and guidance are:

- Firefighter and public safety is the first priority in every fire management activity.
- Fire management programs and activities are economically viable, based upon values to be protected, costs, and land and resource management objectives.
- Federal, state, tribal, local, interagency, and international coordination and cooperation are essential.
- Federal agencies and local communities collaborate, particularly when Community Wildfire Protection Plans are prepared.
- The role of wildland fire as an essential ecological process and natural change agent would be incorporated into the planning process.
- Fire Management Plans (FMPs), programs, and activities support land and RMPs and their implementation.
- Fire regime condition class methodology would be utilized for project planning, prioritization, and monitoring.

The BLM prioritizes fire management activities by risk to life, property, and natural resource objectives, including protecting, conserving, and restoring sage-grouse habitat. Mechanical, prescribed fire and other treatments will be used, where appropriate, to restore and maintain fire regimes, land health, and to reduce hazardous fuels accumulations.

The BLM uses Fire Management Units (FMUs), fire management categories, and a FMP to summarize guidance for fire and fuels management actions on BLM-managed lands. The FMP is developed and tiered from the RMP and then updated annually. The planning area includes seven FMUs: Sweet Grass Hills, Havre Prairie Potholes, Malta Prairie Potholes, Bears Paw, Little Rockies, Malta Breaks, and Sun Prairie (**Appendix A2**, Map A). The BLM assigns a fire management category to each FMU; the categories range from Category A where fire (including prescribed fire) is not desired at all, to Category D where fire is desired and no constraints are placed on its use. The BLM periodically assesses FMUs and the FMP to determine whether they reflect appropriate and suitable strategies to protect high value areas; or where appropriate, to enhance resource conditions and achieve desired vegetation conditions.

Appendix O, Fire and Emergency Stabilization and Rehabilitation (ES&R), provides full definitions of the fire management categories.

The BLM Montana/Dakotas State Office has developed a database of landscape-level fire and disturbance regimes. This database is used to assess the condition of plant communities and systems relative to their regimes. Fire regime/condition class methodology and other land health assessments will be used by the

BLM to monitor vegetation treatment effects and other changes to landscape health and fire behavior. This information will be used to provide feedback for updating available fire management strategies and responses at the RMP level.

Within the areas identified as fire management Category C (**Appendix A2**, Map A), wildfires will be managed to meet resource and protection objectives. Within the areas identified as fire management Category B (**Appendix A2**, Map A), wildfires will be managed to meet protection objectives. Fire management has included the full range of suppression options from full suppression to managing fire for beneficial effects. If monitoring indicates the strategy could be revised in Category C areas where the management of wildfire to achieve resource objectives is currently not allowed, changes will be developed and implemented through coordination with state, local, tribal, and other federal agencies and the RMP will be updated as necessary.

The BLM coordinates with state and adjacent federal land management agencies to implement fire prevention orders such as restrictions and/or closures; and maintains a current Fire Restriction and Closure Plan as an appendix to the Fire Management Plan. The BLM has developed and maintains a Wildland Fire Prevention, Mitigation, and Education Plan (BLM 2012b); and coordinates with counties to develop, update, or implement Community Wildfire Protection Plans.

Vegetation and fuels treatments on BLM lands will be planned and prioritized based on values at risk and land health assessments, including fire regime condition class assessments. In conjunction with forestry, wildlife, riparian, and range management priorities, mechanical and prescribed fire treatments may be used in all of the FMUs. The highest wildland urban interface (WUI) priority fuels treatment areas include the Zortman and Landusky Communities at Risk and areas identified by Community Wildfire Protection Plans and the Tribal Forest Protection Act.

The BLM will protect the wilderness characteristics of land within the National Wilderness Preservation System and in WSAs. This includes the Burnt Lodge and Bitter Creek WSAs. Fire management-related activities, including prescribed fire, should preserve or enhance the natural character of wilderness areas and avoid unnecessary impairment of a WSA's suitability for preservation as wilderness. The use of ground-disturbing equipment during wildfire suppression and rehabilitation requires authorization, and should be avoided to protect wilderness characteristics. The use of motorized vehicles and mechanical equipment during mop-up should be minimized, and fire camps should be located outside WSAs. Suppression methods, prescribed fire implementation, and ES&R projects may include the use of power tools, aircraft, motorboats, and motorized firefighting equipment, and may require authorization prior to use.

The BLM will protect sensitive status species habitat (such as Greater Sage-Grouse habitat) during suppression and prescribed fire activities as described in this document and consistent with the Secretarial Order on Rangeland Fire and BLM Policy. Fire management-related activities, including prescribed fire, should preserve or enhance the habitat quality for Greater Sage-Grouse and other sensitive status species, especially in priority habitat areas. Where applicable, the BLM will use BMPs (**Appendix H**) to design fuels treatment objectives to protect existing sagebrush ecosystems, modify fire behavior, restore native plants, and create landscape patterns which benefit sage-grouse habitat (**Appendix I**). The use of heavy equipment during wildfire suppression and rehabilitation is allowable in sage-grouse habitat although cross-country travel should be limited through these areas. Wildfire

suppression facilities shall be located to the extent possible in areas that minimize disturbance to high quality sage-grouse habitat.

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 would be met by its use;
- how the COT Report objectives would be addressed and met;
- a risk assessment to address how potential threats to Greater Sage-Grouse habitat would 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 would protect Greater Sage-Grouse habitat in PHMA (e.g., creation of fuel breaks that would 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 would need to be designed to strategically reduce wildfire risk around and/or in the winter range and designed to protect winter range habitat quality.

The BLM will implement ES&R in a cost-effective manner to minimize negative effects of fire on soil, vegetation, and water resources (**Appendix O**).

Prior to approval of vegetation treatment activities, an interdisciplinary environmental review will be required. For other BLM resources, site inventories or assessments will provide guidance for project planning so that activities will meet the objectives of those programs. Livestock grazing could be considered as a vegetation management tool to reduce hazardous fuel loads. The BLM will design post fuels management projects to ensure long-term persistence of seeded or pre-treatment native plants. Post-treatment land uses, such as livestock grazing rest periods, will be determined at the activity level.

The MDEQ has the primary responsibility for attaining and maintaining air quality standards through coordination with the Environmental Protection Agency (EPA). Prescribed fire projects must comply with state and federal air quality regulations, and the BLM must obtain burn permits from the MDEQ. The BLM is a member of the Montana/Idaho Airshed Group which manages smoke impacts on the region by monitoring and scheduling interagency burn activities. The entire planning area is within Montana/Idaho Airshed 9, a geographic area which has excellent smoke dispersal and is rarely denied activity by the Montana/Idaho State Airshed Group. At the project level, the BLM manages smoke impacts on sensitive areas such as towns, WSAs and wilderness areas by constraining wind direction and/or smoke dispersal height in the burn plan prescription. In addition, the BLM coordinates and obtains burn permits as necessary from county and local agencies and tribal partners.

The Bears Paw, Havre Prairie Potholes, Little Rockies, Sun Prairie, and Sweet Grass Hills FMUs will be managed as Category B (**Appendix A2**, Map A), where unplanned fire is likely to cause negative effects but prescribed fire treatments may be used to reduce fuels, improve land health, and restore fire regimes. Prevention and education activities are emphasized in this category as well as fuels reduction treatments.

The Malta Breaks and Malta Prairie Potholes FMUs will be managed as Category C (**Appendix A2**, Map A), where fire is desired to manage ecosystems but ecological, social, or political conditions create constraints on the use of wildfire for resource benefit. Suppression may be required in Category C areas. The emphasis in this category is to reduce hazardous fuels accumulations and to restore or maintain land health and fire regimes. Prevention and education activities target recreation areas and WUI areas.

Wildfires will be suppressed in both Category B and C areas. If the conditions described above change in Category C areas, suppression strategies will be reevaluated to include use of wildfire for resource benefit. Changes will be developed and implemented through coordination with state, local, tribal, and other federal agencies.

3.2.4 Fish

Goals: *Ensure habitat for aquatic species is of sufficient quantity and quality to enhance biological diversity and sustain ecological, economic and social values.*

Ensure proposed land uses initiated or authorized by the BLM maintain or improve aquatic habitats.

Promote public awareness, appreciation, and understanding of fisheries conservation, management, and ecology.

Objectives: The necessary habitat, biological processes, and disturbance regimes would be present to maintain, enhance, or restore priority fisheries populations. Land use would maintain habitat quality and large, intact reaches of aquatic habitat.

Use individual species management strategies and/or known habitat associations to design aquatic habitat for as many aquatic species as possible.

Manage priority fish habitats using multi-scale assessments to identify current conditions, risks and opportunities.

Identify restoration activities to provide improved aquatic and riparian habitat.

Management Actions

Management activities will be designed and implemented consistent with current adopted strategies including Montana's Comprehensive Fish and Wildlife Conservation Strategy (MFWP 2005) and currently accepted science.

Most management actions will be directed at maintaining habitat and the processes that provide habitat diversity in the planning area. Where special status fish species are present on BLM-administered lands, actions authorized by the BLM shall further the conservation and/or recovery of these species. Conservation of Bureau sensitive species is defined in the 6840 manual as, "the use of programs, plans,

and management practices to reduce or eliminate threats affecting the status of the species, or improve the condition of the species' habitat on BLM-administered lands.”

The BLM will cooperate with state and federal agencies to establish programs that are consistent with ecologically sound and sustainable practices, conserve and enhance high quality aquatic habitat, protect native aquatic species, and enhance game fishing opportunities.

If species which occur on BLM lands in the planning area are added to the Threatened and Endangered list in the future, management actions will be developed to conserve, enhance and protect the species in accordance with the ESA. For further information on fish and fisheries in the HiLine District, see BLM 2015, **Appendix N**.

The BLM will continue to manage aquatic habitats in the planning area according to existing federal and state laws, regulations, and BLM policies including BMPs and Montana Streamside Management Zone (SMZ) guidelines. Habitat management includes maintaining water quality and quantity, and riparian and wetland habitat conditions.

The BLM will protect aquatic resources occurring on BLM land through implementation of responsible and appropriate land management activities. The BLM will continue to implement, review, and update as necessary the Prairie Pothole Waterfowl and Fisheries Habitat Management Plan (HMP) of North Central Montana (BLM 1978) and the Whitewater Lake Waterfowl Habitat Development Project HMP (BLM 1970a). The BLM management approach includes the development of activity plans showing how site-specific actions accomplish goals and objectives. Some examples of activity plans include AMPs, recreation plans, HMPs, cultural RMPs, oil and gas plans of development, and use authorizations. These plans would include the implementation of appropriate BMPs for activities directed by or permitted by the BLM to support the integrity of ecological processes, protect identified beneficial water uses, and meet state water quality standards.

The BLM will provide maintenance to all aquatic habitat improvement/fisheries projects as needed to ensure proper function.

Any new reservoirs will be analyzed for fish habitat potential. Priority consideration will be given to reservoirs near communities and access routes. The BLM will maintain and/or improve new and existing designated fishing reservoirs through fencing, aeration, and fish habitat improvement projects. All fishing reservoirs will be maintained as fisheries as long as the BLM and MFWP determine that they are viable fisheries opportunities. Fish stocking will be coordinated with MFWP.

3.2.5 Fluid Minerals

Goal: *Ensure dependable and environmentally responsible production of leasable minerals by identifying lands appropriate for lease and development.*

Objectives: Provide opportunities for responsible development of oil and gas.

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).

Where a proposed fluid mineral development project on an existing lease could adversely affect Greater Sage-Grouse populations or habitat, the BLM will work with the lessees, operators, or other project proponents to avoid, minimize and apply compensatory mitigation 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 Greater Sage-Grouse and its habitat informs and helps to guide development of such federal leases.

Management Actions

The BLM planning process determines availability of federal minerals for oil and gas leasing. Federal oil and gas resources administered by the BLM are categorized into one of four groups:

- lands open to leasing with only standard lease terms;
- lands open to leasing subject to moderate constraints, such as a seasonal TL Stipulation or Controlled Surface Use (CSU);
- lands open to leasing subject to major constraints, such as NSO; and
- lands closed to leasing.

In areas with only standard lease terms, the BLM's 200 meter/60-day rule provides that COA are deemed consistent with lease rights provided that they do not require relocation of proposed operations by more than 200 meters, mandate that operations be sited off the leasehold, or prohibit new surface-disturbing activities for a period of more than 60 days in an lease year (43 CFR, Part 3101.1-2).

In areas with a TL stipulation, surface use is prohibited during specific time periods 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.

In areas with a CSU stipulation, 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 NSO or TL stipulation.

In areas with a NSO stipulation, use or occupancy of the land surface for fluid mineral exploration or development is prohibited to protect identified resource values.

In areas closed to leasing, federal minerals are not available for future oil and gas leasing. Existing oil and gas leases will continue according to the respective stipulations until they expire. Where oil or gas is being drained from lands otherwise unavailable for leasing, the BLM may issue leases with an NSO stipulation (43 CFR, Part 3100.0-3(d)) with appropriate WEM criteria.

An oil and gas lease grants the lessee the right to explore for, extract, remove, and dispose of the 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, and permit approval requirements. Oil and gas operations are described in detail in BLM 2015, Appendix E.1.

The BLM Montana State Office issues all federal oil and gas leases for the planning area, including those involving split estate ownership. Competitive lease auctions are held where the public can nominate any federal lands with unleased federal minerals and/or any split estate lands overlying unleased federal minerals. For those parcels determined as appropriate for oil and gas leasing, but where other resource concerns or conflicts exist, stipulations based on the Approved RMP are placed on the parcels. Prior to the lease auction, parcels with stipulations are posted for a 45-day review period in accordance with current regulations and policy.

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.

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.

The existing oil and gas leases (803,656 acres) will continue according to the respective stipulations until they expire. As these leases expire, the areas will come under the management guidelines of the Approved RMP. New surface use stipulations (including TL, CSU, and NSO) cannot be applied to existing oil and gas leases or other existing valid use authorizations such as rights-of-way. Site-specific actions such as APDs and rights-of-way in areas with existing oil and gas leases will be allowed, subject to surface use COA and BMPs (**Appendix N**).

Where applicable, stipulations may be changed by application of waivers, exceptions, or modifications. Waivers are a permanent exception from a lease stipulation. This occurs when the resource does not require the 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. The decision whether to grant waivers, exceptions, or modifications generally occurs during the APD approval process. If the authorized officer determines the change to be substantial, the change will be subject to a 30-day public review period.

Additional information can be provided to the lessee in the form of Onshore Orders (1, 2, 3, 5, and 7) and Notice to Lessees 3A and 4A. The Onshore Orders and Notices 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 APD

or Sundry Notice that must be approved according to lease stipulations, Onshore Oil and Gas Orders, and appropriate regulations. Subsequent well operations are set forth in 43 CFR, Part 3162.3-2.

New information may lead to changes in existing resource inventories. New areas and resource locations, or areas and resource locations that are no longer valid, may be identified. These usually cover small areas requiring the same protection or mitigation as stated 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 through plan maintenance. In cases where the changes constitute a change in resource allocation outside the scope of this plan, a plan amendment will be required.

On Bureau of Reclamation lands (131,364 acres), in addition to the resource-specific stipulations under each alternative, stipulations and conditions are provided in accordance with that agency's planning guidance (BLM 2015, Appendix E.3).

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. Unavailable lands 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 WEM provisions. This would only be a paper transaction with no physical impacts on the unavailable lands. No exploration or development (drilling or production) within the unavailable lands would occur. 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.

All lands will be open to geophysical exploration, subject to appropriate resource surveys, surface protection measures, adequate bonding, and adherence to State of Montana standards (ARM, 36.22.5) for geophysical operations.

Approximately 49% of federal minerals will be open to leasing subject to major constraints (NSO); 42% will be open to leasing subject to moderate constraints (TL and CSU); and 5% will be open to leasing subject to standard lease terms only (**Appendix A2**, Map B). The federal minerals available for leasing will be subject to the stipulations which are summarized in BLM 2015, Table 2.8. The complete stipulations, including the objectives, exceptions, modifications, and waivers, are located in **Appendix G**. Requirements and/or guidelines for wildlife CSU stipulations are shown in BLM 2015, Appendix E.5.

Approximately 4% of federal minerals will be closed to leasing (**Appendix A2**, Map B). This includes the Bitter Creek WSA, Burnt Lodge WSA, Sweet Grass Hills TCP, a portion of the Little Rocky Mountains TCP, and the Azure Cave ACEC.

3.2.6 Forests and Woodlands

Goal: *Promote healthy forests that are biologically and structurally diverse, relatively fire tolerant, and dominated by not only vigorous conifer trees but also native grasses, forbs and shrubs, and hardwoods.*

Objectives: Emphasize healthy forest conditions through treatments and management activities that would include the role of fire as a change agent necessary for the development of healthy forests and woodlands.

Provide for local economic opportunities through offerings of forest products while being responsive to developing markets dependent upon non-traditional forest byproducts (e.g., biomass).

Management Actions

All forest and woodland health treatments will be clearly defined through written silvicultural prescriptions based on the latest available science. At a minimum, prescriptions will require a current stand description, the desired future conditions to achieve a healthy forest ecosystem, and the recommended steps to achieve forest health. The BLM will consult with MFWP and seek concurrence regarding the anticipated benefits and/or impacts of any forest or woodland treatments that may impact wildlife habitat.

The BLM will look for opportunities to utilize all material that is treated through offerings of forest products including saw timber and minor products such as Christmas trees, fuel wood and post and pole sales. Permits will be issued for minor products on a demand basis unless specifically prohibited. No sale of forest products will be made at less than the appraised market value. Sales of commercial wood products will be coordinated with adjacent landowners. Mitigation measures applied to all treatments will include Water Quality Best Management Practices for Montana Forests (Logan 2001). Post-treatment activities will consider the use of prescribed fire as a means to further reduce debris and provide site preparation for establishment or resprouting of native vegetation.

The BLM will continue a collaborative effort to identify high priority treatment areas and implementation schedules, and will establish baseline data utilizing the Forest Vegetation Information System or the current standard. Data will be used to establish acres of forest and woodlands that are outside the historical range of variance and will help prioritize land treatments. Isolated parcels will be treated on a case-by-case basis.

The BLM will offer forest products as opportunities arise. The probable sale quantity (PSQ) of timber is 664 MBF per year along with 4,000 tons of biomass per year. The PSQ does not include quantities due to salvage timber activities from wildfire, insect, or weather events. Management of old growth stands will follow the Old-Growth Forest Types of the Northern Region (USFS 1992) for overall guidance and direction.

The Burnt Lodge and Bitter Creek WSAs will not be available for the sale of wood products. This includes personal use wood products (e.g., Christmas trees, firewood, post and poles).

The BLM will allow for a full range of forest health treatments in the Sweet Grass Hills ACEC that may include the sale of wood products. Landscape-level projects that focus on forest health rather than product quantity allow for an array of silvicultural treatments that mimic ecological processes. The sale of wood products resulting from forest health treatments will be a secondary benefit and will not be a reason for undertaking the treatments. The ACEC will not be open for incidental personal use wood products.

As forest health treatments and/or natural disturbances take place that reduce the risk of dangerous and high severity fire events, management may adjust suppression strategies to become more cost effective. Additionally, as forest treatments occur that result in conditions approaching historical fire regimes, natural fire may be managed for the benefit of the forested resource.

3.2.7 Lands and Realty

Landownership Adjustment

Goal: *Improve resource management efficiency and provide public benefits as opportunities arise.*

Objectives: Retain lands with high resource values and adjust landownership to improve land pattern and management efficiency, enhance public access and resource values, and/or meet public and community needs.

Management Actions

Section 102(a)(1) of FLPMA provides 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 tract would serve the national interest...." Management of landownership adjustments will be based on three categories of BLM land as described below.

- **Category 1 (Retention):** BLM lands in Category 1 are identified for retention and include lands with high resource values. These lands tend to be fairly well blocked in terms of land pattern. Included in this category are areas such as WSAs, National Historic Trails, and ACECs. Acquisition of lands or interests in lands would receive priority if located within and/or adjacent to BLM land in Category 1 provided the lands meet one or more of the acquisition criteria found in BLM 2015, Appendix F.I, Landownership Adjustment Criteria.
- **Category 2 (Retention-Limited Disposal):** BLM lands in Category 2 are generally identified for retention in public ownership. Category 2 includes BLM lands that are fairly well blocked as well as some smaller, isolated parcels as long as they are larger than a quarter-section or its equivalent or half-section or its equivalent. Limited disposal actions involving BLM lands within this category could occur.

BLM lands designated as Category 2 would not be available for sale. However, BLM lands within this category could be exchanged for lands or interests in lands located anywhere in Montana. In addition, parcels of BLM land within Category 2 may be identified for transfer under the Recreation and Public Purposes (R&PP) Act. Such recreation or public purpose use could be considered on a case-by-case basis for such facilities as schools or other public administration, parks or recreation areas, or historic preservation. Also, BLM land within Category 2 could be considered for airport purposes under the Airport and Airway Improvement Act, for public agency jurisdictional transfer, or for State Indemnity Selections on a case-by-case basis.

BLM lands in Category 2 may contain significant resource values protected by law or policy, and any disposal action is contingent upon prior review and approval. If actions cannot be taken to adequately mitigate impacts from disposal of those lands, the parcels would be retained. Acquisition of lands or interests in lands located in or adjacent to Category 2

would be considered in accordance with the acquisition criteria found in BLM 2015, Appendix F.I, Landownership Adjustment Criteria.

- **Category 3 (Disposal):** BLM lands in Category 3 are identified for disposal through any method, including sale. These lands generally are surrounded by private land with no legal access, or have been selected for disposal by the BLM due to management issues. BLM land parcels in this category are relatively smaller in size. These parcels typically range in size from a quarter to a half section but would vary in acreage.

BLM lands in Category 3 would be available for disposal through exchange for lands or interests in lands located anywhere within Montana. Those parcels which meet the sale criteria of section 203(a)(1) of FLPMA could be made available for sale. However, disposal of Category 3 lands by exchange would have priority over disposal by sale. In addition, parcels of BLM land within Category 3 may be identified for transfer under the R&PP Act. Such recreation or public purpose use could be considered on a case-by-case basis for such facilities as schools or other public administration, parks or recreation areas, or historic preservation. Also, BLM land within Category 3 could be considered for airport purposes under the Airport and Airway Improvement Act, for public agency jurisdictional transfer, or for State Indemnity Selections on a case-by-case basis.

Some BLM lands in Category 3 may contain significant resource values protected by law or policy and any disposal action is contingent upon prior review and approval. If actions cannot be taken to adequately mitigate impacts from disposal of those lands, the parcels would be retained as Category 1 or 2.

All landownership adjustment proposals, whether land exchange, acquisition of land or interests in land, or disposal, will be subject to environmental review including all biological reports, cultural and paleontological inventories, and hazardous materials assessments, as well as standards for boundary evidence certificate(s), water rights documentation, and mineral potential report, if the mineral estate is included in the proposal.

Exchange will be the preferred method of landownership adjustment. In accordance with policy, all lands to be exchanged must be within Montana (43 CFR §2200.0(d) (2008)). If the BLM disposal parcels contain public access routes, the access rights will be reserved to the United States in the conveyance.

Disposal will be considered on a case-by-case basis through sale (by competitive, modified competitive, or direct methods). Applications for R&PP, jurisdictional transfer to other federal agencies, Color-of-Title, Desert Land Entry, Indian Allotment, Carey Act Grant, State Grant, Railroad Grants, and Airport Grants will be considered and reviewed on a case-by-case basis.

Acquisition will primarily be accomplished through purchase of land or interests in land (conservation easements) from willing landowners using the Land and Water Conservation Fund (LWCF) or other funding sources. Acquisition of land may also be accomplished through donations to the BLM by nonfederal landowners. The BLM may acquire conservation easements to preserve open space, enhance public access, and protect important resource values.

Land acquired adjacent to special management areas such as Wilderness Areas or ACECs will be subject to the management guidance for that area.

All lands within special management areas (WSAs, ACECs, etc.) will be designated as Category 1 (retention) lands.

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, including land exchanges, of the lands will have no direct or indirect adverse impact on conservation of the Greater Sage-Grouse.

Lands with wilderness characteristics will be identified for retention or very limited disposal (Category 2). The BLM land in these areas will not be disposed of other than by exchange and only when necessary to further protect or enhance the wilderness characteristics.

BLM lands designated as Category 3 (disposal) are shown in BLM 2015, Appendix F, Maps F.1 through F.8. Appendix F.2 provides the legal description of the disposal parcels. The remaining BLM land will be designated as Category 2.

Lands or interests in lands brought forward by willing landowners will be considered for acquisition provided they meet one or more of the acquisition criteria listed in BLM 2015, Appendix F.1, Landownership Adjustment Criteria. The offered lands surrounded by or adjacent to BLM lands in Category 1 will be considered acquisition priorities over lands surrounded by or adjacent to BLM lands in Category 2. Newly acquired lands that meet retention criteria (Category 1) will be designated as retention lands; all other acquired lands will be designated as Category 2. No lands meeting Category 3 criteria will be considered for acquisition.

The need to protect newly acquired lands will be considered as part of the environmental review prior to acquisition and, if withdrawn, the lands will be managed under the terms and conditions of the withdrawal.

Federal minerals underlying nonfederal surface will generally be retained in federal ownership. However, an exchange of this type of mineral estate may be considered on a case-by-case basis if found to be in the public interest. The sale of this type of mineral interest under section 209(b) of FLPMA could be considered only if the requirements of this same section were met. Conversely, the acquisition of patented mining claims will also be addressed on a case-by-case basis.

Land tenure adjustments will follow USDI and BLM guidance and policies for acquisitions and disposals. It is not the intention of the BLM to have a net gain in federal ownership, but rather to provide exceptional national public lands that are accessible to the public.

Access

Goal: *Address public and administrative access needs across nonfederal lands.*

Objective: Acquire or retain and mark access to BLM land in cooperation with private landowners; state, local and tribal governments; and other federal agencies in order to improve efficiency of multiple use management and to facilitate public enjoyment of these lands.

Management Actions

All available methods will be used to acquire the legal rights for public and administrative access across nonfederal land to BLM land. Easement acquisition through donation or purchase will be the preferred method of acquiring legal access. Reciprocal rights, exchanges, fee purchases, and reserving public access in disposal actions are other appropriate methods of securing access. As a last resort, the Secretary of the Interior may exercise the power of eminent domain only if necessary to secure access to BLM lands, and then only if the lands so acquired are confined to as narrow a corridor as is necessary to serve such purpose (43 U.S.C. 1715).

The BLM will generally acquire on behalf of the United States and its assigns permanent, exclusive, unrestrictive, and assignable rights of access. This allows the BLM to maintain the road or trail and control commercial uses for road maintenance purposes. Any proposed commercial uses will require that a ROW application be submitted and approved prior to use. A standard 60-foot-wide easement will be acquired unless road design or resource management necessitates a different width.

The BLM is a partner in the Respected Access Campaign and will promote the concept of Respected Access is Open Access through educational opportunities and signage (more information is available at <http://treadlightly.org/programs/respected-access-campaign/>).

As per Executive Order 13443 and BLM Manual 8342, improving access to public lands is a priority for the BLM and will be one of the objectives of subsequent transportation and travel management planning.

All access will be documented on the BLM land tenure records system with associated geospatial data to BLM corporate standards.

Legal public or administrative access will be pursued from willing landowners on a case-by-case basis as the need or opportunity arises. Acquisition efforts will be focused on Category 1 and 2 lands where no legal public access exists or where additional access is necessary to meet management objectives.

Facilities

Goal: *Provide and manage adequate administrative and other facilities based on public and agency needs.*

Objective: Ensure facilities are maintained to meet public health and safety requirements.

Management Actions

Recreation sites, administrative sites, buildings and communication towers will be maintained within Bureau standards to reduce deferred maintenance costs and meet public health and safety requirements. Comprehensive condition assessments will be conducted for all maintained facilities and maintenance actions will be implemented if necessary. These activities will be coordinated with other federal, state, and local government agencies, private landowners and the general public as needed.

Existing and new facilities will be managed through Facility Asset Management System (FAMS). Directional and informative signs will be installed based on public need and available funding. All signs will conform to BLM policy.

Rights-of-Way, Leases and Permits

Goals: Consider all requests for rights-of-way, land use permits, and leases.

Designate transportation and utility corridors, as well as avoidance and/or exclusion areas.

Objective: Address the needs of industry, utilities, the public, or government entities for land use authorizations while minimizing adverse impacts on other resource values.

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 Actions

Requests for land use authorizations (rights-of-way, leases or permits) will be analyzed and mitigation measures applied on a case-by-case basis through the environmental review process. Terms and conditions for rights-of-way, corridors, and development areas (oil and gas) will incorporate applicable BMPs, current professional practice, and recent scientific findings. All rights-of-way will comply with SMZ restrictions and guidelines where applicable. In accordance with current policy, land use authorizations will not be issued for uses which involve the disposal or storage of materials which could contaminate the land (e.g., hazardous waste disposal sites, landfills, rifle ranges, etc.).

Nonfederal landowners who are surrounded by BLM land will be allowed a degree of access that will provide for the reasonable use and enjoyment of the nonfederal land (BLM Manual 2801).

Applications for rights-of-way from holders of valid, existing mining claims in the Sweet Grass Hills will be considered on a case-by-case basis with appropriate mitigation.

Communication Sites

New communication site users will be grouped into suitable existing sites to reduce impacts and expedite application processing. Communication site management plans will be completed prior to authorizing communication site uses in new areas. The following communication sites are designated: Mount Royal (Sweet Grass Hills), Sheep Coulee, Kevin Rim, Harlem, Antoine Butte, Saco Hills, Larb Hills, Loring, Whitewater, and Rose Hill. In the Little Rocky Mountains, communication sites will be located only on Antoine Butte. In the Sweet Grass Hills, communication sites will not be allowed on West and Middle Buttes. The use of alternative energy sources will be considered where electric power is not available.

Revised Statute 2477

Revised Statute (R.S.) 2477, which provided that “[t]he right of way for the construction of highways over public lands, not reserved for public uses, is hereby granted,” was repealed on October 21, 1976, by FLPMA. FLPMA did not terminate valid rights-of-way established under R.S. 2477 prior to its repeal.

Current guidance on the BLM's authority to recognize or adjudicate claims under R.S. 2477 is contained in Washington Office (WO) Instruction Memorandum (IM) No. 2010-016: Clarification of the Acting Director's February 20, 2009 Memorandum on R.S. 2477 Claims. Under this policy the BLM will not process or review R.S. 2477 claims under a Recordable Disclaimer of Interest ruling. This policy does

not affect existing valid R.S. 2477 rights-of-way consistent to Section 315 of FLPMA. Determinations on the validity of an R.S. 2477 claim are currently only available through federal court.

New ROW facilities will be located within or adjacent to existing rights-of-way, or corridors, to the extent practical, in order to minimize adverse environmental impacts and the proliferation of separate rights-of-way. New rights-of-way will include appropriate BMPs and mitigation (Appendices H and I). The latest version of Reducing Avian Collisions with Power Lines: The State of the Art in 2012 (APLIC 2012) and the BMPs established by the BLM Wind Energy Development Programmatic EIS and Record of Decision (BLM 2006a) will be implemented in the construction and operation of ROW facilities.

Corridors

Five utility and transportation corridors will be designated: U.S. Highway 2, U.S. Highway 87; U.S. Highway 191; and State Secondary Highway Nos. 24 and 325 (**Appendix A2**, Map C). The corridor for U.S. Highway 191 will exclude the Big Bend of the Milk River ACEC. The corridors will be available for all uses (e.g., power lines, pipelines). The corridor width will be restricted to 1 mile, or 1/2 mile from the centerline. These corridors will include 19,884 acres of BLM land. Applicants for new utility and transportation rights-of-way will be encouraged to locate their facility within one of these corridors.

Within the Bitter Creek WSA, management of the Northern Border Pipeline ROW will be subject to guidance that protects the resource values for which the WSA was designated. Within the Frenchman Breaks ACEC, management of the Northern Border Pipeline ROW will be subject to guidance that protects the resource values of the area.

Exclusion Areas

The Bitter Creek and Burnt Lodge WSAs will be exclusion areas (**Appendix A2**, Map C). If the Bitter Creek WSA is not designated by Congress as wilderness, the area will remain an exclusion area. If the Burnt Lodge WSA is not designated by Congress as wilderness, the area would become an avoidance area.

Avoidance Areas

The BLM will designate 19 avoidance areas for the issuance of rights-of-way (**Appendix A2**, Map C). In these areas, efforts will be made to reroute a proposal. A ROW may be allowed if no reasonable alternative is found; however, special mitigation measures may be required to protect sensitive resource values. Rights-of-way may also be allowed if they support or promote other management objectives for the area.

During site-specific planning, riparian areas with unique values (e.g., where water quality habitat for special status species is an issue) will be treated as avoidance areas for rights-of-way (installation of infrastructure that requires surface disturbance and/or permanent surface occupancy).

Unauthorized Use

Management Actions

The HiLine District attempts to reduce trespass through prevention, detection, and resolution. The priority for resolving trespass in an area is accorded to newly discovered ongoing uses, developments, or occupancies where resource damage is occurring and/or where there is a significant loss of revenue

to the United States. In such cases, resolution is needed to halt and prevent further environmental degradation or revenue loss. Historic trespass cases where little or no resources damage is occurring are resolved as workloads permit.

Withdrawals

Goal: *Protect significant resources or significant government investment.*

Objective: Utilize withdrawal actions with the least restrictive measures and of the minimum size necessary to accomplish the required purpose.

Management Actions

New withdrawals will be pursued where other agency actions are inadequate to protect critical resource values or federal investments. Examples of such resource values include cultural or historic sites, crucial habitat for threatened and endangered species, or scenic values. Federal investments that may need the protection of a withdrawal could include administrative sites or extensively developed recreation areas. New withdrawals will include only the minimum area required to meet the purpose of the withdrawal.

New withdrawal proposals that result in a transfer of jurisdiction to another federal agency will be considered on a case-by-case basis. Other agency requests for new withdrawals, or modification, extension, or revocation of existing withdrawals will be considered.

Existing withdrawals will be reviewed prior to their expiration to determine if a need exists to extend and/or modify the withdrawal. Should the review indicate that the purpose for which the lands were withdrawn is no longer valid, the withdrawal will be allowed to expire. If the purpose remains valid for a portion of the withdrawn lands, the withdrawal will be modified and extended.

Existing and new proposed mineral withdrawals are addressed under the Solid Minerals – Locatable section in Chapter 2.

If lands are returned to BLM management through the withdrawal process, they will be managed consistent with adjacent public lands.

3.2.8 Livestock Grazing

Goal: *Provide opportunities on the public rangelands for a maintainable level of livestock grazing consistent with multiple use and sustained yield.*

Objective: Manage livestock grazing to provide a sustained flow of local economic benefits and protect resource values.

Management Actions

Livestock will continue to be allocated approximately 386,600 animal unit months (AUMs) of forage each year from BLM land in the planning area (BLM 2015, Appendix G). Approximately 2,390,000 acres will be open to livestock grazing and 47,000 acres will be closed to livestock grazing except as needed for resource management. The Little Rocky Mountains Allotment No. 05630 and Whitewater Lake Allotment No. 05068 will remain closed to livestock grazing except as needed for resource

management. The Cree Crossing Allotment No. 05302 adjacent to the Milk River will remain closed to livestock grazing for recreation values. The 15 Mile Trailing Allotment No. 06237 will be closed to livestock grazing except as needed for livestock trailing purposes. Most unpermitted parcels will remain available for livestock grazing.

Actions consistent 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 Appendix L) will continue to be incorporated into livestock grazing permits and leases and will apply to all livestock grazing activities. Under the grazing regulations if Standards are not met the authorized officer would take appropriate action as soon as practical but not later than the start of the next grazing season upon determining that grazing management needs to be modified to ensure progress toward conformance with the guidelines (43 CFR, Part 4180.2(c)(3)). A no grazing alternative will be considered in environmental assessments (EA) prepared as part of the grazing permit renewal process as outlined in IM No. MT-2012-042.

Flexibility is authorized in grazing permits to allow for livestock management needs and fluctuating climatic conditions. Flexibility afforded to livestock management practices includes adjustment of on/off dates and livestock numbers, but management must be within the overall terms of the grazing permit, the permitted season of use and the established carrying capacity of the allotment. Any deviations from the terms and conditions of the grazing permit should be applied for beforehand and will require environmental review.

All allotments have been assigned to a management category depending on the resources and problems contained in the allotment. The three categories of Improve (**I**), Maintain (**M**) and Custodial (**C**) reflect resource conditions, resource potential and economic considerations for each allotment. The terms improve, maintain and custodial relate to resource objectives for the allotment (i.e., whether conditions need to be improved or maintained, or if custodial management is appropriate because of relatively limited resources and resource problems). The BLM's allotment categorization system will continue to determine priorities for processing grazing authorizations, implementing grazing activity plans, spending range improvement funds and monitoring. Allotments will be subject to recategorization based on changes in resource conditions as determined through monitoring and land health evaluations consistent with BLM policy. Future changes in allotment categories will be documented through plan maintenance.

Developed recreation sites will not be allocated for livestock grazing.

Existing AMPs will continue to be implemented including associated range improvement projects. AMPs will be updated and revised in response to monitoring and/or permit transfers. New AMPs will be developed and implemented to direct site-specific management of livestock grazing after completion of rangeland health assessments.

Livestock grazing will be managed through monitoring of AMPs or similar grazing plans and supervision of grazing use as provided under the grazing regulations. Adjustments to livestock management practices or livestock numbers including increases or decreases will be made based on results of monitoring studies, rangeland health assessments, allotment evaluations, and through an environmental review process. Where opportunities occur, cooperative efforts to utilize permittee/lessee monitoring and integrated ranch planning will be emphasized.

If monitoring data demonstrate that livestock use on an allotment is adversely affecting Greater Sage-Grouse or their habitat, the terms and conditions of grazing permits may be modified (43 CFR, Parts 4130.3, 4130.3-1, 4130.3-2), or changes in active use (43 CFR, Part 4110.3-3) could be considered in order to meet the standards for rangeland health as described in 43 CFR, Part 4180 and the Lewistown Standards for Rangeland Health and Guidelines for Livestock Grazing Management or to otherwise manage, maintain, or improve sage-grouse habitat.

Appropriate indicators and measurements specific to habitat for Greater Sage-Grouse, or any other wildlife species of concern, will be evaluated as part of standards and guidelines assessment (43 CFR, Part 4180) and any necessary and appropriate habitat objectives specific to meeting the wildlife health standard for the site will be identified and incorporated into AMPs or the terms and conditions (43 CFR, Parts 4130.3, 4130.3-1, 4130.3-2) of livestock grazing permits.

Newly acquired lands will be evaluated to determine if they should be designated as reserve common allotments, allocated for grazing, or designated as unavailable for livestock grazing in consideration of the management needs and objectives for the acquisition, with the exception of lands covered under 43 CFR, Part 4110.1-1 (e.g., where lands have been acquired through purchase or exchange, and an agreement provides that the BLM will honor existing grazing permits or leases).

Yearling factors will be considered according to the framework laid out in BLM 2015, Appendix I.

Processing Grazing Permits/Leases

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 SFA followed by PHMA outside of the SFA. 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 (e.g., fire) and legal obligations.

The NEPA analysis for renewals and modifications of livestock grazing permits/leases that include lands within SFA and PHMA will include specific management thresholds based on the Desired Conditions for Greater Sage-Grouse Habitat (habitat objectives) presented in Table 2.2 and Land Health Standards (43 CFR, Part 4180.2) 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. 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, bison, llamas, alpacas and goats).

The 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 PHMA, beginning with

those in SFA. 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 Greater Sage-Grouse habitat objectives found in the Special Status Species section of the land use plan?
- Is there data that indicates that the Greater Sage-Grouse 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 PHMA 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.

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.

Compliance Monitoring

Allotments within SFA, 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

3.2.9 Noxious Weeds and Other Invasive Non-Native Species

Goal: *Prevent the introduction and spread of noxious weeds and invasive species through cooperative Integrated Pest Management practices.*

Objective: Reduce the rate of spread for widely established invasive species, and prevent the establishment or spread of new invasive species.

Management Actions

Montana state and county-designated noxious weeds will be managed according to the principles of integrated pest management found in *Partners Against Weeds: An Action Plan for the Bureau of Land Management (BLM 1996c)*, *Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (BLM 2007)*; *Montana Weed Management Plan (MWMP 2008)*; *County Weed Control Act (MDA 2003)*; *Noxious Weed Management Plan, Lewistown District (BLM 1992)*; or the most current noxious weed management plan(s) developed within the planning area. These plans outline the principles of integrated pest management which will continue to be followed. The basic principles of integrated pest management include:

- education and awareness for staff, cooperators, and the public;
- prevention, early detection and rapid response for all noxious weed species;
- inventory of public and cooperator lands for noxious weeds;
- control of noxious weeds by various methods that include cultural, physical, biological, and chemical controls or other land practices; and
- monitoring of treatment areas.

The State of Montana currently has 34 designated noxious weeds, of which 20 are found in the planning area. An invasive plant attains a noxious status by legislation only. This designation usually places the burden to control, contain, or inhibit reproduction of a listed species on the owner of an infested parcel. It also prohibits the sale and distribution of listed species. Montana law allows for the petition and review of invasive plants for inclusion on its Noxious Weed List, making the list a dynamic document. Montana State Noxious Weeds are divided into five priorities based on the distribution and abundance of a given species across the state. This priority system helps determine the management strategy for a given species on the list.

- **Priority 1A** - These weeds are not present in Montana. Management criteria will require eradication if detected; education and prevention.
- **Priority 1B** - These weeds have limited presence in Montana. Management criteria will require eradication or containment and education.
- **Priority 2A** - These weeds are common in isolated areas of Montana. Management criteria will require eradication or containment where less abundant.
- **Priority 2B** - These weeds are abundant in Montana and widespread in many counties. Management criteria will require eradication or containment where less abundant.
- **Priority 3** – Regulated Plants. These plants have the potential to have significant negative impacts. These plants may not be intentionally spread or sold other than as a contaminant in agricultural products.

In addition, under the County Noxious Weed Control Act and Administrative Rules of Montana (ARM), each county is allowed to designate plant species as noxious within that county. The BLM also maintains a list of exotic invasive species for the land it administers (Table 3.33 in Chapter 3).

The BLM will continue cooperative agreements with county and state entities. Management efforts will be coordinated with other federal, state, and county agencies, weed management areas, and private landowners and organizations. Development of cooperative weed management areas where all the landowners are cooperatively working to contain or eradicate noxious weeds within designated areas will be encouraged.

Treatment methods include chemical, cultural, physical, and biological. Invasive species such as cheatgrass will be evaluated in site-specific projects associated with the watershed analysis. Perennial vegetation will be reestablished in a timely manner to rehabilitate disturbance areas. Native species will be used for rehabilitation and reclamation unless site-specific evaluations indicate that nonnative species are needed to ensure success or rapid vegetative reestablishment.

Weed seed free forage will be used on BLM land. Forage subject to this rule includes hay, grains, cubes, pelletized feeds, straw, and mulch (BLM 1997b). Reclamation/stabilization and maintenance materials used will be from weed seed free sources to the extent practicable.

Other resource programs will assist in invasive species management through project planning and program implementation. This will include integrating prevention measures in program activities to reduce the spread of invasive species, and supplying resources to mitigate and manage invasive species issues with on-the-ground project implementation. In general, mitigation measures are established to reduce the potential for introduction of invasive species and to minimize any adverse effect their presence may cause. These measures are found in stipulations, COA, standard operating procedures, etc. that require clean equipment, seed and forage for use in projects, and place the burden on the consumer for control of invasive species in some instances. Standard operating procedures and mitigation measures for integrated weed management treatments have also been developed to mitigate non-target effects of different procedures. These measures are outlined in the Record of Decision for Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Programmatic Environmental Impact Statement (BLM 2007).

Grasshopper/Mormon cricket outbreaks are managed as outlined in a BLM Memorandum of Understanding (MOU WO-220-2009-06) in cooperation with the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service-Plant Protection and Quarantine (APHIS-PPQ 09-801 I-087-MU) (BLM 2003b).

The State of Montana has developed a management plan to address invasive species (animals, plants, and pathogens) associated with water bodies. The BLM will coordinate with MFWP to address prevention of and potential infestations of Aquatic Nuisance Species and follow actions outlined in the Montana Aquatic Nuisance Species Management Plan (MANS 2002). Aquatic Nuisance Species are categorized into the following classes to help implement proper management and prevention for each species:

- **Priority Class I** - These species are not known to be present in Montana, but have a high potential to invade and there are limited or no known management strategies for these

species. Appropriate management for this class includes prevention of introductions and eradication of populations.

- **Priority Class 2** - These species are present and established in Montana and have the potential to spread, and there are limited or no known management strategies for these species. These species can be managed through actions that involve mitigation of impact, control of population size, and prevention of dispersal to other water bodies.
- **Priority Class 3** - These species are not known to be established in Montana and have a high potential for invasion, and appropriate management techniques are available. Appropriate management for this class includes prevention of introductions and eradication of pioneering populations.
- **Priority Class 4** - These species are present and have the potential to spread in Montana, but there are management strategies available for these species. These species can be managed through actions that involve mitigation of impact, control of population size, and prevention of dispersal to other water bodies.

Pest management including the use of pesticides in the interest of public health and safety and other resource management objectives will be conducted on a case-by-case basis consistent with required NEPA analysis. Examples include flea control to prevent plague transmission in support of black-footed ferret recovery, ground squirrel and prairie dog management, mosquito control to minimize West Nile virus transmission, and pheromone traps for pine bark beetle management.

3.2.10 Off-Highway Vehicle Use and Travel and Transportation Management

Goals: *In coordination with other federal agencies, state and local governments, and private landowners, plan and manage motorized and nonmotorized travel to provide recreational experiences while maintaining or protecting resource values.*

Create travel networks that are logical and sustainable, as well as meet the increasingly diverse transportation, access and recreational needs of the public, while maintaining or protecting resource values in coordination with other federal agencies, state and local governments, and private landowners and using an interdisciplinary approach.

Objectives: Designate all lands managed by the BLM within the HiLine District as “open” or “limited” or “closed” to OHV use, and identify Travel Management Areas to frame transportation issues and help delineate travel networks that address specific uses and resource concerns. These travel management areas would be prioritized as high, medium, and low for completion of travel management planning after the Record of Decision for this RMP.

Identify areas for motorized and nonmotorized travel to provide opportunities for a variety of recreation experiences with minimal resource impacts and conflicts of use.

Ensure adequate implementation of road management guidelines for road planning, design and maintenance.

Management Actions

Completion of comprehensive travel management plans will involve moving from an interim OHV Area designation of “limited,” which would allow OHV use to continue on existing routes, to a designation of “limited to designated roads, primitive roads and trails” and establishing objectives for each route. Any land acquired by the BLM over the life of the RMP will be managed under the limited classification criteria as identified in 43 CFR, Part 8342.1. Travel will be limited to existing roads and trails until a site determination and travel management plan are completed for the acquisition (43 CFR, Part 8342.2).

Route objectives and regulations at 43 CFR, Part 8340 through 43 CFR, Part 8342.3 will be applied in identifying route-specific management, such as maintenance intensities (Table 3.2-1) where activity-level plan decisions are made for specific travel routes.

The BLM will coordinate with MFWP in the block management program as appropriate. Motorized travel adjacent to block management areas could conform to seasonal limitations, as determined by the authorized officer on a case-by-case basis through environmental review and public involvement.

Motorized wheeled cross-country travel for lessees and permittees is limited to the administration of a federal lease or permit (BLM 2003c). Any authorized or permitted activity, such as a grazing permit or special recreation permit (SRP), that involves motorized access to public lands must describe how access will be managed, both on and off the existing or designated route system, as part of the permit or authorization. Area-specific limitations or needs will be addressed in more detail during subsequent travel management planning and incorporated into the associated permits/leases.

Roads, primitive roads and trails will be maintained in accordance with the following: BLM policy; the assigned maintenance intensity (Table 3.2-1); consideration of resource issues; BMPs (**Appendix H**); and available funding. All roads, primitive roads and trails will be maintained in accordance with standards and guidelines in BLM Manuals 9113, 9114, 9115 and associated handbooks. Roads will be inspected on an established schedule in accordance with the Bureau’s Condition Assessment guidance.

New permanent roads, primitive roads and trails will be constructed subject to environmental review and approved engineering standards, following criteria described in this section. Consideration will be given to use demands, location, safety, and resource constraints when determining the level of road necessary (BLM Manuals 9113, 9114, 9115 and associated handbooks). If an existing road, primitive road or trail is substantially contributing to resource impacts, the road will be considered for redesign, re-routing, decommissioning or closure to minimize the adverse impacts. Existing BLM roads, primitive roads, and trails will be managed through the FAMS and Ground Transportation Linear Feature geospatial database (BLM Manual 1626).

The BLM will pursue opportunities to conduct restoration of roads, primitive roads and trails not designated during travel management planning, with priority given to areas with special management concerns. This includes primitive routes that have not been designated as “primitive routes” within WSAs and those that have been closed within areas that are being managed to protect or enhance wilderness characteristics or special status species such as the Greater Sage-Grouse. Restoration activities will be done in accordance with guidelines described in **Appendix M**, Reclamation. Applicable requirements such as specific seed mixes or transplanting recommendations will also be applied where special status species or issues are a concern (e.g., mitigation for Greater Sage-Grouse).

**Table 3.2-1
BLM Road Maintenance Intensities**

Maintenance Description	Maintenance Objectives
Level 0 – Existing routes that will no longer be maintained or declared as routes. Routes identified as Level 0 are identified for removal from the Transportation System entirely.	<ul style="list-style-type: none"> • No planned annual maintenance. • Meet identified environmental needs. • No preventive maintenance or planned annual maintenance activities.
Level 1 – Routes where minimal (low intensity) maintenance is required to protect adjacent lands and resource values. These roads may be impassable for extended periods of time or only accessible with high-clearance four-wheel-drive vehicles.	<ul style="list-style-type: none"> • Low (Minimal) maintenance intensity. • Emphasis is given to maintaining drainage and runoff patterns as needed to protect adjacent lands. Grading, brushing, or slide removal is not performed unless route bed drainage is being adversely affected, causing erosion. • Meet identified resource management objectives. • Perform maintenance as necessary to protect adjacent lands and resource values. • No preventive maintenance. • Planned maintenance activities limited to environmental and resource protection. • Route surface and other physical features are not maintained for regular traffic.
Level 2 – <i>Reserved for Possible Future Use</i>	
Level 3 – Routes requiring moderate maintenance because of low-volume use (e.g., seasonally or year-round for commercial, recreational, or administrative access). Maintenance intensities may not provide year-round access but are intended to generally provide resources appropriate for keeping the route in use for the majority of the year.	<ul style="list-style-type: none"> • Medium (Moderate) maintenance intensity. • Drainage structures will be maintained as needed. Surface maintenance will be conducted to provide a reasonable level of riding comfort at prudent speeds for the route conditions and intended use. Brushing is conducted as needed to improve sight distance when appropriate for management uses. Landslides adversely affecting drainage receive high priority for removal; otherwise, they will be removed on a scheduled basis. • Meet identified environmental needs. • Generally maintained for year-round traffic. • Perform annual maintenance necessary to protect adjacent lands and resource values. • Perform preventive maintenance as required to generally keep the route in acceptable condition. • Planned maintenance activities should include environmental and resource protection efforts, annual route surface. • Route surface and other physical features are maintained for regular traffic.
Level 4 - <i>Reserved for Possible Future Use</i>	
Level 5 – Route for high (Maximum) maintenance because of year-round needs, high-volume traffic, or significant use. Also may include route identified through management objectives as	<ul style="list-style-type: none"> • High (Maximum) maintenance intensity. • The entire route will be maintained at least annually. Problems will be repaired as discovered. These routes may be closed or have limited access because of weather conditions but are generally intended for year-round use.

**Table 3.2-1
BLM Road Maintenance Intensities**

Maintenance Description	Maintenance Objectives
requiring high intensities of maintenance or to be maintained open year-round and are generally accessible with two-wheel-drive, low clearance vehicles.	<ul style="list-style-type: none"> • Meet identified environmental needs. • Generally maintained for year-round traffic. • Perform annual maintenance necessary to protect adjacent lands and resource values. • Perform preventive maintenance as required to generally keep the route in acceptable condition. • Planned maintenance activities should include environmental and resource protection efforts, annual route surface. • Route surface and other physical features are maintained for regular traffic.

Off-Highway Vehicle Use

OHV use will be managed consistent with the definitions and prescriptions identified in the Record of Decision for the Off-Highway Vehicle EIS and Proposed Plan Amendment for Montana, North Dakota and South Dakota (BLM 2003c), unless stated otherwise in the alternatives section. In the interim, until travel management planning has been completed, all motorized wheeled travel is restricted to existing roads, primitive roads and trails; however, several exceptions apply:

- any military, fire, search and rescue, or law enforcement vehicle for emergency operations;
- official BLM administrative business (prescribed fire, noxious weed control, range management, etc.);
- other government agency business (surveying, animal damage control, etc.);
- administration of a federal lease or permit (e.g., a livestock permittee maintaining a fence, an oil or gas company performing routine maintenance on a well, etc.);
- for dispersed camping within 300 feet of an existing open road. Site selection must be completed by nonmotorized means, and accessed by the most direct route causing the least damage.

Motorized travel in the Bitter Creek WSA and Burnt Lodge WSA will continue to be limited to identified primitive routes.

BLM regulations (43 CFR, Parts 8341.2 and 8364.1) allow for area or road closures where OHVs are causing or will cause considerable adverse impacts on soil, vegetation, wildlife, threatened or endangered species, wildlife habitat, cultural resources, other authorized uses, public safety, or other resources. The authorized officer can immediately close the area or road affected until the impacts are eliminated and measures are implemented to prevent future recurrence.

Travel Management Areas

Travel management areas are an optional planning tool to frame transportation issues and help delineate motorized and nonmotorized travel networks that address specific uses and resource concerns. These

areas are identified and prioritized as high, moderate and low in this ARMP, but site-specific route designations will be made during subsequent travel management planning in accordance with BLM Handbook H-8342-1. BLM guidelines state that this planning must be done within five years of the Record of Decision.

Before any site-specific travel management planning occurs, the following baseline information and actions should be completed:

- Road condition assessments will be completed for each area prior to travel management planning;
- Legal access needs for easements to BLM lands and rights-of-way to private lands will be identified; and
- Baseline road and trail inventory maps will be printed and made available to the general public for their review utilizing open houses, the Internet, and other means of communication.

Travel Management Planning Criteria

Through analysis and activity-level planning, the BLM will collaborate with affected and interested parties to evaluate the designated road, primitive road and trail network.

The route network will be evaluated for active OHV management suitability and for envisioning potential changes in the existing transportation system or the addition of new roads, primitive roads, and trails that will help meet land use plan objectives. In conducting such evaluations, the following factors will be considered:

- measures needed to avoid on-site and off-site effects on current and future land uses and important natural resources, including issues such as noise and air pollution, erodible soils, stream sedimentation, nonpoint source water pollution, listed and sensitive species habitats, historic and archeological sites, wildlife, special management areas, grazing operations, public safety, needs of nonmotorized recreationists, and recognition of property rights for adjacent landowners;
- trails suitable for different categories of OHVs including dirt bikes, all-terrain vehicles (ATVs), and 4-wheel drive touring vehicles, or nonmotorized means of travel such as mountain biking and hiking as well as opportunities for joint trail use;
- need for parking, trailheads, informational and directional signs, mapping and profiling, and development of brochures or other materials for public dissemination; and
- opportunities to connect existing or planned trail networks.

Travel Management Criteria for Making Road and Trail Selections

Existing and/or new individual roads, primitive roads and trails will be chosen with the transportation network goals in mind rather than just using all of the inherited roads, primitive roads and trails. Most existing roads, primitive roads and trails on BLM land were created by use over time, rather than planned and constructed for specific activities or needs. Instead of simply using this process as a way of deciding which individual roads, primitive and trails should be closed or left open, the BLM will consider

a broader range of possibilities for management of individual roads, primitive roads and trails, including reroutes, reconstruction or new construction, and closures. These management considerations can be used to develop a high-quality travel system. A well-designed travel system can direct use away from sensitive areas and still provide high-quality recreational activities and access for commercial and recreational needs.

An interdisciplinary team and cooperating agencies will be used for special expertise in identifying the resources, landownership, public demand, access needs, conflicts of use and benefits of various routes. This process will include public involvement.

The BLM will emphasize management of the transportation system to reduce impacts on natural resources from authorized roads, primitive roads and trails (**Appendix H**). The BLM will also consider through travel management planning closing and restoring unauthorized user created roads, primitive roads and trails to prevent resource damage.

Resource considerations will be assessed in determining designation criteria. All designations will be based on the protection of resources, safety of all users, and the minimization of conflicts among various uses (43 CFR, Part 8342.1). The following elements to be considered during route selection fall within the designation criteria:

- administrative access for the BLM and BLM-authorized activities
- areas of critical environmental concern
- at-risk watersheds
- cultural resources
- current maintenance agreements
- desired future condition
- elimination of route redundancy
- energy development
- erodible soils
- forest resources
- low bearing strength soils (saline)
- paleontological resources
- potential for adverse or positive economic effects
- prescriptions for land use allocations including special recreation management areas (SRMA)
- public health and safety; emergency services
- recreation opportunities, experiences, settings, benefits
- riparian resources, assessment of PFC
- rights-of-way, easements and inholdings
- Standards for Rangeland Health and Guidelines for Livestock Grazing Management

- user preferences and conflicts of use
- vegetation
 - at-risk vegetative sites
 - relic vegetation
- visual resources
- watershed resources
- wilderness characteristics
- WSAs
- wildlife resources
 - Greater Sage-Grouse habitat
 - raptor nesting locations
 - sensitive species habitats
 - winter range

The BLM will pursue opportunities to conduct restoration of roads, primitive roads and trails not designated during travel management planning, with priority given to areas with special management concerns (see **Table 3.2-1** for more information).

Schedule

Travel management areas are prioritized into high, moderate and low categories. Travel management planning for all areas will be completed in order of priority and as funding and staffing allow. Prioritization of travel management areas will be an ongoing process and priorities for travel planning can change through implementation and monitoring based on resource needs, special status species including Greater Sage-Grouse, funding, and staffing.

OHV Area Designations

The Glasgow OHV area (40 acres) will remain designated open to OHV use off roads, primitive roads and trails (see **Appendix A2**, Map D).

The Fresno OHV area (125 acres) will remain designated open to OHV use off roads, primitive roads and trails (see **Appendix A2**, Map D). The boundary of the OHV area will be increased from 84 acres to 125 acres to more closely follow topography of the area and incorporate the existing system of trails. Through travel management planning the BLM will address the need for seasonal restrictions, and/or the need to fence the boundary of the OHV area to address resource values and conflicts of use on surrounding lands. A paleontological inventory will be conducted to determine appropriate access points, fence placement, and need for parking areas.

The Sweet Grass Hills ACEC will be closed to motorized travel (**Appendix A2**, Map E).

The remaining BLM land will be designated as “limited.” In these areas travel can continue on existing roads, primitive roads, and trails; however, no new routes may be created without specific

authorization. Upon the completion of a comprehensive travel management plan, an area will move from an interim OHV Area designation of “limited,” to a designation of “limited to designated roads, primitive roads and trails.”

Cross-country over-snow vehicle use in the planning area (including snowmobiles) will be allowed, except in crucial winter range areas (see BLM 2015, Figure 3.13). Over-snow vehicles will be subject to the following management guidelines: avoid locations where wind or topographic conditions may have reduced snow depth and created situations where damage to vegetation or soils could occur, or where the majority of vegetation is taller than the protective snow cover. Sensitive areas could be closed to motorized snow vehicle travel if resource damage is found to be occurring in these areas. Additional management guidance regarding the use of over-snow vehicles, such as area closures, seasonal closures, or limiting their use to designated roads, primitive roads and trails may be considered and implemented in subsequent travel management plans.

The use of motorized vehicles, including OHVs, to retrieve game off road will not be allowed, regardless of individual possession of a Montana Disabled Hunting License, in limited or closed areas unless designated through travel management planning. Options for off-road game retrieval could include designating the types of vehicles that may be used, times of day, limited motorized off-road travel or motorized travel on closed roads and will apply to all individuals with a legally taken game animal.

Travel Management Areas

Site-specific travel planning within the Grassland Bird/Greater Sage-Grouse PHMA and Greater Sage-Grouse PHMA will be completed within a five (5) year period after the Record of Decision is signed.

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 6302 (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 authorized officer to resolve management conflicts and protect persons, property, and public lands and resources. Where an authorized officer 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.

Nine travel management areas (**Appendix A2**, Map E) will be prioritized into the following categories for travel management planning:

High:

- Grassland Bird/Greater Sage Grouse PHMA and Frenchman Breaks

- Greater Sage-Grouse PHMA plus additional BLM lands between the PHMA and Charles M. Russell National Wildlife Refuge
- Little Rocky Mountains

Moderate:

- Fresno area (includes the 125-acre OHV area plus additional BLM lands in the vicinity)
- Marias River area)
- North Missouri Breaks

Low:

- Remaining BLM lands

3.2.11 Paleontological Resources

Goal: *Manage and protect paleontological resources using scientific principles and expertise for present and future generations.*

Objectives: Ensure that proposed land uses initiated or authorized by the BLM avoid inadvertent damage to significant paleontological resources.

Develop appropriate plans for inventory, monitoring, and the scientific and educational use of paleontological resources.

Promote the stewardship, conservation, and appreciation of paleontological resources through appropriate educational and public outreach programs.

Management Actions

The BLM will identify and prioritize high probability paleontological locations for paleontological inventories and information attained will guide management decisions in those areas. Through this process the BLM will:

- maintain a database of paleontological sites and localities;
- require permits for individuals or institutions conducting paleontological investigations;
- coordinate with other state and federal agencies' permitting processes to eliminate confusion among permittees when working in multiple jurisdictions;
- ensure that significant fossils are placed in approved repositories in trust;
- establish a long-term monitoring program at known paleontological locales to assess potential adverse impacts and develop mitigation as appropriate; and
- coordinate with law enforcement to provide monitoring and protection against looting and vandalism of paleontological resources.

Paleontological assessments will be completed for all projects proposed on federal lands. These assessments will determine the need for further paleontological inventories. The inventories will

evaluate the effects of the project on paleontological resources and will recommend appropriate mitigation measures to protect these resources. The BLM will avoid impacts on significant paleontological remains through project redesign, project abandonment, and/or mitigation of adverse impacts through scientific recovery and analysis.

The BLM will develop a resource awareness program designed to enhance the public appreciation of paleontological resource values. This includes coordination with permitted universities and museums in furthering the paleontological research potential across the HiLine and identifying and conserving areas of paleontological interest for future use. When practical, public use areas will be developed in the form of invertebrate collection areas or interpretation kiosks. Paleontological research and education opportunities will be pursued for high priority areas.

Lands within the planning area exhibiting the highest site density and/or high Potential Fossil Yield Classification (PFYC), as reported by Hanna (2007), will be used to establish priorities for paleontological inventory.

Preliminarily, the priority inventory locations are north central Phillips County, northern Hill County, and eastern Liberty County. These locations may change or be modified with the addition of new information. These inventories will provide additional information about BLM-managed paleontological resources and will assist the BLM in allocating resources (time, money, staffing, etc.) and managing/protecting significant paleontological resources. Monitoring and completion of site assessments for known paleontological sites will occur routinely and site stabilization will be completed as deemed necessary.

The collection of petrified wood and invertebrate fossils for personal use will be allowed as limited by the regulations (43 CFR, Parts 3620 and 8365) in areas not specifically closed.

3.2.12 Public Safety

Goals: *Reclaim abandoned mine land (AML) sites on BLM land to improve water quality, plant communities, and diverse fish and wildlife habitat.*

Provide and manage adequate hazard class dams based on public safety and agency need.

Mitigate threats and reduce risks to the public and environment from hazardous materials.

Abandoned Mine Lands

Objective: Assess the level of risk at AML sites and prioritize for reclamation based on standardized risk assessment.

Management Actions

The closure of dangerous inactive and abandoned mine sites will be designed to reduce the risks to human health and safety, restore the environment, and protect geological and cultural resources. Reclamation will be implemented at the highest risk sites first. Where deemed appropriate, the BLM will restore severely impacted soils and watersheds as close as possible to pre-disturbed conditions that support productive plant communities and ensure properly functioning watersheds.

Restoration and reclamation activities and repositories will be monitored to determine effectiveness of reclamation practices.

Hazard Class Dams

Objective: Ensure hazard class dams are maintained to meet public health and safety requirements.

Management Actions

Construction and maintenance priorities for hazard class dams will be in conformance with applicable laws and regulations, and BLM policy. Condition assessments and Emergency Action Planning 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.

Hazardous Materials

Objective: Ensure the protection of BLM lands and facilities from hazardous materials to meet public and BLM employee health and safety requirements.

Management Actions

The BLM will comply with all federal environmental and safety laws and regulations governing storage, handling, and use of hazardous materials and governing disposal of hazardous waste. The BLM will also comply with state hazardous materials laws and regulations as required.

Disposal of hazardous materials on public lands will generally not be permitted. When the use or storage of hazardous materials is authorized (i.e., in mining operations, pesticide application or other types of commercial activities) special stipulations will be applied to comply with appropriate laws, regulations, and policies. In the event of hazardous materials incidents on public land, standard operating procedures will be used to respond. Cleanups and reclamation will be conducted in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan and the NEPA or Removal Site Evaluation/ Engineering Evaluation/Cost Analysis (EE/CA) decision.

The BLM will promote and support the appropriate use and recycling of hazardous materials in public facilities and on public land to prevent or minimize the generation and disposal of hazardous wastes.

Environmental site assessments will be conducted for land acquisitions, land disposals, and for rights-of-way if applicable. Land uses will be authorized and managed to reduce the occurrence and severity of hazardous materials incidences on public land.

The BLM will assess level of risk at hazard sites and conduct remediation at highest priority sites that are the greatest risks to the public and environment.

3.2.13 Recreation

Goal: Provide a diverse array of recreational opportunities and visitor experiences while maintaining healthy BLM land resources.

Recreation Opportunity Spectrum

Objectives: Establish, manage, and maintain quality recreation sites and facilities to meet a broad range of public needs subject to resource constraints.

Manage commercial, competitive, or special events with SRPs that eliminate or minimize impacts on resources and conflicts with other users.

Manage recreation opportunities and visitor experiences to provide a sustained flow of local economic benefits and protect non-market economic values.

Manage recreation settings and opportunities by their specific recreation opportunity spectrum (ROS) class description for desired recreation opportunities, experience levels, facility developments, and other resource uses.

Management Actions

The BLM recognizes that natural resource-based recreation is a significant economic contributor in most communities adjacent to BLM land. Priorities for Recreation and Visitor Services (BLM 2003d) states, "Our multiple-use mission is to serve the diverse outdoor recreation demands of visitors while helping to maintain the sustainable conditions needed to conserve their lands and their recreation choices." The three primary goals for the HiLine District based on the *national* recreation program are:

- *Improve access to appropriate recreation opportunities on BLM-managed or partnered lands and waters;*
- *Ensure a quality experience and enjoyment of natural resources on BLM-managed or partnered lands and waters; and*
- *Provide for and receive fair value in recreation.*

A majority of BLM lands have recreational opportunities that can be appropriately provided for in conjunction with the other resource demands sanctioned by the BLM's multiple-use mission. With this in mind, along with the goals described above, the HiLine District will manage its recreation opportunities and visitor experiences under the management actions described below.

BLM lands provide multiple opportunities for all publics, including those with disabilities. The BLM seeks to make these opportunities available through the use of universal design principles in the planning, construction, and renovation of facilities and in the provision of accessible programs and services to the public. The BLM's mandate of multiple-use management and its role as provider of a wide variety of dispersed recreation opportunities in vast open spaces present unique challenges in implementing recreation programs and activities accessible to persons with disabilities. The BLM will consider the proposed Accessibility Guidelines for Outdoor Developed Areas (US Access Board 2009) for camping facilities, picnic facilities, viewing areas, and outdoor recreation access routes and trails.

The ROS is a means of classifying and managing recreational opportunities based on physical, social, and managerial settings. Recreation opportunities in the HiLine District have been broken down into the following seven ROS classes based on a combination of the activities, settings and experiences available to the public: primitive, semi-primitive nonmotorized, semi-primitive motorized, roaded natural, roaded modified, rural and urban (**Table 3.2-2**). These classifications can be broken down further or expressed in more detail as more data are gathered through development of supplemental plans such as travel management plans.

**Table 3.2-2
Recreation Opportunity Spectrum (ROS) Classes**

ROS Class	Class Description
Primitive	Opportunity for isolation from man-made sights, sounds, and management controls in an unmodified natural environment. Only facilities essential for resource protection are available. A high degree of challenge and risk are present. Visitors use outdoor skills and have minimal contact with other users or groups. Motorized use is prohibited.
Semi-Primitive Nonmotorized	Some opportunity for isolation from man-made sights, sounds, and management controls in a predominantly unmodified environment. Opportunity to have a high degree of interaction with the natural environment, to have moderate challenge and risk and to use outdoor skills. Concentration of visitors is low, but evidence of users is often present. On-site managerial controls are subtle. Facilities are provided for resource protection and the safety of users. Motorized use is prohibited.
Semi-Primitive Motorized	Some opportunity for isolation from man-made sights, sounds, and management controls in a predominantly unmodified environment. Opportunity to have a high degree of interaction with the natural environment, to have moderate challenge and risk and to use outdoor skills. Concentration of visitors is low, but evidence of users is often present. On-site managerial controls are subtle. Facilities are provided for resource protection and the safety of users. Motorized use is permitted.
Roaded Natural	Mostly equal opportunities to affiliate with other groups or be isolated from sights and sounds of man. The landscape is generally natural with modifications moderately evident. Concentration of users is low to moderate, but facilities for group activities may be present. Challenge and risk opportunities are generally not important in this class. Opportunities for both motorized and nonmotorized activities are present. Construction standards and facility design incorporate conventional motorized uses.
Roaded Modified	Similar to the Roaded Natural setting, except this area has been or could be heavily modified by roads from activities including oil and gas development and/or off-road vehicle use. This class still offers opportunity to have a high degree of interaction with the natural environment and to have moderate challenge and risk and to use outdoor skills.
Rural	Area is characterized by a substantially modified natural environment. Opportunities to affiliate with others are prevalent. The convenience of recreation sites and opportunities are more important than a natural landscape or setting. Sights and sounds of man are readily evident, and the concentration of users is often moderate to high. Developed sites, roads, and trails are designed for moderate to high uses.

**Table 3.2-2
Recreation Opportunity Spectrum (ROS) Classes**

ROS Class	Class Description
Urban	Area is characterized by a substantially urbanized environment, although the background may have natural appealing elements. High levels of human activity and concentrated development including recreation opportunities are prevalent. Developed sites, roads and other recreation opportunities are designed for high use.

While the BLM will manage to support these different recreation settings and opportunities, ROS classifications will not ultimately restrict or authorize future management actions, but will (1) provide guidance on what types of actions and mitigation measures are appropriate on BLM land when comprehensively examined along with other resource allocations; and (2) disclose to the public the potential impacts on recreational conditions during the environmental review process for future proposed actions.

The BLM will manage for a variety of quality recreational opportunities and visitor experiences (i.e. hunting, fishing, sightseeing, OHV use, horseback riding, mountain biking, hiking, rafting, rock hounding, etc.) consistent with other resource management objectives.

Comparable, cost effective and value based fee systems will be established for services and facilities provided to public users in accordance with BLM directives and the Federal Lands Recreation Enhancement Act.

Recreation users will be limited to 14-day camping stays at developed campgrounds. No variances to the 14-day camping limit will be allowed. Personal property of recreational users cannot be left unattended in developed campgrounds for more than 24 hours. Developed campgrounds are those that provide a majority of the following amenities: tent or trailer spaces, picnic tables, drinking water, access roads, refuse containers, toilet facilities, fee collection, reasonable visitor protection and campfire rings.

Recreation users will also be limited to 16-day camping stays on undeveloped lands (dispersed camping) (75 FR 30850-30852), or as determined by any supplementary rules published in the Federal Register. This does not apply to locations that contain structures or capital improvements (such as boat launch sites, picnic areas, and interpretive centers) and that are used primarily by the public for recreational purposes such as developed campgrounds, designated recreation areas, and SRMAs. The BLM regulates the use and occupancy at such developed locations in accordance with 43 CFR, Part 8365.2-3.

The BLM will establish and maintain information kiosks with brochures, interpretive and educational information, site maps and regulations, and important contacts. All developed recreation sites (including trailheads, picnic areas, etc.) are closed to target shooting per 43 CFR, Part 8365.2-5(a).

Periodic accessibility, safety, and condition assessments will be conducted in accordance with Bureau policy at developed recreation sites and prioritized available funds to resolve deferred and corrective maintenance needs.

The “Leave No Trace” and “Tread Lightly” practices will be promoted to enhance the sustainability of resource-based activities.

The BLM will work cooperatively with other agencies (e.g., MFWP) to identify and sign BLM lands to provide more recreational opportunities in areas with limited public access and/or confusing ownership boundaries. Signs must be placed according to current boundary marking standards (BLM Manual 9130).

The BLM will modify the existing ROS classifications to accommodate the other proposed resource allocations under the range of alternatives. **Appendix A2**, Map F shows the acreages and ROS classes the BLM will manage under this ARMP.

The BLM will issue SRPs as appropriate for commercial, competitive, and special events subject to guidelines in BLM Handbook 2930, resource capacities, social conflict concerns, professional qualifications, public safety, and public needs. For example, applications for SRPs in Greater Sage-Grouse PHMA will be denied if approval of the permit would adversely impact sage-grouse or sage-grouse habitat. New permits will not be authorized that directly conflict with other permitted uses and existing permits will be given preference. Through plan implementation, changes in demand for permits and resulting impacts will be monitored and thresholds identified that could lead to limits in the number of permits to minimize impacts on the resources, public safety, and overall visitor satisfaction. All SRP applications and renewals will be reviewed on a case-by-case basis and site-specific analysis will be done for each proposed operating area.

Recreation sites and facilities will be maintained and managed to promote resource value protection, public safety and health, quality facilities, visitor experiences, management efficiency, and value-based returns. Expansion of existing sites and development of new sites will take into consideration public demand, resource constraints, and management capabilities through an environmental review process. Priority will be given to new sites that have partnership funding strategies and are consistent with established management guidelines.

Recreation Management Areas

Objectives: Establish a three-tier system of lands managed for recreation where SRMAs that would be given management priority to provide quality recreation opportunities and visitor experiences and Extensive Recreation Management Areas (ERMAs) would also require specific management consideration but commensurate with the management of other resources and resource uses. All remaining public lands not designated as recreation management areas (LND) will generally be managed only to address basic recreation and visitor services and resource stewardship needs such as visitor safety and use, and user conflicts.

Provide for primarily undeveloped, dispersed recreational opportunities while maintaining the prescribed recreation settings (ROS classes), protecting resources, ensuring public health and safety, and working toward resolving conflicts of use.

Incorporate outcomes-focused recreation management principles per WO IM No. 2011-004 (BLM 2011). Outcomes-focused management varies from the traditional “activity-based” recreation management approach, which primarily focused on specific activities and the associated facilities needed to support such uses. Outcomes-focused recreation focuses management on primary activities within recreation management zones (RMZ). These primary activities provide the public with certain types of experiences on BLM lands. Providing these experiences then produces a variety of personal, community, economic, and environmental benefits.

Management Actions

Where the nature of the resource attracts concentrated or intensive recreational use, BLM lands may be managed as a SRMA. These are areas where the BLM focuses specific management, funding, and planning to provide for the best possible recreation experience while protecting, sustaining, and enhancing the environmental resources of these areas.

Within each SRMA, the BLM may also allocate RMZs. An RMZ represents BLM lands with a distinctive recreation setting (activities, experiences, and benefits) within each SRMA. The BLM will focus management, funding, and planning within RMZs to implement and maintain proposed ROS classes, recreation management objectives, and management actions.

Where the nature of the resource attracts concentrated recreational use but is not the specific focus of management, the area will be managed as an ERMA. Other resources and resource uses are considered in the management of these areas and some recreation activities may be restricted or constrained to achieve interdisciplinary objectives.

BLM lands outside of SRMAs and ERMAs are managed as LND. Recreation management within LND will be limited to custodial actions, which are primarily reactive in order to manage dispersed activities, visitor health and safety, and user and resource conflicts. LND are generally managed directly through RMP decisions and do not require additional activity-level planning.

The majority of lands within the planning area will be managed as LND for dispersed recreational experiences associated with hunting, fishing, wildlife viewing, pleasure driving, camping and picnicking. The BLM will manage this area in a custodial manner to ensure quality of experience and enjoyment of natural and cultural resources.

The existing recreation facilities (fishing reservoirs and watchable wildlife areas) within the LND will be maintained in a custodial manner and enhanced only as needed to meet recreational demands that are associated with resource protection, and public health and safety requirements. New recreation facilities could be considered but should be a lower priority for implementation than those proposed for SRMAs and ERMAs and should resolve specific conflicts of use.

The Bitter Creek Watchable Wildlife Area will continue to be managed under BLM Manual 6330-Management of BLM Wilderness Study Areas until such time as Congress decides whether or not to designate the area as Wilderness. If released by Congress, the Bitter Creek WSA will be managed as an ACEC and a management plan will be developed to provide semi-primitive, motorized recreation opportunities. Until the management plan is developed, management of the area will continue to be guided by BLM Manual 6330 as an ERMA.

The BLM will manage two SRMAs (Glasgow OHV and Little Rocky Mountains) and ten ERMAs (BR-12, Cottonwood Riparian Area, Faraasen Park, Fresno OHV, Marias River, Paulo Fishing Reservoir, South Phillips Recreation Complex, Sweet Grass Hills ACEC, Timber Creek Ridge, and Troika Fishing Reservoir) (**Appendix A2**, Map G). The remainder of the planning area will be managed as LND.

The BLM will allocate three RMZs within the Little Rocky Mountains SRMA, as follows:

Zortman Recreation Management Zone

- *Recreation Setting:* Provides full service facility-based camping in a ponderosa pine rural setting near the small rural community of Zortman.
- *Primary Activities:* Overnight developed camping, day use picnicking, wildlife viewing, recreational gold panning, hiking, horseback riding, and OHV and ATV use.
- *Recreation Management Objective:* Maintain and enhance the facilities at the Camp Creek Campground (**Figure 3.2-2**), Horse Corral Campground, and Buffington Day Use Picnic Area as needed to meet recreational demands and comply with public health and safety requirements. Identify and develop new opportunities for facility-based recreation. For example, the Zortman Ranger Station could be fixed up and converted into a rental cabin. Specific areas within this zone could be set aside for recreational gold panning through coordination and/or partnership with the local community.

Landusky Recreation Management Zone

- *Recreation Setting:* Provides small facility-based camping in a ponderosa pine rural setting near the very small rural community of Landusky.
- *Primary Activities:* Overnight developed camping, wildlife viewing, hiking, and OHV and ATV use.
- *Recreation Management Objective:* Maintain and enhance the facilities at the Montana Gulch Campground (**Figure 3.2-2**) as needed to meet recreational demands and comply with public health and safety requirements.

Little Rockies Recreation Management Zone

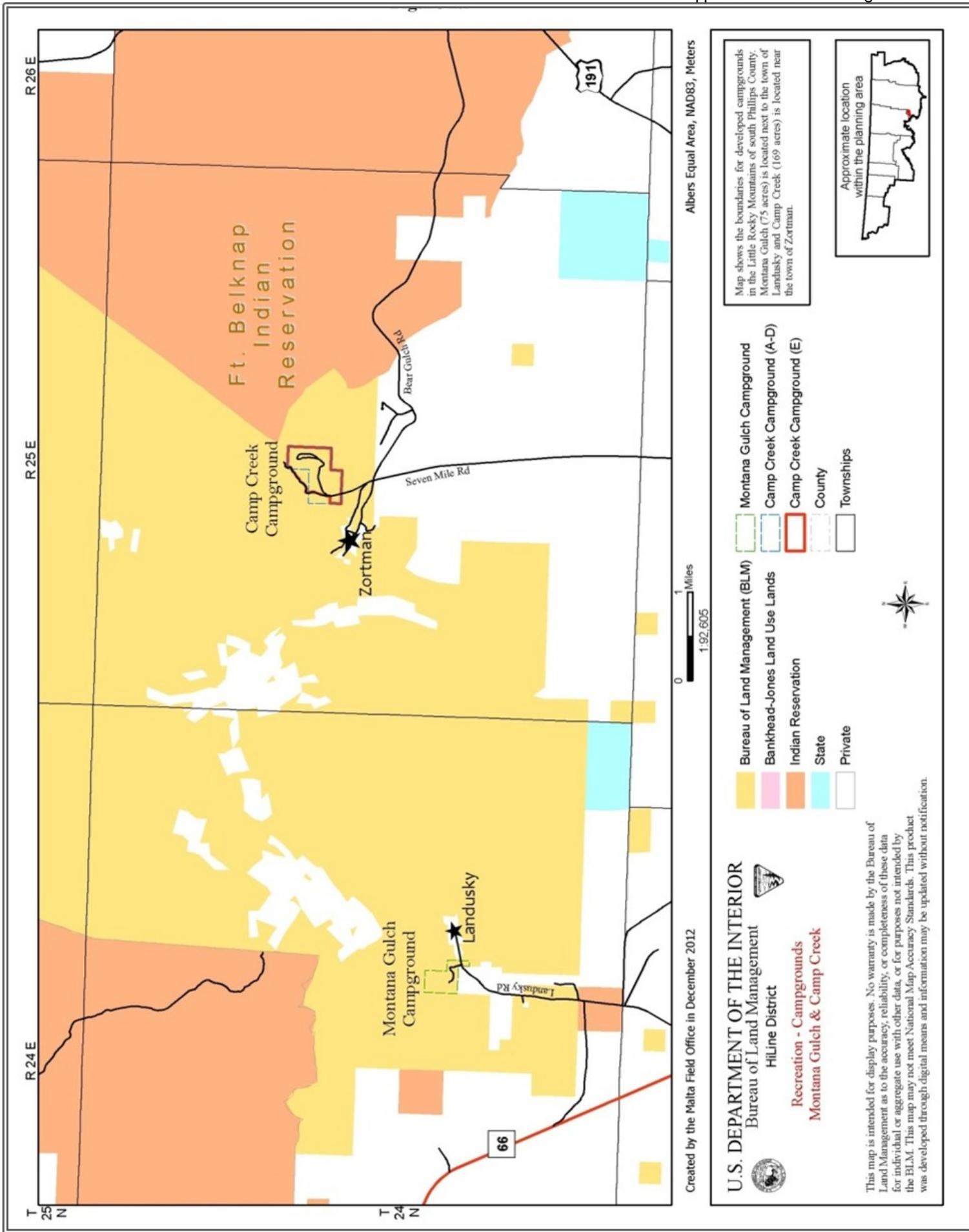
- *Recreation Setting:* Provides an excellent back country experience for dispersed camping, wildlife viewing, hiking, horseback riding, and OHV and ATV use opportunities in a ponderosa pine roaded natural setting.
- *Primary Activities:* Dispersed camping, hiking, horseback riding, hunting, fishing, OHV and ATV use.
- *Recreation Management Objective:* Provide for dispersed back country experiences for both nonmotorized and motorized recreational activities. Emphasize the “Leave No Trace” and “Tread Lightly” programs to aid in minimizing the conflicts of use between motorized and nonmotorized BLM land users.

Due to its limited size (40 acres) and uniformity in recreational opportunities throughout, the Glasgow OHV SRMA will not be divided into management zones.

Objectives and management actions for the individual SRMAs and ERMAs are identified in BLM 2015, Appendix S.

Recreation Sites

The ARMP contains both land use planning-level and implementation-level decisions for recreation and visitor services. Implementation-level decisions for recreation sites and recreation management areas (**Appendix A2**, Map H) can be found in **Appendix P** of this ARMP.



3.2.14 Renewable Energy Resources

Goal: Provide opportunities for the development of renewable energy from resources such as biomass, geothermal, solar and wind, while minimizing adverse impacts on other resource values.

Objective: Work with local communities, state and local government, and other federal agencies in building a clean energy future by providing sites for environmentally sound development of renewable energy on BLM land.

Management Actions

Renewable energy projects on BLM land may include biomass, geothermal, solar, and wind projects, and the siting of transmission facilities needed to deliver the produced power to the consumer. Opportunities for development will be provided to the extent consistent with other goals, objectives, and requirements of this plan.

Solar and wind energy exploration and development authorization will be subject to the same laws, regulations, and guidelines as other commercial rights-of-way. Terms and conditions for authorizations including site testing, monitoring and development will incorporate applicable BMPs, current professional practice, and recent scientific findings.

Biomass

The BLM will explore opportunities to provide a reliable and sustainable supply of woody biomass that may be made available from BLM land in the planning area. Biomass can be used to produce bio-energy and/or bio-based products such as plastics, ethanol, and diesel. Biomass can also be used to produce the full range of wood products including lumber, composites, paper and pulp, furniture, housing components, and round wood.

Geothermal

BLM lands in the planning area will be available for geothermal leasing, unless located within the Burnt Lodge or Bitter Creek WSAs, in priority sage-grouse habitat, or in instances where it is determined that issuing the lease will cause unnecessary or undue degradation to BLM lands or resources. No Known Geothermal Resource Areas (KGRAs) are located in the planning area. (A region identified by the USGS as containing geothermal resources. New leasing regulations no longer use KGRAs as a basis for the leasing process.)

Geothermal projects will be designed and developed in accordance with the Geothermal Leasing in the Western United States Programmatic EIS (BLM and USFS 2008). A site-specific environmental analysis will be prepared for any proposed exploration or development of geothermal resources. The analysis will address the application of stipulations and develop any additional mitigation measures over and above the lease stipulations required.

Solar

BLM land that is designated as an exclusion area (e.g., WSAs and PHMA) will not be available for solar energy rights-of-way. As a result, these areas will be closed to commercial solar energy development. Opportunities for solar development will be provided consistent with the other goals, objectives, and requirements of this plan. Applications for solar energy projects will be processed and authorized as rights-of-way under Title V of FLPMA. Utility-scale concentrating solar power or photovoltaic electric

generating facilities must comply with the BLM's planning, environmental, and ROW application requirements as established by BLM guidance (WO IM No. 2011-003) or additional Bureau guidance and/or policy.

Wind

BLM land that is designated as an exclusion area (e.g., WSAs and PHMA) will not be available for wind energy rights-of-way. As a result, these areas will be closed to commercial wind energy development. This includes wind energy site monitoring and testing.

The use of wind turbines at the Zortman/Landusky mine reclamation area to lower the cost of electricity needed to operate the pumps and water treatment plants was approved under the Final EE/CA for Water Management at the Zortman and Landusky Mines (BLM 2006b), and is not discussed or analyzed further in this document.

Wind energy projects will be designed and developed in accordance with the Wind Energy Development on BLM-Administered Lands in the Western United States Final Programmatic EIS (BLM 2005); BLM wind energy development policy (WO IM No. 2009-043) and subsequent policy and guidance issued by the BLM; and U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines (USFWS 2012). Implementation of any proposed management action will ensure that potential adverse impacts on natural and cultural resources will be minimal to negligible through the use of BMPs (**Appendix H**). Areas available for wind energy development will include mitigation for surface-disturbing and disruptive activities. Areas with fluid minerals NSO, CSU, and TL stipulations will be treated as avoidance areas for wind energy (**Appendix G**). This mitigation may restrict wind energy development in some areas.

Prior to authorizing any wind energy projects, a site-specific environmental review will be conducted to determine project feasibility, and to address and mitigate impacts. This environmental review will include the appropriate level of public involvement.

The Greater Sage-Grouse PHMA, Bitter Creek and Burnt Lodge WSAs, Little Rocky Mountains and Sweet Grass Hills TCPs, ACECs, large reservoirs and waterfowl complexes, some wildlife habitat, recreation sites, lands managed for their wilderness characteristics, and National Historic Trails will be exclusion areas for solar and wind energy rights-of-way. The exclusion areas are shown on **Appendix A2**, Map I. GHMA will be an avoidance area for solar and wind energy rights-of-way.

Approximately 1,600 acres of open areas near Shelby, Montana will be designated Potential Wind Development Areas as shown on **Appendix A2**, Map I. The lands designated for potential wind development could be offered for competitive leasing at the discretion of the authorized officer. Avoidance areas may include mitigation for cultural resources, paleontological resources, visual resources, soils, riparian areas, and wildlife. Mitigation measures will be applied on a case-by-case basis during project level planning.

Exceptions to avoidance areas may be granted if an environmental review demonstrates that effects could be mitigated to an acceptable level.

3.2.15 Soil Resources

Goal: *Maintain, improve or restore soil quality, and prevent or minimize erosion and compaction while supporting multiple use management.*

Objectives: Incorporate soil protection consistent with soil resource capabilities in management actions and objectives for other resources/uses.

Achieve and maintain Standards for Rangeland Health and Guidelines for Livestock Grazing Management.

Management Actions

The BLM will evaluate the effects of a proposed surface-disturbing activity to the soil resource using Natural Resources Conservation Service (NRCS) Soil Survey data/interpretations and/or through an onsite investigation; and will apply mitigation measures/BMPs if necessary, relocate the activity to a more suitable soil type, or deny the authorization.

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 (**Appendix M**).

Authorization could be denied in areas where erosion cannot be effectively controlled/mitigated and reclamation to BLM program-specific standards will likely be unsuccessful.

If a surface-disturbing activity is proposed on a prime farmland, special attention will be required during construction and reclamation to ensure there will be no unnecessary and irreversible conversion of prime farmland to nonagricultural uses (30 U.S.C. 1260, P.L. 95-87, Section 510(d)(1)).

The BLM will use soil survey data/interpretations to predict soil behavior, limitation, or suitability for a given activity or action. Soil interpretations are developed by the cooperators in the National Cooperative Soil Survey and maintained by the NRCS. Soil data and interpretations are ever evolving; therefore, as new or updated soil data and interpretations become available they will supersede prior data and interpretations. Soil interpretations do not preclude activities or actions, but rather provide a reasonable guide to the risk, limitations, and probable outcome of a particular use or practice. The information is not site-specific and does not eliminate the need for onsite investigation of the soil. An example of a criteria-based interpretation that may be used is the Potential Erosion Hazard (Road/Trail).

3.2.16 Solid Minerals

Leasable

Goal: *Provide opportunities for exploration and development of solid leasable minerals consistent with other resource goals.*

Objective: Provide for solid minerals leasing in accordance with existing laws and regulations (43 CFR, Parts 3400 and 3500).

Management Actions

The BLM will consider proposals for developing leasable minerals (coal, sulfur, and solid and semi-solid bituminous rock) on a case-by-case basis. Site-specific environmental review will be required to lease these minerals. No areas have been identified with economic reserves to support future leasing analysis.

Area wide terms, conditions or other special considerations needed to protect other resources or values will be implemented through coal screen criteria during the leasing stage (43 CFR, Part 3461). 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 Greater Sage-Grouse for purposes of the suitability criteria set forth at 43 CFR, Part 3461.5(o)(1).

For solid mineral leasing other than coal and oil shale, prospecting permits will be available for all land not closed to mineral leasing in conformance with 43 CFR, Part 3500. Permits will be issued after appropriate environmental review to assess effects and develop mitigation measures. Terms and conditions will be applied to non-energy leasable projects to meet land health standards for uplands, riparian areas and wetlands, water quality, air quality, and native plant and animal species (**Appendix H**). Discovery of a valuable mineral deposit, within the terms of the prospecting permit, entitles the prospecting permit holder to a preference right lease for mineral development and mining operations as defined in 43 CFR, Part 3809.5.

The BLM will protect sensitive areas by closing them to mineral leasing (**Appendix A2**, Map J). Sensitive areas include WSAs, rare and intact important archaeological sites, essential breeding and nesting areas for raptors, a critical bat hibernaculum, significant paleontological areas, and PHMA for Greater Sage-Grouse.

Locatable

Goal: Provide land use opportunities contributing to economic benefits while protecting or minimizing adverse impacts on other resources.

Objective: Provide for locatable mineral entry in accordance with existing laws and regulations (43 CFR, Parts 3700 and 3800).

Management Actions

Administration of locatable minerals (gold, copper, lead, zinc, silver, bentonite and diamond/kimberlite) on BLM lands will continue as required by law and regulation by taking the following steps:

- Review and process notices to ensure the proposed actions do not create unnecessary or undue degradation of the environment.
- Review and process Plans of Operations to ensure the proposed actions do not create unnecessary or undue degradation of the environment (43 CFR, Part 3809).
- Conduct at a minimum, annual compliance inspections on each active notice and Plan of Operations.
- 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. Casual use does

not require a permit or prior authorization. However, if necessary, the BLM could monitor casual use to prevent unnecessary and undue degradation.

The BLM will coordinate with the MDEQ during the review, approval, inspection and reclamation of mining operations. Requirements of all state and federal laws will be met in the management of mining operations.

Terms and conditions (BLM 2015, Appendix P) will be applied to mining activities (within the constraints of the Mining Laws) to meet land health standards for uplands, riparian areas and wetlands, water quality, air resources, and native plant and animal species.

In areas withdrawn from mineral entry, Plans of Operations will not be approved unless the USDI has determined that the mining claims covered by the Plan of Operations are valid under the Surface Management Regulations at 43 CFR, Part 3809.100.

The BLM will protect sensitive areas by continuing four mineral withdrawals (20,058 acres) and recommending three new withdrawals (951,766 acres) (**Appendix A2**, Map K). Sensitive areas include a critical bat hibernaculum, developed recreation sites, rare and intact important archaeological sites, and essential breeding habitat for mountain plovers.

The BLM will continue the withdrawal for Azure Cave to protect a critical bat hibernaculum and recommend a 20-year extension for the Sweet Grass Hills withdrawal. Management of the Sweet Grass Hills withdrawal area will primarily focus on preserving areas of traditional importance to Native Americans and aquifers in the area that provide potable water to local residents.

Through the withdrawal review process, the BLM will consider the need for a new withdrawal or ROW to promote success for the Zortman/Landusky mine reclamation. The area for the withdrawal or ROW will be based on the need to maintain and protect the infrastructure associated with the reclamation activities, and will likely not exceed the boundary of the Zortman/Landusky Mine Reclamation ACEC.

The withdrawals for the Camp Creek and Montana Gulch campgrounds will be modified to include the entire recreation sites.

The BLM will recommend revoking the withdrawals for the Landusky Town Site, Landusky Recreation Site, and Zortman Town Site on a case-by-case basis for the potential sale or exchange of the BLM parcels within the withdrawal boundaries.

The following new withdrawals will be proposed to segregate the areas from locatable mineral entry:

- A withdrawal of 24,672 acres in south Valley County (Mountain Plover ACEC) to protect essential breeding habitat for mountain plovers.
- A withdrawal of 20 acres to protect the Zortman Cemetery.
- A withdrawal of 927,074 acres to protect the SFA.

Within the limits of the Mining Laws, the BLM will apply COA (**Appendix I**) to Plans of Operations to prevent undue and unnecessary degradation to Greater Sage-Grouse habitat.

Salable (Mineral Material)

Goal: Provide for the extraction of mineral materials to meet public demand while minimizing adverse impacts on other resource values.

Objective: Provide for mineral material sales in accordance with existing laws and regulations (43 CFR, Part 3600).

Management Actions

The BLM will issue sales contracts for mineral materials (sand, gravel, stone, limestone, and clay) where disposal is deemed to be in the public interest, while providing for reclamation of mined lands and preventing unnecessary or undue impact on other resources. All lands not withdrawn or discretionally closed are available for mineral material disposal. Mineral material permits are considered on a case-by-case basis and issued at the discretion of the authorized officer.

Free use permits may be issued to government agencies or subdivisions and to nonprofit organizations. Materials obtained by a free use permit may not be bartered or sold.

Mineral material sale contracts are valued according to the BLM statewide general appraisal schedule or through individual site-specific appraisals.

Common use areas or community pits will be designated if the level of localized activity warrants. New mineral material sites will be evaluated on a case-by-case basis.

Mineral material sales will be processed on a case-by-case basis. Salable mineral sites will have an approved mining and reclamation plan and an environmental review prior to being opened. Where resource conflicts cannot be adequately mitigated, a permit will be denied. Operating stipulations to protect other resource values will be included in mineral material permits.

The collection of petrified wood and invertebrate fossils for personal use will be allowed as limited by the regulations (43 CFR, Parts 3620 and 8365) in areas not specifically closed.

The BLM will protect sensitive areas by closing them to mineral material sales (**Appendix A2**, Map L). Sensitive areas include WSAs; Azure Cave ACEC; a portion of the Little Rocky Mountains TCP; Sweet Grass Hills TCP and ACEC; Big Bend of the Milk River ACEC; Frenchman Breaks ACEC; Kevin Rim ACEC; Malta Geological ACEC; Mountain Plover ACEC; Woody Island ACEC; and Zortman Cemetery. The PHMA will be closed to commercial use permits, but open to free use permits (e.g., county gravel pits).

3.2.17 Special Designations**Areas of Critical Environmental Concern**

Goal: Protect relevant and important values through ACEC designation and apply special management where standard or routine management is not adequate to protect the values from risks or threats of damage/degradation or to provide for public safety from natural hazards.

Areas of Critical Environmental Concern (ACECs) are BLM lands where special management attention is needed to protect important and relevant values. To be designated as an ACEC, a nominated area

must meet the criteria of relevance and importance as outlined in 43 CFR, Part 1610.7-2 and BLM Manual 1613. If the relevance and importance criteria are met, an area is identified as a potential ACEC and considered for designation and management in the resource planning process. Designation is based on whether or not a potential ACEC requires special management attention.

While an ACEC may emphasize one or more unique resources, other multiple use management can continue within an ACEC as long as the uses do not impair the values for which the area was designated. Special management attention for ACECs means that limited resources may be directed to that area over other, non-designated areas but may or may not require changes in the current management.

Seven existing ACECs were revisited and twelve new nominations were considered in the HiLine Draft RMP/EIS and Proposed RMP/Final EIS (see BLM 2015, Appendix K and Maps K.1 through K.19). Six of the seven existing ACECs will be retained and four of the seven of the new nominations that met the criteria of relevance and importance will be designated as ACECs. The special management required for each of the ten ACECs is presented below.

Existing ACECs

Azure Cave ACEC

Purpose of ACEC Designation

Protect the cave and critical bat hibernaculum while ensuring public safety.

Management Actions

The BLM will retain Azure Cave as an ACEC (141 acres) to protect cave resources and potentially the northernmost bat hibernaculum in the United States (**Appendix A2**, Map M). The cave will be managed to protect bats during crucial hibernation periods and allow specific use on a limited basis. Any cave access will need to consider appropriate time periods, white nose syndrome, and management activities to protect the bats.

The ACEC will remain closed to oil and gas leasing and the BLM will continue the withdrawal from mineral entry and location.

The ACEC will be an avoidance area for rights-of-way and an exclusion area for wind energy rights-of-way.

To protect the cave and critical bat hibernaculum the ACEC will be closed to solid mineral leasing and mineral material sales.

Big Bend of the Milk River ACEC

Purpose of ACEC Designation

Protect the diverse cultural resources and historic sites.

Management Actions

The BLM will retain the Big Bend of the Milk River ACEC (1,972 acres) to protect the diverse cultural resources and historic sites representing bison hunting and prehistoric ceremonial use of the Northwestern Plains (**Appendix A2**, Map M, which is located at the end of Chapter 2). Two National Register eligible sites are located within the Big Bend of the Milk River ACEC: Henry Smith and Beaucoup.

The Henry Smith site (1,000 acres) has been allocated for Public Use. The site will be inventoried for cultural resources, and mapping and/or collecting data will be completed as necessary.

The Beaucoup site (1,120 acres) has been allocated for Scientific Use. The site will be inventoried for cultural resources. All resources will be mapped, collected and excavated as necessary for relevant archaeological data.

The ACEC will include an NSO stipulation for oil and gas leasing and the area will remain closed to solid mineral leasing.

The ACEC will be an avoidance area for rights-of-way and an exclusion area for wind energy rights-of-way.

The BLM will not recommend a withdrawal from mineral entry and location. The ACEC will be closed to solid mineral material sales.

Bitter Creek ACEC

Purpose of ACEC Designation

Protect the scenic diversity found within the Bitter Creek watershed.

Management Actions

The BLM will retain the Bitter Creek ACEC (60,701 acres) to protect the scenic diversity qualities found within the Bitter Creek watershed (**Appendix A2**, Map M, which is located at the end of Chapter 2). If the Bitter Creek WSA is released by Congress, an ACEC management plan will be completed consistent with the management direction as discussed in the alternatives below. Until an ACEC management plan is completed the area will be managed consistent with BLM Manual 6330-Management of BLM WSAs as appropriate.

The area will remain closed to oil and gas leasing until an ACEC management plan is completed that will address leasing.

The ACEC will be an avoidance area for rights-of-way.

The ACEC will be an exclusion area for wind energy rights-of-way.

The ACEC will be open to solid mineral entry and location.

The ACEC will be closed to solid mineral material sales.

Kevin Rim ACEC

Purpose of ACEC Designation

Protect the diverse archeological resources and significant raptor values.

Management Actions

The BLM will retain the ACEC (4,557 acres) to protect the diverse archeological resources and significant raptor habitat (**Appendix A2**, Map M).

The ACEC includes an existing communication site. The ACEC will be an avoidance area for rights-of-way.

The ACEC will include an NSO stipulation for oil and gas leasing.

New communication facilities should be located at the existing communication site, rather than a new location on Kevin Rim.

The ACEC will be an exclusion area for wind energy rights-of-way.

The ACEC will be closed to solid mineral leasing and mineral material sales.

The ACEC will be open to mineral entry and location.

Mountain Plover ACEC

Purpose of ACEC Designation

Protect mountain plover habitat that is not associated with black-tailed prairie dogs.

Management Actions

The BLM will retain the ACEC (24,762 acres) to protect the mountain plover habitat (**Appendix A2**, Map M). The ACEC includes two habitat areas for the mountain plover. The primary habitat is the hardpan area on the valley bottoms (12,000 acres). The secondary habitat areas are on the gentle rises on either side of the valleys.

The ACEC will be closed to oil and gas leasing.

The ACEC will be an avoidance area for rights-of-way and an exclusion area for wind energy rights-of-way.

The BLM will recommend a withdrawal from solid mineral entry and location. The ACEC will be closed to solid mineral leasing and mineral material sales.

Sweet Grass Hills ACEC

Purpose of ACEC Designation

Protect the diverse cultural and historic resource values.

Management Actions

The BLM will retain the ACEC (7,419 acres) to protect the diverse archeological resources (**Appendix A2, Map M**). Management of the area will primarily focus on preserving areas of traditional spiritual importance to Native Americans and aquifers in the area that provide potable water to local residents.

The ACEC will be closed to solid mineral leasing but open to mineral material sales.

The area will be closed to oil and gas leasing.

The BLM will allow for a full range of forest health treatments in the Sweet Grass Hills ACEC that may include the sale of wood products. The ACEC will not be open for incidental personal use wood products.

The ACEC will be an avoidance area for rights-of-way and an exclusion area for wind energy rights-of-way.

The ACEC will be closed to motorized travel. Off-road travel for administration of a federal lease or permit will be granted, unless specifically prohibited.

The BLM will recommend a 20-year extension to the withdrawal from solid mineral entry and location to preserve areas of traditional spiritual importance to Native Americans and aquifers in the area that provide potable water to local residents.

Part of a Bureau of Reclamation withdrawal (532 acres) was recommended for termination in a withdrawal review effort (May 1993) since the withdrawal is no longer serving the purpose for which it was withdrawn. The remaining 40 acres was recommended for a 20-year term modification (May 1993) since it is serving the purpose for which it was withdrawn by providing for a current and future riprap quarry for Tiber Reservoir. However, under this alternative the 40 acres will be recommended for withdrawal termination since the continued use of the riprap quarry will be incompatible with the resource values being protected by the ACEC.

The ACEC will be closed to solid mineral leasing and mineral material sales.

New ACECs

Frenchman Breaks ACEC

Purpose of ACEC Designation

Maintain the unique landscape and scenic characteristics and protect the fragile watershed and wildlife species from fragmentation due to roads and other surface-disturbing activities.

Management Actions

The area will be designated an ACEC (42,020 acres) to maintain the unique landscape and scenic characteristics and protect the fragile watershed and wildlife species from fragmentation (**Appendix A2, Map M**).

The ACEC will include an NSO stipulation for oil and gas leasing to protect the fragile watershed and crucial winter range.

The ACEC will be an avoidance area for rights-of-way and an exclusion area for wind energy rights-of-way.

The ACEC will be closed to solid mineral leasing and mineral material sales.

Malta Geological ACEC

Purpose of ACEC Designation

Protect significant paleontological values for scientific study.

Management Actions

The area will be designated an ACEC (6,153 acres) to preserve the significant paleontological values for scientific inquiry. Other uses will be constrained by measures needed to protect paleontological resources for scientific study. Personal collection of common fossils will not be allowed (Public Law 111-11, Section 6304(e)).

The ACEC will include a CSU stipulation for oil and gas leasing.

The ACEC will be an avoidance area for rights-of-way and an exclusion area for wind energy rights-of-way to preserve the shallow subsurface paleontological resources.

The ACEC will be closed to solid mineral leasing and mineral material sales. The BLM will not recommend a withdrawal from mineral entry and location.

Woody Island ACEC

Purpose of ACEC Designation

Maintain the unique landscape and scenic characteristics, and protect the fragile watershed and wildlife species from fragmentation due to roads and other surface-disturbing activities.

Management Actions

The area will be designated an ACEC (32,869 acres) to maintain the unique landscape and scenic characteristics, and protect the fragile watershed and wildlife species from fragmentation (**Appendix A2**, Map M).

The ACEC will include an NSO stipulation for oil and gas leasing.

The ACEC will be an avoidance area for rights-of-way and an exclusion area for wind energy rights-of-way.

The ACEC will be closed to solid mineral leasing and mineral material sales. The BLM will not recommend a withdrawal from mineral entry and location.

Zortman/Landusky Mine Reclamation ACEC

Purpose of ACEC Designation

Promote successful reclamation and ensure public safety on public lands affected by prior surface and underground mining activities.

Management Actions

The area will be designated an ACEC (2,682 acres) to promote successful reclamation, protect associated infrastructure, and ensure public safety on BLM lands affected by prior mining activities (**Appendix A2**, Map M).

The ACEC, which is within the higher elevations of the Little Rocky Mountains TCP, will be closed to oil and gas leasing to protect the prehistoric and historic archaeological resources in the area.

The ACEC will be an avoidance area for rights-of-way and an exclusion area for wind energy rights-of-way.

The ACEC will be designated closed to off-road vehicles to maintain the reclamation and ensure public safety until such time as the reclamation efforts are completed (this includes travel off road and on roads used for reclamation activities). Travel for administrative purposes or for the administration of a federal lease or permit will be granted, unless specifically prohibited in the lease or permit. Travel on roads will also be allowed for access to private land. When the reclamation efforts are completed the area will be limited to designated roads as determined through the travel plan for the Little Rocky Mountains.

The ACEC is within the existing withdrawal (3,530 acres) in support of the reclamation activities at the Zortman and Landusky mines, which expires in 2015. Through the withdrawal review process, the BLM will consider the need for a new withdrawal or ROW to promote successful reclamation. The area for the withdrawal or ROW will be based on the need to maintain and protect the infrastructure associated with the reclamation activities, but will not exceed the boundary of the ACEC.

The ACEC will be open to solid mineral material sales associated with the need for reclamation materials and maintenance of the existing roads (5 to 6 miles).

Back Country Byways

Management Action

No back country byways will be designated at this time. If a back country byway is identified in the future, the designation will be addressed through a land use plan amendment.

National Historic Trails

Goal: Assist in cooperative efforts to manage current and future National Historic Trails to protect values for which they were designated. In cooperation with trail administrator and other trail managers, both private and public, 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.

Objectives: Reduce the potential for uses that substantially interfere with the nature and purposes of the National Trail and avoid types of activities that are incompatible with the purposes for which the National Trail was established.

Provide premier trail visitor experiences for public benefit.

Maximize opportunities for shared National Trail stewardship.

Identify and manage the historic route, historic remnants and artifacts located on BLM-managed lands within the identified Trail Management Corridor for public use, enjoyment, and vicarious trail experiences.

Identify and manage high potential historic sites or high potential route segments located on BLM-managed lands, including the recommendation of additional federal protection components.

Restore altered landscapes located on BLM-managed lands to an identified trail-era condition when applicable and feasible while considering existing multiple uses of the BLM-managed lands.

Management Actions

A portion of the Marias River exploration trail of the Lewis and Clark National Historic Trail crosses BLM land (**Appendix A2**, Map H). The BLM will manage this segment of the Lewis and Clark National Historic Trail in a manner that is consistent with the nature and purposes and provisions of Public Law 90-543 (the National Trails System Act) as amended by Public Law 95-265. The Lewis and Clark National Historic Trail Comprehensive Management Plan (NPS 1982) and Foundation Document (NPS 2012) outline management objectives, practices and responsibilities, and emphasize partnerships in trail administration. Scenic and cultural values will be protected on BLM-managed land along this historic trail.

A portion of the Nez Perce National Historic Trail crosses BLM land north of the Upper Missouri River Breaks National Monument and in the Bears Paw Mountains. The BLM will manage this segment of the Nez Perce National Historic Trail in a manner consistent with the purposes and provisions of Public Law 90-543, as amended by Public Law 99-445 and the comprehensive plan being prepared by the USFS.

National Historic Trails and associated Management Corridors will be classified as Category I (retention) lands.

The BLM will reclaim disturbances to the trails and associated settings, such as unauthorized routes and other legacy impacts as opportunities arise.

The BLM will implement the Interagency National Historic Trail Plans for the Lewis and Clark and Nez Perce National Historic Trails for BLM-managed lands within identified Trail Management Corridors and participate in the interagency planning update efforts as needed.

The BLM will support partnerships and cooperative agreements with other agencies, local and state authorities, and non-governmental organizations to implement stewardship and educational goals for the National Historic Trails and support the Montana site stewardship program for monitoring and evaluation of significant trail resources.

The BLM will support the development and management of National Trail Auto Tours in partnership with the administrating agency and other interested parties.

The BLM will work in partnership to provide high-quality heritage education, interpretation, and tourism opportunities in reference to National Historic Trails located within the HiLine planning area.

The BLM will identify and acquire lands or easements within the trail corridors from willing sellers to protect resources or provide public access.

National Trail Management Corridors

The BLM will designate a National Trail Management Corridor for both the Lewis and Clark National Historic Trail and the Nez Perce (Nee-Me-Poo) National Historic Trail based on the maps and/or GIS layer supplied to and as identified by the administrating agencies.

The Lewis and Clark National Historic Trail identified corridor will reflect a 1/2 mile wide management zone (1/4 mile either side of the centerline) based on the line as generally depicted in the Vicinity Map, Proposed Lewis and Clark Trail (USDI 1976). This corridor may be modified at a later date following the publication of the Lewis and Clark National Historic Trail Comprehensive Plan by the USDI, National Park Service (NPS) or when further research and/or inventory in relation to the trail indicate a change is needed. Additional NEPA analysis will be conducted at that time.

The Nez Perce (Nee-Me-Poo) National Historic Trail identified corridor will reflect a 1/2 mile wide management zone (1/4 mile either side of the centerline) based on the line as generally depicted in the Nez Perce (Nee-Me-Poo) Trail Study Report (USFS and NPS 1982). This corridor may be modified at a later date following the publication of the Nez Perce National Historic Trail Comprehensive Plan by the USFS or when further research in relation and/or inventory to the trail indicates a change is needed. Additional NEPA analysis will be conducted at that time.

Lewis and Clark and Nez Perce (Nee-Me-Poo) National Historic Trails

The area will include an NSO stipulation for oil and gas leasing within the established National Trail Management Corridor.

The area will be an avoidance area for rights-of-way, and an exclusion area for wind energy rights-of-way within 1 mile of the established trail centerline.

The trail will be considered a Visual Resource Management (VRM) Class II.

Wilderness Study Areas

Goal: *Manage Wilderness Study Areas so as not to impair their suitability for preservation as wilderness until such time as Congress either designates them as wilderness or releases them from further study.*

Objectives: Protect and preserve the wilderness characteristics of the existing WSAs (naturalness, solitude, and outstanding opportunities for primitive and unconfined recreation).

Management Actions

The Bitter Creek WSA (**Figure 3.2-3**) and Burnt Lodge WSA (**Figure 3.2-4**) will be managed according to the BLM Manual 6330-Management of BLM Wilderness Study Areas until such time as Congress acts upon the recommendations. Only Congress can designate or release these lands.

The BLM will prepare a wilderness management plan for any areas designated as wilderness by Congress. The WSAs not designated as wilderness by Congress will subsequently be managed in accordance with guidance for adjacent BLM land unless otherwise specified in this RMP. If released by Congress, the Burnt Lodge WSA will be managed consistent with surrounding BLM land. If released by Congress, the Bitter Creek WSA will be managed as an ACEC and a management plan will be developed to provide semi-primitive, motorized recreation opportunities.

BLM Manual 6330-Management of BLM Wilderness Study Areas describes the policies under which the BLM will manage the WSAs under wilderness review until Congress either designates these lands as wilderness or releases them for other purposes. Section 603(c) of FLPMA tells the BLM how to manage lands under wilderness review, in these words: “During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness...”

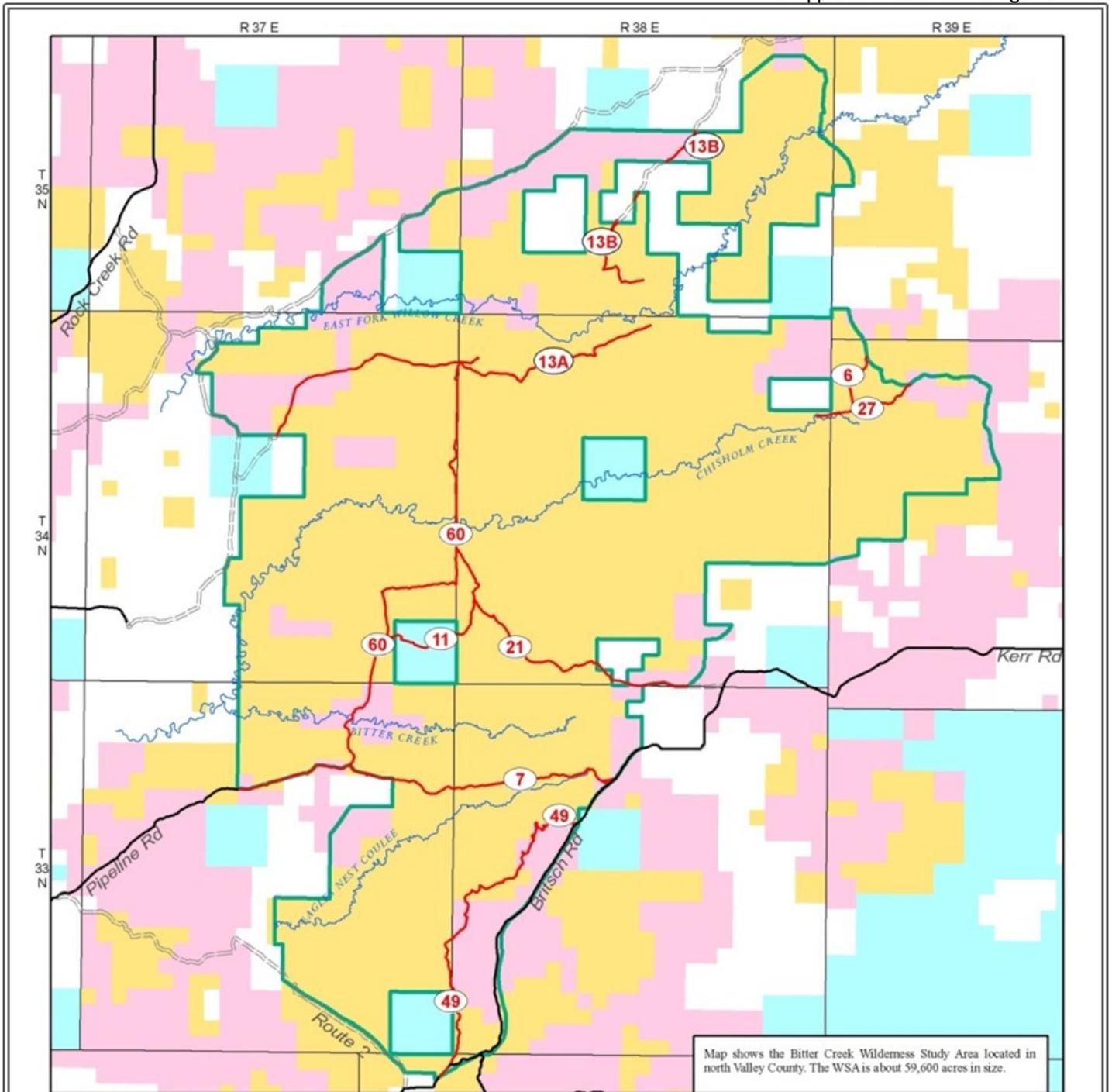
This language is referred to as the “nonimpairment” mandate. The BLM will review all proposals for uses and/or facilities within the WSAs to determine whether the proposal meets the nonimpairment standard. Uses and/or facilities found to be nonimpairing may be permitted on lands under wilderness review. Uses and/or facilities found to be impairing will be denied. The following criteria are referred to as the nonimpairment criteria.

Nonimpairment Criteria

The use, facility, or activity must be temporary. This means a temporary use that does not create surface disturbance or involve permanent placement of facilities may be allowed if such use can easily and immediately be terminated upon wilderness designation. “Temporary” means the use or facility may continue until the date of wilderness designation, at which time the use must cease and/or the facility must be removed. In the WSAs, “surface disturbance” is any new disruption of the soil or vegetation that will necessitate reclamation.

Decisions to allow or deny proposed actions based on the nonimpairment criteria will be included in appropriate decision documents.

When the use, activity, or facility is terminated, the wilderness values must not have been degraded so far as to significantly constrain the Congress’s prerogative regarding suitability of the area for preservation as wilderness.



Map shows the Bitter Creek Wilderness Study Area located in north Valley County. The WSA is about 59,600 acres in size.

Created by the Malta Field Office in December 2012

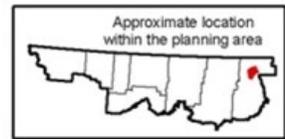
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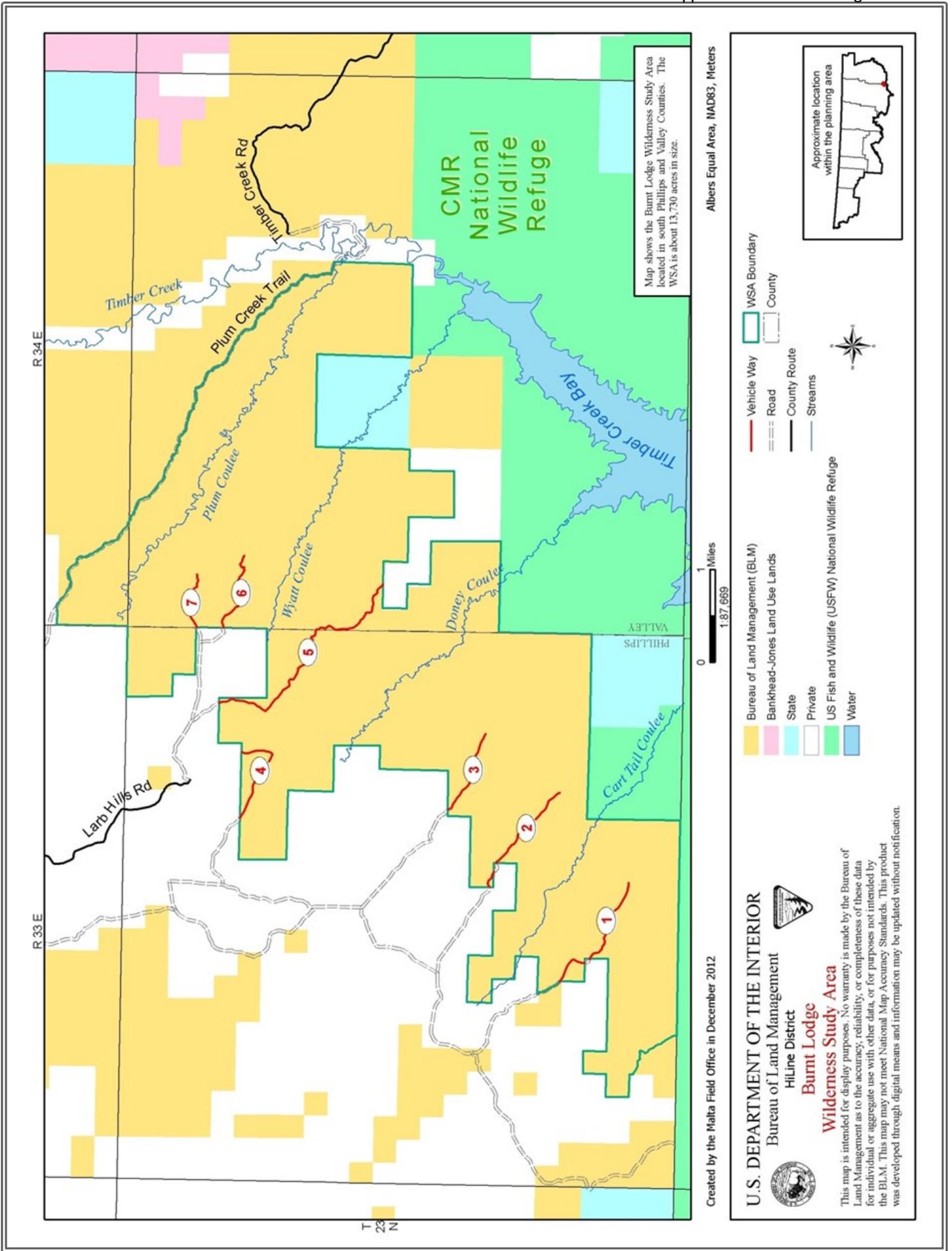
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U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management
HiLine District
**Bitter Creek
Wilderness Study Area**

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

- WSA Boundary
- Bureau of Land Management (BLM)
- Bankhead-Jones Land Use Lands
- State
- Private
- Water
- Vehicle Way
- Road
- County Route
- Streams





The only permitted exceptions to the above rules are:

- emergencies such as suppression activities associated with wildfire or search and rescue operations;
- reclamation activities designed to minimize impacts on wilderness values created by violations and emergencies;
- uses and facilities that are considered grandfathered or valid existing rights under FLPMA;
- ensure public safety as remediation for human-caused hazards in the WSA;
- protect or enhance wilderness characteristics or values; and
- other legal requirements.

Any of these activities should be carried out in the least impairing manner practicable.

Some lands under wilderness review may contain minor facilities that were found in the wilderness inventory process to be substantially unnoticeable. For example, these may include primitive vehicle routes (“ways”) and livestock developments. BLM Manual 6330 does not require such facilities to be removed or discontinued. They may be used and maintained as before, as long as this does not cause new impacts that will impair the area’s wilderness suitability.

The HiLine District will follow the guidance provided in BLM Manual 6330 for management actions within the WSAs including the following:

- WSAs will be managed as VRM Class I.
- Fire activities and projects in WSAs will adhere to standard agency fire management policies and techniques found in other BLM documents, such as the Guidance for Implementation of Federal Wildland Fire Management Policy. Minimum Impact Suppression Tactics will be used for all suppression efforts. A resource advisor will be assigned to all fires that occur within a WSA.
- Active restoration activities will be conducted to remove unnatural features and rehabilitate unauthorized human disturbances. Unauthorized range facilities will be removed, consistent with range regulations.
- Closed routes will be rehabilitated or converted into non-mechanized trails.
- Public access to WSAs will be provided through public access easements across private lands/roads.
- Lands within WSA boundaries will be acquired from willing sellers. Existing impacts on acquired lands will be rehabilitated.
- Competitive or commercial SRPs will not be authorized within WSAs, with the exception of outfitter and guide uses.



Burnt Lodge WSA

Photo by Brian Hockett

3.2.18 Vegetation – Rangeland

Goals: *Manage the vegetative resource to maintain a diversity of ecological conditions on upland vegetation while providing for a variety of multiple uses that are economically and biologically feasible.*

Maintain, restore, and enhance woody draw communities to achieve multi-aged stands that are healthy, structurally diverse, and reproductively successful.

Objectives: Manage uplands to meet health standards and meet or exceed PFC within site or ecological capability (Appendices I and L). Where appropriate, fire will be used as a management agent to achieve/maintain disturbance regimes supporting healthy functioning vegetation conditions.

Manage existing stands of woody draw species to achieve diversity in age, class, and structure, provide habitat for wildlife.

Manage surface-disturbing activities in a manner to minimize degradation to rangelands, woody draws and soil quality.

In all SFA and PHMA, the desired condition is to maintain all lands ecologically capable of producing sagebrush (such as big 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).

Management Actions

The BLM will ensure consistency with achieving or maintaining Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Montana, North Dakota, and South Dakota (BLM 1997a).

Any increase in vegetation allocation will be applied to watershed protection until soils are stabilized to a satisfactory condition as determined by an interdisciplinary team prior to increasing livestock or wildlife allocations.

The BLM will consult with MFWP and seek concurrence regarding the anticipated benefits and/or impacts of any vegetation treatments that may impact wildlife habitat including priority sage-grouse habitat.

Site-specific sage-grouse habitat and management objectives have been developed for BLM land within the Greater Sage-Grouse PHMA and the Grassland Bird/Greater Sage-Grouse PHMA (**Appendix I**). These objectives will be incorporated into the respective AMPs or livestock grazing permits as appropriate.

Conifers encroaching into sagebrush habitats will be removed in a manner that considers tribal cultural values. Treatments will be prioritized 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.

Rest periods from livestock grazing of less than two growing seasons in vegetation treatment areas may be desirable in some circumstances, and will be determined through site-specific interdisciplinary planning, monitoring, and environmental review. For example, it may be desirable to use grazing to control weedy or invasive species immediately following a vegetation treatment.

Selling of grass seed, hay, or other vegetative products may be authorized. Hay or seed cutting may be used as a land treatment to improve production of crested wheatgrass provided it is not in conflict with wildlife or wildlife habitat values.

Range improvements will be constructed to manage use of vegetation to support multiple use resource management.

Water developments will be installed and/or maintained to facilitate control of livestock use of vegetation, support other uses, and protect resource values. In order to minimize surface disturbance, have reliable water of better quality and not alter normal surface flow of water, alternative water developments will be emphasized before constructing new pits and reservoirs. The BLM will manage water developments within Greater Sage-Grouse habitat to reduce the spread of West Nile virus (**Appendix I**).

The BLM will use land treatments to achieve and maintain fire regimes, and watershed, grazing management, and wildlife objectives. Within the Greater Sage-Grouse PHMA and the Grassland Bird/Greater Sage-Grouse PHMA, treatments that conserve, enhance or restore Greater Sage-Grouse habitat will be allowed as well as treatments that benefit other resources and do not adversely affect sage-grouse or their habitat.

Rangeland health monitoring and assessments will be conducted within current staffing capabilities. The allotments within the Greater Sage-Grouse PHMA and the Grassland Bird/Greater Sage-Grouse PHMA will be high priority for reassessment of land health standards and processing grazing permits as detailed

in **Appendix I**. Rangeland health monitoring plans will be developed and implemented at the field office level.

Increased production resulting from land treatments will be allocated toward accomplishing multiple use objectives. Additional forage resulting from land treatments could be temporarily allocated 75% to watershed and wildlife, and 25% to livestock. Conversely, where there is substantial contribution (at least 50% of the total cost as direct or in-kind contribution) by the livestock permittee and no conflicts with wildlife objectives, up to 50% of the additional vegetation may be temporarily allocated to livestock.

Existing crested wheatgrass seedings will be managed where feasible as spring use pastures to defer native rangeland grazing. Crested wheatgrass seedings will be maintained for maximum livestock forage production with up to 70% of the production allocated to livestock when soils are stabilized to a satisfactory condition. Mechanical treatments and fertilization are management practices which renovate old crested wheatgrass stands to benefit associated native rangeland. Additional crested wheatgrass seedings may be used to consolidate existing scattered stands of crested wheatgrass into manageable units. Where native restoration of old crested wheatgrass seedings is considered, farming and herbicide use could be authorized for up to three years in order to help destroy the old crested wheatgrass seed bank and improve the success of the native seeding.

The initiating party will be required to reclaim surface disturbances greater than one-tenth acre if necessary to protect other resources. Range improvement pits and reservoirs will be excluded until abandonment.

All surface disturbances will be reseeded/revegetated with native plant species common to the site's natural plant community. Site-specific environmental analysis may warrant the use, on a case-by-case basis, of introduced species where difficult site stabilization or wildlife concerns prevail.

Native species needed for reclamation and restoration activities, including the restoration of sage-grouse habitats in the planning area, will be identified and prioritized. Seed that is not available commercially should be collected following the procedures outlined in the Seeds of Success Protocol from local sources. Locally collected seed should be used to create sources of native plant materials with willing farmers or through work with NRCS Plant Materials Programs or through both. Cleaning and storage of seed must be addressed so that viability is maintained.

The best available vegetation treatment will be considered for managing cheatgrass and annual bromes, including but not limited to early spring grazing, mid-summer prescribed fire, and herbicide use. Treat areas that contain cheatgrass and other invasive or noxious species to minimize competition and favor establishment of desired species.

3.2.19 Vegetation – Riparian and Wetland

Goal: *Manage activities to ensure healthy and proper functioning condition of wetlands and riparian areas within site or ecological capability.*

Objectives: 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 and wetland areas with natural capability will be in PFC.

Develop site-specific objectives and management strategies for riparian and wetland areas during the development and implementation of proposed actions and activity plans.

Maintain, restore, or improve riparian and wetland areas to achieve a healthy and productive ecological condition that provides benefits and values within site capability.

Management Actions

Wetland and riparian areas are unique and among the most productive and important ecosystems. Although comprising only a small percentage of the BLM lands, they affect most other resources and values. Given the high value of these areas for a variety of resources, all aspects of riparian and wetland area inventory, monitoring, and management will involve an interdisciplinary effort.

Extensive inventories have been conducted across the planning area to locate, quantify, and broadly classify wetland and riparian areas. The PFC methodology is utilized by the BLM to assess 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 or wetland area. The PFC assessment provides a consistent approach for assessing how well the physical processes are functioning in wetland and riparian areas through consideration of hydrology, vegetation, and soil/landform attributes. An implementation plan will be developed that contains an assessment and monitoring plan for riparian and wetland areas. User guides to assessing PFC and the supporting science for lotic areas (TR 1737-15) and lentic areas (TR 1737-16) will be adhered to by the BLM's interdisciplinary identification and assessment teams.

The BLM will enhance or restore riparian composition and structure beyond PFC in riparian areas where and when appropriate for other resource values. This may include, but is not limited to, establishing riparian pastures, stream corridor/ shoreline fencing, specialized grazing methods, winter grazing use, a different species of livestock, and rehabilitation protective measures.

The allowance for improvements of riparian/wetland areas has the potential to either benefit or degrade the resource, and improving the functionality of one aspect (i.e., hydro-period) could convert the riparian/wetland type. The BLM will conserve riparian/wetland habitat by intensifying cooperative efforts among federal, state and private interests and will minimize the destruction, loss or degradation of wetlands.

Wetlands will be protected in accordance with the provisions of Executive Order No. 11990, Protection of Wetlands. Under the provisions of this Executive Order, the BLM must minimize the destruction, loss or degradation of wetlands when acquiring, managing and disposing of federal lands and facilities.

Riparian protection will be provided by the Montana SMZ Law (77-5-301 through 77-5-307 MCA). SMZs provide regulation for the protection of water quality. The SMZ encompasses a strip at least 50 feet wide on each side of a stream, lake, or other body of water, measured from the ordinary high water mark, and extends beyond the high water mark to include wetlands and areas that provide additional protection in zones with steep slopes or erodible soils. The SMZ provides the minimum regulatory standards for forest practices in riparian areas.

Ephemeral drainages and some mapped intermittent streams will not be covered by the SMZs under the definitions in the state regulations. These areas, however, will be covered by management stipulations commonly known as BMPs (**Appendix H**).

Prescribed fire could be used as a management agent to support healthy functioning riparian conditions.

Riparian areas with unique values (e.g., where water quality habitat for special status species is an issue) will be treated as avoidance areas for rights-of-way (installation of infrastructure that requires surface disturbance and/or permanent surface occupancy).

Grazing techniques and practices detailed in **Appendix I** will be implemented to reduce hot season (summer) grazing on riparian and meadow complexes within the Greater Sage-Grouse PHMA and the Grassland Bird/Greater Sage-Grouse PHMA. Alternative water facilities will be installed to relieve grazing impacts on riparian areas inside of priority sage-grouse habitat.

Saline seeps that occur as a result of surface-disturbing activities will be prioritized and reclaimed. Surface-disturbing activities with the potential for producing seep areas will be designed with mitigation measures to minimize development of saline seeps.

Riparian and wetland exclosures will be maintained and monitored to compare differences between areas grazed and ungrazed by livestock.

No pits will be placed in natural wetlands and in some cases pits may be filled in to improve wildlife habitat in natural wetlands (**Appendix I**). Wetlands that have been drained for water consolidation may be restored by plugging drainage ditches, and alternative water developments may be developed in these areas.

3.2.20 Vegetation – Special Status Plants

Goal: *Ensure that in meeting the BLM's multiple use-sustained yield mandate, special status plants and plant communities are managed, conserved, and/or restored for future generations.*

Objectives: Promote the conservation and recovery of BLM special status plant species and their habitats.

Management Actions

The BLM will manage for the conservation of BLM special status plants and their associated habitats and to ensure that actions authorized, funded, or carried out do not contribute to the need to list any species as threatened or endangered. Site-specific prescriptions may include avoidance of special status plant habitat for ROWs, seasonal timing restrictions for grazing (e.g., limited to no grazing during flowering to seed set for a particular species), no salt or water placement within 1/4 mile of a known special status plant species population, seed collection or transplanting of special status plant species for mitigation.

The BLM will inventory lands to determine which BLM special status plant species occur on public lands, the condition of the plant populations and their habitats, and how discretionary BLM actions affect those plant species and their habitats.

The BLM will cooperatively participate in recovery plans, management plans and conservation strategies for special status species plants and will work with federal, tribal, and state agencies as well as private landowners to improve habitat for special status plants.

Through activity plans for other resources (e.g., watershed plans, fire management plans, AMPs, etc.) the BLM will design site-specific management prescriptions and projects to benefit individual species habitats and communities. Special status plants will be monitored to assess their condition and trend.

3.2.21 Visual Resources

Goal: *Manage scenic values in accordance with the objectives established for visual resource management classes.*

Objectives: The VRM classes are based on a process that considers scenic quality, sensitivity to changes in the landscape and distance zone. The four VRM classes are numbered I to IV; the lower the number, the more sensitive and scenic the area. Each class has a management objective which prescribes the level of acceptable change in the landscape. The objectives are guidelines to be used with the visual resource contrast rating system during new project-level planning. The management objectives will not preclude the maintenance of existing structures and range improvements.

The VRM class objectives are defined as follows:

Class I: The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II: The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III: The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class IV: The objective of this class is 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. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements of form, line, color, and texture in the natural characteristic landscape.

The degree to which a management activity affects the visual quality depends on the visual contrast created between the project and the existing landscape. The contrast is measured by comparing elements of form, line, color, and texture to describe the visual contrast created by a project. The visual resource contrast rating system determines whether proposed activities meet VRM objectives.

Management Actions

Visual resource design techniques and BMPs will be used to minimize short and long-term visual impacts. Contrast ratings will be completed for all proposed projects in Class I and II areas, and for proposed projects in Class III and IV areas that are high-impact projects or located in highly sensitive areas.

The visual resource contrast rating system will be used during project level planning to determine whether or not proposed activities will meet VRM objectives. The contrast rating system provides a systematic means to evaluate proposed projects and determine whether these projects conform with the approved VRM objectives. The degree to which a management activity affects the visual quality depends on the visual contrast created between the project and the existing landscape. The contrast is measured by comparing elements of form, line, color, and texture to describe the visual contrast created by a project. Mitigation measures will then be identified to reduce visual contrasts, and rehabilitation plans to address landscape modifications will be prepared on a case-by-case basis. The analysis can then be used as a guide for resolving visual impacts. Once every attempt is made to reduce visual impacts, the project will be re-evaluated for conformance to the VRM Class objectives using the Contrast Rating process. If the project remains out of conformance, the authorized officer may deny the project proposal, attach additional mitigations to bring the proposal into compliance with the existing VRM Class, or pursue a land use plan amendment in order to adjust the VRM Class and objectives for the area.

In VRM Class I, II, III and IV areas the BLM may prohibit surface-disturbing activities if such activities are not designed to meet the intent of the VRM Class objectives.

The Burnt Lodge and Bitter Creek WSAs will be managed as VRM Class I areas (**Appendix A2**, Map N). The following areas will be managed as VRM Class II:

- an area south of the Dry Fork Road in Phillips County and the area south of the Willow Creek Road in Valley County and north of the Charles M. Russell National Wildlife Refuge;
- areas just north of the Upper Missouri River Breaks National Monument;
- Nez Perce and Lewis and Clark National Historic Trail corridors;
- Bitter Creek area;
- Frenchman area including the Frenchman Breaks ACEC;
- Kevin Rim area;
- Marias River area;
- Sweet Grass Hills area;
- Woody Island area; and
- areas managed specifically to protect wilderness characteristics (Areas 49B, 52L and 53).

The remaining BLM lands will be managed as VRM Class III and VRM Class IV.

In VRM Class II areas the BLM will reduce the visual contrast on BLM land in the existing landscape by utilizing proper site selection, reducing soil and vegetative disturbance, choice of color, and over time, returning the disturbed areas to a seamless, natural landscape.

3.2.22 Water Resources

Goal: Maintain, improve or restore the chemical, physical, and biological integrity of waters to protect beneficial uses.

Objectives: Ensure water quality and availability for authorized beneficial uses and proper watershed, wetland, riparian, and stream channel functions.

Prevent, minimize, and/or remediate contributions of non-point source pollution from BLM land to all receiving waters, including groundwater resources.

Management Actions

Surface and ground water quality will be maintained to state and federal water quality standards, including Standard for Rangeland Health #3 which requires that water quality meets Montana state standards. BMPs (**Appendix H**) will be used to prevent nonpoint source water pollution, and mitigation measures will be applied on a case-by-case basis. Permits pertaining to projects affecting water quality, wetlands, or streams will be obtained, and outside applicants will be required to provide copies of permits (e.g., 310, 404) prior to BLM authorization.

Projects will be reviewed on a case-by-case basis to minimize impacts on water quality. All proposed reservoirs will be designed with a minimum 15-year life expectancy, and the BLM will evaluate other types of improvements to determine the need for alternate site water facilities (e.g., wells, springs). The BLM will continue to comply with Montana water laws, obtain water rights for all projects, and participate in the water adjudication process.

The State of Montana identifies impaired and non-impaired waters in its 303(d)/305(b) Integrated Report. This report lists all segments known to exceed state water quality standards, lists segments that do not fully support beneficial uses, and identifies the probable causes and sources of any water quality impairment. The State uses all available scientifically credible data including indicators such as dissolved oxygen concentration, pH, flow alterations, turbidity, temperature, metals, habitat alterations, fecal coliform, sulfates, nutrients, sodium, and sediment to make beneficial use determinations.

Through an existing MOU with the MDEQ, the BLM will participate in the development, implementation, and monitoring of water quality restoration plans (WQRPs) and total maximum daily load (TMDL) in watershed planning areas in which the BLM is a significant land manager or water user. The BLM will continue to produce, and provide to the DEQ, biennial reports that describe the successes achieved in protecting and improving water quality in Montana.

The BLM will use reasonable land, soil, and water conservation practices to prevent harm to public health, recreation, safety, welfare, livestock, birds, fish, or other wildlife prior to the adoption of WQRPs and TMDLs. Human health will be protected 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. The BLM will ensure that stipulations are in place to protect the State-designated Source Water Protection Areas that protect public water systems from potential contamination.

The BLM will manage federal lands with reasonable land, soil, and water conservation practices in order to protect water bodies that currently meet state water quality standards and improve water quality

where beneficial uses are not fully supported. The BLM manages nonpoint source pollution by controlling the cause and source of pollutants through the use of pollution control measures such as BMPs and soil and water conservation practices. These measures are discussed in detail in the Montana Nonpoint Source Management Plan (MDEQ 2012). The BLM is responsible for monitoring progress and success once pollution control measures are implemented.

Disposal of produced water from any oil and gas fields will be in accordance with Onshore Order No. 7 and EPA guidelines. Produced water cannot be discharged to live surface water in Montana without treatment in conjunction with a Montana Pollution Discharge Elimination System (MPDES) permit. Effluent limits set by the MDEQ for direct discharge ensure no degradation will occur. Discharge to impoundments within an ephemeral drainage will also require an MPDES permit and a non-degradation waiver for groundwater.

Watershed control structures will be maintained on a case-by-case basis to meet Standards for Rangeland Health or public safety concerns.

New reservoirs will be considered on a site-specific basis through activity planning and will consider livestock grazing practices, important wildlife habitat, alternate water sources, and the opportunity to replace or repair existing reservoirs.

Water supply sources (e.g., wells, springs, reservoirs, and stream and lake access) for BLM-authorized actions (e.g., grazing, wildlife, recreation, etc.) will comply with Montana water laws.

The BLM will avoid the discharge of produced water from point sources to BLM land, including stream channels and uplands, as a means of disposal. Any allowed discharge will be in compliance with MDEQ requirements.

3.2.23 Wilderness Characteristics

Goal: *Where practical, manage lands with wilderness characteristics for naturalness, solitude, and outstanding opportunities for primitive and unconfined recreation.*

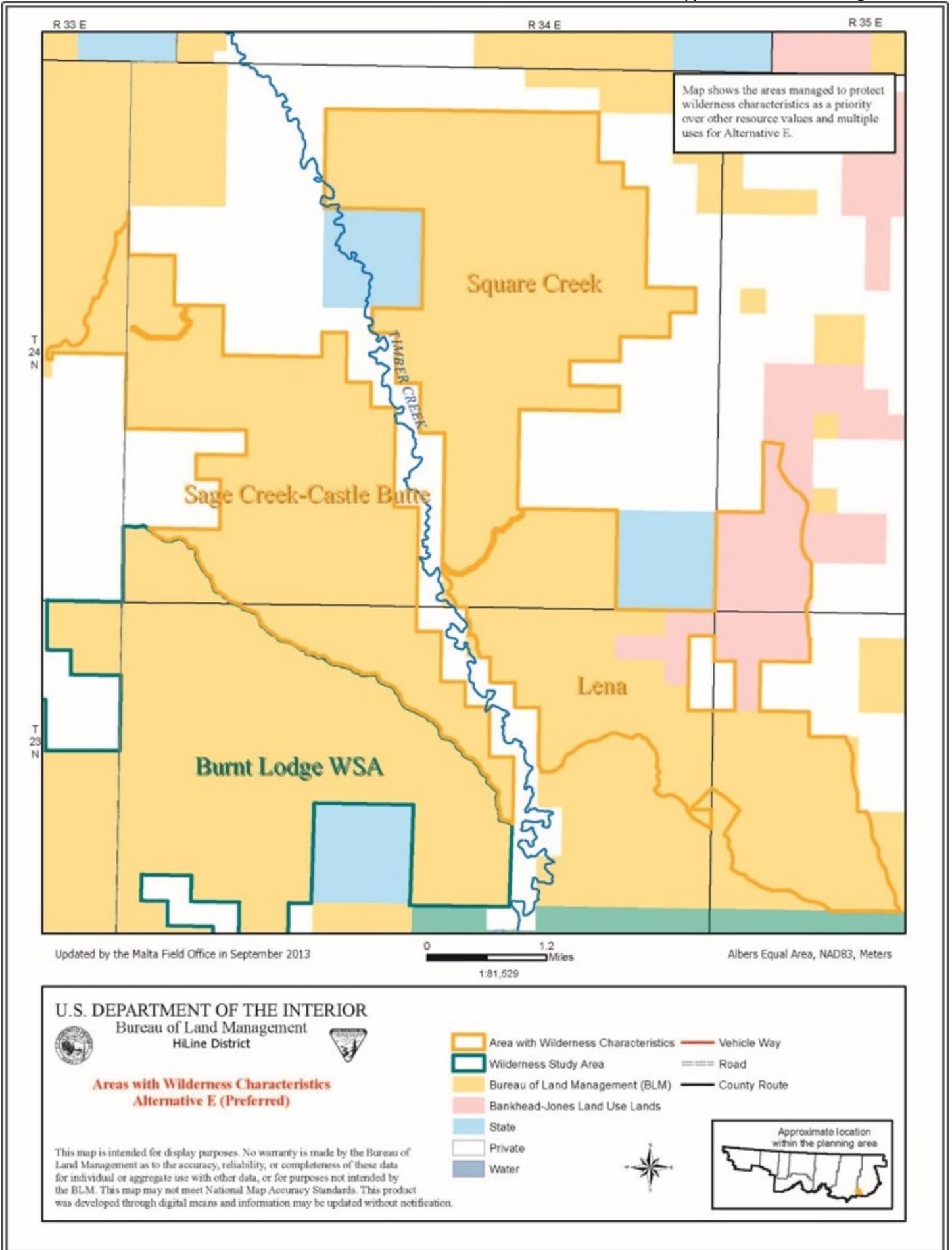
Objective: Manage specific areas for their wilderness characteristics while providing for multiple uses throughout the planning area.

Management Actions

The BLM will manage 16,393 acres in three areas (Areas 49B, 52L and 53) to protect wilderness characteristics as a priority over other multiple uses (**Table 3.2-3** and **Figure 3.2-5**).

Table 3.2-3
Areas Managed for Wilderness Characteristics

Inventory No.	Area	Acres
49B	Sage Creek - Castle Butte	5,144
52L	Lena	5,679
53	Square Creek	5,570
	Total	16,393



Updated by the Malta Field Office in September 2013



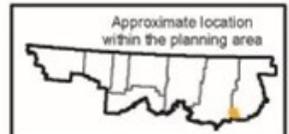
Albers Equal Area, NAD83, Meters

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

**Areas with Wilderness Characteristics
Alternative E (Preferred)**

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

- Area with Wilderness Characteristics
- Wilderness Study Area
- Bureau of Land Management (BLM)
- Bankhead-Jones Land Use Lands
- State
- Private
- Water
- Vehicle Way
- Road
- County Route



Management proposed under the Preferred Alternative for these three areas includes:

- *Fluid Minerals*: NSO with no WEMs.
- *Landownership Adjustment*: Category 2 -Retention/Limited Disposal (exchange only – no sale).
- *Rights-of-Way*: Avoidance areas.
- *OHV Area Designations*: Limited.
- *Renewable Energy – Wind*: Exclusion.
- *Recreation Opportunity Spectrum*: Semi-primitive motorized.
- *Travel and Transportation Management*: Closed to development of new roads, primitive roads, and trails.
- *Visual Resource Management*: VRM Class II.

Any changes to livestock grazing will be consistent with achieving or maintaining the Standards for Rangeland Health. All agreements and provisions for maintenance and upkeep of existing range improvements will continue to remain in effect including access to and maintenance of range improvements. New range improvements and land treatments could be allowed provided they meet with the objective of enhancing or restoring those wilderness characteristics being managed for and meet the intent of the visual quality objectives of the VRM class.

The areas will be limited for OHV use and a high priority for travel management planning. In these areas travel will be limited to existing roads, primitive roads and trails until subsequent travel management plans designate a motorized and nonmotorized transportation network after completion of this RMP. A ROW may be allowed if no reasonable alternative is found; however, special mitigation measures will be required to minimize impacts on wilderness characteristics.

Of the remaining lands with wilderness characteristics, 290,865 acres will be managed to emphasize other resource values and multiple uses while applying management restrictions to reduce impacts on wilderness characteristics. Most of these areas fall within PHMA, SFA, Frenchman Breaks ACEC, and Sweet Grass Hills ACEC. Management proposed for these areas is complementary to maintaining wilderness characteristics in these areas. Management proposed under this alternative for these areas includes:

- *Fluid Minerals*: Closed within the Sweet Grass Hills TCP; NSO with no WEMs within the Frenchman Breaks ACEC and SFA; and NSO with limited exceptions and no waivers or modifications within the Greater Sage-Grouse PHMA.
- *Landownership Adjustment*: Category 1 – Retention within the Sweet Grass Hills ACEC; Category 2 – Retention/Limited Disposal within all other areas.
- *Rights-of-Way*: Avoidance Areas.
- *OHV Area Designations*: Closed within the Sweet Grass Hills ACEC; Limited within all other geographic areas.
- *Renewable Energy – Wind*: Exclusion.

- *Recreation Opportunity Spectrum*: Semi-Primitive Nonmotorized within the Sweet Grass Hills ACEC; Semi-Primitive Motorized within the remainder of geographic area.
- *Visual Resource Management*: VRM Class I within the Sweet Grass Hills ACEC; VRM Class II within the remainder of the geographic area.

The other 92,190 acres will be managed to emphasize other resource values and multiple uses as a priority over protecting wilderness characteristics. In coordination with the interdisciplinary team and the BLM HiLine District Manager and Field Managers, it was determined that these areas either cannot be effectively managed to protect wilderness characteristics or the management or use of other resources takes precedence over wilderness characteristics. However, BLM-authorized activities associated with all resources and all resource use programs in these areas will be subject to mitigation and minimization guidelines and BMPs in **Appendix H**.

3.2.24 Wildlife

Goals: *Ensure habitat for native wildlife is of sufficient quantity and quality to enhance biological diversity and sustain ecological, economic and social values.*

Identify, conserve, enhance and monitor rare, vulnerable, and representative habitats, communities, and ecosystems to ensure self-sustaining persistence of special status species.

Ensure that proposed land uses initiated or authorized by the BLM minimize damage to wildlife habitat and populations of special status species.

Promote public awareness, appreciation, and understanding of wildlife conservation, management, and ecology.

Maintain and/or increase Greater Sage-Grouse abundance and distribution by conserving, enhancing or restoring the sagebrush ecosystem upon which populations depend in cooperation with other conservation partners.

Objectives: The necessary habitat, biological processes, and disturbance regimes will be present to maintain, enhance, or restore priority wildlife habitat and populations of special status species. Land use will maintain habitat quality and large intact blocks of habitat. Habitat quality and land use will allow wildlife species movements between large blocks of habitat and between seasonal habitats on a localized and landscape scale.

The BLM will maintain and enhance habitat for wildlife species. The emphasis for habitat maintenance and restoration will be placed on present and potential habitat for priority species such as sensitive, threatened and/or endangered species. The BLM will prioritize wildlife habitat improvement projects such as restoration of sagebrush communities through invasive species removal and native shrub reestablishment. Priority will be given to projects that improve habitat conditions in areas where there is the greatest expectation of an increase in wildlife populations or population viability resulting from the restoration enhancement work.

Use individual species management strategies and/or known habitat associations to design habitat management strategies to promote management of as many species as possible.

Implement habitat improvement projects where necessary to restore wildlife habitat and/or to improve unsatisfactory or declining wildlife habitat.

Manage priority wildlife habitat, special status species habitat, and populations using multi-scale assessments to identify current conditions, risks, and opportunities.

Maintain, enhance, or restore habitat availability and condition for special status species, and minimize habitat loss.

Protect priority Greater Sage-Grouse habitats from anthropogenic disturbances that will reduce distribution or abundance of sage-grouse.

Minimize fragmentation of large intact blocks of important wildlife habitat, particularly habitat areas for Greater Sage-Grouse and grassland birds.

Management Actions

General Wildlife

The BLM will provide ecological conditions that support wildlife species (BLM 2015, Appendix Q) over the long term and promote maintenance and recovery of federally listed species and BLM sensitive species (BLM 2015, Appendix Q). The planning area provides for the range of habitat requirements for species by managing for the broad level ecosystem desired conditions. This strategy will involve a two-tiered approach:

- The structure, composition, and disturbance processes of ecosystems that maintain habitat are managed for attainable and sustainable desired conditions that meet a variety of management objectives. The historic range of variability of habitat conditions are used for comparison and guidance in order to manage for habitats that sustain a broad range of wildlife species found in the planning area. Changes in land use within the planning area as well as on adjacent lands often preclude the BLM from attaining these goals on all BLM lands.
- Species with conservation concerns are evaluated in order to determine limiting habitats, population influences, and special habitat needs not provided through ecosystem-level management. Species identified may need additional protection as specified in conservation strategies for individual species or species groups. Incorporating design components found in the desired conditions and guidelines detailed in the RMP, species conservation strategies and recovery plans, or species assessments based on the best available science will maintain or enhance key habitat and habitat effectiveness in order to provide diversity components and maintain wildlife sustainability. Species and management actions identified for this level of management are mostly addressed in the Special Status Species section.

New fences will follow BLM specifications to allow for wildlife passage, except for fences built specifically to keep wildlife out of an area. Fences will also be placed and marked, or modified, to reduce wildlife collisions or entanglements.

Power lines and substations constructed on BLM land will comply with the most current raptor protection standards (currently Reducing Avian Collisions with Power Lines: The State of the Art in 2012 (APLIC 2012)). Existing power lines that have been identified as having problems with collision or electrocution of wildlife and do not meet APLIC standards will be corrected and modified to prevent

future wildlife collision threats or electrocution. Power lines that are in good working order will be maintained and upgraded as deemed necessary.

Wildlife mortality at water tanks on BLM land will be minimized, primarily through the use of functional wildlife escape ramps. All new tanks will have effective escape ramps built in and existing tanks will have effective escape ramps installed.

Mitigation for migratory birds will be considered during activity level planning because the number of species, variety of habitats, and variation in seasonal movements limit the ability to provide effective mitigation for all species at the resource management planning level.

Management activities will consider current adopted strategies including Montana's Comprehensive Fish and Wildlife Conservation Strategy (MFWP 2005) and currently accepted science. The BLM will continue to implement, review, and update as necessary the Prairie Pothole Waterfowl and Fisheries HMP of North Central Montana (BLM 1978), Whitewater Lake Waterfowl Habitat Development Project HMP (BLM 1970a), and Milk River Hills Pronghorn Winter Range HMP (BLM 1970b).

Implementation and consistent and effective monitoring of outcomes for habitat and species will provide the impetus toward the desired conditions. Monitoring will provide necessary data to evaluate RMP management decisions and will help identify needs for changes in management practices. Monitoring to track changing conditions in key areas and for specific species (**Appendix D**) is an important step in accomplishing objectives and achieving desired conditions.

Coordination and partnerships with state and federal agencies, tribal governments, commercial interests, interested organizations and individuals will serve as an important way to achieve desired conditions throughout the planning area, particularly for wildlife species and populations that span administrative and legal boundaries.

The BLM will work with local organizations, schools and other agencies to provide educational programs, information brochures, interpretive sites, etc. to promote public awareness, appreciation, and understanding of wildlife conservation, management, and ecology.

Fences identified as potential barriers to wildlife movement or representing significant hazards for wildlife on BLM land will be inventoried. Fences will be prioritized for replacement or modification to maintain resource values including wildlife movements.

Bighorn Sheep: No new grazing permits authorizing sheep or goat allotments will be allowed within the MFWP Bighorn Sheep Management Zone (BLM 2015, Figure 3.21). Sheep and goat 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) between domestic sheep and/or goats and bighorn sheep. Domestic sheep/goats will not be allowed within bighorn sheep range unless mechanisms are in place to achieve effective separation from wild sheep.

Migratory Birds: The BLM will follow the Prairie Pothole Joint Venture Implementation Plan (2005) to analyze site-specific proposed actions and determine whether BLM lands are meeting rangeland health

standards. The BLM will integrate the goals of the Prairie Pothole Joint Venture into programmatic and site-specific management decisions through the following management actions:

- Emphasize maintenance and restoration of habitats that sustain sensitive species.
- Strive to enhance or restore migratory bird habitat composition and structure in riparian habitats, where and when appropriate.

Waterfowl: Upland and emergent vegetation in pastures surrounding reservoirs established or rebuilt for waterfowl values will be managed to provide adequate nesting and brood rearing cover for waterfowl.

Special Status Species

BLM Manual 6840 provides policy and guidance for the conservation of BLM special status species and the ecosystems upon which they depend on BLM-administered lands.

The BLM will initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing of these species under the ESA.

The BLM will ensure habitat is provided for special status species (BLM 2015, Tables 3.58 and 3.59). Proposed actions will not jeopardize the continued existence of a threatened or endangered species, or cause its habitat to be adversely modified or destroyed.

The BLM will continue cooperative participation in recovery plans, management plans and conservation strategies for special status species.

Fragmentation of large intact blocks of important wildlife habitat will be minimized, particularly in Greater Sage-Grouse and grassland bird priority areas.

The BLM will coordinate with MFVP or other interested parties to highlight special status species information and BLM management of habitats for special status species. The BLM will also provide outreach materials for the general public.

A Biological Assessment (BA) evaluating the impacts of the Proposed Plan on federal threatened and endangered species was submitted to the USFWS on May 21, 2015 with a request of concurrence on the effects determinations contained therein. On May 27, 2015, USFWS issued a concurrence that the Proposed Plan “may affect, not likely to adversely affect” the black-footed ferret, whooping crane, least tern, pallid sturgeon, grizzly bear, red knot, piping plover, and piping plover critical habitat presented in the BA. The Memorandum of Concurrence is located in **Appendix K**.

Mitigation

Mitigation measures for all resources are included in Appendices H and I. The BLM may add additional mitigation measures as deemed necessary by further environmental analysis and as developed through consultation with other federal, state, and local regulatory and resource agencies.

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.

Application of Lek Buffers

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**.

Development in Highly Important Landscapes

The BLM will designate SFA as shown in **Figure 3.2-6** (927,074 acres). All BLM-administered lands within the SFA boundary will be:

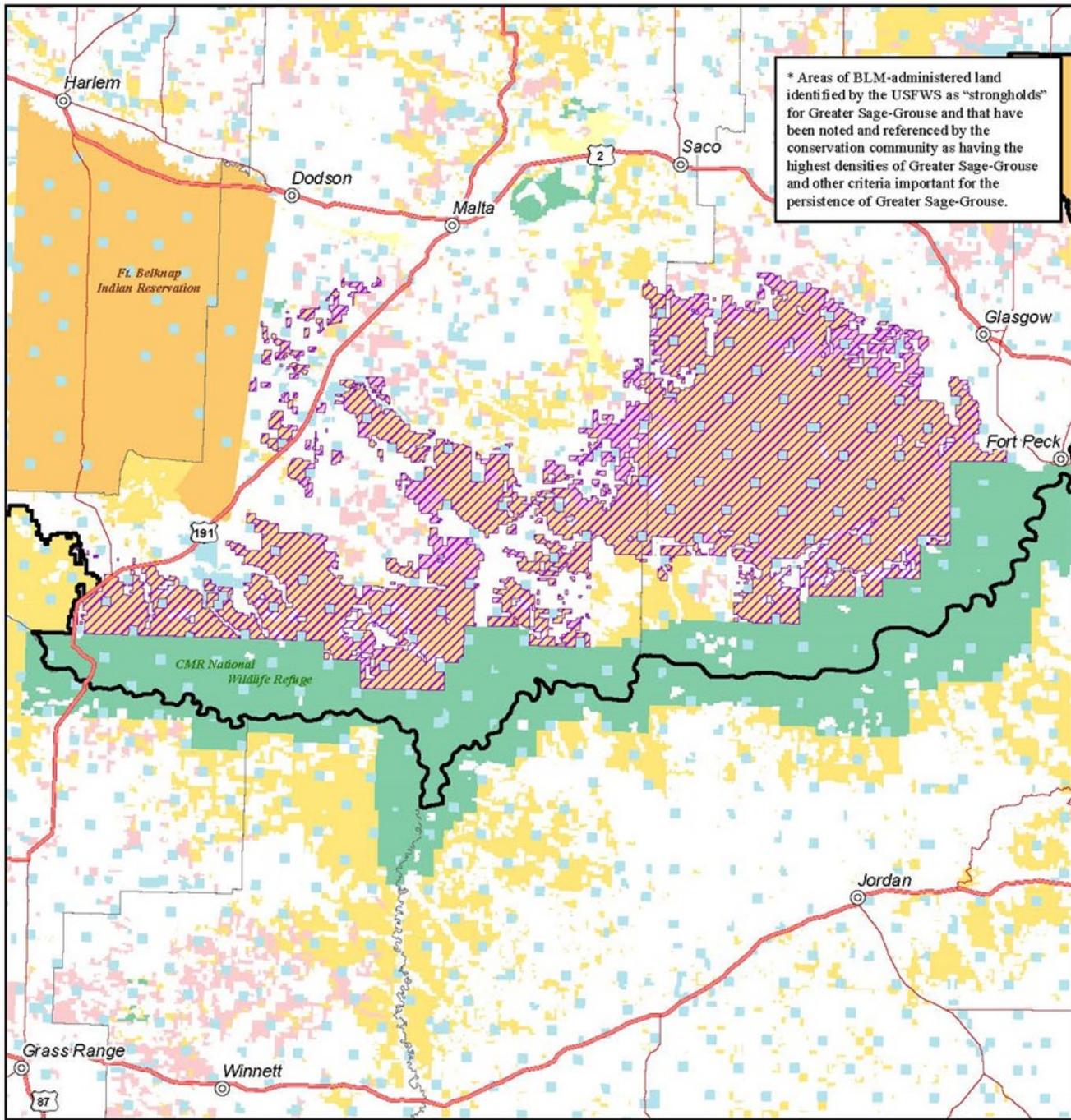
- 1) Recommended for withdrawal from the General Mining Act of 1872, subject to valid existing rights.
- 2) Managed as NSO, without WEM, for fluid mineral leasing.
- 3) Prioritized for management and conservation actions in these areas, including, but not limited to review of livestock grazing permits/leases (see the Livestock Grazing section for additional actions).

Disturbance

The Montana/Dakotas BLM will use a 3% disturbance cap at the BSU and project scale, until the State strategy, similar to Wyoming's Core Strategy of 5% for all lands and all disturbances, is fully implemented. The density calculation (an average of 1 facility per 640 acres) applies to energy and mining facilities. The disturbance cap will not be applied to foreclose development of locatable minerals on unpatented claims located under the General Mining Act of 1872; the disturbance from locatable mining will be accounted for in determining the percent disturbance and whether the cap has been exceeded.

If the 3% anthropogenic disturbance cap is exceeded on lands (regardless of landownership) or if anthropogenic disturbance and habitat loss associated with conversion to agricultural tillage or fire exceed 5% within a project analysis area, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the General Mining Act of 1872, valid existing rights, etc.) will be permitted by the BLM within 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 Greater Sage-Grouse 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.

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 landownership) 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



* Areas of BLM-administered land identified by the USFWS as "strongholds" for Greater Sage-Grouse and that have been noted and referenced by the conservation community as having the highest densities of Greater Sage-Grouse and other criteria important for the persistence of Greater Sage-Grouse.

Created by the Malta Field Office in April 2015



Albers Equal Area, NAD83, Meters

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

Sagebrush Focal Areas

<ul style="list-style-type: none"> Indian Reservation Bureau of Land Management (BLM) Bankhead-Jones Land Use Lands Bureau of Reclamation Sagebrush Focal Area * Planning Area Boundary 	<ul style="list-style-type: none"> State Lands US Fish and Wildlife Service Private
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This map is intended for display purposes. No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data, or for purposes not intended by the BLM. This map may not meet National Map Accuracy Standards. This product was developed through digital means and information may be updated without notification.

Location within the planning area

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

Black-tailed Prairie Dog: The BLM will adopt the MFWP Region 6 Prairie Dog Abundance and Distribution Objectives Plan (MFWP 2006) and will contribute to achieving prairie dog objectives on BLM land as outlined in the plan.

The BLM will manage firearm discharge on BLM land before and after any future ferret reintroduction. Firearm discharge may temporarily be prohibited on prairie dog towns where black-footed ferret reintroduction is occurring. However, recreational shooting will be managed on these towns and towns subsequently occupied by the ferret, unless impacts from shooting are shown to be detrimental.

Greater Sage-Grouse: Quantifiable 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 in **Table 3.2-4** are based on recommendations in current literature (Stiver, et al. 2015, 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 Major Land Resource Areas 52C and 58A (USDA 2005). **Table 3.2-4** is to be used as a minimum to meet the applicable Land Health Standard in sage-grouse habitats.

**Table 3.2-4
Desired Conditions for Greater Sage-Grouse Habitat**

Habitat Indicators	Dominant Sagebrush, Soil Type and/or Ecological Site				
	Sagebrush on Saline and/or Sodic Soils	Sagebrush on Acid Shale Parent Materials	Silver Sagebrush on Overflow Sites	Silver Sagebrush on All Other Soils/Sites	Wyoming Big Sagebrush on All Other Soils/Sites
Sage-Grouse Breeding Habitat					
Sagebrush Canopy Cover	≥ 5%	≥ 5%	10-25%	≥ 2%	15-25%
Sagebrush Height	≥ 6 inches	≥ 6 inches	≥ 12 inches	≥ 12 inches	≥ 12 inches
Perennial Grass Heights (includes residual grasses)	≥ 5 inches	≥ 7 inches	≥ 7 inches	≥ 7 inches	≥ 7 inches
Perennial Grass Canopy Cover (such as green needlegrass)	≥ 10%	≥ 10%	≥ 15%	≥ 15%	≥ 10%
Perennial Forb Canopy Cover	≥ 3%	≥ 3%	≥ 10%	≥ 5%	≥ 5%
Perennial Forb Availability	≥ 3 species	≥ 3 species	≥ 5 species	≥ 5 species	≥ 5 species
Riparian Areas & Wet Meadows	Proper Functioning Condition				
Lek Security	Rocky Mountain juniper and/or Ponderosa pine with less than 1% canopy cover on shrub/grassland ecological sites within 3 kilometers (1.86 miles) of occupied leks				
Sage-Grouse Winter Habitat					
Sagebrush Availability	>10% canopy and >10 inches visible above snow				

The assessment and evaluation of these objectives will follow the steps described in the Sage-Grouse Habitat Assessment Framework (Stiver, et al. 2015).

These habitat objectives in **Table 3.2-4** 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 subregion. 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 (see **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 significant factor in failing to achieve the standards for healthy rangelands, the use will be adjusted by the response specified in the instrument that authorized the use.

Greater Sage-Grouse General Habitat Areas: Sagebrush habitats will be managed so that mid-scale (i.e. landscape level) shrub cover should include a mix of height classes with herbaceous understory adequate for meeting Greater Sage-Grouse requirements as well as habitat requirements for other sage-associated species such as mule deer and pronghorn.

Consideration will be given to incorporating fine-scale and site-specific Greater Sage-Grouse habitat and management objectives as appropriate to the area into AMPs or livestock grazing permits.

General sage-grouse habitat will be an avoidance area for solar and wind energy rights-of-way.

Greater Sage-Grouse habitat suitability determinations will be based upon existing guidelines modified with data from recent habitat inventories and assessments in the planning area. Relevant range-wide research findings will also be included in habitat suitability determinations.

The BLM will emphasize restoration and rehabilitation of sagebrush in areas that are capable of, but no longer support sagebrush to contribute to the distribution and connectivity of habitat patches.

Greater Sage-Grouse habitats associated with silver sagebrush north of the Milk River will be enhanced to improve habitat conditions for nesting and brood rearing. Specific management actions will be derived from the results of ongoing research and best available science.

New distribution power lines on BLM land within 1 mile of Greater Sage-Grouse leks will be buried.

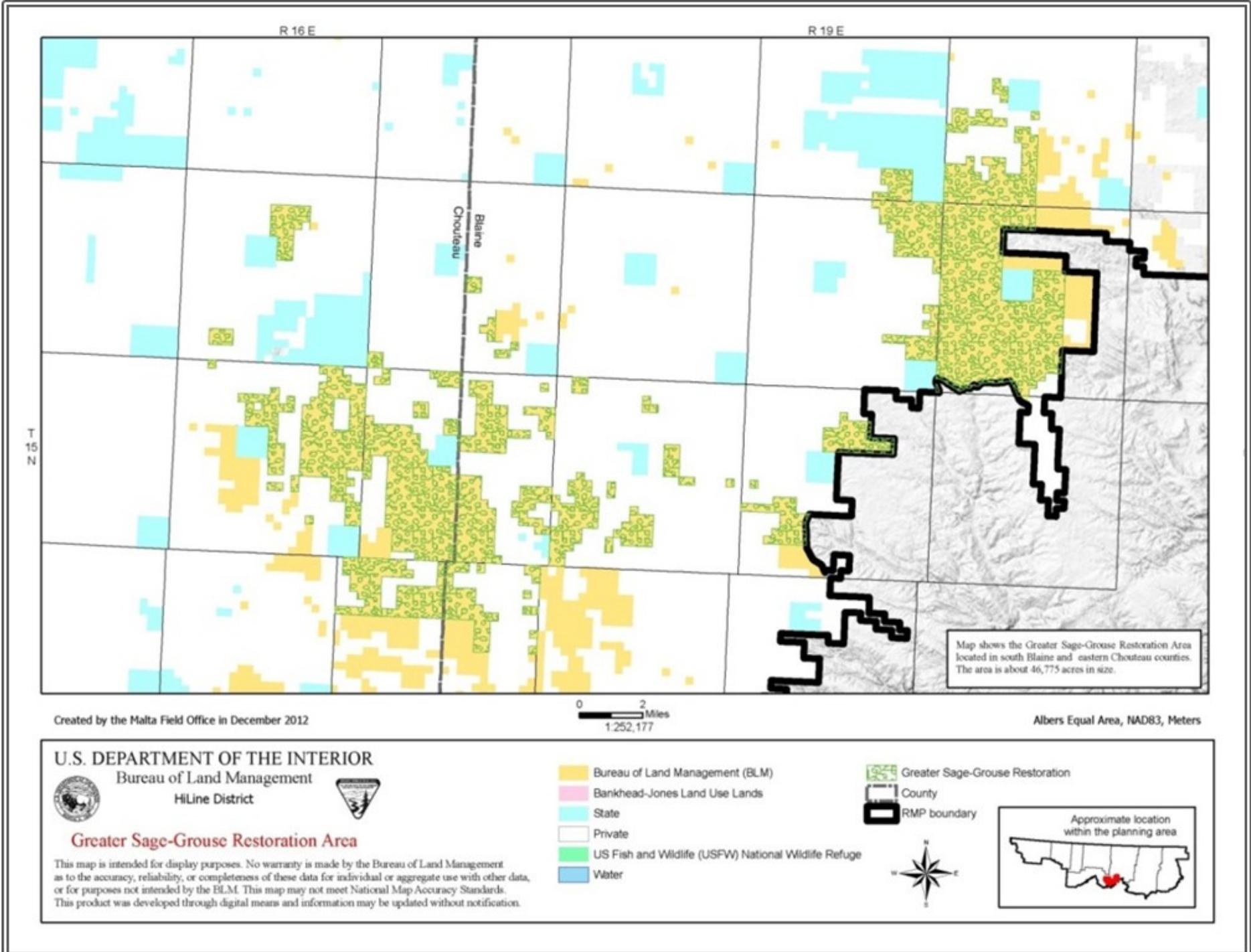
Fragmentation of large intact blocks of habitat for special status species will be minimized, particularly in habitat protection areas for Greater Sage-Grouse and grassland birds.

Greater Sage-Grouse Priority Habitat Management Areas: Two PHMA are located in the HiLine District. The Grassland Bird/Greater Sage-Grouse PHMA is located in northwest Phillips County and northeast Valley County and includes 426,355 acres of BLM surface. The Greater Sage-Grouse PHMA is located in southern half of Phillips and Valley Counties and includes 1,006,312 acres of BLM surface. Both PHMA are displayed on **Appendix A2**, Map O. These two areas encompass the sage-grouse core area as identified by MFWP and the priority area of conservation as identified by the USFWS. The following management actions will apply to these areas:

- PHMA will include a NSO stipulation for oil and gas leasing unless there is a more restrictive stipulation in place to protect other resource values (e.g., no lease in the Bitter Creek WSA and the Mountain Plover ACEC). 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:
 - will not have direct, indirect, or cumulative effects on Greater Sage-Grouse or its habitat; or,
 - 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 Greater Sage-Grouse.
- Exploration and development activities for existing oil and gas leases will be managed according to BMPs (**Appendix N**), or other mitigation measures, through COA in authorizing APDs or plans of development. Consistent with surface use rights granted, the existing lease may be subject to “restrictions deriving from specific, nondiscretionary statutes; and such reasonable measures as may be required by the authorized officer to minimize adverse impacts on other resource values, land uses or users not addressed in the lease stipulations at the time operations are proposed” (43 CFR, Part 3101.1-2). Overall consideration shall be given to minimizing the impact on sage-grouse through a project design that avoids, minimizes, and applies compensatory mitigation for direct and indirect impacts on sage-grouse habitat or use and includes applicable and technically feasible COA (**Appendix I**). Selection and application of these measures shall be based on current science and research on the impacts on important breeding, nesting, brood-rearing, and wintering areas.
- PHMA will be an avoidance area for the issuance of rights-of-way except within designated corridors. Rights-of-way and similar facilities will be located adjacent to other facilities in a corridor where practical. The BLM will consider opportunities to remove, bury, or modify existing power lines (e.g., burying, anti-perching devices or line location).
- Where leases or rights-of-way have some level of development (e.g., road, fence, well, etc.) that are no longer in use, the site will be reclaimed by removing the features and restoring the habitat. Upon project completion or ROW expiration, roads built and maintained for commercial use across BLM land will be reclaimed, unless based on site-specific analysis, the route provides specific benefits to the public and the continued public use does not contribute to resource conflicts.

- PHMA will remain available for livestock grazing. Site-specific Greater Sage-Grouse habitat and management objectives will be developed for BLM land and incorporated into the respective AMPs or livestock grazing permits as appropriate. Third order (fine-scale) and fourth order (site-scale) habitat indicators and characteristics for sage-grouse habitat seasonal use areas as described in BLM Technical Reference 6710-1, Sage-Grouse Habitat Assessment Framework (Stiver, et al. 2015) will be used to quantify habitat objectives.
- The NEPA analyses for renewals and modifications of livestock grazing permits/leases that include lands within PHMA will include specific management thresholds based on the Desired Conditions for Greater Sage-Grouse Habitat (habitat objectives) presented in **Table 3.2-4** and Land Health Standards (43 CFR, Part 4180.2) and defined responses that will allow the authorized officer to make adjustments to livestock grazing without conducting additional NEPA.
- Existing range improvements, including the location of supplements, will be evaluated and if necessary modified to conserve, enhance or restore sage-grouse habitat.
- If prescribed fire is to be used for vegetation treatments, the burn plan will clearly indicate how COT objectives will be addressed and met by its use, and why alternative techniques were not selected.
- A Fire Risk Assessment will be completed for implementation of prescribed fire in relation to sage-grouse goals and objectives.
- PHMA will be an exclusion area for solar and wind energy rights-of-way.
- PHMA will be closed to solid leasable minerals, including non-energy leasable minerals.
- PHMA are closed to new mineral material sales. 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 RDFs are applied (**Appendix C**).
- New road construction will be limited to realignments of existing roads, if that realignment has a minimal impact on Greater Sage-Grouse habitat, eliminates the need to construct a new road, or is necessary for public safety. New road construction will include appropriate BMPs and mitigation (**Appendices H and I**).
- Existing roads, or realignments, will be used to access valid existing rights. If valid existing rights cannot be accessed via existing roads, then any new road will be constructed to the absolute minimum standard necessary with appropriate BMPs and mitigation (**Appendices H and I**).

Greater Sage-Grouse Restoration Area: This is an area with ongoing or imminent impacts containing substantial and high quality sage-grouse habitat that historically supported sustainable sage-grouse populations. This area includes 46,786 acres of BLM surface (**Figure 3.2-7**). Management actions will emphasize restoration for the purpose of establishing or restoring sustainable sage-grouse populations.





Greater Sage-Grouse

Photo by Brian Hockett

Specific management for this area will be addressed through plan implementation, most likely a natural gas field development plan for the Bears Paw South Area (see BLM 2015, Appendix E, Map E.1). Management actions addressed during implementation will be based on guidance contained in IM MT-2010-017 and may include:

- Maximizing the area of interim reclamation on roads and well locations.
- Direct planting of seedlings of shrubs and forbs important for spring and summer food.
- Seeding of wild collected shrub seed to increase nesting habitat.
- Burying power lines to prevent predator perch sites.

Mountain Plover: The following management actions will apply to protect mountain plover habitat and to maintain regional mountain plover populations:

- Mountain plover habitat will include an NSO stipulation for oil and gas leasing: surface occupancy and use will be prohibited within mountain plover habitat (**Appendix G**).
- A timing stipulation will also apply: surface occupancy and use will be prohibited within 1/4 mile of mountain plover habitat from April 1 through July 15 (**Appendix G**).
- Activities for existing oil and gas leases will be managed according to BMPs (**Appendix N**).
- For surface-disturbing or disruptive activities other than oil and gas, mitigation will be applied where needed to minimize impacts of human activities on mountain plover habitat consistent with the oil and gas surface use restrictions. The BLM will avoid permanent above-ground structures that may provide perches for avian predators or deter plover from using preferred habitat. Mitigation measures will be applied on a case-by-case basis during activity level planning if an evaluation of the project area indicates the presence of mountain plovers. This will include surveys for mountain plovers in all suitable habitat, as well as avoidance of nesting areas from April 1 through July 15. Exceptions may be granted by the authorized officer if an environmental review demonstrates that effects could be mitigated to an acceptable level.

- Road maintenance in mountain plover habitat will not occur between April 1 and July 15 unless the road is surveyed prior to maintenance activities for plover presence and avoidance measures are implemented.
- The BLM will reduce or control non-native grasses to increase breeding habitat, and prescribed burning could be used to increase the availability of nesting habitat, particularly on lands where taller or non-native grasses occur.
- The BLM will promote integrated pest management practices that limit chemical applications in mountain plover habitat.

Piping Plover: The following management actions will apply to protect piping plover habitat and maintain regional piping plover populations:

- Piping plover habitat will include an NSO stipulation for oil and gas leasing: surface occupancy and use will be prohibited within 1/4 mile of essential and critical habitat (**Appendix G**).
- Road maintenance in piping plover habitat will not occur between April 1 and July 31 unless the road is surveyed prior to maintenance activities for plover presence and avoidance measures are implemented.

Sprague's Pipit: The following management actions will apply to protect Sprague's pipit habitat:

- Sprague's pipits will be protected through management actions for the Grassland Bird/Greater Sage-Grouse PHMA.
- A timing stipulation will apply to areas within Sprague's pipit habitat: Surface occupancy and use will be prohibited from April 15 through July 15 (**Appendix G**).



Frenchman Area, Phillips County

Photo by Kathy Tribby

CHAPTER 4

CONSULTATION, COORDINATION, AND PUBLIC INVOLVEMENT

4.1 CONSULTATION AND COORDINATION

The BLM HiLine District will continue to coordinate, both formally and informally, with the numerous state, federal, tribal, and local agencies and officials interested and involved in the management of public lands in north-central Montana. Coordination and partnerships with state and federal agencies, tribal governments, commercial interests, interested organizations and individuals will achieve desired conditions throughout the planning area, particularly for wildlife species and populations that span administrative and legal boundaries.

The BLM will consult with MFWP Region 6 biologists and seek concurrence on the anticipated benefits and impacts of any vegetation treatments that may impact wildlife habitat. The BLM will coordinate with the MFWP and other interested parties to highlight special status species information and BLM management of habitats for special status species.

Specific to cultural resources, the BLM will regularly consult with the SHPO, certified local governments, and other federal and state agencies in order to properly identify and assess culturally significant properties, nominate properties to the National Register of Historic Places, conduct Section 106 reviews of agency projects and conduct educational programs on the importance of preserving historic properties.

The BLM Montana/Dakotas invited the tribes to participate in preparing the HiLine RMP regarding land use. 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, Advisory Council on Historic Preservation, and National Conference of State Historic Preservation Officers and the State Protocol Agreement between the BLM and SHPO, or where applicable the Section 106 regulations.

The BLM incorporated the information it received from the SHPO and tribes into the HiLine Proposed RMP/Final EIS and the ARMP. It took into consideration such information in making the land use plan decisions. The BLM has met its obligations under Section 106 of the NHPA, 54 USC, Section 306108, as

outlined in the National Programmatic Agreement and the state protocols or where applicable the Section 106 regulations. The BLM will satisfy the requirements of NHPA Section 106 for future implementation-level decisions, such as project proposals, including adequate consultation with the SHPO, the Tribal Historic Preservation Officer, Native American tribes, and other interested parties. This is consistent with the alternatives procedures set forth in the National Programmatic Agreement and relevant state protocol or where applicable under Section 106 regulations.

The BLM will consult with Indian tribes when its actions have the potential to affect areas of concern to the practitioners of traditional religions, as established by Executive Order 13007 (Indian Sacred Sites, 61 *Federal Register* 104, May 24, 1996). The activities of concern are those that might degrade the visual or aesthetic nature of an area or cause the loss of plant species or other resources important to traditional uses. The BLM is required to consult with traditional religious practitioners on policies and procedures to ensure they are considered when implementing agency actions. This includes consultations with federally recognized Indian tribes as sovereign nations in a government-to-government relationship with the United States.

The BLM will work with local organizations, schools and other agencies to provide educational programs, information brochures, and interpretive sites to promote public awareness, appreciation, and understanding of conservation, management, and ecology on BLM-administered lands in the HiLine District.

4.2 PUBLIC INVOLVEMENT

The BLM HiLine District will continue to actively seek the views of the public, using techniques such as news releases, mass mailings, and social media to ask for participation. In this way, the BLM will inform the public of new and ongoing project proposals, site-specific planning, and opportunities and time frames for comment. The BLM, on request, will make available annual land use plan updates to track and monitor the progress of plan implementation.

Implementation actions such as the development of travel management plans will include a NEPA process of environmental review and public involvement. Adaptive management actions that may be necessary in the future will require activity level planning, environmental review, and public involvement. All proposed actions in the future must conform to the HiLine ARMP and ROD. Proposed actions on or affecting BLM-administered land must also be reviewed for NEPA compliance, including appropriate public involvement.



Sand Creek Area, Blaine and Chouteau Counties

Photo by Kathy Tribby

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CHAPTER 5

PLAN IMPLEMENTATION

The ARMP includes all the approved decisions from the RMP. Plan implementation is a continuous process occurring over the life of the ARMP. During the process, the BLM will consider changing circumstances and new information through monitoring. The goal is to maintain a dynamic ARMP that is evaluated and amended if necessary on an issue-by-issue basis.

The implementation and monitoring process for the HiLine District involves these 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 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.

5.1 IMPLEMENTING THE PLAN

Decisions made through the RMP were implemented over time. Some of the decisions were immediate and went into effect with the ROD, such as recreation site designations and lands available for disposal through exchange. Some decisions would be implemented after a site-specific environmental review. Examples include range improvements or approval of an APD for a natural gas well. Other decisions include guidance that would be applied during site-specific analysis or activity planning.

The BLM will review any future proposals or management actions in accordance with the ARMP to determine if the proposal would be in conformance with the RMP. While the Final EIS for the HiLine RMP provides the compliance with NEPA for the broad-scale decisions to be made in the ROD, it does not replace the requirement to comply with NEPA for implementation actions.

Proposed actions fall into one of the following categories

- Those that are exempt from NEPA
- Those that are categorically excluded
- Those that are covered by an existing NEPA environmental document
- Those that require preparation of an EA to determine if an EIS is needed
- Those 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 BMPs are not effective, they could be modified without amendment or revision, 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 plan implementation 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 adjusting the appropriate scope. Where it considers taking or approving actions that 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 ARMP, 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, BMPs, 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.

5.1.1 Implementation Strategy

A well-documented, well-organized process is essential to the successful implementation of land use plans. To that end, the BLM will develop an implementation strategy for the HiLine District that lists prioritized decisions. These will help achieve the desired outcomes and can be implemented given existing or anticipated resources. Developing implementation strategies enables the BLM to prioritize the preparation of implementation decisions. As appropriate, this strategy will also further identify monitoring to determine if the implementation of activities has achieved the desired goals and objectives.

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 support new management techniques, BMPs, and scientific principles. Where monitoring shows land use plan actions or BMPs are not effective, the BLM may amend the plan, as appropriate. The BLM would document plan maintenance in supporting records; this is because it does not require formal public involvement, interagency coordination, or the NEPA analysis required for making new land use plan decisions.

5.3 CHANGING THE PLAN

Should conditions warrant, the ARMP may be changed 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 making policy changes and changing public needs might also require a plan amendment. Also, 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, according to the Council on Environmental Quality (CEQ) procedures for implementing NEPA.

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 that identified in this plan. Identifying new areas or removing old areas that no longer have those resource values could be added to the existing data inventory without a plan amendment or revision. In cases where the 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. This would be done in coordination with MFWP and the USFWS and would be based on the best available scientific information, through a plan maintenance, amendment, or revision, as appropriate.

If the BLM finds that implementation of Montana GRSG Habitat Conservation Program is effective in meeting GRSG conservation management goals and objectives, the BLM may revise the management decisions and associated GRSG habitat management area maps. It would do this, in coordination with the State of Montana and the USFWS and based on best available scientific information. The BLM would implement plan maintenance decisions and associated GRSG habitat management area maps through plan maintenance or plan amendment, as appropriate. The intent would be to achieve the agencies' shared goal of consistent and effective GRSG management and conservation across all lands, regardless of ownership.

5.4 PLAN EVALUATION, ADAPTIVE MANAGEMENT, AND MONITORING

5.4.1 Plan 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.

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. The ARMP will generally be evaluated every five years, unless unexpected actions, new information, or significant changes in other plans, legislation, or litigation trigger an evaluation.

Land use plan evaluations determine if decisions are being implemented, if mitigation measures are satisfactory, if the related plans of other entities have significant changes, if new data is of significance to the plan, and if decisions should be changed through amendment or revision.

The BLM will adhere to the following evaluation schedule for the ARMP:

- August 2020
- August 2025
- August 2030
- August 2035

Evaluations will follow the protocols established by the BLM Land Use Planning Handbook H-1601-1 in effect at the time.

5.4.2 Adaptive Management

The hard and soft trigger data for GRSG (**Appendix J**) will be analyzed as soon as it becomes available after the FOD is signed and then, at a minimum, will be analyzed annually thereafter.

The BLM will periodically review monitoring results; any management objectives or actions that may need to be changed or adjusted will be open to public review and comment before decisions are made through an environmental review process. Through implementation, an adaptive management approach may also be used for specific activities in the planning area, if appropriate, consistent with Secretarial Order 3270 (Adaptive Management). Adaptive management would require activity-level planning, environmental review, and public involvement.

5.4.3 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 not. 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 the BLM's progress toward full implementation of the land use plan decision. No specific thresholds or indicators are 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 collecting 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

contracting with another agency, academic institution, or other entity. It is usually expensive and time consuming since results are not known for many years.

Regulations at 43 CFR, Part 1610.4-9, require that the proposed plan establish intervals and standards, as appropriate, for monitoring and evaluating the plan, based on the sensitivity of the resource decisions involved. Periodically, the BLM reviews progress in meeting the plan objectives and adhering to the management framework established by the plan. CEQ regulations implementing NEPA state that agencies may provide for monitoring to ensure that their decisions are carried out and should do so in important cases (40 CFR, Part 1505.2[c]). To meet these requirements, the BLM will prepare periodic reports on the implementation of the RMP, as described above.



Black Elk Coulee, Blaine County

Photo by Craig Miller

CHAPTER 6

GLOSSARY

Abandoned Mine Lands. An abandoned hard rock mine on or affecting public lands administered by the BLM, at which exploration, development, mining, reclamation, maintenance, and inspection of facilities and equipment, and other operations ceased as of January 1, 1981 (the effective date of the BLM's Surface Management regulations, codified at 43 CFR, Part 3809) with no evidence demonstrating that the miner intends to resume mining. For many abandoned mines, no current claimant of record or viable potentially responsible party exists. Abandoned mines generally include a range of mining impacts or features that may pose a threat to water quality, public safety, and the environment.

Acquired Lands. Lands in federal ownership that were obtained by the government through purchase, condemnation, gift, or exchange.

Actual Use. The amount of animal unit months consumed by livestock, based on the numbers of livestock and grazing dates submitted by the livestock operator and confirmed by periodic field checks by the BLM.

Air Quality. 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 Federal Land Manager for a particular area. AQRV impacts may also include sulfur, nitrogen, acid deposition, and lake acidification.

Air Quality Standards. Primary standards are designed to protect human health, including sensitive populations, such as people with asthma and emphysema, children, and senior citizens. They were designed for the immediate protection of public health, with an adequate margin of safety, regardless of the cost. Secondary standards are designed to protect public welfare, including soils, water, crops, vegetation, buildings, property, animals, wildlife, weather, visibility, and other economic, aesthetic, and ecological values, as well as personal comfort and well-being. Secondary standards were established to protect the public from known or anticipated effects of air pollution.

Allotment. An area of land where one or more livestock operators graze their livestock. 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 Categorization. Grazing allotments and rangeland areas used for livestock grazing are assigned to an allotment category during resource management planning. Allotment categorization is used to establish priorities for distributing available funds and personnel during plan implementation to achieve cost-effective improvement of rangeland resources. Categorization is also used to organize allotments into similar groups for developing multiple use prescriptions, analyzing site-specific and cumulative impacts, and determining trade-offs.

Allotment Management Plan. A written program of livestock grazing management, including supportive measures if required, designed to attain specific management goals in a grazing allotment.

Amendment. The process for considering or making changes in the terms, conditions, and decisions of approved resource management plans or management framework plans, using the prescribed provisions for resource management planning appropriate to the proposed action or circumstances. Usually only one or two issues are considered that involve only a portion of the planning area.

Analysis Area. The geographic area defining the scope of analysis for a particular resource. This area may be larger than the project area when effects have the potential to extend beyond the boundaries of the proposed action.

Animal Unit Month (AUM). A standardized measurement of the amount of forage necessary to sustain one cow or its equivalent for one month, approximately 800 pounds of forage. An AUM is the amount of forage needed to sustain one cow and her calf, one horse, or five sheep or goats for a month.

Application for Permit to Drill (APD). Before beginning construction or the drilling of a well, the lessee or operator must file an APD with the BLM Great Falls Oil and Gas Field Office. A copy of the application is posted in the Great Falls Oil and Gas Field Office, in the appropriate HiLine District field office, and if applicable, in the office of the surface management agency for a minimum of 30 days for public review. After 30 days, the application can be approved in accordance with lease stipulations, onshore oil and gas orders, and onshore oil and gas regulations (43 CFR, Part 3160) if it is administratively and technically complete.

Area Designations.

- **Open.** 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.
- **Limited.** An area restricted at certain times, in certain areas, and/or to certain vehicular use. These restrictions may be of any type, but can generally be accommodated within the following type of categories: Numbers of vehicles; types of vehicles; time or season of vehicle use; permitted or licensed use only; use on existing roads, primitive roads and trails; use on designated roads and trails; and other restrictions.

- **Closed.** An area where motorized vehicle use off road is prohibited. Use of off-road vehicles in closed areas may be allowed for certain reasons; however, such use shall be made only with the approval of the authorized officer.

Area of Critical Environment Concern. Areas within the public lands where special management attention is required to: (1) protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or (2) protect life and safety from natural hazards.

Authorized Officer. The federal employee who has the delegated authority to make a specific decision.

Authorized Use. Uses of public land that may be authorized include agriculture development, residential use (under certain conditions), business, industrial, and commercial uses, advertising; research projects, State National Guard maneuvers, and motion picture filming. Recreational concessions are considered business uses and may be authorized by lease. Timber harvest, livestock grazing, mineral extraction and special recreation events, among other uses, are authorized under other regulations and not under Section 302 of the Federal Land Policy Management Act (FLPMA).

Avoidance Areas. Areas to be avoided but may be available for location of rights-of-way with special stipulations. (BLM Land Use Planning Handbook, Appendix C)

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

Big Game. Large species of wildlife that are hunted, such as elk, deer, bighorn sheep, and pronghorn antelope.

Biodiversity. The diversity of living organisms considered at all levels of organization including genetics, species, and higher taxonomic levels, and the variety of habitats and ecosystems, as well as the processes occurring therein.

Biological Assessment. The gathering and evaluation of information on proposed endangered and threatened species and critical habitat and proposed critical habitat. Required when a management action potentially conflicts with endangered or threatened species, the biological assessment is the way federal agencies enter into formal consultation with the U.S. Fish and Wildlife Service and describe a proposed action and the consequences to the species the action would affect.

Biologically Significant Unit: The summary of all the priority habitat management areas within a GRSG population as, delineated in the US Fish and Wildlife Service Conservation Objectives Team recommendations.

Biomass. The trees and woody plants, including limbs, tops, needles, leaves, and other woody parts, grown in a forest, woodland, or rangeland environment, that are the by-products of forest management.

Compensatory Mitigation. Compensating for the (residual) impact by replacing or providing substitute resources or environments. (40 CFR, Part 1508.20)

Conservation Agreement. A formal signed agreement between the US Fish and Wildlife Service or National Marine Fisheries Service and other parties that implements specific actions, activities, or programs designed to eliminate or reduce threats or otherwise improve the status of a species. Conservation agreements can be developed at a state, regional, or national level and generally include multiple agencies at both the state and federal level, as well as 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 prior to signing the conservation agreement or subsequently in order to implement the conservation agreement.

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 threats. Conservation strategies are generally developed for species of plants and animals that are designated as BLM Sensitive species or that have been determined by the Fish and Wildlife Service or National Marine Fisheries Service to be federal candidates under the Endangered Species Act.

Corridor. A designated right-of-way corridor is a parcel of land with specific boundaries identified by law, Secretarial order, the land-use planning process, or other management decision, as being a preferred location for existing and future rights-of-way and facilities. The corridor may be suitable to accommodate more than one type of right-of-way use or facility or one or more right-of-way uses or facilities which are similar, identical, or compatible. (43 CFR, Part 2801.5[b][9])

Critical Habitat. An area occupied by a threatened or endangered species “on which are found those physical and biological features (1) essential to the conservation of the species, and (2) which may require special management considerations or protection.”

Crucial Winter Range. That part of the winter range where a majority of the wildlife population (primarily mule deer) is located (or 90 percent of the individuals) when the annual snowpack is at its maximum and/or temperatures are at a minimum in the two worst winters out of ten.

Cultural Resource/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. It may include definite locations (sites or places) or traditional cultural or religious importance to specified social or cultural groups. Cultural resources are concrete material places and things that are located, classified, ranked, and managed through the system of identifying, protecting, and using for public benefit.

Cultural Resource Inventory Classes.

- 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. Class I inventories encompass prehistoric, historic, and ethnological/sociological elements and in large part chronicle past land uses. They may have major relevance to current land use decisions.

- **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.
- **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 (generally at 30-meter intervals) until the area has been thoroughly examined.

Designated Roads and Trails. Specific roads and trails where some type of motorized vehicle use is allowed either seasonally or yearlong.

Desired Future Condition. Outcomes representing the long-term vision of the BLM with regard to the resources managed on BLM-administered land.

Developed Recreation. Recreation that requires facilities and might result in concentrated use of an area; for example, a campground.

Dispersed Recreation. Unstructured recreation not confined to specific locations. Examples of these activities are hunting, fishing, off-road vehicle use, hiking, and sightseeing.

Endangered Species. Any plant or animal species which is in danger of extinction throughout all or a significant portion of its range.

Exception (Oil and Gas). A one-time exemption to a lease stipulation. Exceptions are determined on a case-by-case basis.

Exclusion Areas. Areas that are not available for locating rights-of-way under any conditions (BLM Land Use Planning Handbook, Appendix C).

Extensive Recreation Management Area (ERMA). An identified area of BLM-administered land managed to provide stewardship of resources and visitor use. Investments are limited to stewardship actions only within ERMAs.

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 specific locations, such as oil and gas well pads and associated infrastructure.

Federal Land Policy and Management Act of 1976. Public Law 94-579, October 21, 1976, often referred to as the BLM's Organic Act, which provides most of the BLM's legislated authority, direction, policy, and basic management guidance.

Fire Management Category. A classification for landscape-level fire and fuels management strategies and options based on consideration of fire history, land status, issues, concerns, hazardous fuels, and other resource objectives. There are four categories, which range from Category A, where wild and prescribed fire are not desired due to reasons other than ecological, to Category D, where fire may be

desired and there are no constraints associated with the resource condition, or social, economic, or political considerations.

Fire Management Plan. A strategic plan that defines a program to manage wildland fire (wildfire and prescribed fire) and documents the fire management program in the approved land use plan; the plan is supplemented by operational procedures, such as preparedness plans, dispatch plans, prescribed fire plans, and prevention plans.

Fire Management Unit (FMU). A land management area definable by objectives, management constraints, topographic features, access, values to be protected, political boundaries, fuel types, and major fire regime groups that set it apart from the characteristics of an adjacent FMU. The FMU may have dominant management objectives and preselected strategies assigned to accomplish these objectives.

Fire Regimes. Descriptions of the patterns of fire occurrence, frequency, size, and severity in a given area or ecosystem. A fire regime is a generalization based on fire histories at individual sites. Fire regimes can often be described as cycles because some parts of the histories usually get repeated, and the repetitions can be counted and measured, such as fire return interval.

Fire Regime Condition Class. A classification describing the degree of departure from historical fire regimes, possibly resulting in alternations of key ecosystem components. These classes categorize and describe vegetation composition and structure conditions that currently exist inside the fire regime groups. The risk of loss of key ecosystem components from wildfires increases from Condition Class 1 (lowest risk) to Condition Class 3 (highest risk). See also *Condition Class*.

Fire Regime Groups. A classification of fire regimes into groups based on frequency and severity. There are five national classifications: I - frequent (0-35 years), low severity; II - frequent (0-35 years), stand replacement severity; III - 35-100+ years, mixed severity; IV - 35-100+ years, stand replacement severity; and V - 200+ years, stand replacement severity.

Fishery. Habitat that supports the propagation and maintenance of fish.

Forage. All browse and herbaceous foods available to grazing animals, which may be grazed or harvested for feeding.

Forb. An herbaceous plant that is not a grass, sedge, or rush.

Forest Health. The perceived condition of a forest derived from concerns about such factors as its age, structure, composition, function, vigor, presence, or unusual levels of insects and disease, and resilience to disturbance.

Forest Health Treatments. Treatments that restore forest ecosystems or stands to a condition that sustains their complexity, function and productivity while providing for human needs.

Forest Products. Vegetative resources that are not normally measured in board feet but can be sold or removed from public lands by means of a contract or permit.

Fossil. Mineralized or petrified form from a past geologic age, especially from previously living things.

Fragmentation. The splitting or isolating of patches of similar habitat. Habitat can be fragmented by natural events or development.

General Habitat Management Area (GHMA). See *Greater Sage-Grouse General Habitat Management Area*.

Geographic Information System (GIS). A system of computer hardware, software, data, people and applications that capture, store, edit, analyze and graphically display a potentially wide array of geospatial information.

Geophysical Exploration. The use of geophysical instruments and methods to determine subsurface conditions by analyzing such properties as specific gravity, electrical conductivity, or magnetic susceptibility.

Goal. A broad statement of a desired outcome. Goals are usually not quantifiable and may not have established time frames for achievement.

Grassland Bird/Greater Sage-Grouse Priority Habitat Management Areas (PHMA). Areas containing substantial and high quality grasslands that support large populations of a suite of special status grassland bird species. This includes the following species of concern: Sprague's pipit, chestnut-collared longspur, McCown's longspur, Baird's sparrow, and long-billed curlew. Management actions would emphasize the conservation and enhancement of sustainable grassland bird habitats. Areas are delineated by using survey results, predictive models of species distributions, and landownership patterns. These areas also include core area for GRSG identified by Montana Fish, Wildlife, and Parks. Sage-grouse core areas are habitats associated with Montana's highest densities of GRSG, based on male counts, and GRSG lek complexes and associated habitat important to GRSG distribution.

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. The BLM's receipt of a relinquishment is not a decision to close areas to livestock grazing.

Greater Sage-Grouse General Habitat Management Area (GHMA). Areas with or without ongoing or imminent impacts containing GRSG habitat outside of the priority areas. Management actions would maintain habitat for sustainable GRSG populations to promote movement and genetic diversity. Areas are delineated based on GRSG habitat.

Greater Sage-Grouse Habitat. A specific environment, or set of environmental conditions suitable for occupancy by GRSG often typified by the presence of sagebrush. GRSG habitat may be further defined by the season of use (i.e., winter, breeding, and brood-rearing), each with its own set of different environmental conditions. Each planning area may further define seasonal habitat characteristics based on local ecological conditions. See also *Greater Sage-Grouse General Habitat Management Areas*, *Greater Sage-Grouse Priority Habitat Management Areas*, and *Greater Sage-Grouse Restoration Areas*.

Greater Sage-Grouse Priority Habitat Management Area (PHMA). An area with limited impacts containing substantial and high quality greater GRSG habitat that supports high density GRSG

populations. Management actions would emphasize the conservation and enhancement of sustainable GRSG habitat. The area is delineated by using key, core, and connectivity data/maps landownership patterns, and other resource information.

Greater Sage-Grouse Restoration Areas. Areas with ongoing or imminent impacts containing substantial and high quality GRSG habitat that historically supported sustainable GRSG populations. Management actions would emphasize restoration for the purpose of establishing or restoring sustainable GRSG populations. Areas are delineated by using connectivity data/maps and other resource information.

Groundwater. Water contained in pore spaces of consolidated and unconsolidated surface material.

Guidelines. Actions or management practices that may be used to achieve desired outcomes, sometimes expressed as best management practices. Guidelines may be identified during the land use planning process, but they are not considered a land use plan decision unless the plan specifies that they are mandatory.

Habitat. (1) Species specific environment or environmental conditions suitable for occupancy by that species; (2) a particular land cover type that provides an environment or environmental conditions suitable for occupancy by many species.

Habitat Connectivity. Vegetative cover in sufficient quantity and arrangement to allow for the movement of wildlife.

Habitat Diversity. The variation in types, sizes, and shapes of landscape elements or vegetation types.

Impact. A modification of the existing environment caused by an action, such as construction or operation of facilities.

Impacts. Environmental consequences (the scientific and analytical basis for comparison of alternatives) as a result of a proposed action. Impacts 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.

Implementation Decisions. Decisions that take action to implement land use plan decisions. They are generally appealable to Interior Board of Land Appeals.

Implementation Plan. A site-specific plan written to implement decisions made in a land use plan. An implementation plan usually selects and applies best management practices to meet land use plan objectives. Implementation plans include both activity plans and project plans.

Integrated Weed Management. This is a decision support system involving deliberate selection, integration, and implementation of effective weed management tactics. It uses cost/benefit analysis and takes into consideration public interests and social, economic, and ecological impacts in the decision-making process.

Invasive Plants. Plants that are invasive species.

Invasive Species. Organisms that have been introduced into an environment where they did not evolve. Executive Order 13112 focuses on organism whose presence is likely to harm the economy, the environment, or human health.

Land and Water Conservation Fund (LWCF). Most LWCF monies comes from Outer Continental Shelf oil and gas leasing and are used for the purchase of land, waters, and wetlands, with an emphasis on special management areas. Congress allocates the money based on competing proposals submitted by various BLM offices.

Lease Stipulation (Oil and Gas). Conditions of lease issuance that provide protection for 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—Greater Sage-Grouse.

- **Confirmed GRSG lek.** Data supports existence of 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 the subsequent year. One of three subcategories will be assigned to a confirmed lek:
 - Active—Default assignment unless criteria are met for “inactive” or “extirpated”
 - Inactive—10 years with no sign of lek activity, supported by surveys conducted during three or more years over the last 10 years
 - Extirpated—Habitat changes have caused birds to permanently abandon a lek (e.g., plowing, urban development, or overhead power line)
- **Provisionally confirmed GRSG lek.** Only one year of survey data is available but more than five males were observed
- **Unconfirmed GRSG lek.** Single count with no subsequent survey or a reported lek without supporting survey data

Lek—Sharp-tailed Grouse.

- **Confirmed sharp-tailed grouse lek.** Data supports existence of lek. Supporting data 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 the subsequent year. One of three subcategories will be assigned a confirmed lek:
 - Active—Default assignment unless criteria are met for “inactive” or “extirpated”
 - Inactive—10 years with no sign of lek activity, supported by surveys conducted during three or more years over the last 10 years
 - Extirpated—Habitat changes have caused birds to permanently abandon a lek (e.g., plowing, urban development, or overhead power line)

- **Unconfirmed sharp-tailed grouse lek.** Single count with no subsequent survey or a reported lek without supporting survey data.

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.

Management Framework Plan. Planning decision document prepared before the effective date of the regulations implementing the land use planning provisions of the FLPMA, which establishes, for a given area of land, land use allocations, coordination guidelines for multiple use, and objectives to be achieved for each class of land use or protection.

Mineral. Any solid or fluid inorganic substance that can be extracted from the earth for profit.

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

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

Mineral Materials. Materials such as common varieties of sand, stone, gravel, pumice, pumicite, and clay, that are not obtainable under the mining or leasing laws but that can be acquired under the Mineral Materials Act of 1947, as amended.

Mineral Withdrawal. A formal order that withholds federal lands and minerals from entry under the Mining Law of 1872 and closes the area to mineral location (staking mining claims) and development.

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 and local laws and rules. A single mining claim may contain as many adjoining locations as the locator may make or buy. The four categories of mining claims are: lode, placer, mill site, and tunnel site.

Mitigation Measures. Methods or procedures that reduce or lessen the impacts of an action. Mitigation measures and conservation actions are best management practices, operating procedures, or design features that have been developed to avoid, minimize, rectify, reduce, or compensate for potentially significant adverse environmental impacts associated with surface-disturbing or disruptive activities.

Modification. A change in a plan of operations that requires some level of review by BLM because it exceeds what was described in the approved plan.

Modification (Oil and Gas). A change to the provision of a lease stipulation either temporarily or for the term of the lease.

Monitoring Plan. The process of tracking the implementation of land use plan decisions and collecting and assessing data/information necessary to evaluate the effectiveness of land use planning decisions.

Motorized Travel. Moving by means of vehicles that are propelled by motors, such as cars, trucks, OHVs, motorcycles, boats, and aircraft (source: BLM Handbook 8342: Travel and Transportation Management).

Motorized Vehicles. Synonymous with off-highway vehicle (OHV). Examples of this type of vehicle are airplanes, all-terrain vehicles, utility type vehicles, sport utility vehicles, motorcycles, and over-snow vehicles (source: BLM Handbook H-8342-1: Travel and Transportation Management).

- **All-Terrain Vehicle.** A wheeled vehicle other than an over-snow vehicle, which is defined as having a wheelbase and chassis of 50 inches in width or less, steered with handlebars, generally having a dry weight of 800 pounds or less, travels on three or more low-pressure tires, and with a seat designed to be straddled by the operator.
- **Motorcycle.** Motorized vehicles with two tires and with a seat designed to be straddled by the operator.
- **Off-Highway Vehicle (OHV).** Defined in 43 CFR, Part 8340.0-5 (a), as “any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding: 1) Any non-amphibious registered motorboat; 2) Any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; 3) Any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved; 4) Vehicles in official use; and 5) Any combat or combat support vehicle when used in times of national defense emergencies.” OHVs generally include dirt motorcycles, dune buggies, jeeps, 4-wheel-drive vehicles, SUVs, over-snow vehicles, UTVs and ATVs. Airplanes are also considered OHVs because they are wheeled motorized vehicles that are capable of travel over land. Helicopters are not considered OHVs because they are not capable of travel over land.
- **Over-Snow Vehicle.** A motor vehicle designed for use over snow that runs on a track or tracks or a ski or skis. It does not include machinery used strictly for the grooming trails for nonmotorized travel.
- **Sport Utility Vehicle.** A street legal, high clearance vehicle used primarily on a highway but designed to be capable of off-highway travel.
- **Utility Type (or Terrain) Vehicle.** Any recreational motor vehicle other than an ATV, motorbike, or over-snow vehicle designed for and capable of travel over designated unpaved roads, traveling on four or more low-pressure tires, maximum width less than 74 inches, usually a maximum weight of less than 2,000 pounds, or having a wheelbase of 94 inches or less. Does not include vehicles specially designed to carry a person with disabilities.

Multiple Use. Under the Federal Land Policy and Management Act of 1976, 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 conform 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.” (43 USC, Section 1702, Sec. 103[c])

National Environment Policy Act (NEPA) of 1969. Encourages productive and enjoyable harmony between humans and the environment and promotes efforts to prevent or eliminate damage to the environment and biosphere and stimulate human health and welfare; enriches the understanding or the ecological systems and natural resources important to the nation and establishes the Council on Environmental Quality.

Net Conservation Gain. The actual benefit or gain above baseline conditions.

No Surface Occupancy. A fluid minerals 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.

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

Paleontological Resources (Fossils). The physical remains of plants and animals preserved in soils and sedimentary rock formations. Paleontological resources are important for understanding past environments, environmental change, and the evolution of life.

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. Expressed in AUMs.

Permittee. Holder of a valid permit that authorizes certain uses of the public lands (e.g., for grazing).

Permittee (Grazing). Holder of a valid permit that authorizes grazing use of the public lands within the grazing district.

Placer. An alluvial deposit of sand and gravel containing valuable minerals such as gold.

Potential Fossil Yield Classification. Occurrences of paleontological resources are closely tied to the geologic units that contain them. The probability for finding paleontological resources can be broadly predicted from the geologic units present at or near the surface; therefore, geologic mapping can be used for assessing the potential for the occurrence of paleontological resources. Using the PFYC system, geologic units are classified based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts, with a higher class number indicating a higher potential. The five classes range from Class I (very low) to Class 5 (very high).

Prehistoric. Refers to the period wherein Native American cultural activities took place that were not yet influenced by contact with historic nonnative cultures.

Prescribed Fire. The planned ignition of fire in a planned area; implementation must occur under specified conditions to meet specific management objectives.

Prescription Livestock Grazing (Grazing). Grazing use authorized on land designated or not designated for livestock grazing designed to accomplish a specific purpose; for example, authorizing sheep and goats to graze a piece of land as a biological control agent to treat noxious weeds. Prescription grazing would normally be authorized on a temporary nonrenewable basis.

Primitive and Unconfined Recreation. Nonmotorized, nonmechanized and undeveloped types of recreation.

Primitive Road. A linear route managed for use by four-wheel-drive or high-clearance vehicles. These routes do not customarily meet any BLM road design standards.

Primitive Route. Any transportation linear feature located within a wilderness study area or lands with wilderness characteristics designated for protection by a land use plan and not meeting the wilderness inventory road definition.

Priority Habitat Management Area (PHMA). See *Grassland Bird/Greater Sage-Grouse Priority Habitat Management Areas* and *Greater Sage-Grouse Priority Habitat Management Area*.

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. PSQ is not a commitment to offer for sale a specific level of timber volume every year.

Proper Functioning Condition (PFC). Ecosystems are in PFC when they function within their historic range of variability.

Proposed Action. A project or set of activities that a federal agency intends to implement, as defined in NEPA regulations.

Public Involvement. Any process designed to broaden the information base upon which agency decisions are made by informing the public about BLM activities, plans, and decisions to encourage public understanding about the participation in the planning processes which lead to final decision-making.

Public Lands. Under the Federal Land Policy and Management Act of 1976, any land and interest in land owned by the United States within the several states and administered by the Secretary of the Interior through the BLM, without regard to how the United States acquired ownership (43 USC, Section 1702, Sec. 103[e]).

Public Land Laws. A body of laws that regulates the administration of the public lands and the resources thereon.

Public Propose. A use in which the public has an interest, affecting its safety, health, morale, and welfare but not including use for habitation, cultivation, trade, or manufacturing.

Public Value. An asset held by, service performed for, or benefit accruing to the people at large.

Rangeland. Land used for grazing by livestock and big game animals on which vegetation is dominated by grasses, grass-like plants, forbs, or shrubs.

Reclamation. Reclamation is the reconstruction of topographic, soil, and plant conditions after disturbance, which may not be identical to the predisturbance site but which permits the degraded land mass to function adequately in the ecosystem of which it was and is a part (Munshower 1994).

Record of Decision. A document signed by a responsible official recording a decision that was preceded by the preparing of an environmental impact statement.

Recreation and Public Purposes (R&PP) Act. Authorizes the sale or lease of BLM lands for recreation or other public purposes to state and local governments and to qualified nonprofit organizations. Examples of typical uses under the act are historic monument sites, campgrounds, schools, fire houses, law enforcement facilities, municipal facilities, landfills, hospitals, parks, and fairgrounds. Department of the Interior regulations for the R&PP Act are found in 43 CFR, Parts 2740 (sales) and 2912 (leases).

Recreation Opportunity Spectrum (ROS). A framework for stratifying and defining classes of outdoor recreation environments, activities, and experience opportunities. The settings, activities, and opportunities for obtaining experiences are arranged along a continuum or spectrum divided into six classes: primitive, semiprimitive nonmotorized, semiprimitive motorized, roaded natural, rural, and urban.

Required Design Feature (RDF). 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) 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 or 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, a 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 Common Allotment. A unit of public land that will not have term grazing permits issued. Such an allotment would only be grazed on a temporary nonrenewable basis. The use of these

allotments would be to provide temporary grazing to rest other areas following wildfire, habitat treatments, or to allow for more rapid attainment of rangeland health. The allotment must be of sufficient size to be managed as a discrete unit. Reserve common allotments should be distributed throughout the planning area.

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. A permit or an easement that authorizes the use of public lands for certain specified purposes, commonly for pipelines, roads, telephone lines, electric lines, and reservoirs; also, the lands covered by such an easement or permit.

Right-of-Way Corridor. A parcel of land that has been identified by law or Secretarial order or through a land use plan or other management decision as being the preferred location for existing and future right-of-way grants and suitable to accommodate one type of right-of-way or one or more rights-of-way that are similar, identical, or compatible.

Rights-of-Way, Major. High voltage transmission lines of 100 kilovolts or greater and pipelines 24 inches or greater in diameter.

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 areas or washes that lack vegetation that depends on free water in the soil.

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.

Road Density. Number of miles of open road per square mile.

Roadless. The absence of roads that have been improved and maintained by mechanical means to ensure relatively regular and continuous use. A way maintained solely by the passage of vehicles does not constitute a road.

Sagebrush Focal Area. Areas of BLM-administered land identified by the US Fish and Wildlife Service as strongholds for GRSG and that have been noted and referenced by the conservation community as having the highest densities of GRSG and other criteria important for the persistence of GRSG.

Sage-Grouse Habitat. See *Greater Sage-Grouse Habitat*.

Salable Minerals. Common variety minerals on the public lands, such as sand and gravel, that are used mainly for construction and are disposed of by sales or special permits to local governments.

Seasonal Restriction. A fluid minerals leasing constraint that prohibits surface use during specified periods to protect identified resource values. The constraint does not apply to the operation and maintenance of production facilities unless analysis demonstrates that such constraints are needed and that less stringent, project-specific constraints would be insufficient.

Section 106 Compliance. The requirement of Section 106 of the National Historic Preservation Act that any project funded, licensed, permitted, or assisted by the federal government 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.

Sensitive Species. Species designated by the BLM State Director, usually in cooperation with the state agency responsible for managing the species and state natural heritage programs, as sensitive. They are those 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
- Are undergoing significant current or predicted downward trends in habitat capability that would reduce its existing distribution
- Are undergoing significant current or predicted downward trends in population or density such that federal listed, proposed, 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

Special Recreation Management Area (SRMA). An identified area of BLM-administered land managed to provide entire recreation products (i.e., services, settings, and activity and outcome opportunities) in response to identifiable significant customer desires. Investments in facilities or visitor assistance are authorized within SRMAs.

Special Recreation Permits (SRPs). Authorizations that allow for recreation on public lands and related waters. They are issued as a means to control visitor use, protect recreational and natural resources, and provide for the health and safety of visitors. Organized groups and special area permits are usually issued in high use areas or where recreation use requires special BLM management. Commercial SRPs are also issued as a mechanism to provide a fair return to the United States for the commercial recreational use of public lands.

Special Status Species. Proposed species, listed species, and candidate species under the Endangered Species Act, state-listed species, and BLM State Director-designated sensitive species.

Species. A unit of classification of plants and animals consisting of the largest and most inclusive array of sexually reproducing and cross-fertilizing individuals who share a common gene pool.

Split-Estate. A land status term that applies when the surface is patented or deeded into nonfederal ownership, while the federal government retains the mineral rights. Reverse split-estate applies when the federal government transfers both the surface and mineral estate into nonfederal ownership, but the surface estate is subsequently returned while the minerals, or a portion of them, are retained by the private landowner.

Stipulations. Requirements that are part of the terms of a mineral lease. Some stipulations are standard on all federal leases. Other stipulations may be applied to the lease at the discretion of the surface management agency to protect valuable surface resources and uses.

Surface-Disturbing or Disruptive Activities. For the purposes of applying mitigation measures, surface-disturbing and disruptive activities are defined below.

- **Surface-Disturbing Activities**—The physical disturbance or removal of land surface and vegetation. Some examples of surface-disturbing activities include construction of roads, well pads, pipelines, power lines, pits and reservoirs, facilities, recreation sites, and mining. Vegetation renovation treatments that involve soil penetration or substantial mechanical damage to plants (plowing, chiseling, and chopping, for example) are also surface-disturbing activities.
- **Disruptive Activities**—Those resource uses and activities that are likely to alter the behavior of, displace, or cause excessive stress to wildlife populations occurring at a specific location or time. In this context, disruptive activities refer to those actions that alter behavior or displace wildlife such that reproductive success is negatively affected or the 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. Examples of disruptive activities are noise, vehicle traffic, or other human presence regardless of the activity. The term is used in conjunction with protecting wildlife during crucial life stages (e.g., breeding, nesting, and birthing), although it could apply to any resource value. This definition is not intended to prohibit all activities or authorized uses. For example, emergency activities (e.g., fire suppression and search and rescue), rangeland monitoring, routine maintenance associated with an approved authorization, dispersed recreation (e.g., hunting and hiking) and livestock grazing are not considered surface-disturbing or disruptive activities.

Sustainability. The ability of an ecosystem to maintain ecological processes and functions, biological diversity, and productivity over time.

Sustained Yield. Maintenance of an annual or regular periodic output of a renewable resource from public land consistent with the principles of multiple use.

Terms and Conditions. Measures contained in livestock grazing permits and leases that the BLM Authorized Officer determines to be appropriate to achieve management and resource condition objectives for the public lands and other lands administered by the BLM and to ensure conformance with fundamentals of rangeland health and standards and guidelines for grazing administration.

Threatened Species. Any plant or animal species defined under the Endangered Species Act that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range; listings are published in the *Federal Register*.

Trail. Linear routes managed for human-powered, stock, or off-road vehicle 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.

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 networks of roads, trails, ways, and other routes that provide for public access and travel across the planning area. All designed 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.

Valid Existing Right. 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.

Visual Resource Management Classes. Categories assigned to public lands based on scenic quality, sensitivity level, and distance zones. There are four classes, each with an objective that prescribes the amount of change allowed in the characteristic landscape.

WAFWA GRSG Management Zone. 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

Waiver (Oil and Gas). A permanent exemption to a lease stipulation.

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 has the following attributes:

- Generally appears to have been affected mainly by the forces of nature, with human imprints substantially unnoticeable
- Has outstanding opportunities for solitude or a primitive and unconfined type of recreation
- Has at least 5,000 acres or is large enough to make practical its preservation and use in an unimpaired condition
- May also contain ecological, geological, or other features of scientific, educational, scenic, or historic value

Wilderness Characteristics. Key characteristics of a wilderness listed in section 2(c) of the "Wilderness Act" of 1964 and used by the BLM in its wilderness inventory. Characteristics are size, naturalness, outstanding opportunities for solitude, outstanding opportunities for primitive and unconfined type of recreation, and special features.

Wilderness Study Area. A designation made through the land use planning process of a roadless area found to have wilderness characteristics, as described in Section 2 (c) of the Wilderness Act of 1964.

Wildfire. An unplanned ignition of a wildland fire (such as a fire caused by lightning, volcanoes, unauthorized and accidental human-caused fires) and escaped prescribed fires.

Wildland Fire. Any non-structure fire that occurs in the wildland. This term was updated in February of 2009 to include two (rather than three) types of wildland fire:

- Wildfire—An unplanned ignition of a wildland fire (such as a fire caused by lightning, volcanoes, unauthorized and accidental human-caused fires) and escaped prescribed fires
- Prescribed Fire—A planned fire; planned ignitions

Wildland Urban Interface (WUI). The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuel. See also *Rural Intermix*.

Wildlife Corridor. Landscape elements that connect similar patches of habitat through an area with different characteristics. Wildlife corridors are also segments of land that create a link between critical habitats. For example, streamside vegetation may create a corridor of willows and hardwoods between meadows or through a forest. These linkage zones are where species migrate and intermingle, ensuring genetic interchange and consequently long-term survival.

Winter Range. An area where specific wildlife species (primarily deer, antelope, and elk) congregate during winter. These areas are often composed of topographic or vegetative features that enhance survival for these species when conditions such as snow accumulation and temperature place increased energetic demands on individual animals.

Withdrawal. Removal or withholding of public lands by statute or secretarial order, from the operation of some or all of the public land laws.



Kevin Rim, Toole County

Photo by Brian Hockett

CHAPTER 7

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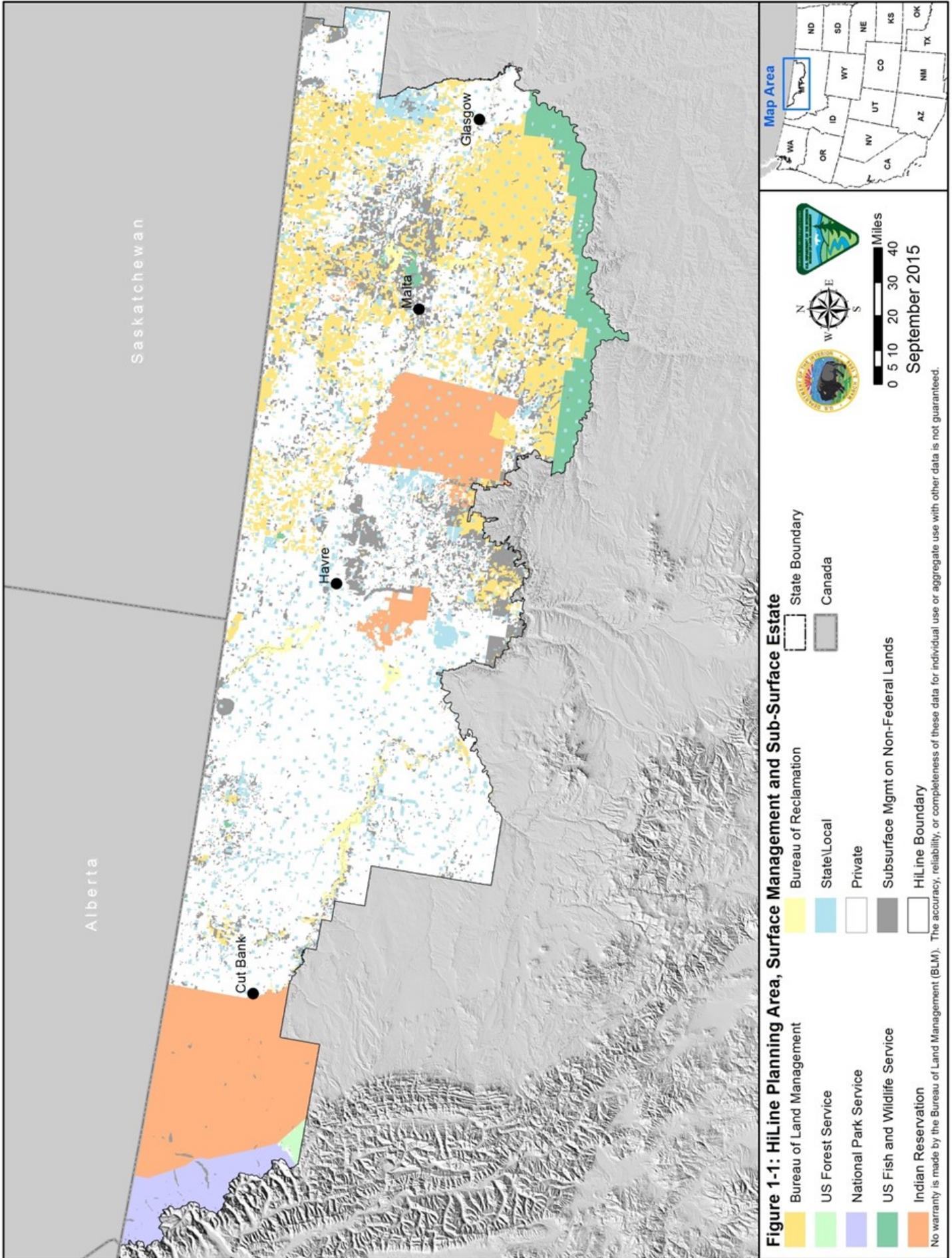
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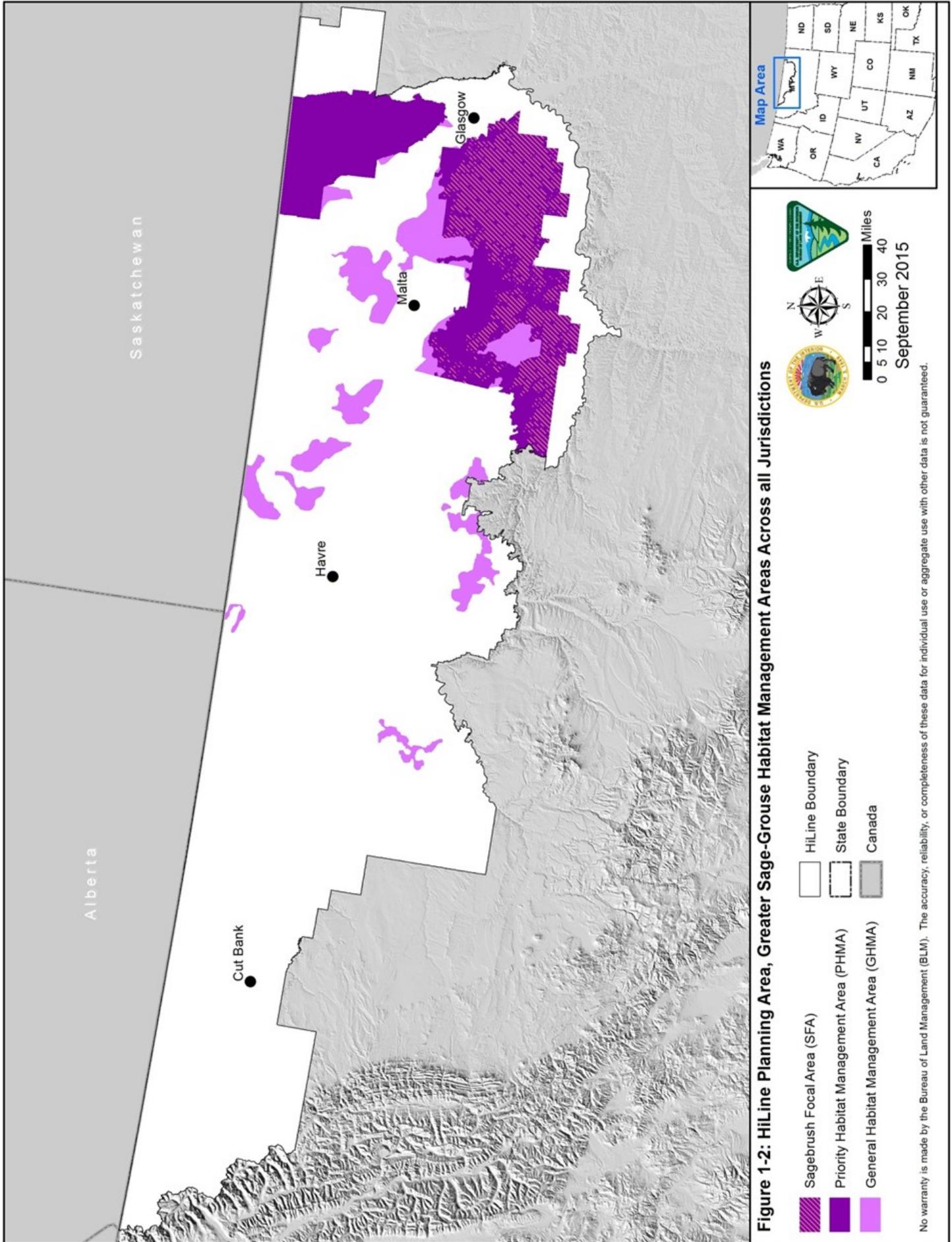
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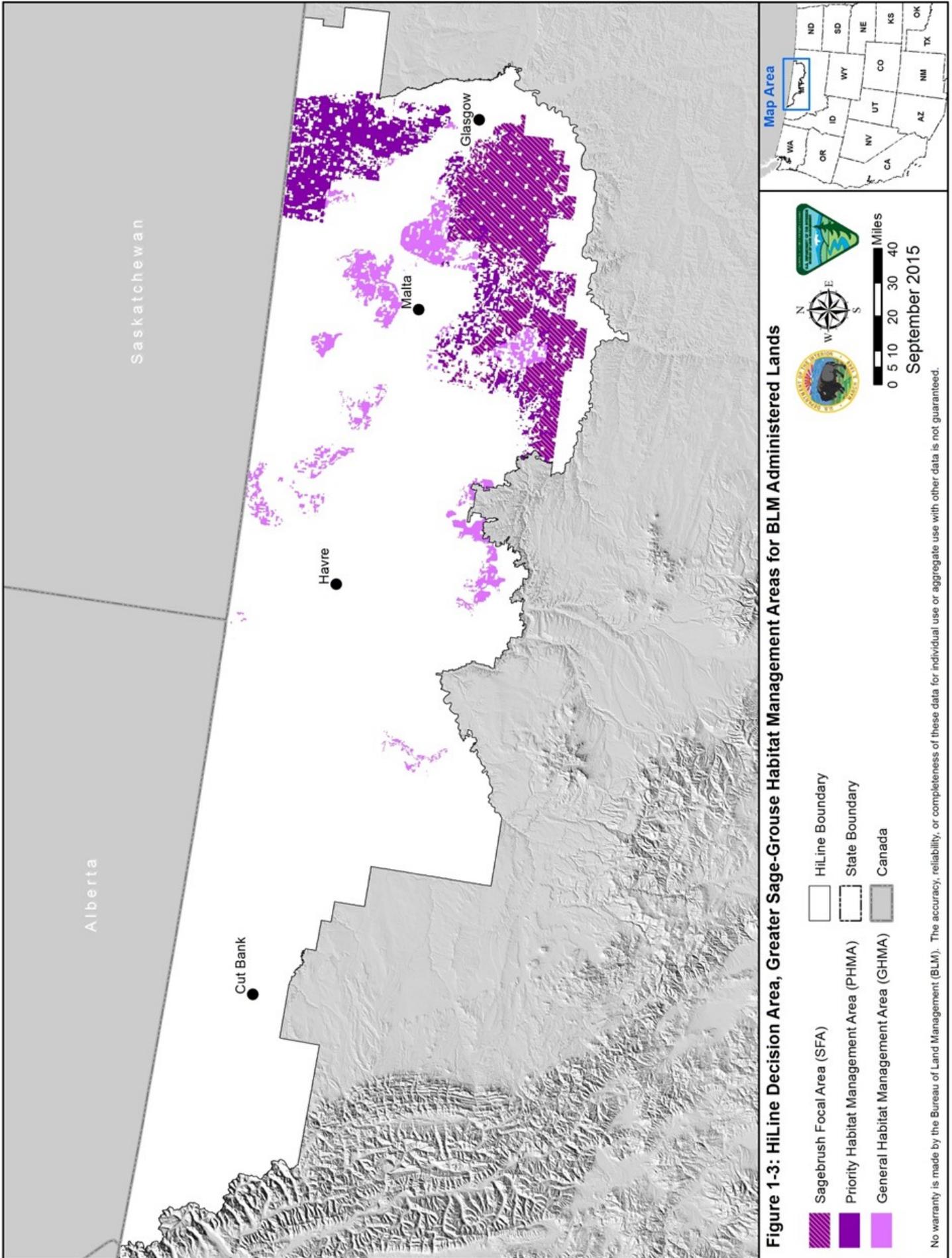


Dry Fork Creek, Phillips County

Photo by Kathy Tribby







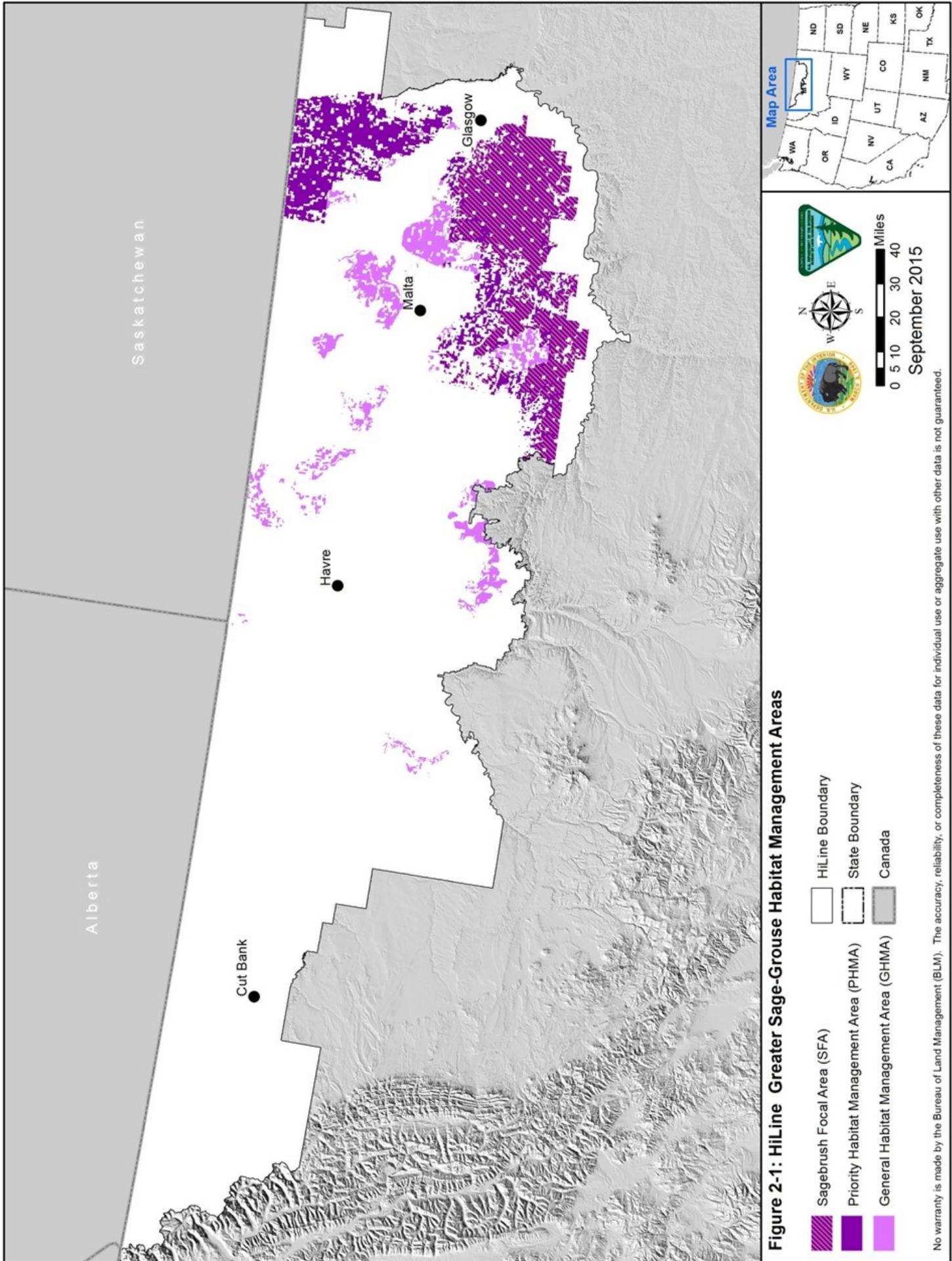


Figure 2-1: HiLine Greater Sage-Grouse Habitat Management Areas

-  Sagebrush Focal Area (SFA)
-  Priority Habitat Management Area (PHMA)
-  General Habitat Management Area (GHMA)
-  HiLine Boundary
-  State Boundary
-  Canada

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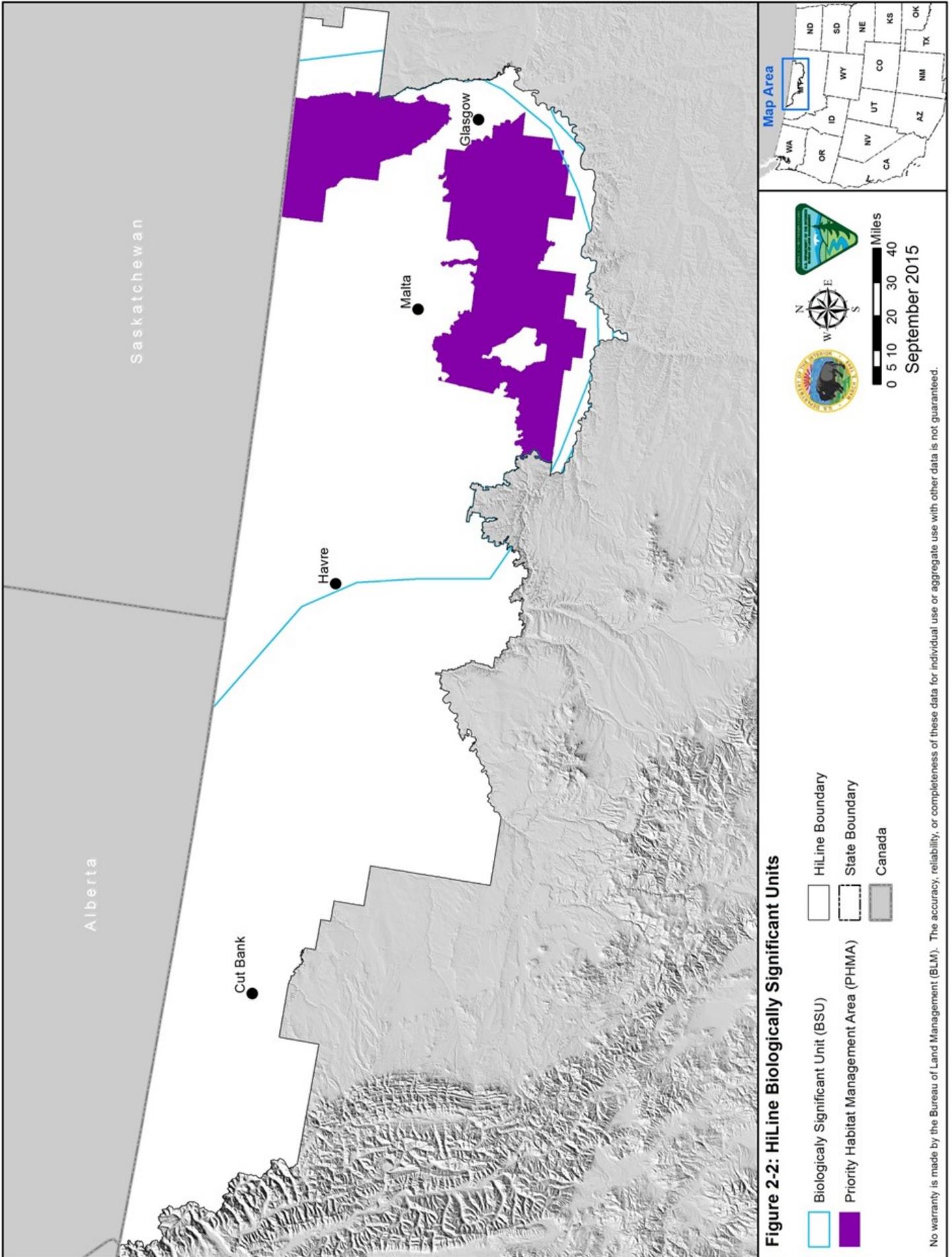
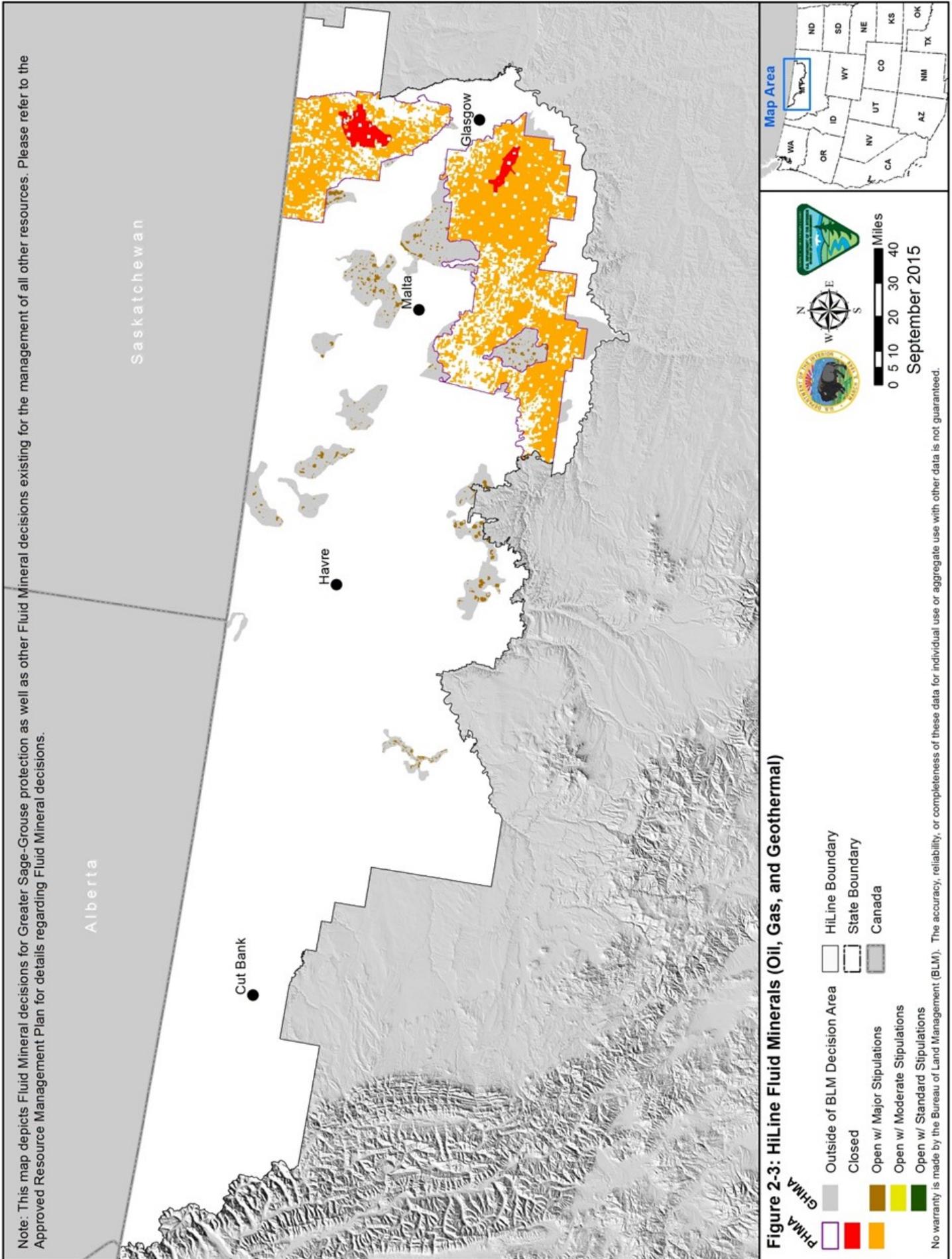


Figure 2-2: HiLine Biologically Significant Units

-  Biologically Significant Unit (BSU)
-  Priority Habitat Management Area (PHMA)
-  State Boundary
-  Canada
-  HiLine Boundary
-  State Boundary
-  Canada

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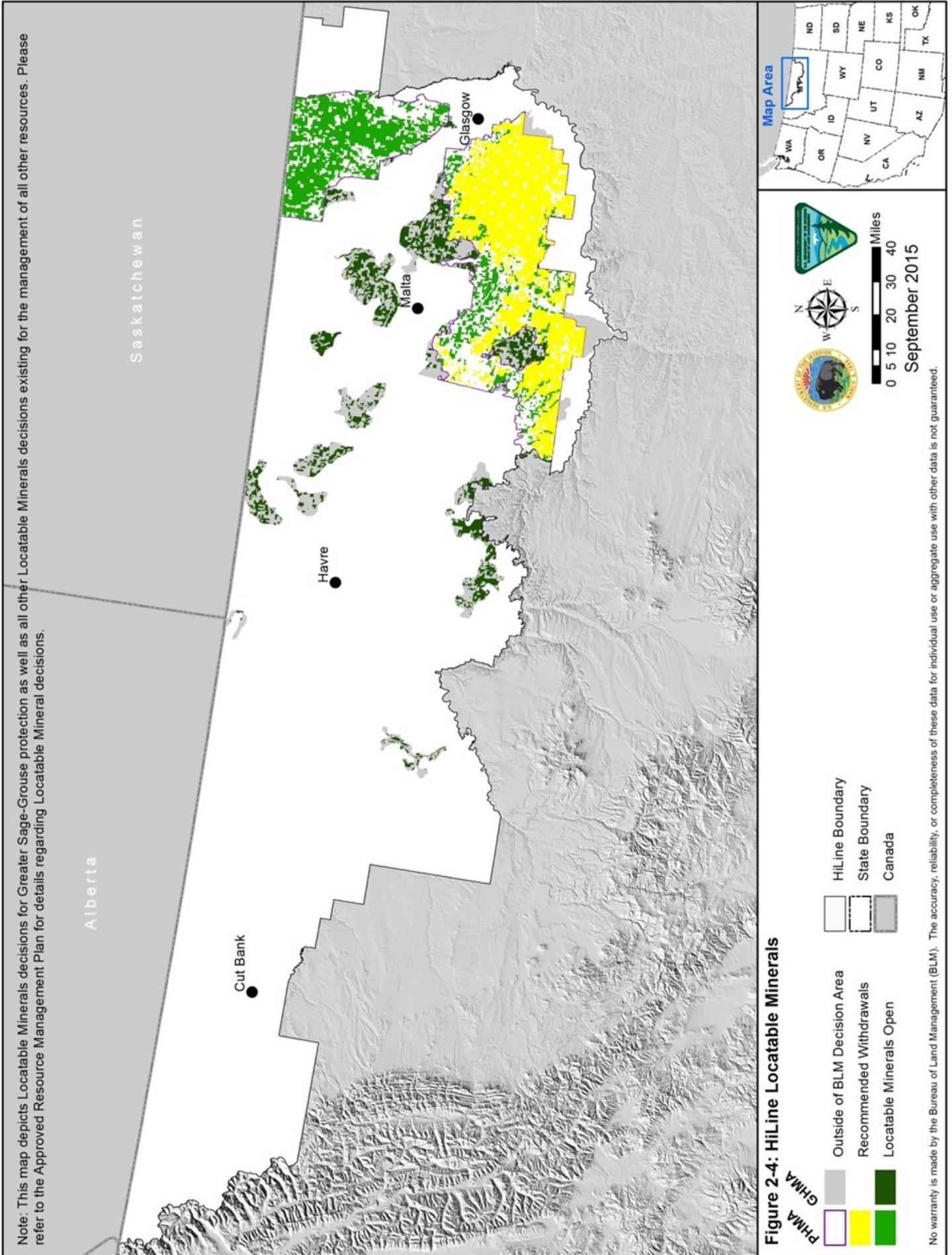
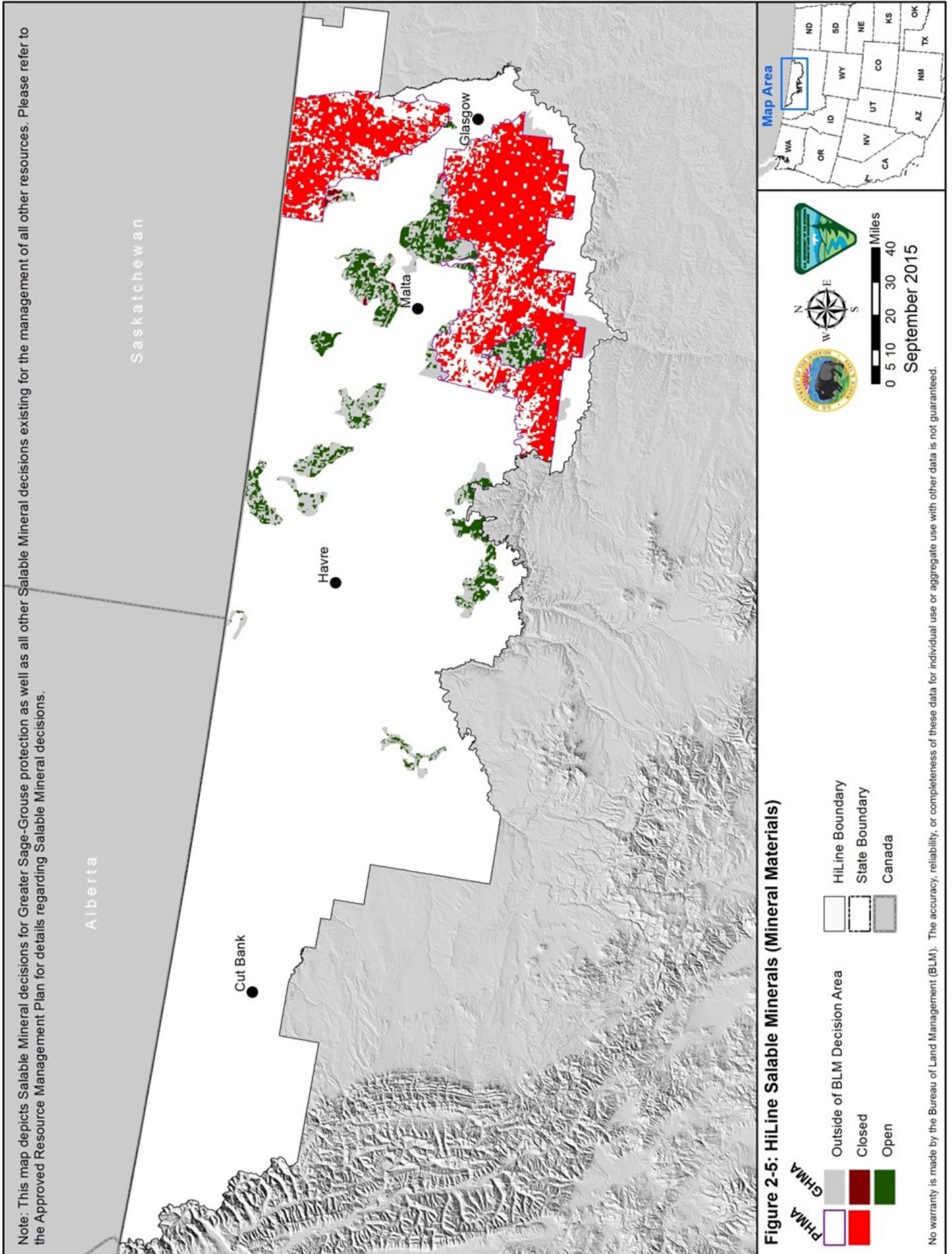
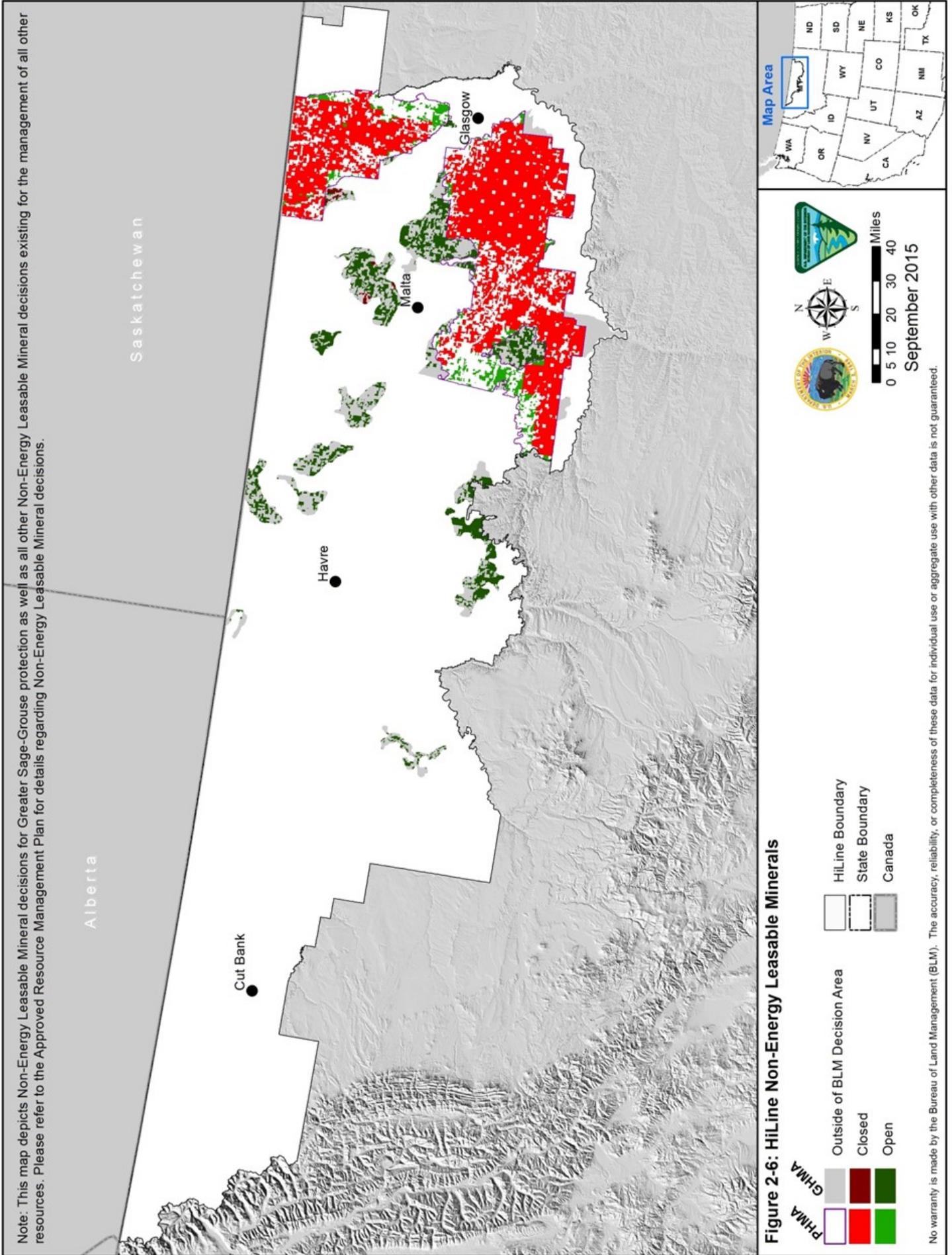


Figure 2-4: HiLine Locatable Minerals

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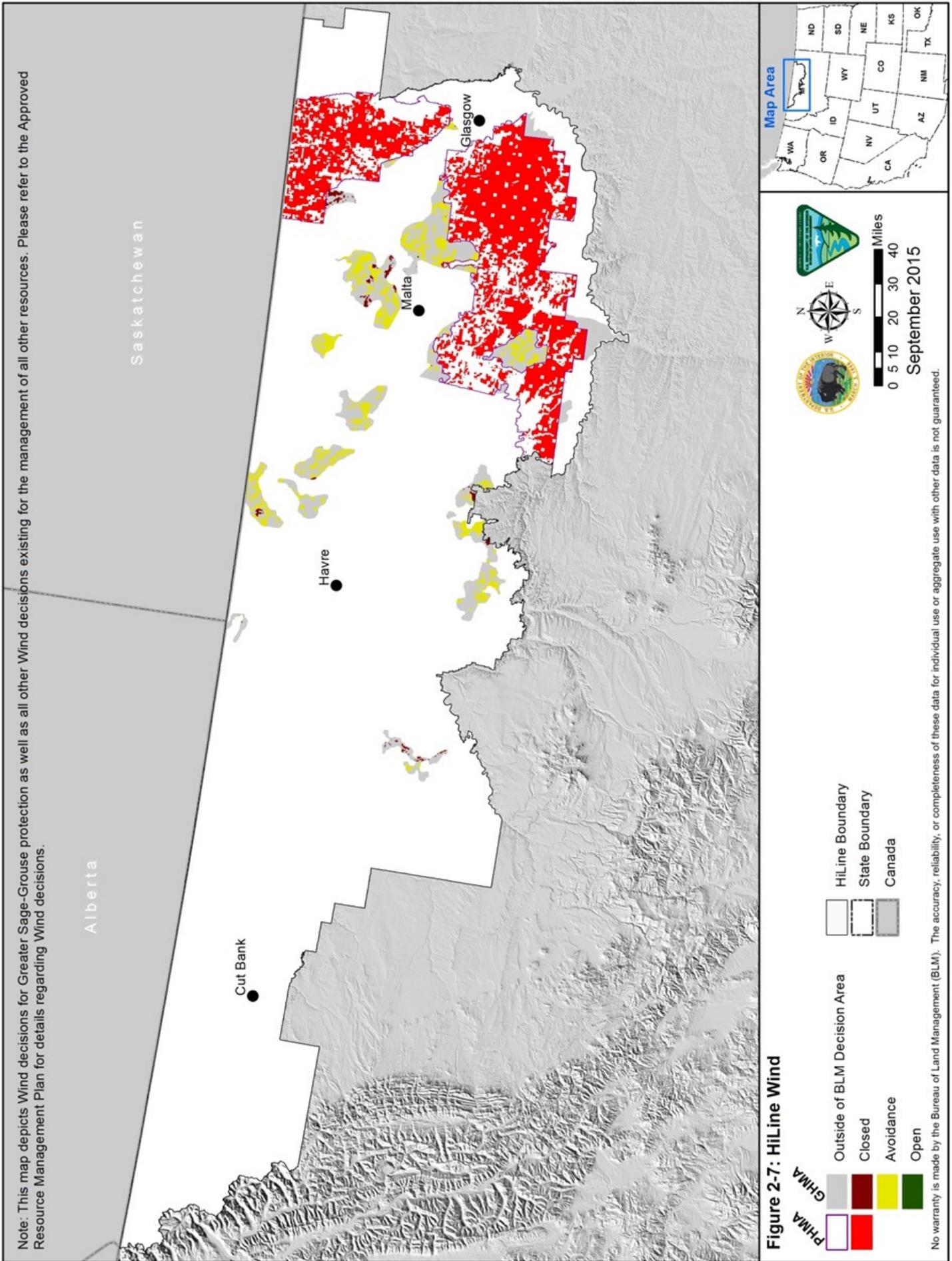


Figure 2-7: HiLine Wind

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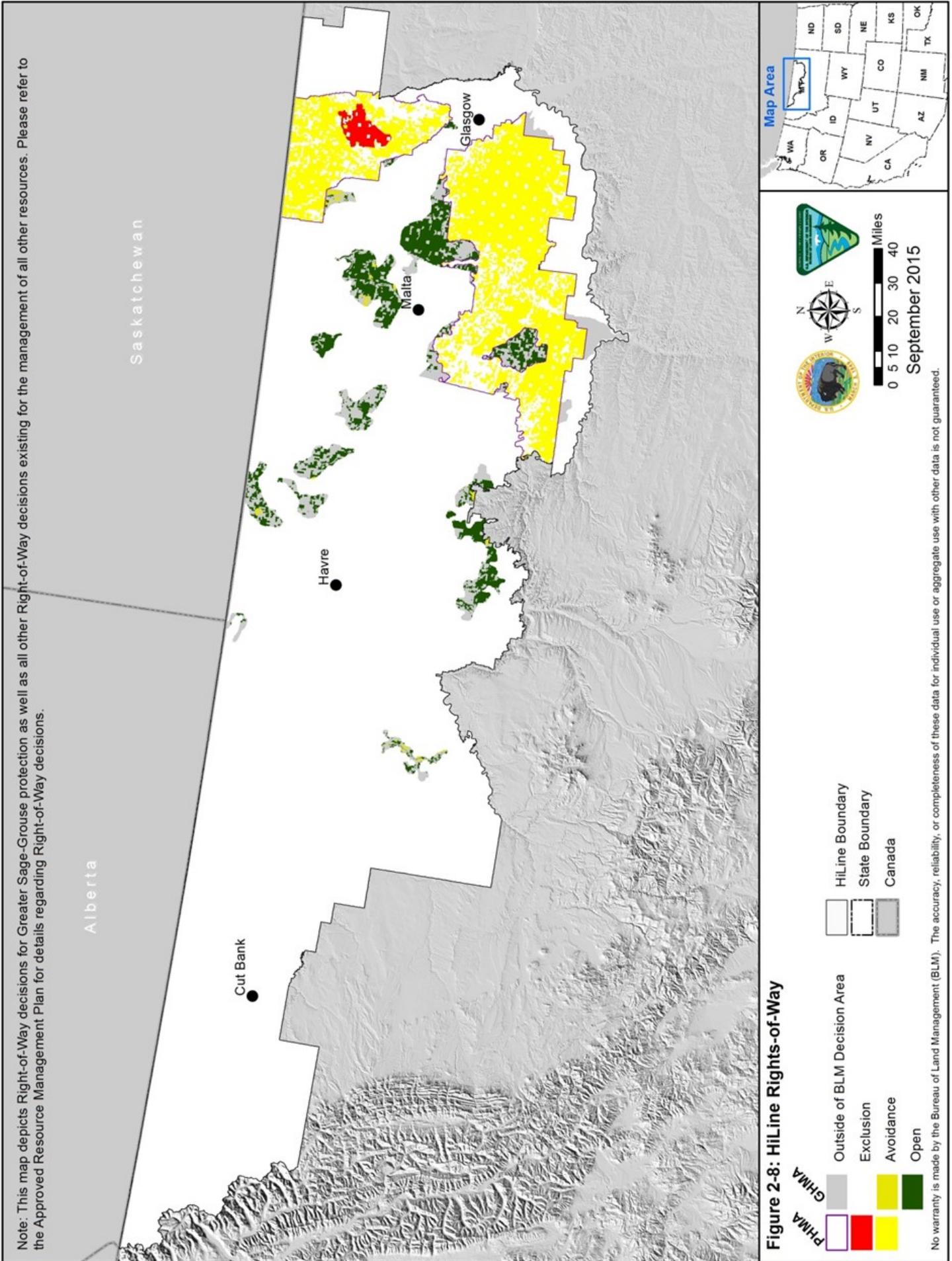
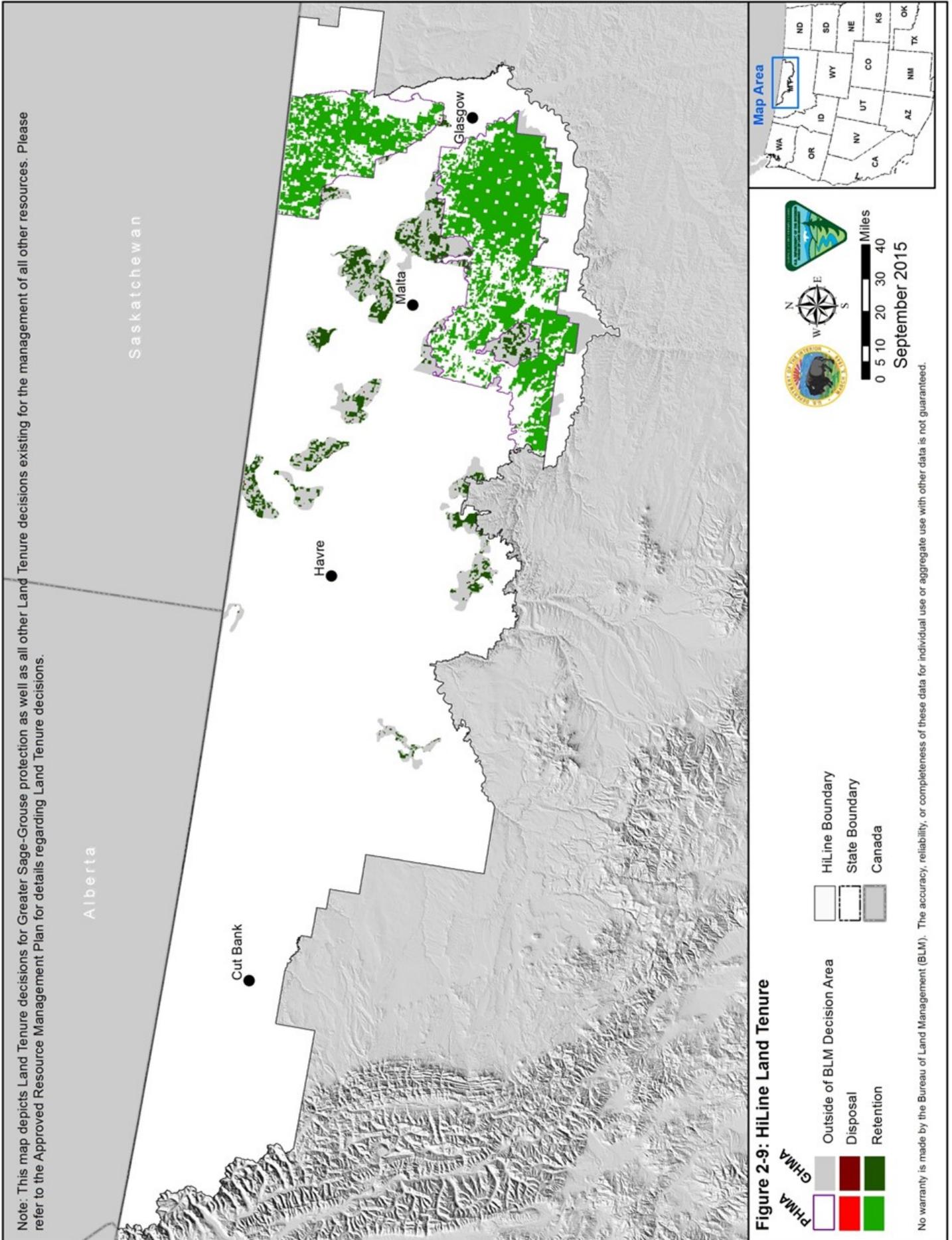
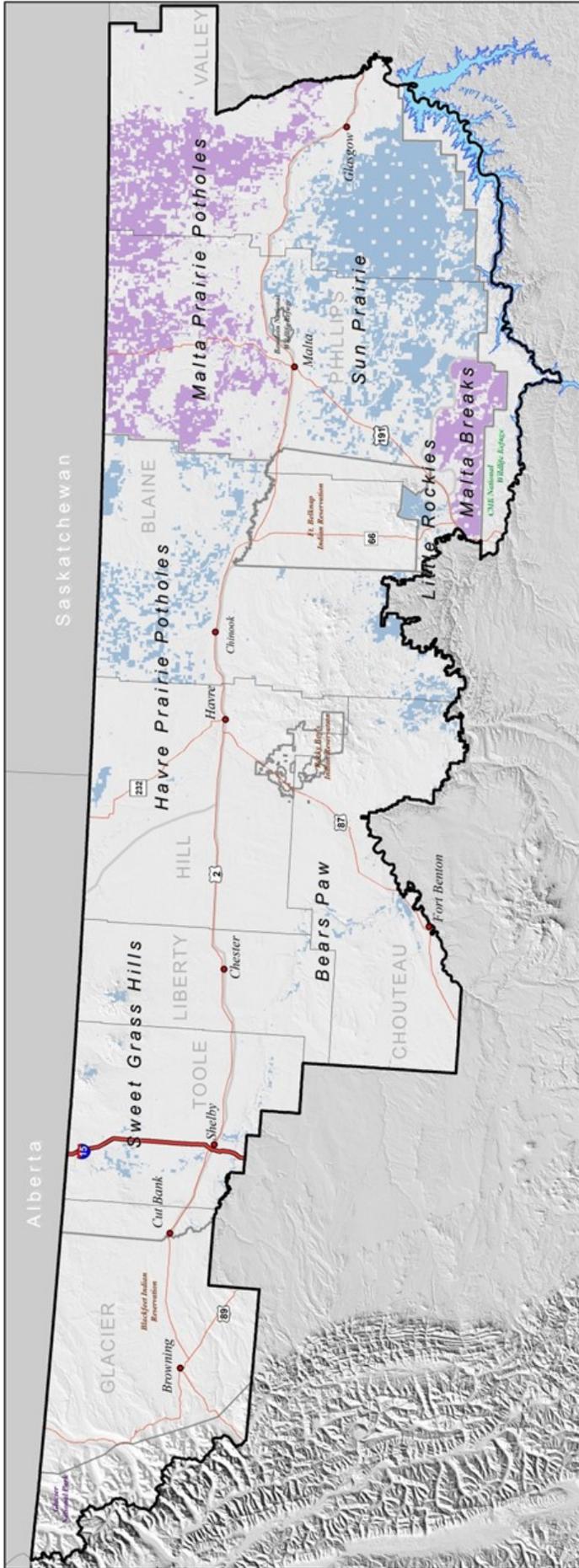
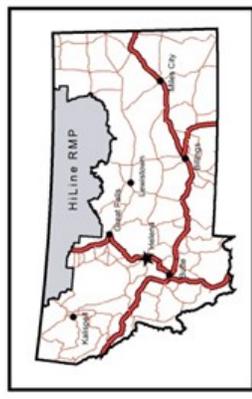


Figure 2-8: HiLine Rights-of-Way





Updated by the HiLine District Office in August 2015
 1:1,500,000
 Albers Equal Area, NAD83, Meters



- Fire Management Unit
- Management Category B
- Management Category C
- RMP Boundary
- County
- Interstate
- Highway or State Route
- Town

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 Bureau of Land Management
 HiLine District
Map A

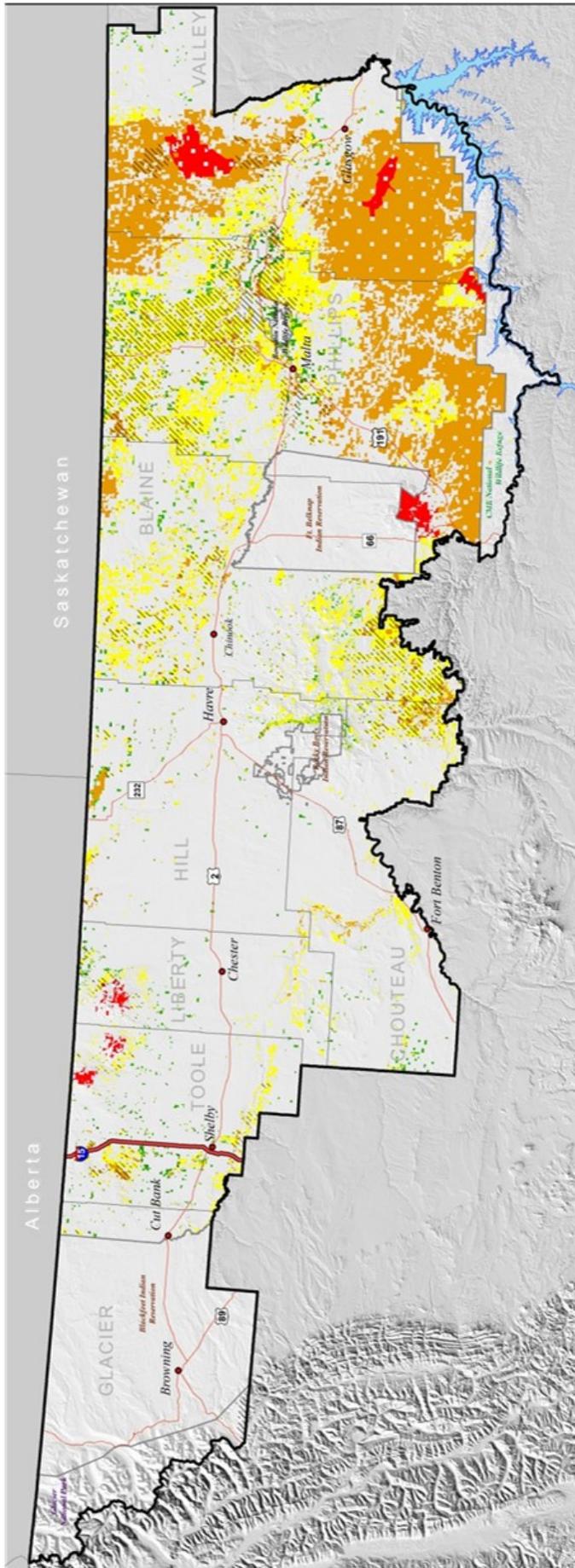


Fire Management Units (FMUs)

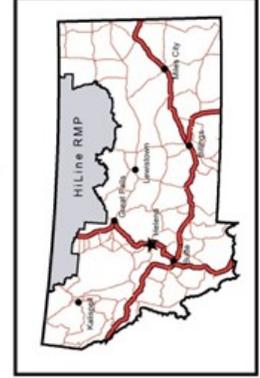
Map shows the Fire Management Units (FMUs) by category for the planning area. Under Category B, unplanned ignitions are likely to cause negative effects. Under Category C, fire is desired to manage ecosystems, but current vegetative conditions create constraints on use.

Boundaries are not intended to confer authority, responsibility, or jurisdiction over lands and waters that are not administered by the BLM. Boundaries reflect the fact that these lands and waters are essential components of comprehensively managing unplanned fires.

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1:1,500,000
 Albers Equal Area, NAD83, Meters



- Existing Leases
- Closed
- Open w/ Major Stipulations
- Open w/ Moderate Stipulations
- Open w/ Standard Stipulations
- RMP Boundary
- County
- Interstate
- Highway or State Route
- Town

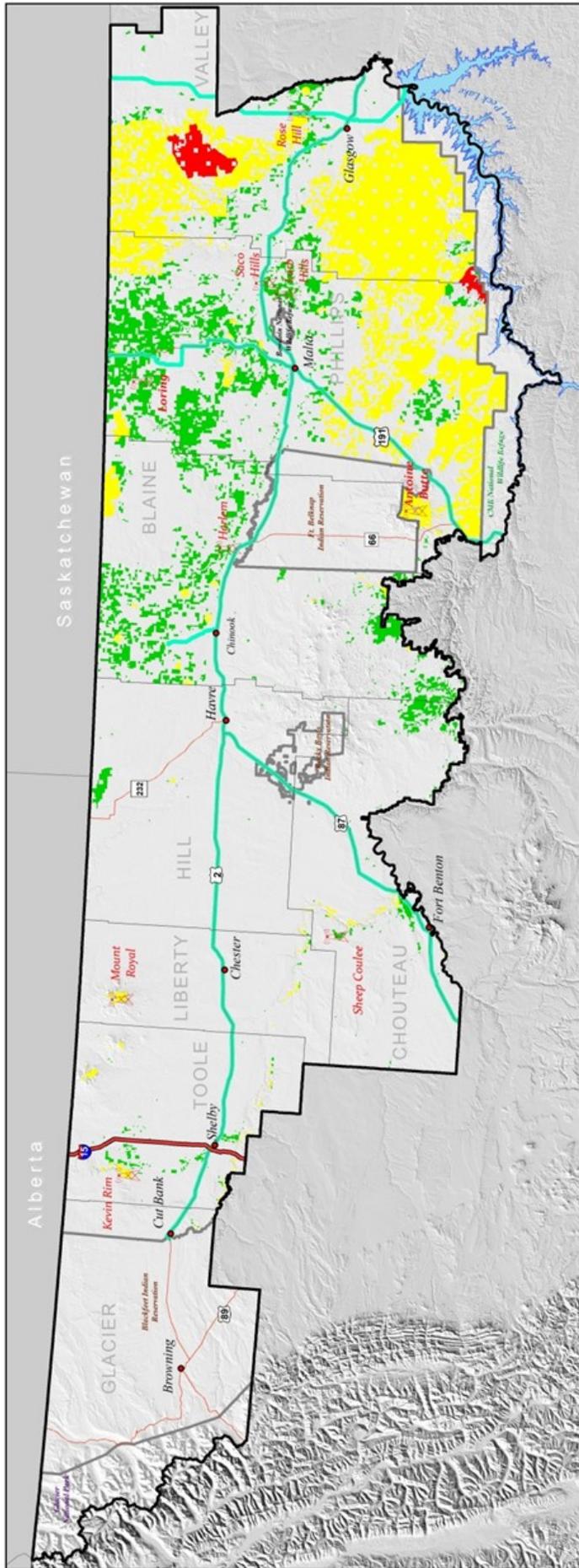
Updated by the HiLine District Office in August 2015

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 Bureau of Land Management
 HiLine District
Map B

Fluid Minerals

Map shows the Leasing Stipulations for Oil and Gas. Stipulations apply only to minerals managed by the BLM.
 The classifications are not intended to confer authority, responsibility, or jurisdiction over lands and waters that are not administered by the BLM. Classifications apply only to BLM-administered lands within those boundaries.

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1:1,500,000 Albers Equal Area, NAD83, Meters

0 25 50 100 Miles



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Map C
Rights-of-Way (ROW)



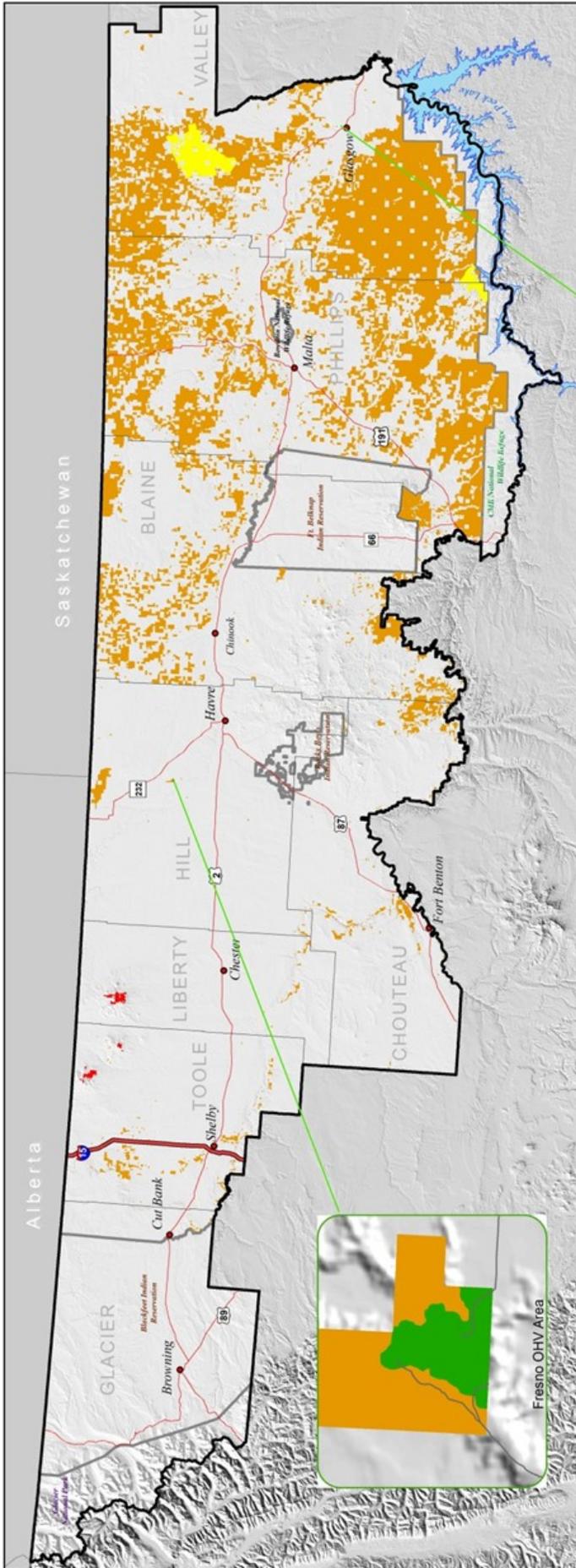

Legend:

- Communication Sites
- Transportation/Utility Corridors
- ROW Exclusion Areas
- ROW Avoidance Areas
- Open
- RMP Boundary
- County
- Interstate
- Highway or State Route
- Town

Map shows the Transportation/Utility Corridors and Rights-of-Way Avoidance and Exclusion Areas along with the existing Communication Sites. Corridors are along roadways and extend out one-half mile on either side of the center line.

The classifications are not intended to confer authority, responsibility, or jurisdiction over lands and waters that are not administered by the BLM. Classifications apply only to BLM-administered lands within those boundaries.

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1:1,500,000 Albers Equal Area, NAD83, Meters

0 25 50 100 Miles

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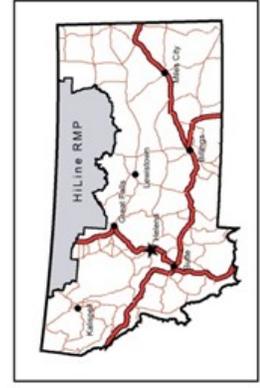
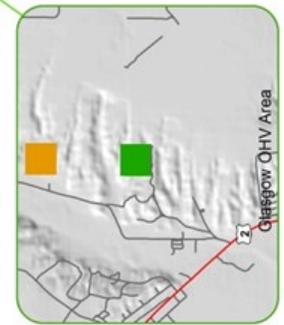



Map D

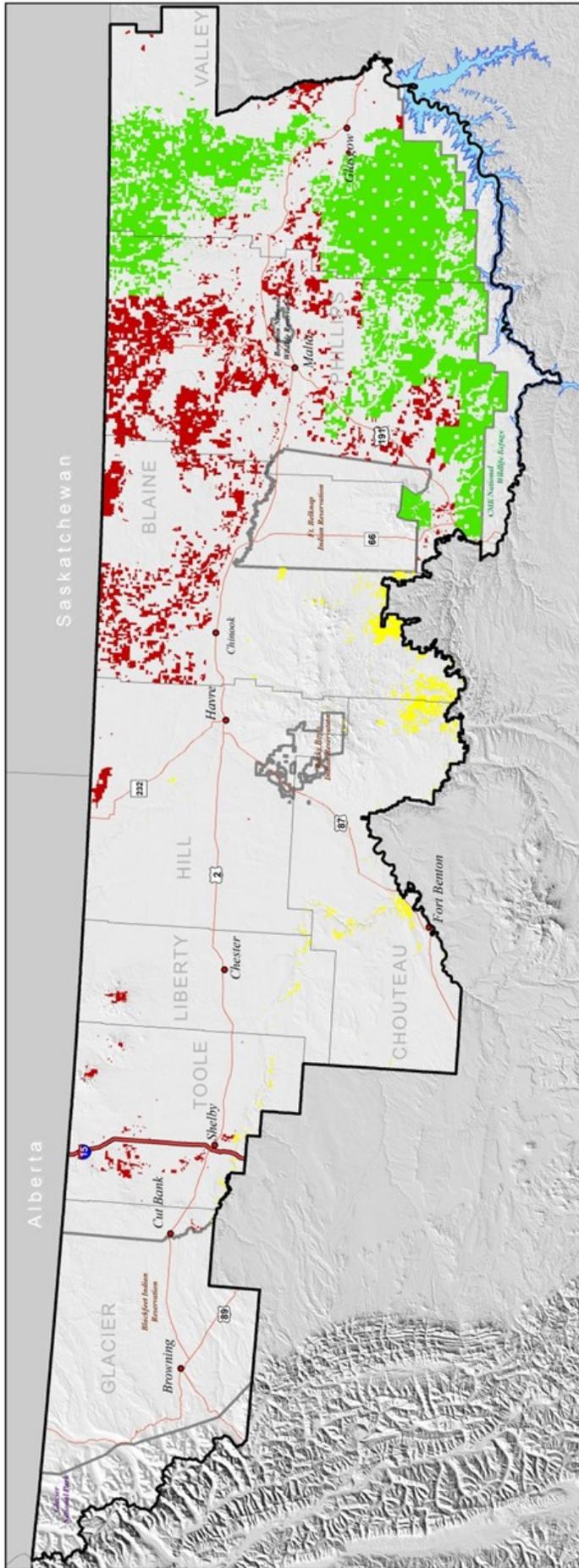
Off-Highway Vehicle Designations

Map shows Off-Highway Vehicle (OHV) Designations.
 The classifications are not intended to confer authority, responsibility, or jurisdiction over lands and waters that are not administered by the BLM. Classifications apply only to BLM-administered lands within those boundaries.

- Open
- Limited, Designated
- Limited, Existing
- Closed
- RMP Boundary
- County
- Interstate
- Highway or State Route
- Other Roads
- Town



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Map E

Travel Management Planning Priority

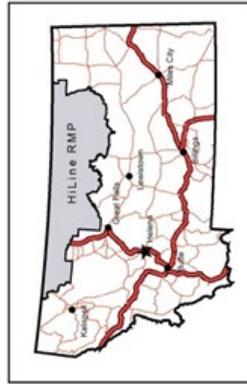
Map shows Travel Management Planning Priority.

The classifications are not intended to confer authority, responsibility, or jurisdiction over lands and waters that are not administered by the BLM. Classifications apply only to BLM-administered lands within those boundaries.

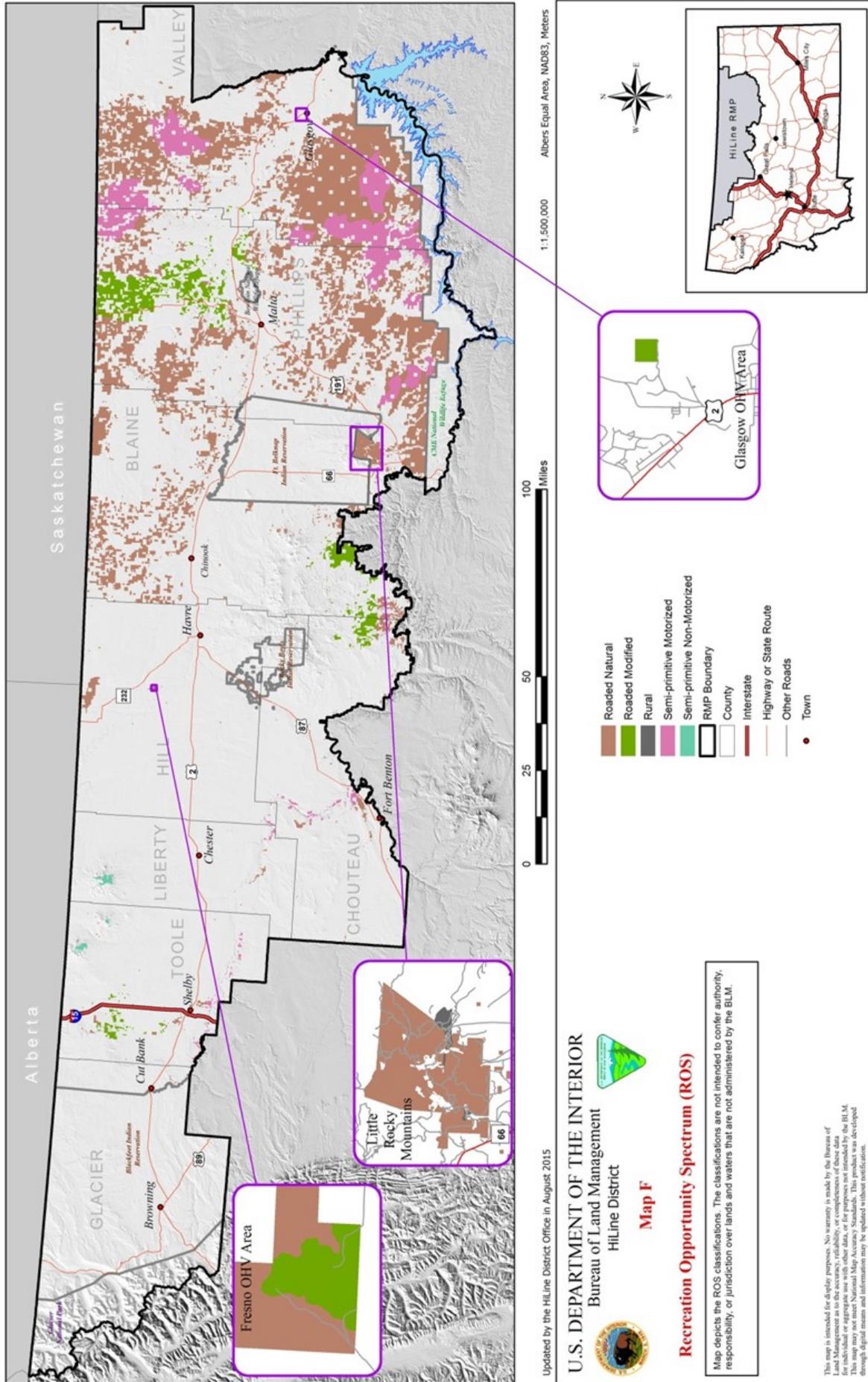
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1:1,500,000 Albers Equal Area, NAD83, Meters



- High
- Moderate
- Low
- RMP Boundary
- County
- Interstate
- Highway or State Route
- Town



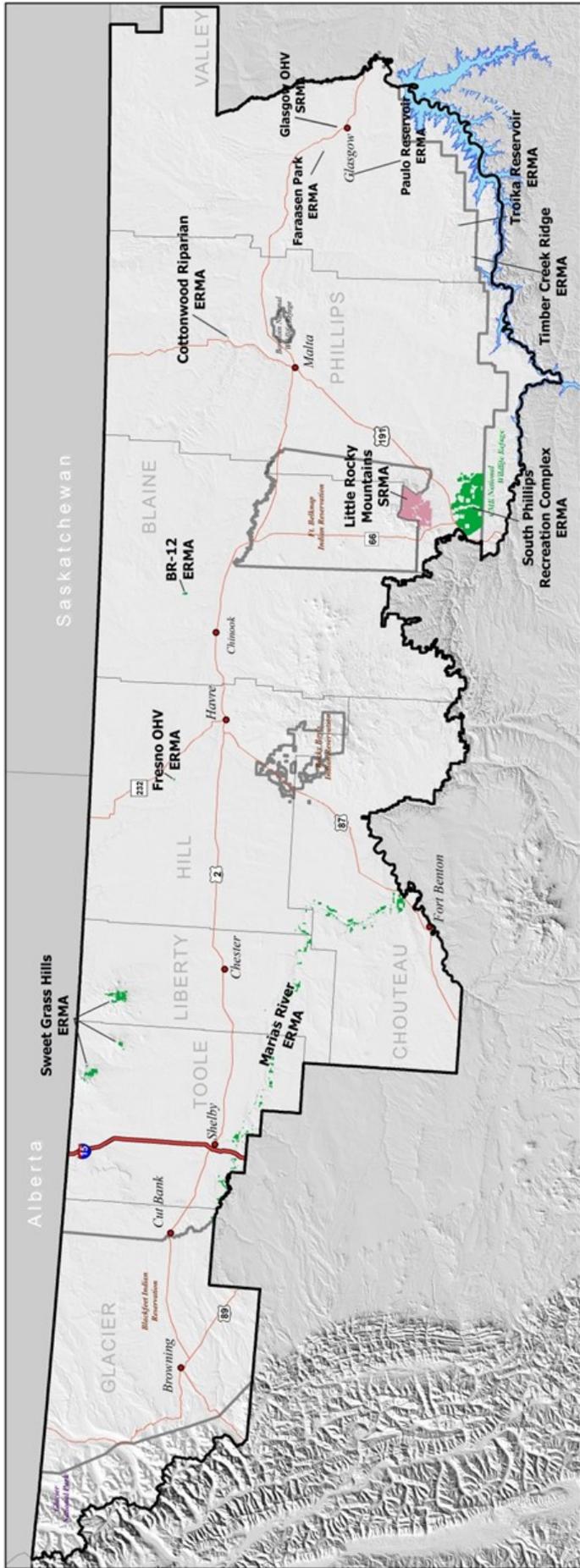
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Map F

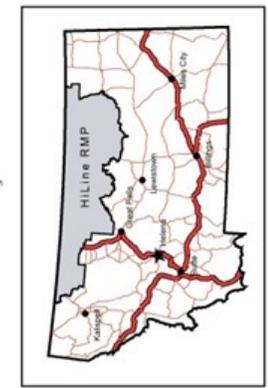
Recreation Opportunity Spectrum (ROS)

Map depicts the ROS classifications. The classifications are not intended to confer authority, responsibility, or jurisdiction over lands and waters that are not administered by the BLM.

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1:1,500,000 Albers Equal Area, NAD83, Meters



- Special Recreation Management Area (SRMA)
- Extensive Recreation Management Area (ERMA)
- RMP Boundary
- County
- Interstate
- Highway or State Route
- Town

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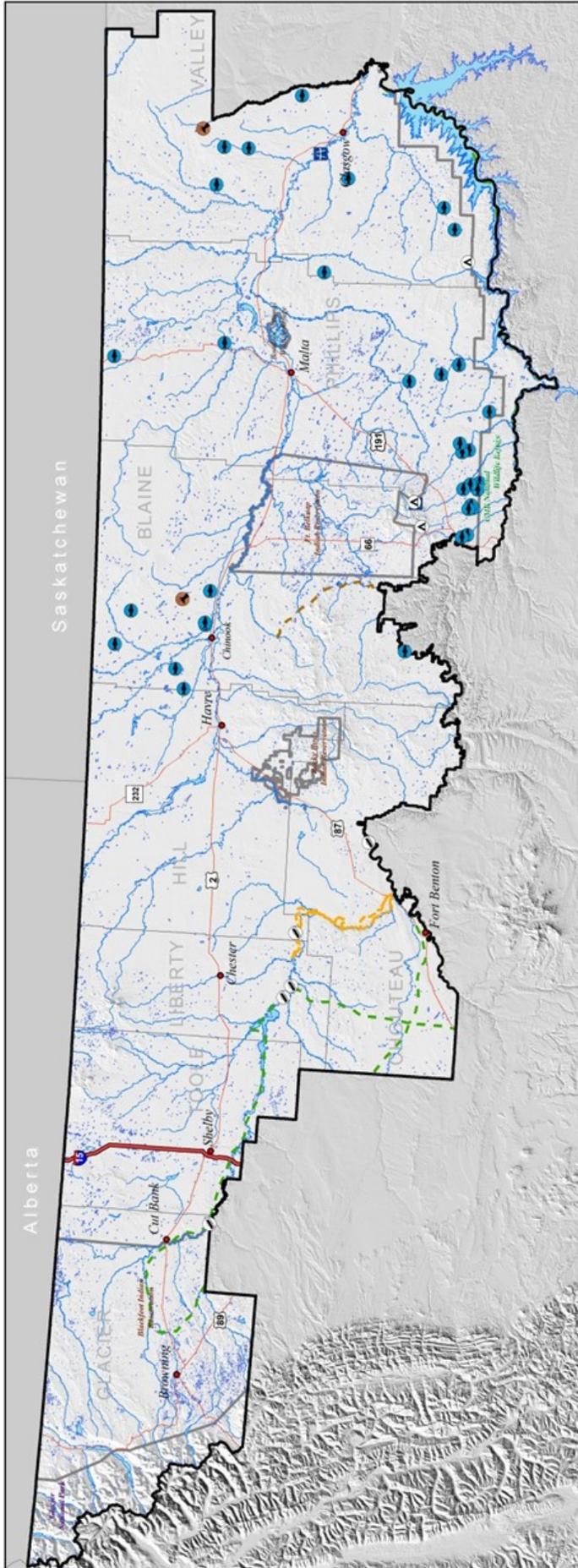
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 Bureau of Land Management
 HiLine District
Map G



Recreation Management Areas

Map depicts the Recreation Management Areas by type, either a Special Recreation Management Area (SRMA), or an Extensive Recreation Management Area (ERMA). The classifications are not intended to confer authority, responsibility, or jurisdiction over lands and waters that are not administered by the BLM. Proposed classifications apply only to BLM-administered lands within those boundaries.

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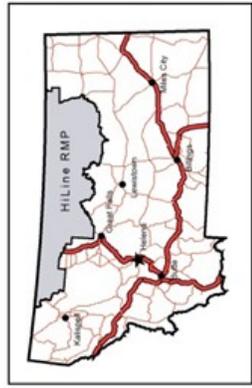
Updated by the HiLine District Office in August 2015
 1:1,500,000 Albers Equal Area, NAD83, Meters
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Map H



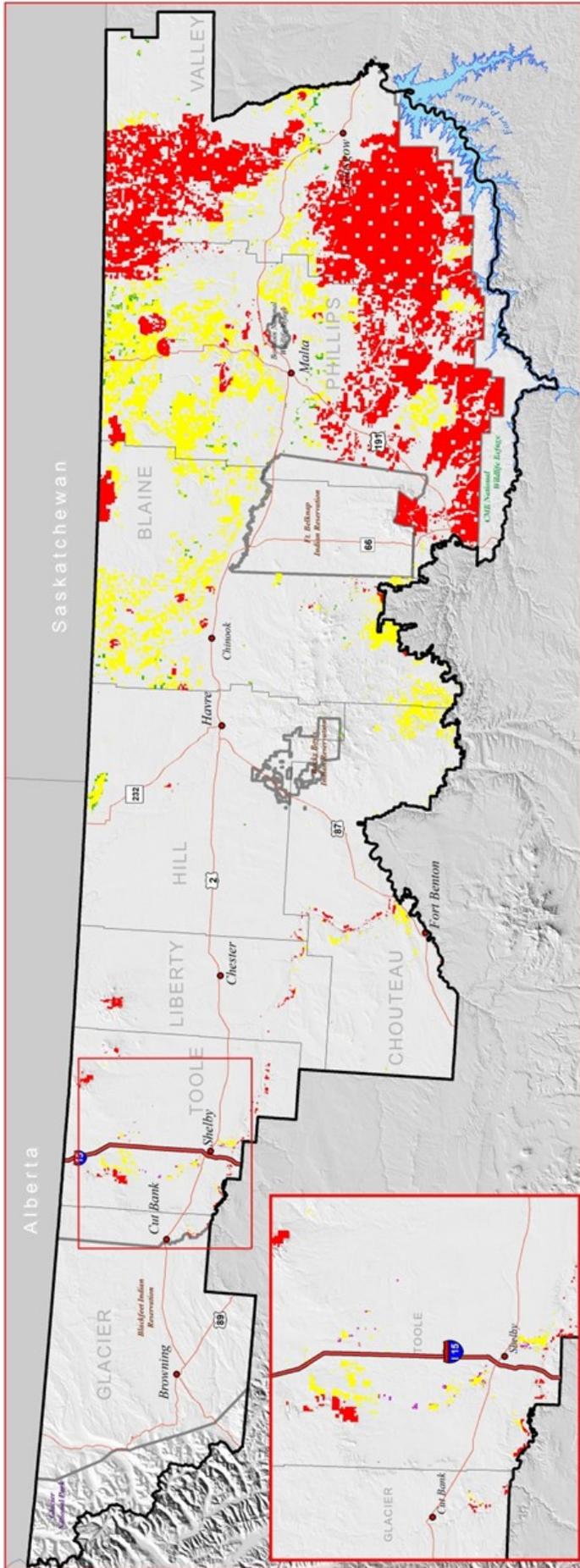
Recreation Sites and Facilities

- Fishing Reservoir
- Boat Ramp
- Campground
- Day Use/Picnic Area
- Watchable Wildlife
- Lewis and Clark National Historic Trail
- Nez Perce National Historic Trail
- Lewis Outbound on the Marias
- River/Stream
- Lake/Pond
- RMP Boundary
- County
- Interstate
- Highway or State Route
- Town



Map shows the general location of the HiLine District recreation sites and the National Historic Trails.

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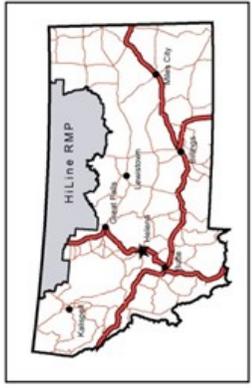
Updated by the HiLine District Office in August 2015

1:1,500,000 100 Miles 50 25 0 Albers Equal Area, NAD83, Meters

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management
HiLine District
Map 1
Renewable Energy

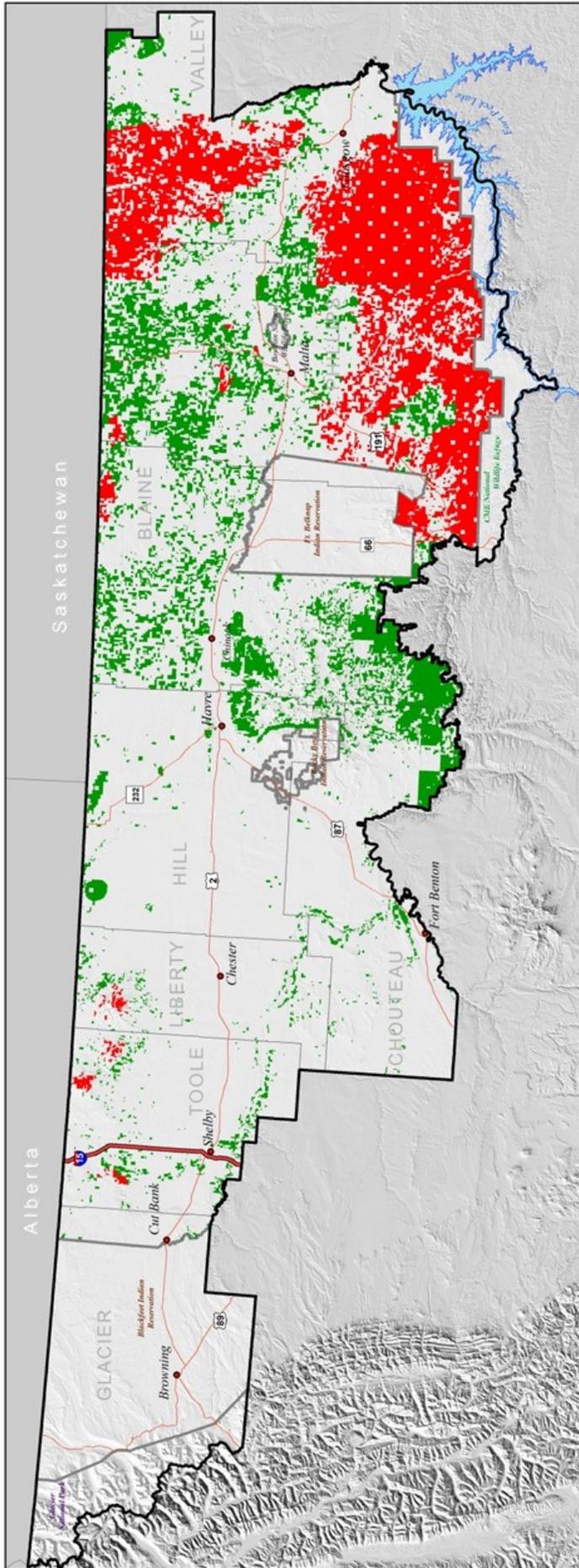


- Potential Wind Energy Development Areas
- Open
- Avoidance
- Exclusion
- RMP Boundary
- County
- Interstate
- Highway or State Route
- Town

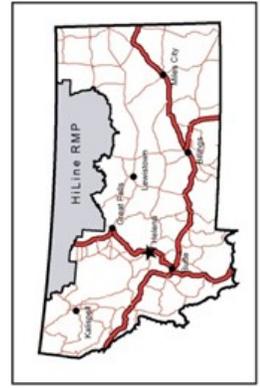


Map shows the open, avoidance, and exclusion areas for Renewable Energy development. The classifications are not intended to confer authority, responsibility, or jurisdiction over lands and waters that are not administered by the BLM. Classifications apply only to BLM-administered lands within those boundaries.

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 1:1,500,000 Albers Equal Area, NAD83, Meters



- Open to Leasable
- Closed To Leasable
- RMP Boundary
- County
- Interstate
- Highway or State Route
- Town

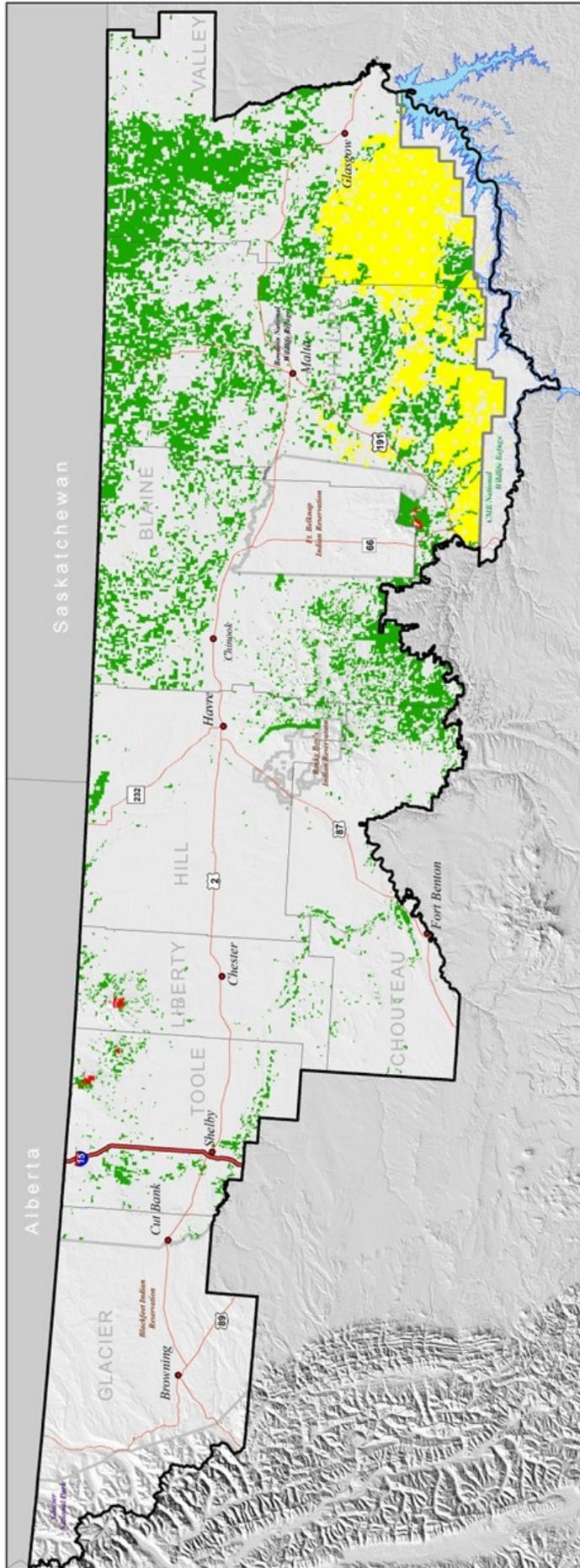
U.S. DEPARTMENT OF THE INTERIOR
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 HiLine District
Map J



Leasable Solid Minerals

Map shows Leasable Solid Mineral Estate and the areas that are closed to development. The classifications are not intended to confer authority, responsibility, or jurisdiction over lands and waters that are not administered by the BLM. Classifications apply only to BLM-administered lands within those boundaries.

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Map K

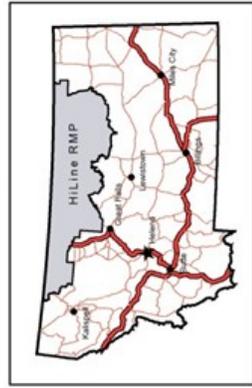


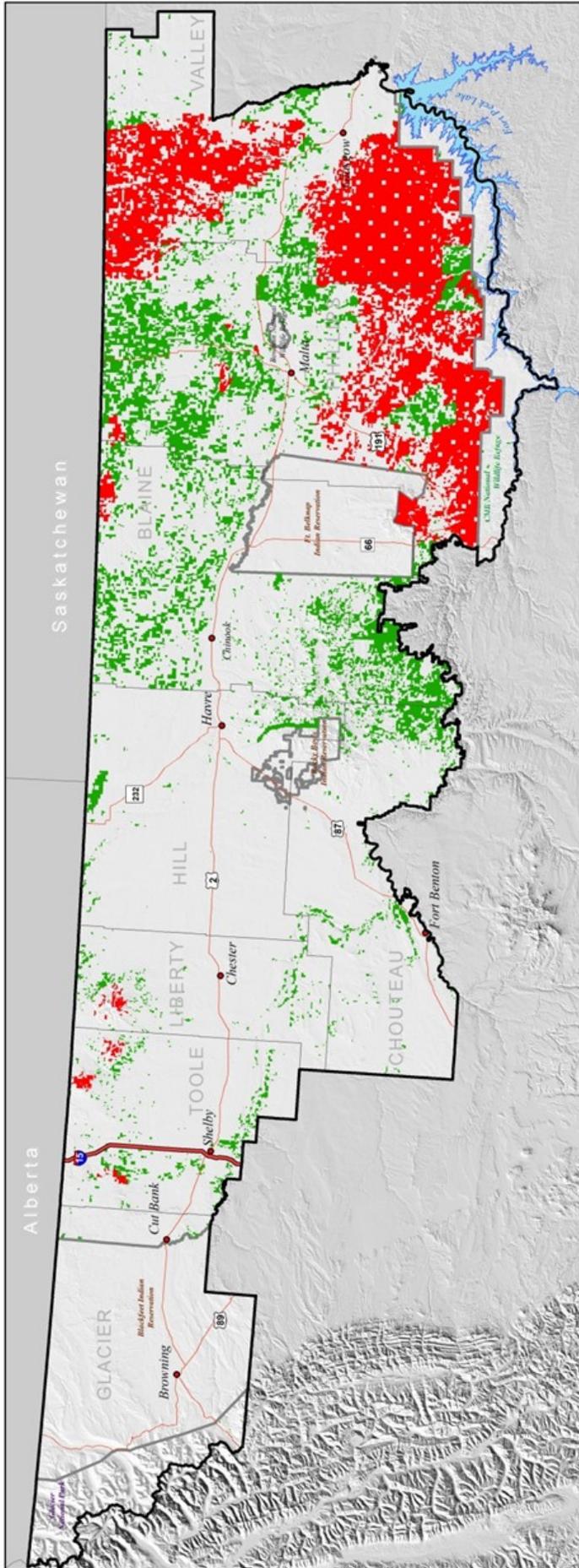
Locatable Minerals

Map shows the Locatable Mineral Estate and the areas that are withdrawn or recommended for withdrawal from mineral entry.
 The classifications are not intended to confer authority, responsibility, or jurisdiction over lands and waters that are not administered by the BLM. Classifications apply only to BLM-administered lands within those boundaries.

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- Locatable Minerals Open
- Recommended Withdrawal
- Existing Withdrawal
- RMP Boundary
- County
- Interstate
- Highway or State Route
- Town





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 1:1,500,000 Albers Equal Area, NAD83, Meters



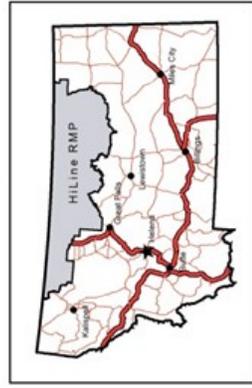
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Map L

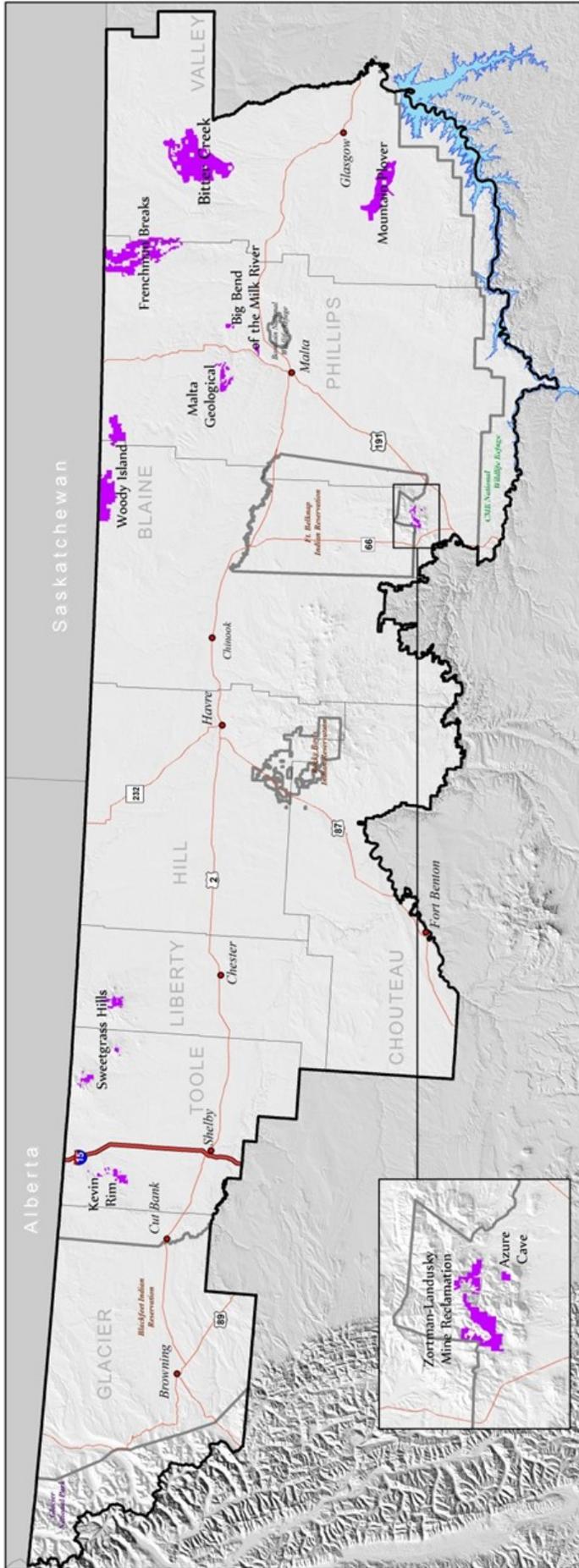


Salable Minerals

Map shows Salable Mineral Estate and areas closed to mineral material sales. The classifications are not intended to confer authority, responsibility, or jurisdiction over lands and waters that are not administered by the BLM. Classifications apply only to BLM-administered lands within those boundaries.

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1:1,500,000
Albers Equal Area, NAD83, Meters

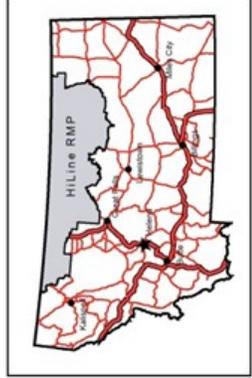
U.S. DEPARTMENT OF THE INTERIOR
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HiLine District
Map M



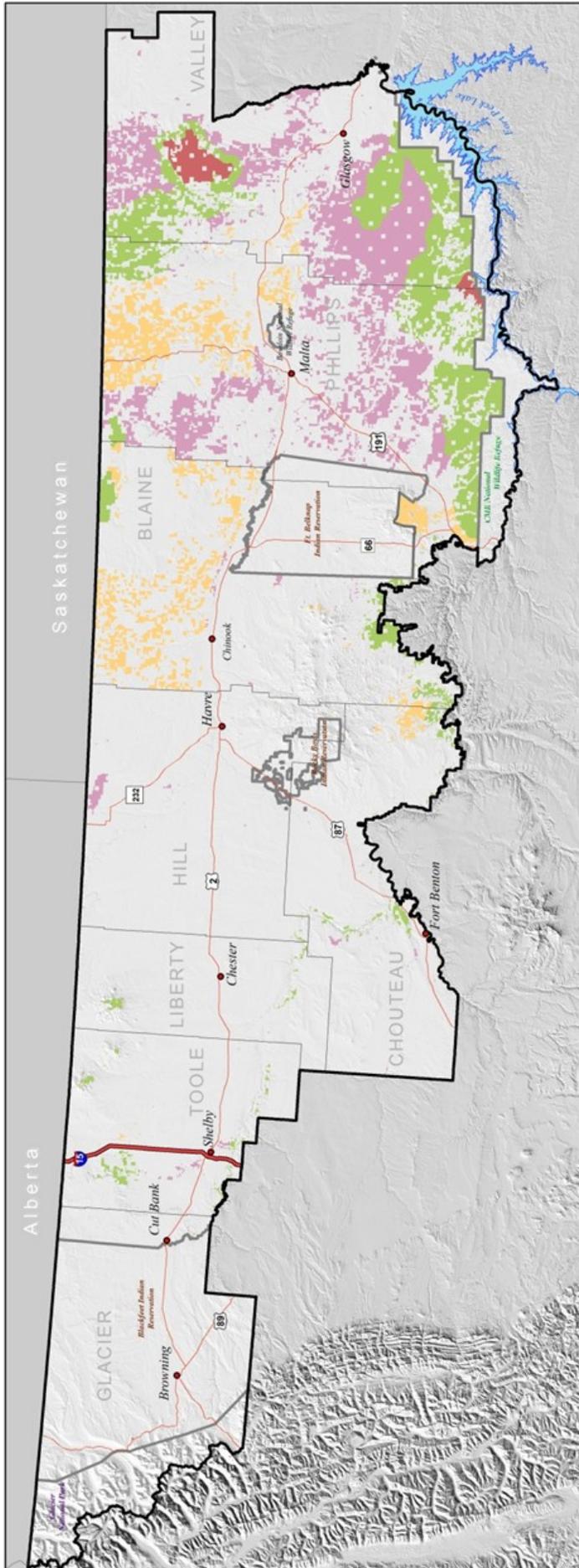
Areas of Critical Environmental Concern

Map shows Areas of Critical Environmental Concern (ACEC).
The classifications are not intended to confer authority, responsibility, or jurisdiction over lands and waters that are not administered by the BLM. Classifications apply only to BLM-administered lands within those boundaries.

- ACEC
- RMP Boundary
- County
- Interstate
- Highway or State Route
- Town



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1:1,500,000 Albers Equal Area, NAD83, Meters

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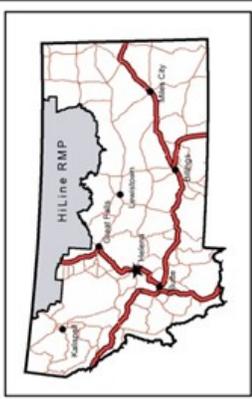
U.S. DEPARTMENT OF THE INTERIOR
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 HiLine District
Map N

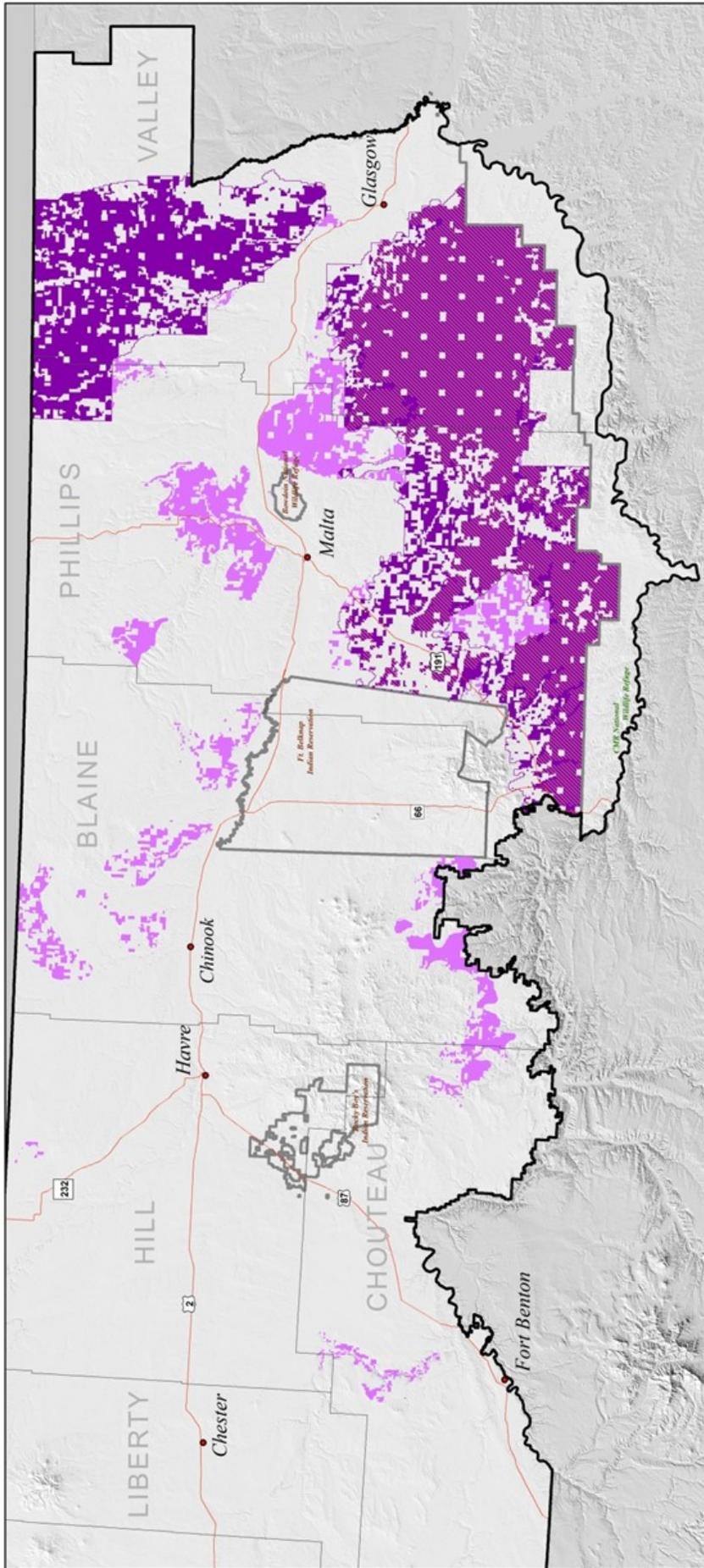
Visual Resource Management (VRM) Classes

Map shows the Visual Resource Management (VRM) Classes.
 The classifications are not intended to confer authority, responsibility, or jurisdiction over lands and waters that are not administered by the BLM. Classifications apply only to BLM-administered lands within those boundaries.

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- VRM Class 1
- VRM Class 2
- VRM Class 3
- VRM Class 4
- RMP Boundary
- County
- Interstate
- Highway or State Route
- Town





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Albers Equal Area, NAD83, Meters

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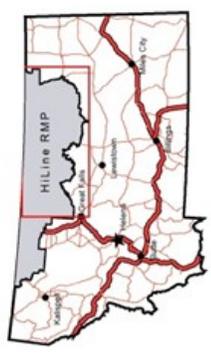


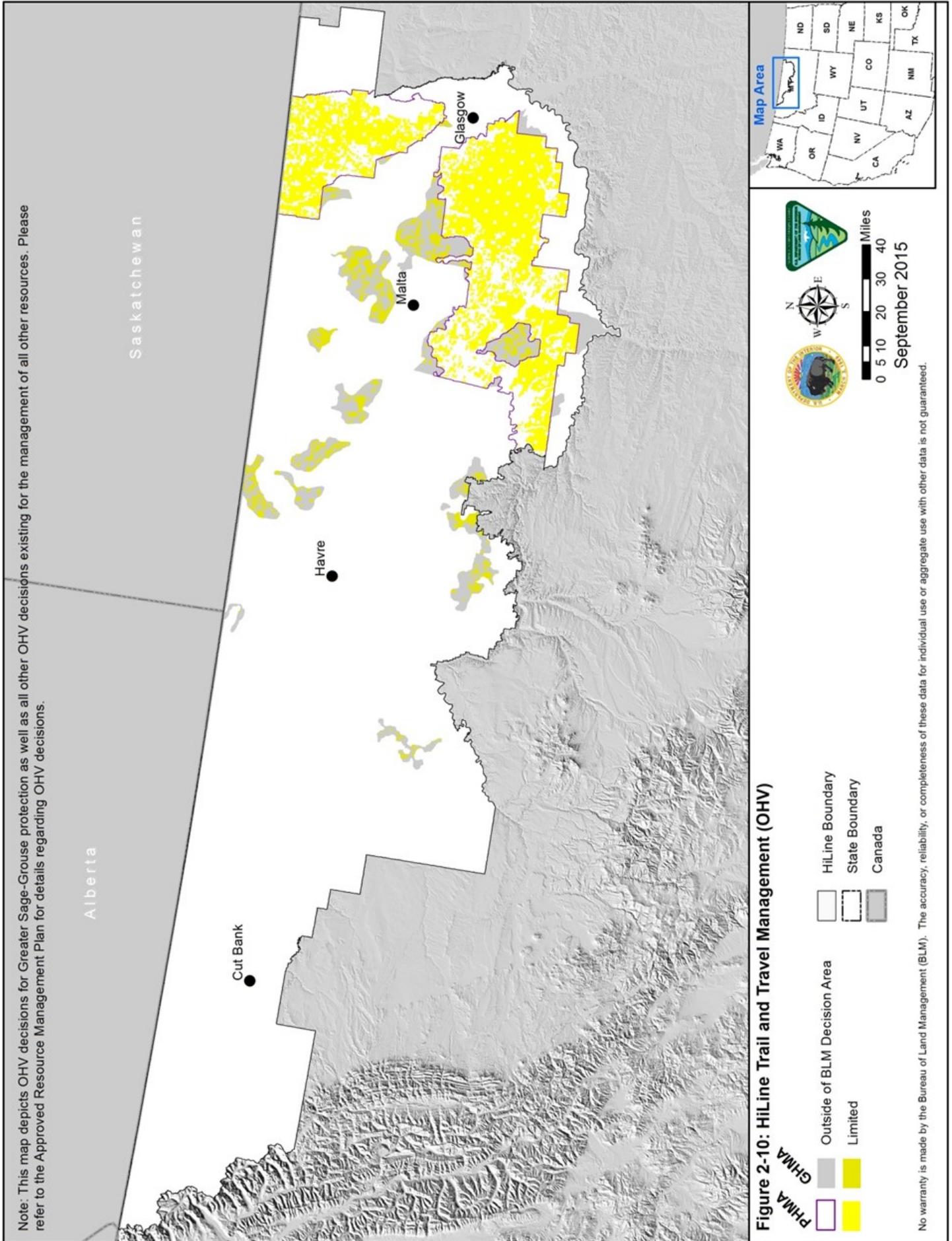
Map 0
**Greater Sage-Grouse and
 Grassland Bird Habitat Management Areas**

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Map shows the Priority and General Habitat Management Areas for Greater Sage-Grouse and Sagebrush Focal Areas. Management actions proposed for these habitats apply only to BLM-administered surface and mineral estate within these areas.

-  Sagebrush Focal Area
-  Priority Habitat Management Areas - BLM Managed Surface & Mineral Estate
-  General Habitat Management Areas - BLM Managed Surface & Mineral Estate
-  RMP Boundary
-  County
-  Interstate
-  Highway or State Route
-  Towns



Note: This map depicts OHV decisions for Greater Sage-Grouse protection as well as all other OHV decisions existing for the management of all other resources. Please refer to the Approved Resource Management Plan for details regarding OHV decisions.

Figure 2-10: HiLine Trail and Travel Management (OHV)

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APPENDIX B
APPLYING LEK BUFFER DISTANCES WHEN APPROVING ACTIONS IN
GREATER SAGE-GROUSE HABITAT MANAGEMENT AREAS

Appendix B

Applying Lek Buffer Distances when Approving Actions in Greater Sage-Grouse Habitat Management Areas

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.
- 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 (Appendix F).

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 Greater Sage-Grouse, or range improvements which provide a conservation benefit to Greater Sage-Grouse 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

Required Design Features for Greater Sage-Grouse Habitat

Required Design Features (RDFs) are required for certain activities in all Greater Sage-Grouse (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, a 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 (Schmidtman, 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.

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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 MFWP and partners. Limit noise to less than 10 decibels above ambient measures (20-26 dBA) at sunrise at the perimeter of the lek during active lek season (Patricelli, et al. 2010; Blickley, et al. In preparation).
- Require noise shields when drilling during the lek, nesting, brood-rearing, or wintering season.
- Fit transmission towers with anti-perch devices (Lammers and Collopy 2007).
- Require sage-grouse-safe fences.
- Locate new compressor stations outside Priority Habitat Management Areas (PHMA) and design them to reduce noise that may be directed towards PHMA.
- Clean up refuse.
- Locate man camps outside of PHMA.

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 General Habitat Management Areas (GHMA). 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.
- 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.
- 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.
- 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).
- Clean up refuse.

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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Required Design Features for Fire and Fuels

Fuels Management

1. Where applicable, design fuels treatment objective to protect existing sagebrush ecosystems, modify fire behavior, restore native plants, and create landscape patterns which most benefit sage-grouse habitat.
2. Provide training to fuels treatment personnel on sage-grouse 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 are 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 aid 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.

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Required Design Features for Solid Mineral Development

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 PHMA and GHMA, 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 PHMA.

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.

Literature Cited

- Bergquist, E., P. Evangelista, T. J. Stohlgren, and N. Alley. 2007. Invasive species and coal bed methane development in the Powder River Basin, Wyoming. *Environmental Monitoring and Assessment* 128:381-394.
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- Gelbard, J.L., and J. Belnap. 2003. Roads as conduits for exotic plant invasions in a semiarid landscape. *Conservation Biology* 17:420-432.

THE GREATER SAGE-GROUSE MONITORING FRAMEWORK

Bureau of Land Management
U.S. Forest Service

*Developed by
the Interagency
Greater
Sage-Grouse
Disturbance
and Monitoring
Subteam*

May 30, 2014

The Greater Sage-Grouse Monitoring Framework

Developed by the Interagency Greater Sage-Grouse Disturbance and Monitoring Subteam

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INTRODUCTION

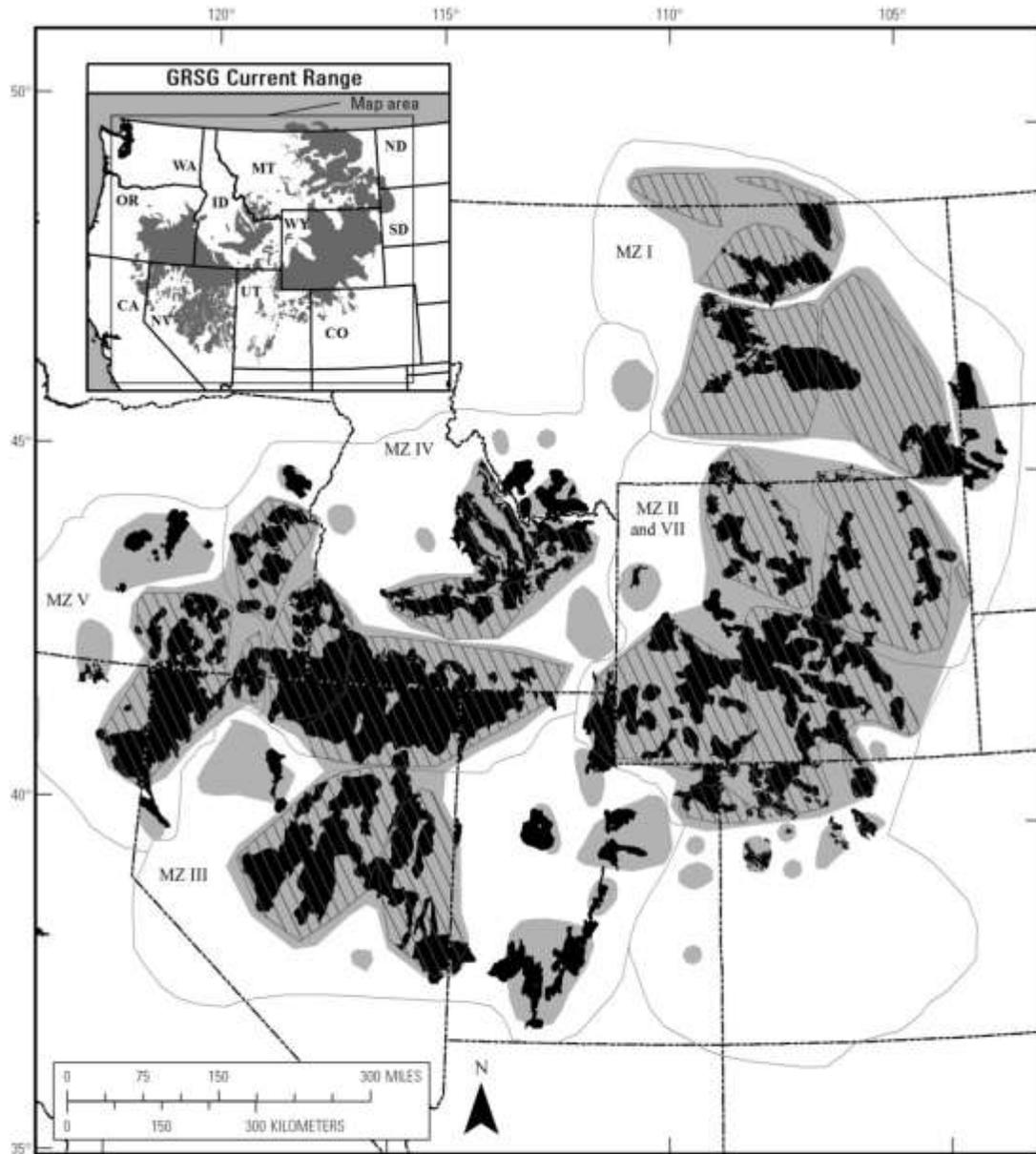
The purpose of this U.S. Bureau of Land Management (BLM) and U.S. Forest Service (USFS) Greater Sage-Grouse Monitoring Framework (hereafter, monitoring framework) is to describe the methods to monitor habitats and evaluate the implementation and effectiveness of the BLM's national planning strategy (attachment 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 multiscale 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: Multiscale Habitat Assessment Tool” (HAF; Stiver et al. *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). (See Figure 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 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.”



**GRSG PACs, Subpopulations and Populations
LEGEND**

-  Subpopulations
-  COT PACs
-  Populations

Sources:
 Current Range: Schroeder et al., 2004
 Populations: Connelly et al., 2004
 Subpopulations: Connelly et al., 2004
 PACs: USFWS COT Report, 2013

Figure 1. Map of Greater Sage-Grouse range, populations, subpopulations, and Priority Areas for Conservation as of 2013.

This monitoring framework is divided into two sections. The broad- and mid-scale methods, described in Section I, 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. (See Table 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 II, 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 multiscale monitoring commitments, see Attachment A.

Table 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)
<i>Geographic Scales</i>		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

I. 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).

A. 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.

B. 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. (See Table 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 (see Section I.B.1., Sagebrush Availability). Measure 2 (see Section I.B.2., Habitat Degradation Monitoring) and Measure 3 (see Section I.B.3., Energy and Mining Density) 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.

Table 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 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	

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.

B.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 submeasures 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-EuroAmerican 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 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.

a. Establishing 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 (See Section I.D., 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 (see Section II,

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 3, Datasets for establishing and monitoring changes in sagebrush availability.

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. (See Table 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 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

Table 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	<i>Artemisia arbuscula</i> ssp. <i>longiloba</i> <i>Artemisia bigelovii</i> <i>Artemisia nova</i> <i>Artemisia frigida</i> <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i>
Columbia Plateau Low Sagebrush Steppe	<i>Artemisia arbuscula</i> <i>Artemisia arbuscula</i> ssp. <i>longiloba</i> <i>Artemisia nova</i>

Columbia Plateau Scabland Shrubland	<i>Artemisia rigida</i>
Columbia Plateau Steppe and Grassland	<i>Artemisia</i> spp.
Great Basin Xeric Mixed Sagebrush Shrubland	<i>Artemisia arbuscula</i> ssp. <i>longicaulis</i> <i>Artemisia arbuscula</i> ssp. <i>longiloba</i> <i>Artemisia nova</i> <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i>
Inter-Mountain Basins Big Sagebrush Shrubland	<i>Artemisia tridentata</i> ssp. <i>tridentata</i> <i>Artemisia tridentata</i> ssp. <i>xericensis</i> <i>Artemisia tridentata</i> ssp. <i>vaseyana</i> <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i>
Inter-Mountain Basins Big Sagebrush Steppe	<i>Artemisia cana</i> ssp. <i>cana</i> <i>Artemisia tridentata</i> ssp. <i>tridentata</i> <i>Artemisia tridentata</i> ssp. <i>xericensis</i> <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> <i>Artemisia tripartita</i> ssp. <i>tripartita</i> <i>Artemisia frigida</i>
Inter-Mountain Basins Curl-Leaf Mountain Mahogany Woodland and Shrubland	<i>Artemisia tridentata</i> ssp. <i>vaseyana</i> <i>Artemisia arbuscula</i> <i>Artemisia tridentata</i>
Inter-Mountain Basins Mixed Salt Desert Scrub	<i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> <i>Artemisia spinescens</i>
Inter-Mountain Basins Montane Sagebrush Steppe	<i>Artemisia tridentata</i> ssp. <i>vaseyana</i> <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> <i>Artemisia nova</i> <i>Artemisia arbuscula</i> <i>Artemisia tridentata</i> ssp. <i>spiciformis</i>
Inter-Mountain Basins Semi-Desert Shrub-Steppe	<i>Artemisia tridentata</i> <i>Artemisia bigelovii</i> <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i>
Northwestern Great Plains Mixed Grass Prairie	<i>Artemisia cana</i> ssp. <i>cana</i> <i>Artemisia tridentata</i> ssp. <i>vaseyana</i> <i>Artemisia frigida</i>
Northwestern Great Plains Shrubland	<i>Artemisia cana</i> ssp. <i>cana</i> <i>Artemisia tridentata</i> ssp. <i>tridentata</i> <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i>
Rocky Mountain Gambel Oak-Mixed Montane Shrubland	<i>Artemisia tridentata</i>
Rocky Mountain Lower Montane-Foothill Shrubland	<i>Artemisia nova</i> <i>Artemisia tridentata</i> <i>Artemisia frigida</i>
Western Great Plains Floodplain Systems	<i>Artemisia cana</i> ssp. <i>cana</i>
Western Great Plains Sand Prairie	<i>Artemisia cana</i> ssp. <i>cana</i>
Wyoming Basins Dwarf Sagebrush Shrubland and Steppe	<i>Artemisia arbuscula</i> ssp. <i>longiloba</i> <i>Artemisia nova</i> <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> <i>Artemisia tripartita</i> ssp. <i>rupicola</i>
<i>Artemisia tridentata</i> ssp. <i>vaseyana</i> Shrubland Alliance (EVT only)	<i>Artemisia tridentata</i> ssp. <i>vaseyana</i>
<i>Quercus gambelii</i> Shrubland Alliance (EVT only)	<i>Artemisia tridentata</i>

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 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 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 (see Section I.B.1.b., 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. (See Table 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 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 of Producing
Colorado Plateau Pinyon-Juniper Woodland	<i>Pinus edulis</i> <i>Juniperus osteosperma</i> <i>Artemisia tridentata</i> <i>Artemisia arbuscula</i> <i>Artemisia nova</i> <i>Artemisia tridentata</i> ssp. <i>tridentata</i> <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> <i>Artemisia tridentata</i> ssp. <i>vaseyana</i> <i>Artemisia bigelovii</i> <i>Artemisia pygmaea</i>
Columbia Plateau Western Juniper Woodland and Savanna	<i>Juniperus occidentalis</i> <i>Pinus ponderosa</i> <i>Artemisia tridentata</i> <i>Artemisia arbuscula</i> <i>Artemisia rigida</i> <i>Artemisia tridentata</i> ssp. <i>vaseyana</i>
East Cascades Oak-Ponderosa Pine Forest and Woodland	<i>Pinus ponderosa</i> <i>Pseudotsuga menziesii</i> <i>Artemisia tridentata</i> <i>Artemisia nova</i>
Great Basin Pinyon-Juniper Woodland	<i>Pinus monophylla</i> <i>Juniperus osteosperma</i> <i>Artemisia arbuscula</i> <i>Artemisia nova</i> <i>Artemisia tridentata</i> <i>Artemisia tridentata</i> ssp. <i>vaseyana</i>
Northern Rocky Mountain Ponderosa Pine Woodland and Savanna	<i>Pinus ponderosa</i> <i>Artemisia tridentata</i> <i>Artemisia arbuscula</i> <i>Artemisia tridentata</i> ssp. <i>vaseyana</i>
Rocky Mountain Foothill Limber Pine-Juniper Woodland	<i>Juniperus osteosperma</i> <i>Juniperus scopulorum</i> <i>Artemisia nova</i> <i>Artemisia tridentata</i>
Rocky Mountain Poor-Site Lodgepole Pine Forest	<i>Pinus contorta</i> <i>Pseudotsuga menziesii</i> <i>Pinus ponderosa</i> <i>Artemisia tridentata</i>
Southern Rocky Mountain Pinyon-Juniper Woodland	<i>Pinus edulis</i> <i>Juniperus monosperma</i> <i>Artemisia bigelovii</i> <i>Artemisia tridentata</i> <i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> <i>Artemisia tridentata</i> ssp. <i>vaseyana</i>
Southern Rocky Mountain Ponderosa Pine Woodland	<i>Pinus ponderosa</i> <i>Pseudotsuga menziesii</i>

	<i>Pinus edulis</i> <i>Pinus contorta</i> <i>Juniperus</i> spp. <i>Artemisia nova</i> <i>Artemisia tridentata</i> <i>Artemisia arbuscula</i> <i>Artemisia tridentata</i> ssp. <i>vaseyana</i>
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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 Section I.B.1.b., 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.

b. Monitoring Sagebrush Availability

Monitoring Sagebrush Availability

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:

2010 Existing Sagebrush Base 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]

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.

Measure 1b: 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 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 multiscale 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.

B.2. Habitat Degradation Monitoring (Measure 2)

The measure of habitat degradation will be calculated by combining the footprints of threats identified in Table 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 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.

a. 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.

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 (see Monitoring Sagebrush Restoration in Section I.B.1.b., 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 energy facilities)

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-Way

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.

b. Habitat Degradation Threat Combination and Calculation

The threats targeted for measuring human activity (Table 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 submeasures to describe habitat degradation on the landscape. Percentages will be calculated as follows:

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).

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).

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).

B.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 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 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.

Table 6. 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

a. Energy and Mining Density Datasets and Assumptions

Energy (oil and gas wells and development facilities)

(See Section I.B.2., Habitat Degradation Monitoring.)

Energy (coal mines)

(See Section I.B.2., Habitat Degradation Monitoring.)

Energy (wind energy facilities)

(See Section I.B.2., Habitat Degradation Monitoring.)

Energy (solar energy facilities)

(See Section I.B.2., Habitat Degradation Monitoring.)

Energy (geothermal energy facilities)

(See Section I.B.2., Habitat Degradation Monitoring.)

Mining (active developments; locatable, leasable, saleable)

(See Section I.B.2., Habitat Degradation Monitoring.)

b. 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.

C. 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. 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 II, 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.

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 (I.B.1., Sagebrush Availability) 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 (I.B.1., Sagebrush Availability) 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 I.B.1., Sagebrush Availability); 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=stelprdb1041620>).

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 (Section I.B.2., Habitat Degradation Monitoring) and Measure 3 (Section I.B.3., Energy and Mining Density). 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 I.C., 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 I.B.1., Sagebrush Availability). This measure is derived from the national datasets that remove sagebrush (Table 3). 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 I.B.2., Monitoring Habitat Degradation) and Measure 3 (Section I.B.3., Energy and Mining Density). These measures are all derived from the national disturbance datasets that degrade habitat (Table 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. *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 I.C., 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.

II. 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 I.D., 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 (Section III), 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. *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 health 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 I.D., Effectiveness Monitoring).

III. 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.

IV. THE GREATER SAGE-GROUSE DISTURBANCE AND MONITORING SUBTEAM MEMBERSHIP

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Attachment A. An Overview of Monitoring Commitments

	Broad and Mid Scales					Fine and Site Scales
	Implementation	Sagebrush Availability	Habitat Degradation	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, and habitat conditions at the site scale, calculate disturbance, and inform adaptive management
Who is collecting the data?	BLM FO and USFS Forest	NOC and NIFC	National datasets (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 USFS?	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 layer purchase cost are TBD	No additional personnel or budget impacts for the BLM or the 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 & USFS 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 & USFS RO
What new processes/tools are needed?	National implementation datasets and analysis tools	Updates to national land cover data	Data standards and rollup 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 = $1 - \text{user's accuracy}$).

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 = $1 - \text{producer's accuracy}$).

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 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 PHMAs in any given Biologically Significant Unit, then no further discrete anthropogenic disturbances (subject to applicable laws and regulations, such as the 1872 Mining Law, valid existing rights, etc.) would be permitted by the BLM within GRSG PHMAs in any given Biologically Significant Unit until the disturbance has been reduced to less than the cap.

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 PHMAs, 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.

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 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 threats¹) ÷ (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 threats¹ plus the 7 site scale threats² and acres of habitat loss¹) ÷ (acres of all lands within the PHMA in the project analysis area) x 100.

¹ see Table 1. ² see Table 2

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 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)

Project Analysis Area Method for Permitting Surface Disturbance Activities

- 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 1, the 7 additional features that are considered threats to sage-grouse (Table 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.

- 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, hangars, 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	

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 Priority Habitat Management Area 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.

Appendix F

Greater Sage-Grouse Mitigation

Regional Mitigation for Greater Sage-Grouse Habitat Management

The intent of the HiLine Approved Plan is to provide a net conservation gain to the species. To do so, 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. Refer to Appendix I, Mitigation Measures and Conservation Actions for Greater Sage-Grouse Habitat, as well as Appendices B through G for more details in this regard. This is also consistent with BLM Manual 6840 – Special Status Species Management, Section .02B, which states “to initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of the need for listing of these species under the ESA.”

Actions which result in habitat loss and degradation include those identified as threats which contribute to Greater Sage-Grouse disturbance as identified by the U.S. Fish and Wildlife Service in its 2010 listing decision (75 FR 13910) and shown in Table 2 in Appendix D, Greater Sage-Grouse Monitoring Framework and those identified in the COT report and shown in Table 2.2-1, Threats to Greater Sage-Grouse in the HiLine District, and Table 2.2-2, Key Components of the HiLine Approved Plan Addressing COT Report Threats.

Greater Sage-Grouse Conservation Team

The BLM will establish a Western Association of Fish and Wildlife Agencies (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. This Team will develop a WAFWA Management Zone Regional Mitigation Strategy (hereafter, Regional Mitigation Strategy). The Team will also compile and report on monitoring data (including data on habitat condition, population trends, and mitigation effectiveness) from States across the WAFWA Management Zone (see Monitoring section). Subsequently, the Team will use these data to either modify the appropriate Regional Mitigation Strategy or recommend adaptive management actions (see the Adaptive Management discussion in the HiLine Approved Plan and Appendix J).

The BLM will invite governmental and tribal partners to participate in this Team, including the state wildlife agency and U.S. Fish and Wildlife Service, in compliance with the exemptions provided for committees defined in the Federal Advisory Committee Act and the regulations that implement that act. The BLM will strive for a collaborative and unified approach between Federal agencies (e.g., USFWS, BLM, and USFS), tribal governments, state and local government(s), and other stakeholders for Greater Sage-Grouse conservation. The Team will provide advice, and will not make any decisions that impact federal lands. The BLM will remain responsible for making decisions that affect federal lands in the planning area.

General Mitigation Requirements

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 U.S. Fish and Wildlife Service in its 2010 listing decision (75 FR 13910) and shown in Table 2 in the Monitoring Framework (Appendix D). 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 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'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, 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 will be developed within one year of the issuance of the Record of Decision. 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.

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 will include the avoidance, minimization, and compensatory recommendations from the Regional Mitigation Strategy in one or more of the NEPA analysis alternatives for BLM 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 needs 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 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 will remain responsible for making decisions that affect federal lands.

Glossary Terms

Additionality: The conservation benefits of compensatory mitigation are demonstrably new and would not have resulted without the compensatory mitigation project. (Adopted and modified from BLM Manual Section 1794.)

Avoidance mitigation: Avoiding the impact altogether by not taking a certain action or parts of an action. (40 CFR 1508.20(a)) (e.g., may also include avoiding the impact by moving the proposed action to a different time or location.)

Compensatory mitigation: Compensating for the (residual) impact by replacing or providing substitute resources or environments. (40 CFR 1508.20)

Compensatory mitigation projects: The restoration, creation, enhancement, and/or preservation of impacted resources (adopted and modified from 33 CFR 332), such as on-the-ground actions to improve and/or protect habitats (e.g., chemical vegetation treatments, land acquisitions, 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.)

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/legal, and financial considerations. (Adopted and modified from BLM Manual Section 1794.)

Minimization mitigation: Minimizing impacts by limiting the degree or magnitude of the action and its implementation. (40 CFR 1508.20 (b))

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

Timeliness: The lack of a time lag between impacts and the achievement of compensatory mitigation goals and objectives. (BLM Manual Section 1794)

APPENDIX G
OIL AND GAS LEASE STIPULATIONS AND EXCEPTION,
MODIFICATION, AND WAIVER CRITERIA

Appendix G

Oil and Gas Lease Stipulations and Exception, Modification, and Waiver Criteria

“A stipulation included in an oil and gas lease shall be subject to modification or waiver only if the authorized officer determines that the factors leading to its inclusion in the lease have changed sufficiently to make the protection provided by the stipulation no longer justified or if proposed operations would not cause unacceptable impacts. If the authorized officer has determined, prior to lease issuance, that a stipulation involves an issue of major concern to the public, modification or waiver of the stipulation shall be subject to public review for at least a 30-day period. In such cases, the stipulation shall indicate that public review is required before modification or waiver. If subsequent to lease issuance the authorized officer determines that a modification or waiver of a lease term or stipulation is substantial, the modification or waiver shall be subject to public review for at least a 30-day period.” (43 CFR 3101.1-4)

The purpose of this appendix is to provide the stipulations that would be applied to future leases within the planning area under the Approved Plan.

Exceptions, Modifications, and Waivers

Any requests for exceptions, modifications, and waivers from the stipulations would be processed by the appropriate BLM office. The requests for exceptions must be initiated in writing by the operator near the time that the work is proposed to be initiated. This requirement is in place due to the unpredictability of weather, animal movement and condition, etc. The analysis of a request will typically include the review of potential mitigation measures and alternatives (traffic restrictions, alternative scheduling, staged activity, etc.). The request is considered as a unique action and is analyzed and documented individually for RMP and NEPA compliance.

The definitions for exceptions, modifications, and waivers are as follows:

Exception – A one-time exemption for a particular site within the leasehold; exceptions are determined on a case-by-case basis; the stipulation continues to apply to all other sites within the leasehold. An exception is a limited type of waiver.

Modification – A change to the provisions of a lease stipulation, either temporarily or for the term of the lease. Depending on the specific modification, the stipulation may or may not apply to all sites within the leasehold to which the restrictive criteria are applied.

Waiver – A permanent exemption from a lease stipulation. The stipulation no longer applies anywhere within the leasehold.

Process for Reviewing and Approving an Exception to, Waiver of, or Modification to a Stipulation on a Lease That Has Been Issued (WO IM No. 2008-32)

The authorized officer generally requires the operator to submit a written request for an exception, waiver, or modification and information demonstrating that (1) the factors leading to the inclusion of the stipulation in the lease have changed sufficiently to make the protection provided by the lease stipulation no longer justified or (2) that the proposed operation would not cause unacceptable impacts. Requests from the operator should contain, at a minimum, a plan including related on-site or off-site mitigation efforts, to adequately protect affected resources; data collection and monitoring efforts; and timeframes for initiation and completion of construction, drilling, and completion operations. The operator’s request may be included in an APD, Notice of Staking, Sundry Notice, or letter. The BLM may also proactively initiate the process.

During the review process, BLM coordination with other state or federal agencies should be undertaken, as appropriate, and documented. For example, it may be appropriate to coordinate the review of wildlife exceptions, waivers, and

modifications with the local office of the State wildlife agency. The BLM will also consult with the federal Surface Management Agency if other than the BLM.

The BLM staff's review and recommendations should be documented along with any necessary mitigation and provided to the authorized officer for approval or disapproval. The applicant is then provided with a written notification of the decision. Decisions on exceptions, waivers, and modifications are subject to administrative review by the State Director and thereafter may be appealed to the Interior Board of Land Appeals pursuant to 43 CFR Part 4. However, decisions on exceptions, waivers, and modifications submitted by the operator after drilling has commenced are final for the Department of the Interior and not subject to administrative review by the State Director or appeal pursuant to 43 CFR Part 4.

After drilling has commenced, the BLM may consider verbal requests for, and grant verbal approvals of, exceptions, waivers, or modifications. However, the operator must submit a written notice within 7 days after the verbal request. The BLM must also confirm verbal approvals in writing. This requirement is provided for in Onshore Oil and Gas Order No. 1. Operators should not be encouraged to submit requests unless the delay in completing the well was due to unforeseen circumstances beyond the reasonable control of the operator or a serious economic or a public health and safety problem could result from denial of the request.

Oil and Gas Lease Stipulations

Resource: Air Resource Protection – Controlled Surface Use

Stipulation: Surface occupancy or use is subject to the following special operating constraint:

Ensure that each diesel-fueled nonroad engine with greater than 200 horsepower (hp) design rating to be used during drilling or completion activities meets one of the following two criteria: (1) the engine was manufactured to meet U.S. Environmental Protection Agency (EPA) nitrogen oxides (NO_x) emission standards for Tier 4 nonroad diesel engines, or (2) the engine emits NO_x at rates less than or equal to EPA emission standards for Tier 4 nonroad diesel engines.

Objective: To protect air resources and ensure compliance with the 1-hour nitrogen dioxide (NO₂) National Ambient Air Quality Standard (NAAQS).

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

Exception: An exception may be granted by the authorized officer if air quality modeling, air quality monitoring, or other information demonstrates compliance with the 1-hour NO₂ NAAQS.

Modification: This stipulation may be modified if the EPA or the Montana Department of Environmental Quality (MDEQ) adds, deletes, or revises NO_x emission standards for drill rig, completion rig, or nonroad engines.

Waiver: The stipulation may be waived if air quality modeling, air quality monitoring, or other information demonstrates that all drilling and completion activity within the lease area will meet the 1-hour NO₂ NAAQS. The stipulation may also be waived if the 1-hour NO₂ NAAQS is revoked or otherwise rendered inapplicable to drilling/completion operations.

Resource: National Register of Historic Places (NRHP) Eligible Properties/Districts – No Surface Occupancy

Stipulation: Occupancy and use is prohibited within the boundaries of cultural properties and archaeological/historic districts determined to be eligible or potentially eligible to the National Register of Historic Places.

Objective: To protect significant cultural properties and archaeological districts and their settings, and to avoid disturbance or inadvertent impacts to these resources.

Exception: None.

Modification: None.

Waiver: None.

Resource: Cultural Resource Survey

Stipulation: An inventory of those portions of the leased lands subject to proposed disturbance may be required prior to any surface disturbance to determine if 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. Engage the services of a cultural resource consultant acceptable to the Surface Management Agency (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.
2. 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.

Objective: Compliance with Section 106 of the National Historic Preservation Act is required for all actions which may affect cultural properties eligible to the National Register of Historic Places. Section 6 of the Oil and Gas Lease Terms (Form 3100-11) requires that operations be conducted in a manner that minimizes adverse impacts to cultural and other resources.

Exception: None.

Modification: None.

Waiver: None.

Resource: Cultural Resources and Tribal Consultation

Stipulation: This lease may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, E.O. 13007, or other statutes and executive orders. The BLM will not approve any surface-disturbing activities that may affect any such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.

Objective: To protect significant historic properties and resources.

Exception: None.

Modification: None.

Waiver: None.

Resource: National Park Service Bear Paw Battlefield – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited in the parcel adjacent to the Bear Paw Battlefield identified as T30N, R19E, Sec. 12, SW1/4NE1/4.

Objective: To avoid disturbance and to protect archaeological properties of the Bear Paw Battlefield.

Exception: None.

Modification: None.

Waiver: None.

Resource: Paleontological Resources – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within designated paleontological sites/locales.

Objective: To preserve and protect significant vertebrate fossils and paleontological locales.

Exception: The authorized officer may grant an exception if the lessee or operator submits a plan which demonstrates that the adverse impacts to significant paleontological resources can be mitigated through recovery and extensive recordation. Where impacts to paleontological resources cannot be mitigated to the satisfaction of the surface management agency (SMA), surface occupancy on that area must be prohibited.

Modification: The boundaries of the stipulated area may be modified if the authorized officer determines that portions of the designated paleontological site/locale can be occupied without adversely affecting the resource values.

Waiver: None.

Resource: Paleontological Resource Inventory

Stipulation: Prior to any surface-disturbing activity in areas known to have a high potential (Class 4 and 5) for containing significant paleontological resources, the lessee shall be required to conduct a paleontological inventory. The lessee must engage the services of a qualified paleontologist, acceptable to the surface management agency (SMA), to conduct the inventory. An acceptable inventory report is to be submitted to the SMA for review and approval at the time a surface-disturbing plan of operations is submitted.

Objective: To preserve and protect scientifically significant vertebrate fossils and paleontological locales.

Exception: The authorized officer may grant an exception if the area has already been inventoried for paleontological resources.

Modification: None.

Waiver: None.

Resource: Recreation Sites – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within and 500 feet from recreation sites.

Objective: To recognize and protect the public's opportunity for quality recreation experiences at those sites developed for recreation. Since BLM recreation sites are generally developed to support the use of the surrounding lands, 500 feet provides protection for perpetuating those opportunities for which the site was developed, reduces the visual intrusion and noise, and protects capital investments at the site.

Exception: The authorized officer may grant an exception if a site is moved or eliminated.

Modification: The list of recreation sites may be modified if a site is removed, or if a site is developed in the future.

Waiver: A waiver may be granted if a site is moved or eliminated.

Resource: National Historic Trails – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within the National Trail Management Corridor of designated National Historic Trails. Designated National Historic Trails include the Lewis and Clark Trail and the Nez Perce Trail.

Objective: To protect the nature and purposes; trail resources, qualities, values and associated settings; and primary use or uses of the historic trail, in accordance with the National Trails System Act.

Exception: The authorized officer may grant an exception when the operator submits a comprehensive trail inventory, as outlined in Manual 6280, and presents a proposal which demonstrates resource values are not affected or that adverse impacts can be adequately mitigated to prevent impacts to:

- the nature and purposes of the National Trail,
- National Trail resources, qualities, values, and associated settings.
- National Trail primary use or uses.
- the National Trail from the cumulative or trailwide perspective.

Modification: None.

Waiver: None.

Resource: Residential Structures – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within and 500 feet of incorporated city limits or occupied dwellings.

Objective: 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.

Exception: The authorized officer may grant an exception if the operator submits a plan that demonstrates 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.

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.

Resource: Sagebrush Focal Area

Stipulation: Surface occupancy and use is prohibited within the Sagebrush Focal Area.

Objective: To provide the protection needed in order to preserve areas of BLM-administered land identified by the U.S. Fish and Wildlife Service as “strongholds” for Greater Sage-Grouse having the highest densities of Greater Sage-Grouse and other criteria important for the persistence of Greater Sage-Grouse.

Exception: None.

Modification: None.

Waiver: None.

Resource: Soils – Sensitive Soils – Controlled Surface Use

Stipulation: Surface occupancy and use will be controlled on sensitive soils. Sensitive soils are determined using a combination of slope and soil erodibility. 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, (6) that no areas susceptible to mass wasting would be disturbed and (7) surface-disturbing activities will be prohibited during extended wet periods.

Objective: 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.

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 (e.g., excessive soil erosion, mass wasting, and/or lost productivity) or downslope resource conditions (e.g., reduced water quality due to sedimentation).

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.

Waiver: The administrative officer may waive this stipulation if it is determined that the entire leasehold does not contain sensitive soils.

Resource: Soils – Badlands, Rock Outcrop – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited on badlands and rock outcrop.

Objective: To prevent excessive soil erosion and to avoid disturbing areas subject to potential reclamation problems.

Exception: The authorized officer may not grant exceptions to this stipulation.

Modification: The authorized officer may modify the area affected by this stipulation if it is determined that portions of the leasehold do not include these types of areas.

Waiver: The authorized officer may waive this stipulation if it is determined that the entire leasehold does not include these types of areas.

Resource: Big Bend of the Milk River ACEC – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within the Big Bend of the Milk River ACEC.

Objective: To provide the protection needed in order to preserve the qualities that prompted the BLM to designate this area as an ACEC.

Exception: None.

Modification: None.

Waiver: None.

Resource: Frenchman Breaks ACEC – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within the Frenchman Breaks ACEC.

Objective: To provide the protection needed in order to preserve the qualities that prompted the BLM to designate this area as an ACEC.

Exception: None.

Modification: None.

Waiver: None.

Resource: Kevin Rim ACEC – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within the Kevin Rim ACEC.

Objective: To provide the protection needed in order to preserve the qualities that prompted the BLM to designate this area as an ACEC.

Exception: None.

Modification: None.

Waiver: None.

Resource: Malta Geological ACEC – Controlled Surface Use

Stipulation: Prior to any surface-disturbing activity in the Malta Geological ACEC the lessee shall be required to conduct a paleontological inventory. The lessee must engage the services of a qualified paleontologist, acceptable to the surface management agency (SMA), to conduct the inventory. An acceptable inventory report is to be submitted to the SMA for review and approval at the time a surface-disturbing plan of operations is submitted.

Objective: To provide the protection needed in order to preserve the qualities that prompted the BLM to designate this area as an ACEC.

Exception: The authorized officer may grant an exception if the operator submits a plan that demonstrates 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 qualities of the ACEC.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting the qualities of the ACEC.

Resource: Woody Island ACEC – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within the Woody Island ACEC.

Objective: To provide the protection needed in order to preserve the qualities that prompted the BLM to designate this area as an ACEC.

Exception: The authorized officer may grant an exception if the operator submits a plan that demonstrates 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 qualities of the ACEC.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold can be occupied without adversely affecting the qualities of the ACEC.

Resource: Visual Resources – Controlled Surface Use

Stipulation: In order to retain the existing character of the landscape (VRM Class II Objective), oil and gas development activities will be located, designed, constructed, operated, and reclaimed so that activities should not attract attention to the casual observer within 2 years from initiation of construction. This stipulation does not apply to the operation and maintenance activities.

Objective: To protect visual resource values while allowing energy development and related activities to occur that have been mitigated to retain the character of the existing area.

Exception: None.

Modification: None.

Waiver: None.

Resource: Water, Riparian, Wetland, and Floodplains – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within perennial or intermittent streams, lakes, ponds, reservoirs, 100-year floodplains, wetlands, and riparian areas.

Objective: To protect the unique biological and hydrological features associated with perennial or intermittent streams, lakes, ponds, reservoirs, floodplains, wetlands, and riparian 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, floodplains, and artificial ponds or reservoirs 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 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.

Waiver: The authorized officer may waive this stipulation if it is determined that the entire leasehold does not include these types of areas.

Resource: Source Water Protection Areas – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within State-designated Source Water Protection Areas.

Objective: 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.

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.

Waiver: The authorized officer may waive this stipulation if it is determined that the entire leasehold does not include Source Water Protection Areas.

Resource: Water, Riparian, and Wetlands – Controlled Surface Use

Stipulation: 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. The plan will address: (a) potential impacts to 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 changing riparian and/or wetland conditions).

Objective: 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.

Exception: The authorized officer 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 authorized officer if it is determined that portions of the lease area do not contain wetlands or riparian areas.

Waiver: This stipulation can be waived by the authorized officer if it is determined that the entire lease area does not contain wetlands or riparian areas.

Resource: Lands with Wilderness Characteristics - Areas 49B, 52L and 53 – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within areas that are managed to protect wilderness characteristics.

Objective: To protect wilderness characteristics as a priority over other multiple uses.

Exception: None.

Modification: None.

Waiver: None.

Resource: Bald Eagle – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within 1/2 mile of bald eagle nest sites that were active within the preceding 5 breeding seasons.

Objective: To protect bald eagle nesting sites and/or breeding habitat in accordance with the Montana Bald Eagle Management Plan.

Exception: The authorized officer may grant an exception if the operator submits a plan which demonstrates that the proposed action will not affect the bald eagle or its habitat. If the authorized officer determines that the action may have an adverse effect, the operator may submit a plan demonstrating that the impacts can be adequately mitigated. This plan must be approved by the BLM.

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 bald eagle nest sites or nesting areas. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold is no longer capable of supporting bald eagle nest sites or nesting habitat.

Resource: Bighorn Sheep Lambing – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within bighorn sheep lambing areas.

Objective: To protect bighorn sheep lambing areas from disturbance and to facilitate long-term maintenance of bighorn sheep populations.

Exception: The authorized officer may grant an exception if the operator submits a plan that demonstrates the impacts from the proposed action are acceptable 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 no longer contain lambing habitat for bighorn sheep.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains bighorn sheep lambing areas.

Resource: Bighorn Sheep Range – Controlled Surface Use

Stipulation: Prior to surface-disturbing or disruptive activities a plan to maintain bighorn sheep habitat will be prepared by the proponent and implemented upon approval by the authorized officer. This plan shall address how short-term and long-term direct and indirect effects to bighorn sheep range will be mitigated based on current science and research (Appendix E.5).

Objective: To protect bighorn sheep habitat and populations from disturbance and to facilitate long-term maintenance of bighorn sheep populations.

- Exception:** The authorized officer may grant an exception if an environmental review determines that the action, as proposed or conditioned, would not compromise the functionality of the habitat for bighorn sheep.
- Modification:** The authorized officer may modify the area subject to the stipulation if an environmental analysis finds that a portion of the area is no longer bighorn sheep habitat and supports no bighorn sheep populations. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.
- Waiver:** This stipulation may be waived, if it is determined that bighorn sheep populations no longer occupy significant portions of the area and there is no reasonable likelihood of functional bighorn sheep habitat being restored.
- Resource:** **Black-footed Ferret – No Surface Occupancy**
- Stipulation:** Surface occupancy and use is prohibited within 1/4 mile of black-footed ferret habitat.
- Objective:** To protect black-footed ferret habitat for long-term maintenance of black-footed ferret populations.
- Exception:** The authorized officer may grant an exception if the operator submits a plan that demonstrates the impacts from the proposed action can be adequately mitigated.
- Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with the U.S. Fish and Wildlife Service (USFWS), determines that portions of the area can be occupied without adversely affecting black-footed ferret habitat. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.
- Waiver:** This stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold is no longer considered black-footed ferret habitat.
- Resource:** **Black-tailed Prairie Dog – No Surface Occupancy**
- Stipulation:** Surface occupancy and use is prohibited within 1/4 mile of black-tailed prairie dog habitat.
- Objective:** To protect prairie dog towns necessary for long-term maintenance of black-tailed prairie dog populations.
- Exception:** The authorized officer may grant an exception if the operator submits a plan that demonstrates 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 prairie dog habitat. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.
- Waiver:** This stipulation may be waived if the authorized officer determines that the entire leasehold is no longer considered prairie dog habitat.
- Resource:** **Colonial Waterbirds – No Surface Occupancy**
- Stipulation:** Surface occupancy and use is prohibited within 1/4 mile of a waterbird nesting colony.

Objective: To protect colonial waterbird nesting sites and to maintain regional colonial waterbird populations.

Exception: The authorized officer may grant an exception if portions of the area can be occupied without adversely affecting waterbird nesting colonies.

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 waterbird nesting colonies. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: The stipulation may be waived if the authorized officer determines that the entire leasehold is no longer capable of supporting nesting waterbirds.

Resource: Colonial Waterbirds – Timing Limitation

Stipulation: Surface occupancy and use is prohibited within 1/2 mile of a waterbird nesting colony from April 1 through July 15.

Objective: To protect colonial waterbirds and to maintain colonial waterbird populations.

Exception: An exception to this stipulation may be granted if the authorized officer determines that portions of the area can be occupied without adversely affecting waterbird nesting colonies.

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 waterbird nesting colonies. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: The stipulation may be waived if the authorized officer determines that the entire leasehold is no longer capable of supporting nesting waterbirds.

Resource: Crucial Winter Range – Controlled Surface Use

Stipulation: Prior to surface-disturbing or disruptive activities a plan to maintain functionality of crucial winter range for big game and/or Greater Sage-Grouse will be prepared by the proponent and implemented upon approval by the authorized officer. Within crucial winter range surface-disturbing or disruptive activities will be restricted or prohibited within 6/10 of a mile from any existing surface-disturbing or disruptive activity. The plan shall address how short-term and long-term direct and indirect effects to crucial winter range will be mitigated based on current science and research (Appendix E.5).

Objective: To protect big game and Greater Sage-Grouse crucial winter range from loss and degradation, and to facilitate long-term sustainability of those wildlife populations utilizing crucial winter ranges by minimizing mortality of animals through disturbance and disruption.

Exception: The authorized officer may grant an exception if an environmental review determines that the action as proposed or conditioned (such as exceeding the 6/10 of a mile surface-disturbing or disruptive activity restriction) would not compromise the functionality of the crucial winter range.

Modification: The authorized officer may modify the area subject to the stipulation if an environmental analysis finds that a portion of the area no longer contains crucial winter range and populations of wintering animals no longer occupy the area. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: This stipulation may be waived, if it is determined that wintering animals no longer occupy significant portions of the area and there is no reasonable likelihood of future use as crucial winter range.

Resource: Endangered Species Act Section 7 Consultation

Stipulation: This 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 a BLM-approved activity that will contribute to a need to list such species or their habitat. The BLM may require modifications to or disapprove a 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 surface-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.

Objective: To protect threatened, endangered species, or special status species.

Exception: None.

Modification: None.

Waiver: None.

Resource: Greater Sage-Grouse Leaks (General Habitat Areas) – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within 0.6 miles of Greater Sage-Grouse leaks. This stipulation does not apply within the boundaries of the Greater Sage-Grouse Priority Habitat Management Area.

Objective: To protect Greater Sage-Grouse leaks to maintain Greater Sage-Grouse populations.

Exception: The authorized officer, in consultation with Montana Fish, Wildlife and Parks (MFWP), may grant an exception if portions of the area can be occupied without adversely affecting Greater Sage-Grouse leaks.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with MFWP, determines that portions of the area can be occupied without adversely affecting Greater Sage-Grouse leaks. The authorized officer, in consultation with MFWP, may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: The stipulation may be waived if the authorized officer, in consultation with MFWP, determines that no portion of the leasehold is within 0.6 mile of the perimeter of an active lek.

Resource: Greater Sage-Grouse Nesting Habitat (General Habitat Management Areas) – Controlled Surface Use

Stipulation: Within Greater Sage-Grouse general habitat surface-disturbing or disruptive activities may be restricted or prohibited within 2 miles of Greater Sage-Grouse leaks. Prior to surface-disturbing or disruptive activities a plan to maintain functionality of Greater Sage-Grouse habitat will be prepared by the proponent and implemented upon approval by the authorized officer. This plan shall address how short-term and long-term direct and indirect effects to nesting and brood-rearing areas will be mitigated based on current science and research (Appendix E.5).

Objective: To protect the integrity of the habitat to maintain or improve Greater Sage-Grouse populations.

Exception: The authorized officer may grant an exception if an environmental review determines that the action, as proposed or conditioned, would not compromise the functionality of the habitat for Greater Sage-Grouse and would meet the objective for Greater Sage-Grouse habitat and populations.

Modification: The authorized officer may modify the area subject to the stipulation if an environmental analysis finds that a portion of the area is no longer Greater Sage-Grouse habitat and supports no Greater Sage-Grouse populations.

Waiver: This stipulation may be waived if no portion of the leasehold is within 2 miles of the perimeter of an active lek.

Resource: Greater Sage-Grouse Priority Habitat Management Areas – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within Greater Sage-Grouse Priority Habitat Management Area and the Grassland Bird/Greater Sage-Grouse Priority Habitat Management Area.

Objective: To protect the integrity of the habitat to maintain or improve Greater Sage-Grouse populations.

Exception: The Authorized Officer may grant an exception to a fluid mineral lease NSO stipulation only where the proposed action:

- (i) would not have direct, indirect, or cumulative effects on Greater Sage-Grouse 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 Greater Sage-Grouse.

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. 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 Greater Sage-Grouse 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.

Modification: None.

Waiver: None.

Resource: Greater Sage-Grouse Winter Range – Timing Limitation

Stipulation: Surface occupancy and use is prohibited from December 1 through March 31 in Greater Sage-Grouse winter range.

- Objective:** To protect Greater Sage-Grouse winter range from disturbance during the winter season and to facilitate long-term maintenance of wildlife populations.
- Exception:** The authorized officer may grant an exception if the operator submits a plan that demonstrates the impacts from the proposed action are acceptable 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 no longer contain viable winter range. The dates for the timing restriction may be modified if new wildlife use information indicates that the dates are not valid for the leasehold. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.
- Waiver:** This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains viable winter range.
- Resource:** **Interior Least Tern – No Surface Occupancy**
- Stipulation:** Surface occupancy and use is prohibited within 1/4 mile of interior least tern occupied habitat.
- Objective:** To protect and maintain habitat needed to support regional interior least tern populations.
- Exception:** An exception to this stipulation may be granted if the authorized officer, in consultation with the U.S. Fish and Wildlife Service (USFWS), determines that portions of the area can be occupied without adversely affecting interior least tern occupied habitat.
- Modification:** The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that portions of the area can be occupied without adversely affecting interior least tern occupied habitat. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.
- Waiver:** The stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold can be occupied without adversely affecting interior least tern occupied habitat.
- Resource:** **Mountain Plover – No Surface Occupancy**
- Stipulation:** Surface occupancy and use is prohibited within mountain plover habitat.
- Objective:** To protect mountain plover habitat and to maintain mountain plover populations.
- Exception:** The authorized officer may grant an exception if portions of the area can be occupied without adversely affecting mountain plover 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 mountain plover habitat. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.
- Waiver:** The stipulation may be waived if the authorized officer determines that the entire leasehold is no longer mountain plover habitat.

Resource: Mountain Plover – Timing Limitation

Stipulation: Surface occupancy and use is prohibited within 1/4 mile of mountain plover habitat from April 1 through July 15.

Objective: To protect mountain plover habitat and to maintain mountain plover populations.

Exception: The authorized officer may grant an exception if portions of the area can be occupied without adversely affecting mountain plover 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 mountain plover habitat. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: The stipulation may be waived if the authorized officer determines that the entire leasehold is no longer mountain plover habitat.

Resource: Pallid Sturgeon – Controlled Surface Use

Stipulation: Prior to surface-disturbing or disruptive activities occurring in or within 1/2 mile of river or stream shorelines identified as pallid sturgeon habitat, a plan to maintain pallid sturgeon habitat would be prepared by the proponent and implemented upon approval by the authorized officer.

Objective: To protect and maintain habitat needed to support pallid sturgeon populations.

Exception: An exception to this stipulation may be granted if the authorized officer, in consultation with the U.S. Fish and Wildlife Service (USFWS), determines that portions of the area can be occupied without adversely affecting pallid sturgeon habitat.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that portions of the area can be occupied without adversely affecting pallid sturgeon habitat. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: The stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold can be occupied without adversely affecting pallid sturgeon habitat.

Resource: Peregrine Falcon – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within 1 mile of peregrine falcon nest sites active within the preceding 7 breeding seasons.

Objective: To maintain the reproductive potential of raptor nest sites.

Exception: The authorized officer may grant an exception if the operator submits a plan that demonstrates the impacts to raptors 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 production potential of raptor nest sites. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains habitat for raptor nest sites.

Resource: Piping Plover – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within 1/4 mile of piping plover habitat.

Objective: To protect piping plover habitat and to maintain regional piping plover populations.

Exception: An exception to this stipulation may be granted if the authorized officer, in consultation with the U.S. Fish and Wildlife Service (USFWS), determines that portions of the area can be occupied without adversely affecting piping plover habitat.

Modification: The boundaries of the stipulated area may be modified if the authorized officer, in consultation with USFWS, determines that portions of the area can be occupied without adversely affecting piping plover habitat. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: The stipulation may be waived if the authorized officer, in consultation with USFWS, determines that the entire leasehold is no longer piping plover habitat.

Resource: Raptors – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within 1/4 mile of raptor nest sites that were active within the past 7 years.

Objective: To maintain the reproductive potential of raptor nest sites.

Exception: The authorized officer may grant an exception if the operator submits a plan that demonstrates the impacts to raptors 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 production potential of raptor nest sites. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains habitat for raptor nest sites.

Resource: Raptors – Timing Limitation

Stipulation: Surface occupancy and use is prohibited within 1/2 mile of active raptor nest sites from March 1 through July 31.

Objective: To maintain the reproductive potential of raptor nest sites.

Exception: The authorized officer may grant an exception if the operator submits a plan that demonstrates 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 production potential of raptor nest

sites. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains a raptor nest or has a nest that has not been active in 7 years.

Resource: Sharp-tailed Grouse Leks – No Surface Occupancy

Stipulation: Surface occupancy and use is prohibited within 1/4 mile of sharp-tailed grouse leks.

Objective: To protect sharp-tailed grouse leks and to maintain sharp-tailed grouse populations.

Exception: The authorized officer may grant an exception if the operator submits a plan that demonstrates the impacts from the proposed action are acceptable 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 adversely affecting sharp-tailed grouse leks. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: The stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains sharp-tailed grouse leks.

Resource: Sharp-tailed Grouse Nesting Habitat – Timing Limitation

Stipulation: Surface occupancy and use is prohibited within 1/2 mile of sharp-tailed grouse leks from March 15 through June 30.

Objective: To protect sharp-tailed grouse nesting habitat necessary for long-term maintenance of sharp-tailed grouse populations.

Exception: The authorized officer may grant an exception if the operator submits a plan that demonstrates 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 sharp-tailed grouse populations. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains sharp-tailed grouse nesting habitat.

Resource: Sprague’s Pipit – Timing Limitation

Stipulation: Surface occupancy and use is prohibited from April 15 through July 15 in Sprague’s pipit habitat.

Objective: To protect Sprague’s pipit habitat necessary for long-term maintenance of Sprague’s pipit populations.

Exception: The authorized officer may grant an exception if the operator submits a plan that demonstrates the impacts from the proposed action are acceptable 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 no longer contain Sprague's pipit habitat. The dates for the timing restriction may be modified if new wildlife use information indicates that the dates are not valid for the leasehold. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains Sprague's pipit habitat.

Resource: Winter Range – Timing Limitation

Stipulation: Surface occupancy and use is prohibited from December 1 through May 15 in big game winter range.

Objective: To protect big game and Greater Sage-Grouse winter range from disturbance during the winter season and to facilitate long-term maintenance of wildlife populations.

Exception: The authorized officer may grant an exception if the operator submits a plan that demonstrates the impacts from the proposed action are acceptable 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 no longer contain viable winter range. The dates for the timing restriction may be modified if new wildlife use information indicates that the dates are not valid for the leasehold. The authorized officer may also modify the size and shape of the area based on studies documenting actual habitat suitability and/or local periods of actual use.

Waiver: This stipulation may be waived if the authorized officer determines that the entire leasehold no longer contains viable winter range.

Appendix H

Best Management Practices

Introduction

The following Mitigation Measures and Conservation Actions are a compilation of Best Management Practices (BMPs) 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 Actions for Resources

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/>

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 BMPs for protecting air resources during oil and gas development and production operations. The above-referenced document is supplemented with the following BMPs. Some of the following BMPs, or equivalent measures, are required by state air quality regulations for sources meeting certain criteria. In those cases, compliance with regulatory requirements is considered to meet equivalent BMPs.

- Fugitive dust emissions would be reduced by:
 - restricting the extent of surface impacts during construction activities and ongoing operations by using directional drilling to reduce the number of well pads,
 - locating linear facilities in the same or parallel trenches and constructing them at the same time,
 - mowing rather than removing vegetation,
 - using two-track primitive roads whenever possible rather than developing a dirt road,
 - applying water or chemical suppressants (e.g., magnesium chloride, calcium chloride, lignin, or sulfonate) to unpaved roads,
 - surfacing roads with chip-seal or asphalt, and
 - requiring vehicle speed limits on unpaved roads.
- Fugitive dust and vehicle exhaust emissions (primarily carbon monoxide, carbon dioxide, black carbon, sulfur dioxide, and nitrogen oxides) would be reduced by restricting vehicle trips by:
 - consolidating facilities by using directional drilling and multiwall pads,
 - developing centralized liquid collection (water, produced water, and fracturing liquid) facilities and production (treatment and product storage) facilities to reduce the number and distance of vehicle trips,
 - using shuttles or vanpools for employee commuting,
 - using automated equipment and remote telemetry, and
 - using solar power to add automated equipment in areas without access to electricity.
- Non-vehicular engine exhaust emissions would be reduced by:
 - electrifying equipment when feasible,
 - achieving high levels of emission control on diesel drill rig engines by using Tier 4 drill rig engines or engines that have been retrofitted with additional emission controls such as nonselective catalytic reduction,
 - using natural gas driven engines rather than diesel engines,
 - using compressor engines that meet New Source Performance Standards for spark-ignition and compression-ignition engines (Title 40 Code of Federal Regulations [CFR] 60, Subparts IIII and JJJJ) regardless of engine age,
 - using alternative energy (solar power, wind power, or both) to power new water source developments, and
 - converting power sources at existing water wells to alternative energy sources.

- Fugitive volatile organic compound (VOC), hazardous air pollutant (HAP), or methane (a GHG) would be reduced by:
 - using green completion technology to capture methane (and some VOC and HAP) emissions during completion and routing them to sales pipelines,
 - using flaring rather than venting, but only in cases in which product capture is not feasible,
 - using closed tanks rather than open tanks or pits,
 - installing vapor recovery units on storage tanks,
 - using closed-loop drilling,
 - replacing pneumatic (natural gas) pumps with electric or solar pumps,
 - optimizing glycol circulation rates on glycol dehydrators,
 - replacing wet seals with dry seals in centrifugal compressors,
 - replacing worn rod packing in reciprocating compressors,
 - installing automated plunger lift systems in natural gas wells, and
 - monitoring and repairing equipment leaks.

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 of threatened 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, as amended in 2006, 2012. (Avian Power Line Interaction Committee. Reducing Avian Collisions with Power Lines: The State of the Art in 2012. Edison Electric Institute and APLIC. Washington, D.C. Available online at http://www.aplic.org/uploads/files/11218/Reducing_Avian_Collisions_2012watermarkLR.pdf.)
- 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.

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 MDT's 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.

Grazing Management BMPs (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 HiLine District are presented in Appendix H.

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/>

Management of Land Boundaries

Developed by: Department of the Interior and Bureau of Land Management

Publication reference: DOI 600 DM 5 and BLM H-9600-1

Available from: Online at: http://www.blm.gov/wo/st/en/prog/more/cadastralsurvey/cadastral_review_of.html.

Description: The Departmental Manual 600 Chapter 5, Standards for Federal Lands Boundary Evidence and BLM H-9600-1, Cadastral Survey Handbook, provides general information regarding BLM BMPs for management of public land boundaries. Samples of Management of Land Boundaries BMPs are available with a brief description of types of BMPs and terminology.

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: 2012

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://deq.mt.gov/wqinfo/nonpoint/2012NonpointPlan/NPSPlan_Complete_07162012.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 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.mcp>

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 collocated 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 authorized officer, 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 above ground 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 ROWs, 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.

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.

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>

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>

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/>

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>

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.

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

APPENDIX I
MITIGATION MEASURES AND CONSERVATION ACTIONS FOR
GREATER SAGE-GROUSE HABITAT

Appendix I

Mitigation Measures and Conservation Actions for Greater Sage-Grouse Habitat

Introduction

These Mitigation Measures and Conservation Actions for Greater Sage-Grouse Habitat are a compilation of management strategies and project design features employed by the Bureau of Land Management (BLM) to mitigate impacts from surface disturbance in priority and general sage-grouse habitat in order to meet the goals and objectives set forth in the BLM National Sage-grouse Conservation Strategy and in individual land use plans. They apply to activities such as road or pipeline construction, range improvements, and permitted land uses or recreation activities. These guidelines are presented as an appendix for easy reference as they apply to many resources and were derived from many laws and other guidelines such as the Management Plan and Conservation Strategies for Sage-grouse in Montana, the BLM National Technical Team Report (WO IM No. 2012-044, BLM National Greater Sage-Grouse Land Use Planning Strategy), Western Association of Fish and Wildlife Agencies (WAFWA), Conservation Strategy for Greater Sage-grouse, and others. These Mitigation Measures and Conservation Actions must be used in accordance with the “no net unmitigated loss” standard enunciated in Appendix F of this Approved Plan and Chapter 2 of the HiLine Proposed RMP/Final EIS.

The guidelines are primarily included to provide consistency within the Montana/Dakotas BLM in how management practices and requirements are identified and applied to avoid and mitigate environmental impacts and resource and land use conflicts in Greater Sage-Grouse habitat. Consistency in this sense does not mean that identical requirements would be applied for all similar types of land use activities, nor does it mean that the requirements or guidelines for a single land use activity would be identical in all areas.

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

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

Purpose

The purpose of these mitigation measures and conservation actions is to mitigate impacts from surface disturbance in priority and general sage-grouse habitat in order to meet the goals and objectives set forward in the BLM National Sage-grouse Conservation Strategy and in individual land use plans. Application of mitigation measures and conservation actions will reserve for the BLM the right to modify the operations of surface-disturbing and/or disruptive activities as part of the statutory requirements for environmental protection. Those measures selected for implementation will be identified in the Record of Decision (ROD) or Decision Record (DR) for those activities and will inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM lands and minerals. These measures have been written in a format that will allow for either their direct use as stipulations or operating standards and/or in

addition to specific or specialized mitigation following the submission of a detailed development plan or other project proposal and an environmental analysis. These operating standards are given as acceptable methods for mitigating anticipated effects and achieving the desired plan outcomes but are not prescribed as the only method for achieving the outcomes.

Those resource activities or programs currently without a standardized set of permit or operation stipulations can use the mitigation measures and conservation actions for Greater Sage-Grouse as stipulations or as conditions of approval, or as a baseline for developing specific stipulations for a given activity or program. Resource activities or programs with a standardized set of permit or operation stipulations will also use Mitigation Measures and Conservation Actions for Greater Sage-Grouse Habitat.

These mitigation measures and conservation actions are primarily written for priority sage-grouse habitats. Within general habitat the mitigation measures and conservation actions applied are determined at a project-by-project level and may be similar in many cases to the priority habitat measures. A selection of mitigation measures and conservation actions for general habitat is also included for some programs. At the project level, in order to prioritize certain general habitat areas over marginal or substandard sage-grouse habitat areas, consideration should be given to:

- The capability of the habitat to provide connectivity among priority areas.
- Habitats occupied by sage-grouse where enhancing general sage-grouse habitat can offset losses to habitat and/or populations elsewhere within the habitat.
- The potential to replace lost priority habitat or needed changes in total priority habitat due to perturbations and/or disturbances, providing connectivity between priority areas, and restoring historical habitat functionality to support meeting objectives to maintain or enhance connectivity.

Threats to Greater Sage-Grouse and Their Habitat

A number of threats and risks to Greater Sage-Grouse and their habitat have been identified during conservation planning efforts and assessments. Range wide issues were covered in listing decisions made by the U.S. Fish and Wildlife Service in 2007 and 2010. In addition, the BLM National Technical Team Report (WO IM No. 2012-044) covered BLM program areas with the potential to impact Greater Sage-Grouse populations. The 2005 Management Plan and Conservation Strategies for Sage-Grouse in Montana - Final identified twelve major issues:

- *Fire Management*
- *Grazing Management*
- *Harvest Management*
- *Noxious Weed Management*
- *Mining and Energy Development*
- *Outreach and Education*
- *Power Lines and Generation Facilities*
- *Predation*
- *Recreational Disturbance*
- *Roads and Motorized Vehicles*
- *Vegetation*
- *Managing Other Wildlife in Sage-Grouse Habitats*

Conservation Actions

These mitigation measures and conservation actions for Greater Sage-Grouse would be implemented on a project-specific basis in sage-grouse priority habitat, 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. The mitigation would be requirements, procedures, management practices, or design features that the BLM, through issuance of the Record of Decision (ROD), would adopt as operational requirements. 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 change or are modified based on new information, the guidelines will be updated periodically.

In the very early stages of the development of siting and design plans, project developers shall coordinate with appropriate federal, state, and local agencies that regulate activities that affect Greater Sage-Grouse and their habitats to determine what expected level of mitigation will be needed to ensure the RMP goals and objectives can be met within the proposed action. An environmental review shall demonstrate how the mitigation measures and conservation actions being applied to the project lead to impacts (direct, indirect, and cumulative) that do not cause the BLM to authorize actions that would exceed habitat level thresholds causing goals and objectives for the priority area to not be met. This will analyze at the project level at least two considerations to examine functionality of sage-steppe systems and thresholds where populations are known to be impacted:

- At the landscape scale, priority areas should be maintained with enough land cover composed of adequate sagebrush habitat to provide Greater Sage-Grouse needs to meet priority habitat objectives. This is measured using broad-scale habitat classification to determine the amount of potential habitat based on ecological sites against habitat lost to permanent to short-term habitat loss from disturbances such as agricultural tillage, fire, etc.
- At the local population scale discrete anthropogenic disturbances should be avoided, minimized, or mitigated to maintain the highest quality habitat. The actual impact to sage-grouse will depend on the amount of direct disturbance, the level of activity associated with the direct disturbance that leads to indirect disturbance, and the cumulative effects of the disturbance level, habitat loss and habitat degradation.

In analyzing the impact from a project, consideration should be given to the type of activity, the amount of anthropogenic disturbance to seasonal Greater Sage-Grouse habitat utilized by the local population, and the landscape context. The BLM will analyze and disclose how permitted actions, including included mitigation measures and conservation actions, affect the ability of priority area goals and objectives to be met and ensure permitted activities are in conformance with the RMP.

Priority Habitat

Travel Management

Travel management should evaluate, during site-specific travel planning, the need for permanent or seasonal road or area closures to protect Greater Sage-Grouse priority habitat areas.

Use existing roads or realignments to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then any new roads would be constructed to the absolute minimum standard necessary.

Allow no upgrading of existing routes that would change route category (road, primitive road, or trail) or capacity unless the upgrading would have minimal or beneficial impacts on Greater Sage-Grouse habitat, is necessary for motorist safety, or eliminates the need to construct a new road.

Reclaim roads, primitive roads and trails not designated in travel management plans. This also includes primitive route/roads that were not designated in Wilderness Study Areas and within lands with wilderness characteristics that have been selected for protection.

When reclaiming roads, primitive roads and trails, use appropriate seed mixes and consider the use of transplanted sagebrush.

Evaluate impacts of existing roads, including two-tracks, in relation to known lek locations and Greater Sage-Grouse winter ranges.

Consider the use of speed bumps where appropriate to reduce vehicle speeds near leks, such as during oil and gas development.

Manage on-road travel and OHV use in sage-grouse habitat to avoid disturbance during critical times such as winter, breeding and nesting periods.

Plan or permit organized events to avoid impacts to Greater Sage-Grouse.

Manage motorized and mechanized travel to minimize impacts to Greater Sage-Grouse and their habitat by developing standards for future roads to give to BLM, FS, BIA, state, county, and private parties.

Manage motorized and mechanized travel to minimize impacts to Greater Sage-Grouse by enforcement of existing OHV and travel management plans.

Provide educational opportunities for users of OHVs dealing with the possible effects they may have on Greater Sage-Grouse.

Develop a transportation management plan across ownership boundaries in Greater Sage-Grouse habitats.

Participate in travel planning efforts and educate the general public about the impacts of roads on Greater Sage-Grouse and their habitat.

Consider buffers, removal, realignment, or seasonal closures where appropriate to avoid degradation of habitat.

Reclaim closed roads with locally adapted native plant species beneficial to sage-grouse.

Close and reclaim travel ways in sage-grouse habitat where appropriate.

Recreation

Document leks where recreational viewing is occurring.

Provide educational materials to the public describing effects of concentrated recreational activities and the importance of seasonal ranges to Greater Sage-Grouse.

Issue special use permits for certain activities with distance and timing restrictions to maintain the integrity of breeding, nesting and winter habitat.

Lands and Realty

Within designated ROW corridors encumbered by existing ROW authorizations, new ROWs should be co-located to the extent practical and feasible with the entire footprint of the proposed project within the existing disturbance associated with the authorized ROWs.

Subject to valid, existing rights, where new ROWs associated with valid existing rights are required, co-locate new ROWs within existing ROWs or where it best minimizes Greater Sage-Grouse impacts. Use existing roads, or realignments as described above, to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then build any new road constructed to the absolute minimum standard necessary.

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.

For powerlines:

- Document the segment(s) of line detrimental to Greater Sage-Grouse.
- Determine by cooperative action – agencies, utilities, and landowners – whether or not modification of poles to limit perching will prevent electrocution of raptors and decrease predation on Greater Sage-Grouse.
- Emphasize the following if perch prevention modifications do not work to protect Greater Sage-Grouse and sagebrush habitat:
 - reroute the line using distance, topography, or vegetative cover; or
 - bury the line.
- Explore opportunities for technical assistance and funding.
- Remove power line when use is completed.
- Encourage the use of off-grid systems such as solar, natural gas micro-turbines, and wind power where feasible in sage-grouse habitats.
- Use the best available information for siting power lines on important breeding, brood-rearing, and winter habitat in an appropriate vicinity of the proposed line.
- Initiate collision prevention measures using guidelines (Avian Power Line Action Committee 1994) on identified segments. Measures are subject to restriction or modification for wind and ice loading or other engineering concerns, or updated collision prevention information.
- Remove power lines that traverse sage-grouse habitats when facilities being serviced are no longer in use or when projects are completed.

Livestock Grazing

Conducting Land Health Assessments and Permit Renewals in Priority Greater Sage-Grouse Habitat

Land Health Assessments

When conducting land health assessments:

- Prioritize allotments that have the best opportunities for conserving, enhancing or restoring habitat for sage-grouse.
- Include (at a minimum) indicators and measurements of structure/condition/composition of vegetation specific to achieving sage-grouse habitat objectives (Doherty, et al. 2011). If local/state seasonal habitat objectives are not available, use sage-grouse habitat recommendations from Connelly, et al. (2000b) and Hagen, et al. 2007.

Permit Renewals

When conducting permit renewals:

- If an effective grazing system that meets sage-grouse habitat requirements is not already in place, analyze at least one alternative that conserves, restores or enhances sage-grouse habitat in the NEPA document prepared for the permit renewal if the size of the allotment and/or cooperative opportunities warrant it.
- Work cooperatively on integrated ranch planning within sage-grouse habitat so ranch operations with deeded BLM allotments can be planned as single units.
- Analyze springs, seeps and associated pipelines to determine if modifications are necessary to maintain the continuity of the predevelopment riparian area within priority sage-grouse habitats. Make modifications where necessary, considering impacts to other water uses when such considerations are neutral or beneficial to sage-grouse. Only authorize new spring or seep developments where the impacts to sage-grouse would be neutral or beneficial.
- Evaluate the role of existing seedings that are currently composed of primarily introduced perennial grasses in and adjacent to priority sage-grouse habitats to determine if they should be restored to sagebrush steppe for sage-grouse. If these seedings are part of an AMP/Conservation Plan or if they provide value in conserving or enhancing the rest of the priority habitats, then no restoration would be necessary. Assess the compatibility of

these seedings for sage-grouse habitat or as a component of a grazing system during the land health assessments (Davies, et al. 2011).

- Evaluate existing structural range improvements and location of supplements (salt or protein blocks) to make sure they conserve, enhance or restore sage-grouse habitat.
 - This includes evaluating methods to reduce outright sage-grouse strikes and mortality, through removing, modifying or marking fences in high risk areas within priority sage-grouse habitat based on proximity to lek, lek size, and topography (Christiansen 2009, Stevens 2011).
- Monitor for, and treat invasive species associated with existing range improvements (Gelbard and Belnap 2003 and Bergquist, et al. 2007).

Include terms and conditions on grazing permits and leases that assure plant growth requirements are met, and residual forage remains available for Greater Sage-Grouse hiding cover. Utilize techniques appropriate for uplands vs. riparian/meadow areas and enhancement vs. reclamation/restoration. Across all these types of projects consider singly, or in combination, changes as necessary:

- Season or timing of use;
- Numbers of livestock (includes temporary non-use or livestock removal);
- Distribution of livestock use;
- Intensity of use (utilization or stubble height objectives)
- Kind of livestock (e.g., cattle, sheep, horses, llamas, alpacas and goats)
- Class of livestock (e.g., yearlings versus cow calf pairs)

Within riparian areas specifically, consider practices such as:

- Within priority sage-grouse habitat, reduce hot season grazing on riparian and meadow complexes to promote recovery or maintenance of appropriate vegetation and water quality. Utilize fencing/herding techniques or seasonal use or livestock distribution changes to reduce pressure on riparian or wet meadow vegetation used by sage-grouse in the hot season (summer).
- Ensure the sustainability of desired soil conditions and ecological processes within upland plant communities following implementation of strategies to protect riparian areas. This can be achieved by:
 - protecting natural wet meadows and springs from over-use while developing water for livestock, and
 - planning the location, design, and construction of new fences to minimize impacts on Greater Sage-Grouse.

Range Management Mitigation Measures and Conservation Actions

Design any new structural range improvement and location of supplements (salt or protein blocks) to conserve, enhance, or sage-grouse habitat through an improved grazing management system relative to sage-grouse objectives. Structural range improvements in this context include, but are not limited to: cattleguards, fences, exclosures, corrals, or other livestock handling structures; pipelines, troughs, storage tanks (including moveable tanks used in livestock water hauling), windmills, ponds/reservoirs, solar panels, and spring developments.

Discourage concentration of livestock on sage-grouse leks and winter habitat.

If portions of existing fences are found to pose a threat to Greater Sage-Grouse, mitigate through moving or modifying posts, increasing the visibility of the fences by flagging, or by designing “take-down” fences.

Pesticides and Herbicides Use

- Evaluate ecological consequences of using pesticides to control grasshoppers or other insects.
- Evaluate ecological consequences of broadcast herbicide use on forbs and other important sage-grouse foods.
- Minimize use of pesticides and herbicides in Greater Sage-Grouse nesting, breeding and brood-rearing habitat.

Noxious Weed Management

- Promote measures that prevent the introduction and spread of weed seeds and other reproducing plant parts.

- Develop and implement management techniques that minimize the risk of infestation.
- Where feasible, isolate livestock from known infestations and avoid vehicle movement through infested areas.
- Use weed-free seed for reestablishment of vegetation.
- Eliminate unnecessary soil disturbance and vehicle access/movement into occupied Greater Sage-Grouse habitat.
- Limit vehicle use to established roads only.
- Regularly monitor access points and roads for weed establishment.
- Develop partnerships with regional public and private land management units.
- Establish goals and set priorities that encompass the needs of both livestock and wildlife managers so all parties are working under a similar plan.
- Conduct monitoring and develop follow-up procedures for treated areas.
- Educate all field personnel on weed identification, the manner in which weeds spread, and methods of treating weed infestations.
- Employ integrated weed management treatment methods such as a combination of biological and cultural, such as grazing, mowing, or seeding treatments in conjunction with herbicides to manage weeds in Greater Sage-Grouse habitat.
- Use the most selective herbicides where chemical treatment is appropriate, to minimize loss of non-target plant species.
- Restore plant communities with desired species adapted to the site, using proven management techniques where biologically feasible. A restoration program may be necessary if conditions prevent natural plant species.

Fluid Minerals

In cases where federal oil and gas leases have been issued without adequate stipulations for the protection of Greater Sage-Grouse or their habitats being provided in the applicable RMP decision, as revised or amended, include mitigation measures and conservation actions as permit conditions of approval (COAs) when approving exploration and development activities through completion of the environmental record of review or an environmental assessment, as appropriate (43 CFR 3162.5).

General or typical COAs are mitigation measures that may be required when processing Applications for Permits to Drill (APDs), Sundry Notice Drilling Plans, and Surface Use Plans when they are: 1) not specifically addressed in those plans or existing lease stipulations; and 2) needed to mitigate impacts to resource values identified at the onsite inspection or during review of the plans. The use of COAs is intended to reduce, mitigate, or minimize impacts from development but they do not necessarily avoid or preclude resulting significant impacts from the project.

The COAs also allow the BLM to prescribe resource protection measures for lands that were previously leased with varying sets of lease stipulations. However, for lands that are already leased, BLM restrictions on development, not required to comply with existing laws, must be reasonable and consistent with existing lease rights. The COAs must not constrain or restrict development beyond the measures anticipated or authorized by the lease terms or regulations and/or interfere with the lessee's opportunity to economically recover the oil and gas resources, considering the lease as a whole.

Evaluation of these COAs will consider during the NEPA process:

- Whether the conservation measure is "reasonable" (43 CFR 3101.1-2) and consistent with valid existing rights;
- Whether the action is in conformance with the approved RMP; and
- The effectiveness of the mitigation measures proposed.

When incorporated into BLM's program in the Record of Decision (ROD), mitigation approaches and conservation practices detailed in the Surface Use Plan of Operations (see 43CFR 3162-1(f)) shall address, at a minimum, the proposed project's anticipated noise, density and amount of disturbance, mechanical movement (e.g., pumpjacks), permanent and temporary facilities, traffic, phases of development over time, offsite mitigation, and expected periods of use. Following larger-scale considerations for minimizing impacts to Greater Sage-Grouse this section contains BMPs that will be included, as applicable, as COAs to address to categories of concern. Due to site-specific circumstances, some categories may not apply to some projects and/or may require slight variations from the approach described. It is

anticipated the applicability and/or variation in approach will be limited to project siting and configuration. Additional mitigation measures may be identified and required during individual planning. Applicants will be required to discuss any proposed variations with BLM staff. All variations will require appropriate analysis and disclosure as part of future project authorizations. Those design features that do not apply to a given project will need to be described as part of the project file along with an appropriate rationale.

The following hierarchical approach and guidelines should be followed during project development to address these and other areas of concern for Greater Sage-Grouse:

Density and Amount of Disturbance

Do not allow new surface occupancy on Federal leases within priority habitat areas, including winter concentration areas during any time of the year (Doherty, et al. 2008, Carpenter, et al. 2010). Where this is not possible due to valid existing rights and development requirements for the specific geologic and fluid mineral resources, consider the following disturbance and surface occupancy limits to the extent practicable:

If the lease is partially or entirely within priority habitat areas:

- Subject to topographic and other environmental constraints, require any development within priority habitat to be placed in the area least harmful to sage-grouse based on vegetation, topography, or other habitat features.
- To the extent possible and consistent with valid existing rights, limit disturbances to an average of one site per 640 acres on average, with no more than 3% direct surface disturbance in the analysis area.
- When additional mitigation is necessary, conduct it in the impacted priority sage-grouse habitat areas when possible or, if that is not possible, in general sage-grouse habitat with the ability to increase sage-grouse populations tied to the impacted priority area(s).

Breeding and Nesting Habitat

To limit impacts to breeding and nesting habitat, surface-disturbing and disruptive activities shall be prohibited or restricted within 2 miles of a lek consistent with valid existing rights. If the entire lease is entirely within the 2-mile perimeter of a lek, require any development to be placed at the part of the lease farthest from the lek, or based depending on topography and other habitat features, in an area demonstrably the least harmful to sage-grouse.

To ensure comprehensive planning relative to sage-grouse conflicts, complete Master Development Plans or PODS during planning and review of projects involving multiple proposed disturbances within a logical geographic area, with an exception for individual wildcat (exploratory) wells.

Encourage unitization when deemed necessary for proper development and operation of an area or to facilitate more orderly (e.g., phased and/or clustered) development as a means of minimizing adverse impacts to sage-grouse (see Federal Lease Form, 3100-11, Sections 4 and 6).

Brood-Rearing Habitat

Apply a seasonal timing restriction on exploratory drilling that avoids construction, drilling, completion, and reclamation surface-disturbing activities during the nesting and early brood-rearing seasons in all priority sage-grouse habitats for this period.

Best Management Practices for Fluid Mineral Development

Prioritize pad development based on suitability of habitat; construct pads that are in less suitable habitat (i.e., along existing roadways or within degraded habitats) during the breeding season, and construct pads located in more suitable habitat prior to or after the critical breeding season.

Avoid sagebrush, but if disturbance is necessary, interim reclamation should include sage plantings/seedings and/or the use of minimum disturbance practices to protect sage on well pads and pipelines.

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.
- 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 reclaim 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 pumpjack) to minimize impacts to Greater 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 Greater 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)
- Mitigate pit and impoundment construction to reduce or eliminate threats from West Nile virus.
- Limit noise to less than 10 decibels above ambient measures (20-24 dBA) at sunrise at the perimeter of a lek during active lek season (Patricelli, et al. 2010; Blickley, et al. *In preparation*).
- Require noise shields when drilling during the lek, nesting, brood-rearing, or wintering season.
- Fit transmission towers with anti-perch devices (Lammers and Collopy 2007).
- Locate new compressor stations outside priority habitats and design them to reduce noise that may be directed towards priority habitat.
- Clean up refuse.

Reclamation

- Include objectives for ensuring habitat restoration to meet Greater 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 Greater 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.

Solid Minerals

Recommend minimization of surface-disturbing or disrupting activities (including operations and maintenance) where needed to reduce the impacts of human activities on Greater Sage-Grouse habitats. Apply these measures during activity level planning.

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 timeframe.

Use off-site mitigation or purchase conservation easements with industry dollars to offset habitat losses.

Remove facilities and infrastructure when use is completed.

Allow no surface use in nesting habitat from March 1 through June 15.

Restrict maintenance and related activities in Greater Sage-Grouse breeding/nesting complexes – March 1 through June 15 – between the hours of 4:00 – 8:00 a.m. and 7:00 – 10:00 p.m.

Allow no surface use activities within Greater Sage-Grouse wintering areas from December 1 through March 31.

Use minimal surface disturbance to install roads and pipelines and reclaim site of abandoned wells to natural communities.

Locate storage facilities, generators, and holding tanks outside the line of sight and sound of breeding habitat.

See conservation actions related to preventing the spread of weeds and controlling infestations of noxious weeds.

Engage industry as a partner to develop and establish new sources of seed of native plant species for restoration of sites disturbed by development.

Design impoundments and manage discharge so as not to degrade or inundate leks, nesting sites, and wintering sites.

Protect natural springs from any source of disturbance or degradation from energy-related activities.

Provide for long-term monitoring of siting requirements to examine effects of current and future development on sage-grouse.

Set up a schedule for reviewing and revising siting and use criteria with industry.

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 Greater 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).
- Mitigate pit and impoundment construction to reduce or eliminate threats from West Nile virus
- Remove or re-inject produced water to reduce habitat for mosquitoes that vector West Nile virus. If surface disposal of produced water continues, limit favorable mosquito habitat through reservoir design.
- Require Greater Sage-Grouse-safe fences around sumps.
- Clean up refuse.

Reclamation

- Include restoration objectives to meet Greater 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 Greater 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.

Wildfire Suppression, Fuels Management and Fire Rehabilitation

Wildfire Suppression

In Greater Sage-Grouse habitat areas, prioritize suppression, immediately after life and property, to conserve the habitat. The BLM will protect sage-grouse habitat during wildfire suppression activities as described in the National Fire Suppression Guidelines and the current fire management plan.

Apply Fire Management BMPs (see WO-IM-2011-138) as appropriate.

Fire Management Best Management Practices for Sage-Grouse Conservation

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 ATVs 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.

Fuels Management

Design and implement fuels treatments with an emphasis on protecting existing sagebrush ecosystems.

- Do not reduce the existing sagebrush canopy cover unless a fuels management objective requires additional reduction in sagebrush cover to meet strategic protection of priority Greater Sage-Grouse habitat and conserve habitat quality for the species. Closely evaluate the benefits of the fuel break against the additional loss of sagebrush cover in an environmental analysis.
- Apply appropriate seasonal restrictions for implementing fuels management treatments according to the type of seasonal habitats present in a priority area.
- Allow no treatments in known winter range unless the treatments are designed to strategically reduce wildfire risk or enhance habitat around or in the winter range and will maintain habitat quality.
- Do not use fire to treat sagebrush in less than 12-inch precipitation zones (e.g., Wyoming big sagebrush or other xeric sagebrush species). However, if as a last resort and after all other treatment opportunities have been explored and site-specific variables allow, the use of prescribed fire for fuel breaks that would disrupt the fuel continuity across the landscape could be considered, in stands where cheatgrass is a very minor component in the understory.
- Monitor and control invasive vegetation post-treatment.
- Require use of native seeds for fuels management treatment based on availability, adaptation (site potential), and probability of success. Where probability of success or native seed availability is low, non-native seeds may be used as long as they meet sage-grouse habitat objectives.
- Design post-fuels management projects to ensure long-term persistence of seeded or pre-treatment native plants. This may require temporary or long-term changes in livestock grazing management, wild horse and burro management, travel management, or other activities to achieve and maintain the desired condition of the fuels management project.
- Design fuels management projects in priority Greater Sage-Grouse habitat to strategically and effectively reduce wildfire threats in the greatest area. This may require fuels treatments implemented in a more linear versus block design.
- For the project to be approved the authorizing official should consider:

- biological and physical limitations of the site and the impact on Greater Sage-Grouse;
- management objectives for the site, including those for wildlife, are clearly defined;
- potential for weed invasion and successional trends are well understood;
- capability exists to manage the post-burn site properly, including a funded monitoring schedule, to achieve a healthy sagebrush community.

Develop local or regional guidelines or consider the following guidelines if fire is used as a tool:

- Analyze cumulative effects of sagebrush treatment by considering ecological units, evaluate the degree of fragmentation, and maintain a good representation of mature sagebrush.
- Predict effects for the length of time necessary for sagebrush to return to desired condition for determine treatment types and intervals.
- Identify suitable patch size based on site-specific characteristics of the natural community and treat patches in a mosaic pattern that provides sagebrush cover for snow capture, hiding cover, and a seed source.
- Use available literature to research the effects of fire on sagebrush communities.
- Use caution in reducing sagebrush cover in and following drought periods.

During fuels management project design, consider the utility of using livestock to strategically reduce fine fuels, and implement grazing management that will accomplish this objective.

Consult with ecologists to minimize impacts to native perennial grasses.

Develop criteria for managing fuels and other risks to Greater Sage-Grouse habitat.

Identify all Greater Sage-Grouse habitats and prioritize on the basis of risk of loss to wildfire.

Develop appropriate actions on a site by site basis, such as using existing roads as fire breaks.

Develop treatments to improve habitats over the long term if sagebrush stands do not meet objectives for Greater Sage-Grouse, such as confining treatments to small patches.

Consider mechanical treatment as the primary method and prescribed fire as a secondary method to remove conifers that encroach on Greater Sage-Grouse habitat, except where forested habitat is limited.

Avoid treatments to Greater Sage-Grouse habitat in areas that are susceptible to invasion by cheatgrass or other invasive plant species. Treatment will be accompanied by restoration, and reseeded if necessary, to re-establish native vegetation.

Protect sagebrush along riparian zones, meadows, lakebeds, and farmlands that include Greater Sage-Grouse habitat.

Wash vehicles and heavy equipment for fires prior to arrival at a new location to avoid introduction for noxious weeds.

Apply Fuels Management BMPs (see WO IM 2011-138) as appropriate.

Fuels Management Best Management Practices for Sage-Grouse Conservation

1. Where applicable, design fuels treatment objective to protect existing sagebrush ecosystems, modify fire behavior, restore native plants, and create landscape patterns which most benefit sage-grouse habitat.
2. Provide training to fuels treatment personnel on sage-grouse 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 (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 2 miles of key habitat. The third priority for annual grasslands habitat restoration projects are sites beyond 2 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 aid in controlling wildfire should wildfire occur near key habitats or important restoration areas (such as where investments in restoration have already been made).

Fire Rehabilitation

Emergency Stabilization and Rehabilitation (ES&R)

Prioritize native seed allocation for use in Greater Sage-Grouse habitat in years when preferred native seed is in short supply. This may require reallocation of native seed from ES&R projects outside of priority Greater Sage-Grouse habitat to those inside it. Use of native plant seeds for ES&R seedings is required based on availability, adaptation (site potential), and probability of success (Richards, et al. 1998). Where probability of success or native seed availability is low, non-native seeds may be used as long as they meet Greater Sage-Grouse habitat conservation objectives (Pyke 2011). Re-establishment of appropriate sagebrush species/subspecies and important understory plants, relative to site potential, shall be the highest priority for rehabilitation efforts.

Design post-ES&R management to ensure long term persistence of seeded or pre-burn native plants. This may require temporary or long-term changes in livestock grazing, wild horse and burro, and travel management, etc. to achieve and maintain the desired condition of ES&R projects to benefit Greater Sage-Grouse.

Consider potential changes in climate when proposing post-fire seedings using native plants. Consider seed collections from the warmer component within a species' current range for selection of native seed.

Assure that long-term wildfire rehabilitation objectives are consistent with the desired natural plant community.

Revegetate burned sites in Greater Sage-Grouse habitat within one year unless natural recovery of the native plant community is expected. Areas disturbed by heavy equipment will be given priority consideration.

Emphasize native plant species adapted to the site that are readily available and economically and biologically feasible.

Monitor the site and treat for noxious weeds.

Restoration

Prioritize implementation of restoration projects based on environmental variables that improve chances for project success in areas most likely to benefit Greater Sage-Grouse.

Prioritize restoration in seasonal habitats that are thought to be limiting sage-grouse distribution and/or abundance.

Include sage-grouse habitat parameters as defined by Connelly, et al. (2000); Hagen, et al. (2007) or, if available, state sage-grouse conservation plans and appropriate local information in habitat restoration objectives.

Require use of native seeds for restoration based on availability, adaptation (ecological site potential), and probability of success. Where probability of success or adapted seed availability is low, non-native seeds may be used as long as they support Greater Sage-Grouse habitat objectives.

Design post-restoration management to ensure long term persistence. This could include changes in livestock grazing management, wild horse and burro management and travel management, etc. to achieve and maintain the desired condition of the restoration effort that benefits Greater Sage-Grouse.

Consider potential changes in climate when proposing restoration seedings when using native plants. Consider collection from the warmer component of the species current range when selecting native species.

Restore native plants and create landscape patterns which most benefit Greater Sage-Grouse.

Make re-establishment of sagebrush cover and desirable understory plants (relative to ecological site potential) the highest priority for restoration efforts.

In fire prone areas where sagebrush seed is required for Greater Sage-Grouse habitat restoration, consider establishing seed harvest areas that are managed for seed production and are a priority for protection from outside disturbances.

Map and inventory areas believed to be impacted by conifer expansion. If conifer encroachment is a concern, options for treatment include:

- Prescribed fires when and where feasible,
- Remove trees mechanically when feasible, and
- Apply herbicides when and where feasible.

Evaluate the site potential and desired condition, and develop specific objectives accordingly within specific landscapes.

If sagebrush is lacking:

- Develop and implement grazing practices that influence sagebrush growth,
- Inter-seed historical breeding and winter habitats with the appropriate sagebrush species,
- Identify and promote seed sources for habitat restoration efforts,
- Reclaim and/or re-seed areas disturbed by treatments when necessary, and
- Promote sage plantings, where appropriate, on project areas occurring within Greater Sage-Grouse habitats.

If mature sagebrush dominates with suppressed herbaceous understory:

- Identify areas of dense mature cover that do not appear to be serving as quality habitat and analyze these areas within the context of a larger landscape,
- Design sagebrush treatments to be compatible with Greater Sage-Grouse needs,
- Develop specific objectives for Greater Sage-Grouse in breeding or winter habitats, and
- If treatment is deemed appropriated, interrupt seral stages within the appropriate patch size using the appropriate method, such as brush beating, chaining, chemical means, prescribed fire, etc. that is compatible with local conditions.

If residual understory is lacking in sagebrush stands:

- Manage grazing by domestic livestock and wild herbivores to retain and promote adequate residual cover in all breeding habitats with an emphasis on nesting areas.
- Ensure that grazing allotment plans include objectives for Greater Sage-Grouse in sage-grouse habitats.
- Monitor allotment plans and regulations, and make changes where necessary.
- Include native grasses in all reclamation and restoration activities.

Other Wildlife

Initiate studies to better understand Greater Sage-Grouse mortality rates, the factors that influence these rates and the effectiveness of management actions to change them. These studies should determine the relationships between predation, habitat fragmentation, and habitat condition.

Implement actions to improve the structure and composition of sagebrush communities to meet desired conditions for Greater Sage-Grouse seasonal habitats.

Maintain and restore sagebrush communities where appropriate for Greater Sage-Grouse populations.

Reduce man-made issues and conifer encroachment in Greater Sage-Grouse breeding, nesting, and wintering habitats.

- Reduce the availability of predator “subsidies” such as human-made den sites (nonfunctioning culverts, old foundations, wood piles) and supplemental food sources (garbage dumps, spilled grains, etc.) that contribute to increased predator numbers.
- Placement of power poles should follow prescription detailed in the discussion transmission lines.
- Placement of fences should follow prescriptions detailed in the discussion of grazing management, and
- Treatment of conifer encroachment should be implemented in ways to minimize loss of sagebrush habitats.

General Habitat

Within general habitat mitigation measures and conservation actions will mirror management actions in the selected alternative. Mitigation measures would be applied during activity level planning if an evaluation of the project area indicates the presence of important wildlife species seasonal wildlife habitat or other resource concern. Exceptions may be granted by the authorized officer if an environmental review demonstrates that effects could be mitigated to an acceptable level, habitat for the species is not present, 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 or forest health treatments).

In addition to actions below and in the HiLine Approved Plan, best management practices for all resources may be found in Appendix H and will help form the COAs applied to specific projects. These practices would be implemented at the discretion of the appropriate Field Office on a project-specific basis in general habitat, 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 and in many cases may mirror those for priority habitat. Mitigation of surface-disturbing or disruptive activities would be applied where needed to minimize impacts and could be applied consistent with the oil and gas stipulations outlined in the Fluid Minerals section of Chapter 2. The mitigation would be requirements, procedures,

management practices or design features that the BLM, through issuance of the Record of Decision, would adopt as operational requirements. The BLM may add additional site-specific restrictions as deemed necessary by further environmental analysis and as developed through consultation with other federal, state, and local regulatory and resource agencies.

Greater Sage-Grouse Leks

Surface-disturbing and disruptive activities would be avoided within 0.6 miles of Greater Sage-Grouse leks.

Greater Sage-Grouse Nesting Habitat

Surface-disturbing or disruptive activities may be restricted or prohibited within 2 miles of active leks.

Prioritize activities based on suitability of habitat; construct projects that are in less suitable habitat (i.e., along existing roadways or within degraded habitats) during the breeding season, and construct projects located in more suitable habitat prior to or after the critical breeding season.

Avoid sagebrush, but if disturbance is necessary, interim reclamation should include sage plantings/seedings and/or the use of minimum disturbance practices to protect sage on well pads, pipelines, and other disturbances.

Manage produced water to reduce the spread of West Nile virus within Greater Sage-Grouse habitat areas.

Roads

- Design roads to an appropriate standard no higher than necessary to accommodate their intended purpose.
- Do not issue ROWs to counties on energy development roads, unless for a temporary use consistent with all other terms and conditions included in this document.
- Establish speed limits 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, operations (fracture stimulation, liquids gathering, etc.), and facilities.
- 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 drilling and production pits and tanks regardless of size to reduce Greater 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 from non-native plant species. (e.g., by washing vehicles and equipment.)
- Mitigate pit and impoundment construction to reduce or eliminate augmenting threats from West Nile virus.

Include restoration objectives to meet Greater Sage-Grouse habitat needs in reclamation practices/sites. Address post-reclamation management in reclamation plans such that goals and objectives are to enhance or restore Greater Sage-Grouse habitat.

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Appendix J

Adaptive Management Strategy for Greater Sage-Grouse 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. On February 1, 2008, the Department of the Interior published its Adaptive Management Implementation Policy (522 DM 1). The adaptive management strategy presented within this EIS complies with this policy and direction.

In relation to the BLM’s National Greater Sage-Grouse Planning Strategy, adaptive management will help identify if sage-grouse conservation measures presented in this EIS contain the needed level of certainty for effectiveness. Principles of adaptive management will be 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 adaptive management strategy for the HiLine Proposed RMP/Final EIS.

If the BLM finds that the State of Montana is implementing a GRSG Habitat Conservation Program that is effectively conserving the GRSG, in addition to the change in disturbance cap noted above, 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 the BLM continues to meet its objective of conserving, enhancing and restoring GRSG habitat by reducing, minimizing or eliminating threats to that habitat.

Adaptive Management and Monitoring

This Approved Plan contains a monitoring framework plan (Appendix D) that includes an effectiveness monitoring component. The agencies intend to use the data collected from the effectiveness monitoring to identify any changes in habitat conditions related to the goals and objectives of the plan and other range-wide conservation strategies (BLM 2004; Stiver, et al. 2006; USFWS 2013). The information collected through the Monitoring Framework Plan outlined in Appendix D will be used by the BLM to determine when adaptive management hard and soft triggers (discussed below) are met.

Montana State Executive Order No.10-2014 contains the following language regarding adaptive management:

Monitoring/Adaptive Response: Proponents of new projects are expected to coordinate with the Program and the permitting agency to determine which leks need to be monitored and what data should be collected and reported. Generally, monitoring plans should include an evaluation of affected leks as well as reference leks for control purposes. If declines in affected leks (using a three-year running average during any five year period relative to trends on reference leks) are determined to be caused by the project, the operator will propose adaptive management responses to increase the number of birds. If the operator cannot demonstrate a restoration of bird numbers to baseline levels (established by pre-disturbance surveys, reference surveys and taking into account regional and statewide trends) within three years, operations will cease until such numbers are achieved. In the interim, the operator, permitting agency and the Program will create additional adaptive management efforts to restore sage grouse population numbers and baseline numbers, as well as restore project operations. Natural occurrences and their effects on sage grouse and sagebrush habitat will be considered in all cases. The [Montana Sage Grouse Oversight Team] shall review the work being conducted around this issue

by the State of Wyoming and the U.S. Fish and Wildlife Service, and shall recommend any further adjustments to this stipulation that may be appropriate.

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.

Montana BLM Greater Sage-Grouse Adaptive Management Plan

The Greater Sage-Grouse adaptive management plan provides regulatory assurance that a means of addressing and responding to unintended negative impacts to greater sage-grouse and its habitat is in place before consequences become severe or irreversible. This adaptive management plan:

- utilizes science-based soft and hard adaptive management triggers, and
- addresses multiple scales of data.

Adaptive Management Triggers

Adaptive management triggers are essential for identifying when potential management changes are needed in order to continue meeting Greater Sage-Grouse 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 density disturbance calculation tool (DDCT) evaluations. BLM field offices, local MFWP offices, and sage-grouse working groups will evaluate the metrics. The purpose of these strategies is to address localized Greater Sage-Grouse 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 Greater Sage-Grouse set by the State of Montana, and will be consistent with this Greater Sage-Grouse 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.

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 will be considered a catastrophic 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 MFWP. Estimates of population are determined based upon survey protocols determined by MFWP, and are implemented consistently throughout the state. Population counts are tracked for individual leks and are then summarized for each PHMA. The BLM will assess the hard triggers annually when the state population data become available, beginning with the first data available after the ROD. The BLM will utilize the most recent habitat data available at the time the population data are available.

Hard Trigger Response:

Hard triggers represent a threshold indicating that immediate action is necessary to stop a severe deviation from Greater Sage-Grouse conservation objectives set forth in the BLM plans. Upon determination that a hard trigger has been tripped, the BLM will immediately defer issuance of discretionary authorizations for new actions within the Biologically Significant Unit for a period of 90 days. The Proposed Plan/Final EIS also 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 EIS will be implemented without further action by the BLM. Specific “hard-wired” changes in management are identified in Table J-1, Specific Management Responses. In addition to the specific changes identified in BLM 2015, Table 2.2, the BLM will review available and pertinent data, in coordination with Greater Sage-Grouse 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 J-1, and could also include the need to amend or revise the RMP to address the situation and modify management accordingly.

**Table J-1
Specific Management Responses to Greater Sage-Grouse Hard Triggers**

Program	Adaptive Management Response
Sage-Grouse 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 Greater Sage-Grouse 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 Greater Sage-Grouse 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 Approved Plan.
Industrial Solar	No change from Approved Plan.
Comprehensive Travel and Transportation Management	If travel management planning has not been completed within Greater Sage-Grouse 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 Greater Sage-Grouse habitat in the PHMA where the hard trigger was met, re-evaluate designated routes to determine their effects on Greater Sage-Grouse. If routes are found to be causing population-level impacts, revise their designation status to reduce the effect.
Fluid Minerals	No change from Approved Plan.
Locatable Minerals	No change from Approved Plan.
Salable Minerals	No change from Approved Plan.
Non-energy Leasable Minerals	No change from Approved Plan.

In addition to implementing the hard wired plan-level response, in the event that new scientific information becomes available demonstrating that the hard wired response would be insufficient to stop a severe deviation from sage-grouse conservation objectives set forth in the BLM plans, the BLM will immediately implement a formal directive to protect Greater Sage-Grouse and its habitat and to ensure that conservation options are not foreclosed. To the extent that it is supported scientifically, this formal directive will be drawn from the range of alternatives analyzed in the RMP Amendments/Revisions.

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. Adoption of any further actions at the plan level may require initiating a plan amendment process.

Appendix K USFWS Concurrence



United States Department of the Interior

Fish and Wildlife Service

Ecological Services

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File: M02 BLM

May 27, 2015

Memorandum

To: Mark Albers, District Manager, Bureau of Land Management, HiLine District, Havre, Montana

From: *[Signature]*
for Jodi L. Bush, Field Supervisor, U.S. Fish and Wildlife Service, Montana Field Office, Helena, Montana

Subject: HiLine District Resource Management Plan and Environmental Impact Statement Concurrence

We have reviewed your May 21, 2015 revised Biological Assessment (BA) prepared relative to "Alternative E" as presented in the HiLine Resource Management Plan (RMP) and Environmental Impact Statement (EIS). On May 26, 2015 we received the 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 management for public lands and resources in the planning area. The RMP/EIS addresses how the Bureau of Land Management (BLM) will administer approximately 2,437,000 acres of public land and 4,240,000 acres of federal minerals within the planning area in Blaine, Chouteau, Glacier, Hill, Liberty, Phillips, Toole, and Valley counties in Montana. 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, whooping crane, least tern, and pallid sturgeon; threatened grizzly bear, piping plover (with critical habitat), and red knot; and candidate greater sage-grouse, Sprague's pipit, and whitebark pine may be present in the HiLine RMP planning area vicinity. You determined in the BA that implementation of Alternative E 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 or critical habitat. You elected not to provide determinations of effect for candidate species in the BA.

We concur with your “may affect, not likely to adversely affect” determinations for the black-footed ferret, whooping crane, least tern, pallid sturgeon, grizzly bear, red knot, piping plover, and piping plover critical habitat presented in the BA. This 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 HiLine 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 21, 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.

Appendix L

Standards for Rangeland Health and Guidelines for Livestock Grazing Management

The BLM developed Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Montana, North Dakota, and South Dakota which was approved by the Secretary of the Interior in August 1997. The following standards and guidelines apply to the HiLine District.

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 and measurable progress towards these functions and conditions is required of all uses of public rangelands. Historical data, when available, should be used when assessing progress towards these standards.

Standard #1: Uplands are in proper functioning condition.

This means that soils are stable and provide for 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 rock/gravel) for identified ecological site(s) or soil-plant associations are appropriate for soil stability.

Evidence of accelerated erosion in the form of rills and/or gullies, erosional pedestals, flow patterns, physical soil crusts/surface scaling 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. Assessing proper functioning conditions will consider use of historical data.

As indicated by:

Physical Environment

- erosional flow patterns
- surface litter
- soil movement by water and wind
- soil crusting and surface sealing
- compaction layer
- rills
- gullies
- cover amount
- cover distribution

Biotic Environment

- community richness
- community structure
- exotic plants
- plant status
- seed production
- recruitment
- nutrient cycle

Standard #2: Riparian and wetland areas 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 water flows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid floodplain development; improve flood water 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 native fish production, waterfowl breeding, and other uses appropriate for the area that will support greater species richness.

The riparian-wetland vegetation is a mosaic of species richness and community structure serving to control erosion, shade water, provide thermal protection, filter sediment, aid floodplain development, dissipate energy, delay flood water, and increase recharge of groundwater where appropriate to landform. The stream channels and flood plain dissipate 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 slowing ground water movement for later release. Stream channels are not entrenching beyond natural climatic variations and water levels maintain appropriate riparian-wetland species. Riparian areas are defined as 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. Assessing proper functioning conditions will consider use of historical data.

As indicated by:

Hydrologic

- floodplain inundated in relatively frequent events (1-3 years)
- amount of altered streambanks
- sinuosity, width/depth ratio, and gradient are in balance with the landscape setting (i.e., landform, geology, and bioclimatic region)
- 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 being created and older point bars are being vegetated
- 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)

Vegetation

- reproduction and diverse age class 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
- riparian plants exhibit high vigor
- adequate vegetative cover present to protect banks and dissipate energy during high flows
- where appropriate, plant communities in the riparian area are an adequate source of woody debris

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. Assessing proper functioning conditions will consider use of historical data.

As indicated by:

- dissolved oxygen concentration
- pH
- turbidity
- temperature
- fecal coliform
- sediment
- color
- toxins
- others: ammonia, barium, boron, chlorides, chromium, cyanide, endosulfan, lindane, nitrates, phenols, phosphorus, sodium, sulfates, etc.

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 Implementation Plan. Efforts will be made to limit unnecessary emissions from existing and new point or non-point sources.

The BLM 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 area.

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
- impede the State's progress in meeting their air quality goals

Standard #5: Habitats are provided to maintain healthy, productive and diverse populations of native plant and animal species, including special status species (federally threatened, endangered, candidate or Montana species of special concern as defined in BLM Manual 6840, Special Status Species Management).

This means that native plant and animal 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 indigenous vegetation and animals is a priority. Ecological processes including hydrologic cycle, and energy flow, and plant succession are maintained and support healthy biotic populations. Plants are vigorous, biomass production is near potential, and there is a diversity of plant and animal species characteristic of and appropriate to the site. The environment contains components necessary 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. Assessing proper functioning conditions will consider use of historical data.

As indicated by:

- plants and animals are diverse, vigorous and reproducing satisfactorily; noxious weeds are absent or insignificant in the overall plant community
- spatial distribution of species is suitable to ensure reproductive capability and recovery
- a variety of age classes are present
- connectivity of habitat or presence of corridors prevents habitat fragmentation
- species richness (including plants, animals, insects and microbes) are represented
- plant communities in a variety of successional stages are represented across the landscape

Guidelines for Livestock Grazing Management

Guidelines for management of herbivory (including domestic animals and wildlife) are preferred or advisable approaches to ensure that standards can be met or that significant progress can be made toward meeting the standard(s). Responsible state and federal wildlife agencies must be involved in this management if standards are to be achieved.

Guidelines are provided to maintain or improve resource conditions in upland and riparian habitats. In both riparian and upland habitats, these guidelines focus on establishing and maintaining 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.

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, historic use, and natural fluctuations, but acceptable levels of use can be developed that are compatible with resource objectives.

Guideline #2: Manage grazing to maintain watershed vegetation, species richness, and floodplain function. Maintain riparian vegetative cover and structure to trap and hold sediments during run-off events to build streambanks, recharge aquifers, and dissipate flood energy. Grazing management should promote deep-rooted herbaceous vegetation to enhance streambank stability. Where non-native species are contributing to proper functioning conditions, they are acceptable. Where potential for palatable woody shrub species (willows, dogwood, etc.) exists, promote their growth and expansion within riparian zones.

Guideline #3: Pastures and allotments will be managed based on their sensitivity and suitability for livestock grazing. Where determinations have not been previously documented, suitability for grazing will be determined by: topography, slope, distance from water, vegetation habitat types, and soil types must be considered when determining grazing suitability. Unsuitable areas should be excluded from grazing.

Guideline #4: Management strategies for livestock grazing will ensure that long-term resource capabilities can be sustained. End of season stubble heights, streambank moisture content, 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 and should be identified on a site-specific basis and used as terms and conditions.

Guideline #5: Grazing will be managed to promote desired plants and plant communities of various age classes, based on the rate and physiological conditions of plant growth. Management approaches will be identified on a site-specific basis and implemented through terms and conditions. Caution should be used to avoid 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 should be monitored closely to avoid excessive utilization.

Guideline #6: 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.

Guideline #7: Locate facilities (e.g., corrals, water developments) away from riparian-wetland areas.

Guideline #8: 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 (i.e., key wildlife wintering areas). 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.

Guideline #9: Noxious weed control is essential and should include: cooperative agreements, public education, and integrated pest management (mechanical, biological, chemical).

Guideline #10: Livestock management should utilize practices such as those referenced by the NRCS published prescribed grazing technical guide to maintain, restore or enhance water quality.

Guideline #11: Grazing management should maintain or improve habitat for federally listed threatened, endangered, and sensitive plants and animals.

Guideline #12: Grazing management should maintain or promote the physical and biological conditions to sustain native populations and communities.

Guideline #13: Grazing management should give priority to native species. Non-native plant species should only be used in those situations where native seed is not readily available in sufficient quantities, where native plant species cannot maintain or achieve standards, or where non-native plant species provide an alternative for the management and protection of native rangelands.

Guideline #14: Allotment monitoring determines how ongoing management practices are affecting rangeland. To do so, the evaluations should be based on: 1. measurable management objectives; 2. permanent and/or repeatable monitoring locations; and; 3. short-term and long-term data.

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Appendix M

Reclamation

Introduction

Reclamation will be required for surface-disturbing activities. Some activities/areas such as permanent roads/trails and open travel management areas would be exempt. Other such activities/areas will be reviewed for exemption during the site-specific environmental analysis. Reclamation is not the restoration of a site; instead, the long-term objective of reclamation is to set the course for eventual ecosystem restoration. A reclamation plan appropriate in detail and complexity and tailored to a specific surface-disturbing activity will be required and made a stipulation and/or condition of approval of any action/activity. The level of detail for the reclamation plan shall reflect the complexity of the project, the environmental concerns generated during project review, and the reclamation potential for the site. This appendix details the elements that need to be considered during predisturbance authorization of any surface-disturbing activity and the post-disturbance steps required to assure timely and proper reclamation of a site.

The reclamation plan will provide a framework to develop project-specific and site-specific reclamation actions and guide land management efforts toward a planned future condition for any surface-disturbing activity. Early coordination between Bureau of Land Management (BLM) and project proponents is necessary to produce the appropriate plan. The reclamation plan will serve as a binding agreement between a project proponent(s) and the BLM for the expected reclamation condition of the disturbed lands and must be periodically reviewed and modified as necessary to adjust to changing conditions or to correct for an oversight. The reclamation plan will include sufficient monitoring requirements, reports, and components to ensure the reclamation plan is current.

In preparing and reviewing reclamation plans, the BLM and the project proponent must set reasonable, achievable, and measurable reclamation goals/objectives that are consistent with the land use plan and are ecologically feasible. Achievable goals/objectives will ensure reclamation and encourage a project proponent(s) to conduct research on different aspects of reclamation for different environments. These goals/objectives should be based on available information and techniques, should offer incentives to both parties, and as a result, should generate useful information for future use.

Objectives

The short-term objective is to immediately stabilize disturbed areas and to provide the necessary conditions to achieve the long-term objective.

The long-term objective is to facilitate eventual ecosystem reconstruction for the purpose of maintaining a safe and stable landscape and meeting the desired outcomes.

Reclamation Requirements

The following reclamation requirements apply to all surface-disturbing activities, including BLM initiated activities, and must be addressed in each reclamation plan. These requirements also must be met prior to release of the bond and/or the reclamation liability. Where these reclamation requirements differ from other applicable federal, laws, rules, and regulations, those requirements supersede this policy. State and/or local statutes or regulations may also apply.

Manage all waste materials.

- Segregate, treat, remove, and/or bio-remediate contaminated soil material in accordance with applicable laws, regulations, and policy.

- Bury only authorized waste materials on site. Buried material must be covered with a minimum of three feet of suitable material or meet other program standards.
- Ensure all waste materials moved off-site are transported to an authorized disposal facility.

Ensure subsurface integrity, and eliminate sources of ground and surface water contamination.

- Properly plug all drill holes and other small openings.
- Stabilize, properly back fill, cap, and/or restrict from entry all open shafts, underground workings, and other openings.
- Control sources of contamination and implement best management practices to protect surface and ground water quality.

Ensure surface stability, re-establish slope stability, and desired topographic diversity.

- Evaluate erosion susceptibility prior to disturbance.
- Implement the appropriate erosion control and sediment containment measures/devices when and where needed (e.g., erosion control mats/blankets, mulch, waterbars, silt fences, straw wattles, surface roughening, etc.)
- Inspect and maintain all runoff and erosion control structures on a regular schedule and after major runoff event.
- Reconstruct the landscape to the approximate original contour. However, at the discretion of the authorized officer, if the disturbed area has stabilized and if returning the original contour will cause additional disturbance, then re-contouring may not be required.
- Maximize geomorphic stability and topographic diversity of the reclaimed topography.
- Eliminate highwalls, cut slopes, and/or topographic depressions on site, unless otherwise approved.
- Minimize sheet and small rill erosion on or adjacent to the reclaimed area. There shall be no evidence of mass wasting, head cutting, large rills or gullies, head or down cutting in drainages, or general slope instability on or adjacent to the reclaimed area.

Reconstruct and stabilize water courses and drainage features.

- Reconstruct drainage basins and reclaim impoundments to maintain the drainage pattern, profile, and dimension to approximate the natural features found in nearby naturally functioning basins.
- Reconstruct and stabilize stream channels, drainages, and impoundments to exhibit similar hydrologic characteristics found in stable naturally functioning systems.

Maintain the biological, chemical, and physical integrity of topsoil.

- Identify, delineate, and salvage topsoil based on a site-specific soil evaluation, including depth, chemical and physical properties.
- Protect all stored topsoil from erosion, degradation, noxious weed and invasive plant infestations, and contamination. Topsoil that is not re-spread within 30 days shall be covered with a tackifier, mulch, or other approved cover. Piling subsurface soil on top of topsoil will be prohibited.
- Maintain stored topsoil viability by incorporating into the disturbed landscape.
- Seed topsoil stored beyond one growing season with desired vegetation.

- Identify topsoil storage with appropriate signage.

Prepare site for revegetation.

- Redistribute topsoil and subsoil in a manner similar to the original vertical profile.
- Reduce compaction to an appropriate depth (generally below the root zone) prior to redistribution of topsoil, to accommodate desired plant species.
- Provide suitable surface and subsurface physical, chemical, and biological properties to support the long term establishment and viability of the desired plant community.
- Protect seed and seedling establishment (e.g., erosion control matting, mulching, hydro-seeding, surface roughening, fencing, etc.)
- Defer grazing until reclamation goals and objectives are met.

Establish a desired self-perpetuating native plant community.

- Determine appropriate species composition and cover based on information from the appropriate Ecological Site Descriptions (ESDs) and/or plant community descriptions.
- Establish species composition, diversity, structure, and total ground cover appropriate for the desired plant community as described in the appropriate Ecological Site Description.
- Enhance critical resource values (e.g., wildlife habitat), where appropriate, by augmenting plant community composition, diversity, and/or structure.
- Select genetically appropriate and locally adapted native plants based on the site characteristics and ecological setting that meet desired plant community objectives.
- Select non-native plants only as an approved short-term and non-persistent alternative to native plants. Ensure the non-natives will not hybridize, displace, impede, or offer long-term competition to the desired plant community outlined in the ESDs, and are designed to aid in the re-establishment of native plant communities.
- Do not apply nitrogen fertilizer when annual bromes are found on site or have the potential to invade the site from nearby infestations.

Reestablish a complementary visual composition

- Ensure the reclaimed landscape features blend into the adjacent area and conform to the land use plan decisions.
- Ensure the reclaimed landscape does not result in a change to the scenic quality of the area.

Manage Invasive Plants

- Inventory for and treat noxious weeds before initiating surface-disturbing activities. Inventory for and consider treating non-native and naturalized plants before initiating surface-disturbing activities.
- Develop an invasive plant management plan.
- Control invasive plants utilizing an integrated pest management approach.
- Monitor invasive plant treatments.

Develop and implement a reclamation monitoring and reporting strategy.

- Monitor for the success of the vegetation management objectives and reclamation goals.
- Conduct compliance and effectiveness monitoring in accordance with a BLM (or other surface management agency) approved monitoring protocol (e.g. Assessment, Inventory, and Monitoring (AIM) Strategy).
- Evaluate monitoring data for compliance with and success of the outlined goals and objectives written in the reclamation plan.
- Document and report monitoring data and recommend revised reclamation strategies.
- Implement revised reclamation strategies as needed.
- Repeat the process of monitoring, evaluating, documenting/reporting, and implementing, until reclamation goals and vegetation management objectives are achieved.

Seeding

Disturbed areas will be seeded. As much seeding as possible will be conducted during the fall before the ground freezes. Occasional seeding may occur in the spring as long as favorable conditions exist. Seeding will not be allowed in frozen or saturated soil conditions except for when approved by the authorized officer or winter seeding of sagebrush on snow. Reseeding will be required when a satisfactory stand is not obtained.

The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS) per acre. There shall be no invasive or non-native weed seeds in the mixture. Seed shall be tested for purity and germination and the viability testing shall be done in accordance with Montana State law(s). Tetrazolium test (TZ) will be allowed for germination testing. Test results will be made available for BLM review, if requested. Commercial seed shall be either State Certified or tested weed-free seed. The seed mixture container shall be tagged in accordance with State law(s) and available for inspection. The amount of seed planted will be enough so that upon germination, the soil is adequately covered.

Table M-1 lists approved species that could be included for a particular site, along with recommended seeding rates for a pure stand. The species listed are not all-inclusive as some sites may warrant other species. Approved species will be used on all BLM surface land and on private surface unless the landowner requests otherwise. Using species that are already present in an area increases the probability that the area will be revegetated successfully. Soil sampling may also be necessary to ensure that the species in the seed mix will establish on the site. After the vegetation survey and/or soil sampling has been completed, a mix should be developed using species listed in Table M-1; no monocultures (pure stand) will be allowed. The mixture should be diverse enough to show a variety of native desirable plants upon germination. The percentage of each species in the mixture will determine the percentage of that species' pure-stand seeding rate used. Forbs and shrubs may be included in the seed mixtures; however, they should not be included when herbicides are used to control invasive weeds. Cover or nurse crops may be used in certain situation, where warranted.

Table M-1 Recommended Species, Cultivars, and Pure Stand Seeding Rates			
<i>Plant Species</i>	<i>Scientific Name</i>	<i>Recommended Cultivar¹</i>	<i>Drill Seeding Rate^{2,3} PLS lbs/acre⁴</i>
Grasses			
Bluebunch Wheatgrass	<i>Pseudoroegneria spicata</i>	Goldar	6
Green Needlegrass	<i>Nassella viridula</i>	Lodorm	5
Sandberg Bluegrass	<i>Poa secunda</i>	High Plains	2
Prairie Junegrass	<i>Koeleria macrantha</i>	NA	1
Blue Grama	<i>Bouteloua gracilis</i>	Bad River	2
Needle and Thread	<i>Hesperostipa comata</i>	NA	6
Indian Ricegrass	<i>Achnatherum hymenoides</i>	Rimrock	6
Prairie Sandreed	<i>Calamovilfa longifolia</i>	Goshen	4
Inland Saltgrass	<i>Distichlis spicata</i>	NA	5
Alkali Sacaton	<i>Sporobolus airoides</i>	NA	1
Western Wheatgrass	<i>Pascopyrum smithii</i>	Rosana	8
Forbs			
Dotted Gayfeather	<i>Liatris punctata</i>	NA	6.4
Western Yarrow	<i>Achillea millefolium</i>	Great Northern	0.5
Purple Prairie Clover <i>or</i> White Prairie Clover	<i>Dalea purpurea</i> <i>Dalea candida</i>	Bismark Antelope	3
Prairie Coneflower	<i>Ratibida columnifera</i>	NA	1.5
Shrubs			
Fourwing Saltbush	<i>Atriplex canescens</i>	Wytana	0.5
Silver Buffaloberry	<i>Shepherdia argenta</i>	Sakakawea	0.5 - 1
Wyoming Big Sagebrush ⁵	<i>Artemisia tridentata</i>	NA	3
Silver Sagebrush ⁵	<i>Artemisia cana</i>	NA	2
Wood's Rose	<i>Rosa woodsii</i>	NA	0.5 - 1
Winterfat ⁶	<i>Krascheninnikovia lanata</i>	Open Range	<.5

¹ Other cultivars adapted to the area are acceptable.

² Seeding rates are given for 12-inch drill rows.

³ When broadcast seeding, double the pounds per acre seeded.

⁴ Pure Live Seed

⁵ These shrubs should always be broadcast seeded; seeding rates listed are for broadcast seeding.

⁶ These shrubs should always be broadcast seeded; seeding rates listed are for broadcast seeding.

Sources: NRCS Montana Technical Note, Plant Materials MT-46(Rev. 1); NRCS Montana Technical Note, Range MT-33; Granite Seed Company, Lehi, UT.

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Appendix N

Oil and Gas Best Management Practices (General Conditions of Approval)

General or typical conditions of approval (COAs) are mitigation measures that may be considered when processing Applications for Permits to Drill (APDs), Sundry Notice Drilling Plans, and Surface Use Plans when they are: 1) not specifically addressed in those plans or existing lease stipulations; and 2) needed to mitigate impacts to resource values identified at the onsite inspection or during review of the plans.

The COAs also allow the BLM to prescribe resource protection measures for lands that were previously leased with varying sets of lease stipulations. However, for lands that are already leased BLM restrictions on development, not required to comply with existing laws, must be reasonable and consistent with existing lease rights. The COAs must not constrain or restrict development beyond the measures anticipated or authorized by the lease terms or regulations and/or interfere with the lessee's opportunity to economically recover the oil and gas resources, considering the lease as a whole.

The following list is not all-inclusive, but presents some general or typical conditions of approval that may be considered in the planning area to address potential impacts at the time of site-specific lease operations. The wording of the conditions of approval may be modified or additional conditions of approval may be developed to address site-specific conditions. An exception, waiver, and modification may be added to a COA during the permitting process, if the permit condition serves a purpose similar to a traditional lease stipulation, such as a timing limitation or a permit condition that restricts development in a particular area. It is important to note that these conditions do not apply to routine operation and maintenance of production facilities.

Historic Properties and/or Cultural Resources

The affected area may be found to contain historic properties and/or resources protected under the National Historic Preservation Act (NHPA), American Indian Religious Freedom Act, Native American Graves Protection and Repatriation Act, E.O. 13007, or other statutes and executive orders. The BLM will not approve any surface-disturbing activities that may affect any such properties or resources until it completes its obligations under applicable requirements of the NHPA and other authorities. The BLM may require modification to exploration or development proposals to protect such properties, or disapprove any activity that is likely to result in adverse effects that cannot be successfully avoided, minimized or mitigated.

Occupancy and use would be avoided if possible 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, public use, and experimental use. Defined archaeological districts include but are not limited to: Sweet Grass Hills ACEC, Big Bend of the Milk River ACEC, Kevin Rim ACEC, and the Medicine Rock, Fantasy and Laundry Springs sites.

Surface-disturbing and disruptive activities would be avoided if possible within 1/2 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, pictograph/petroglyph sites, vision quest locations, plant gathering locations, and areas considered sacred or used for religious purposes.

An inventory of those portions of the affected area subject to proposed disturbance may be required prior to any surface disturbance to determine if cultural resources are present and to identify needed mitigation measures. Prior to undertaking any surface-disturbing activities on the lands covered by a lease, the lessee or operator shall:

1. Engage the services of a cultural resource consultant acceptable to the Surface Management Agency (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.
2. 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.

The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the authorized officer. Within five working days the authorized officer will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places;
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and
- a timeframe for the authorized officer to complete and expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the authorized officer are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with the process, the authorized officer will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The authorized officer will provide technical and procedural guidelines for the conduct of the mitigation. Upon verification from the authorized officer that the required mitigation has been completed, the operator will then be allowed to resume construction.

National Historic Trails

Surface-disturbing and disruptive activities would be avoided if possible within 1/4 mile of designated National Historic Trails (Lewis and Clark Trail and Nez Perce Trail).

Noise

Install remote monitoring systems (e.g., Supervisory Control and Data Acquisition (SCADA) or Computer Assisted Operations (CAOs)), where feasible, to mitigate the noise and disruptions associated with increased field truck traffic. Limitations to the feasibility of implementing this recommendation may exist due to the age of the field, the lack of appropriate infrastructure, and the remote nature of the area.

Muffle and maintain all motorized equipment according to manufacturers' specifications in an effort to achieve the recommended standard of 55 dBA (with an average day/night noise level of 49 dBA) for noise impacts to sensitive receptors at 1/4 mile from the source. When background noise exceeds 55 dBA, noise levels will be no greater than 5 dBA above background at 1/4 mile.

Paleontological Resources

Surface-disturbing activities would be avoided if possible within designated paleontological sites/locales.

In areas known to have high potential (Class IV and V) for containing significant paleontological resources and in the Malta Geological ACEC, the Lessee would be required to conduct a paleontological inventory prior to any surface disturbance. The Lessee must engage the services of a qualified paleontologist, acceptable to the surface management agency, to conduct the inventory. An acceptable inventory report is to be submitted to the BLM for review and approval at the time a surface-disturbing plan of operations is submitted.

Inadvertent Discovery – Upon discovery of significant paleontological materials during operations, work in the immediate area of the find shall be diverted and the find will be reported to the authorized officer immediately. Stabilization of the find to prevent further physical damage or erosion should be undertaken as feasible and protective measures to prevent looting should be initiated. An evaluation of the paleontological discovery will be made by a BLM-permitted paleontologist within an appropriate timeframe to determine the appropriate action(s) to minimize the loss of any significant paleontological values. The operator will bear the cost of any required paleontological appraisals, collection of fossils, or salvage of any fossils of significant scientific interest discovered during the operation.

Collection Restrictions – The operator shall provide a background briefing for all project personnel describing procedures and notifications required in the event of discoveries by project personnel. Supervisory personnel shall advise project personnel of restrictions for collection of significant fossils. Supervisory personnel are also required to enforce collection restrictions.

Recreation Sites

Surface-disturbing and disruptive activities would be avoided if possible within and 500 feet from recreation sites.

Residential Structures

Surface-disturbing and disruptive activities would be avoided if possible within and 500 feet from incorporated city limits or occupied residential structures.

Install signage notifying the public of the area of increased activity.

Remotely monitor well production where practical and technically feasible.

Water, Riparian Areas/Wetlands, Floodplains

Surface-disturbing activities would be avoided if possible within perennial or intermittent streams (as indicated by obligate wetland species or hydric soils); lakes, ponds, and reservoirs; floodplains; wetlands; and riparian areas.

Surface-disturbing activities may be controlled within and 300 feet from riparian/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. 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) a detailed monitoring plan that would show the controlled use is compatible with wetland and riparian objectives (including habitat and water quality).

Limit construction of drainage crossings to no-flow periods or low-flow periods.

Minimize the area of disturbance within ephemeral and intermittent drainage channel environments.

Prohibit construction of well sites, access roads, and pipelines within 300 feet of surface water and/or riparian areas. Exceptions would be granted by the BLM based on an environmental analysis and site-specific mitigation plans.

Implement minor routing variations during access road layout to avoid steep slopes adjacent to ephemeral or intermittent drainage channels. Maintain a 100-foot-wide buffer strip of natural vegetation where possible (not including wetland vegetation) between all construction activities and ephemeral and intermittent drainage channels.

Do not install culverts on ephemeral drainages. The use of culverts on intermittent drainage crossings would be analyzed on a case-by-case basis. Design all drainage-crossing structures to carry 25- to 50-year discharge events or as otherwise directed by the BLM.

Design channel crossings to minimize changes in channel geometry and subsequent changes in flow hydraulics.

Maintain vegetation barriers occurring between construction activities and ephemeral and intermittent channels.

Minimize construction activities in areas of steep slopes and install special slope-stabilizing structures if construction cannot be avoided in these areas.

Install runoff and erosion control measures such as water bars, berms, and interceptor ditches as needed.

Include adequate drainage control devices and measures in the road design (e.g., road berms and drainage ditches, diversion ditches, cross drains, culverts, outsloping, and energy dissipaters) at sufficient intervals and intensities to adequately control and direct surface runoff above, below, and within the road environment in order to avoid erosion-concentrated flows. Use erosion control devices in conjunction with the surface runoff and drainage control devices and measures such as temporary barriers, ditch blocks, erosion stops, matts, mulches, and vegetative covers. Implement a revegetation program as soon as possible to re-establish the soil protection afforded by a vegetal cover.

Design and construct interception ditches, sediment traps, water bars, and revegetation and soil stabilization measures if needed.

Construct channel crossings for buried pipelines such that the pipe is buried a minimum of four feet below the channel bottom.

Regrade disturbed channel beds to the original geometric configuration with the same or very similar bed material.

Upon completion of construction activities, restore topography to near pre-existing contours at well sites, other facility sites, and along access roads and pipelines. Replace up to 12 inches of topsoil or suitable plant-growth material over all disturbed surfaces. Apply fertilizer, seed (specified in a reclamation plan), and mulch as required.

Ensure that the project complies with EO 11990 (floodplains protection) and RMP management directives that relate to protection of water resources. These regulations require avoidance of stream channels to the maximum practicable extent. Where total avoidance is not practicable, implement measures to minimize impacts to streams and associated floodplains/floodways. Where streams and floodplains cannot be avoided, the operators would be required to show the BLM authorized officer why such resources cannot be totally avoided and how impacts would be minimized during the APD process.

Case wells during drilling, and case and cement all wells in accordance with Onshore Order No. 2 to protect accessible high-quality aquifers. High-quality aquifers are those with known water quality of 10,000 ppm TDS or less. The protection of high-quality aquifers involves well casing and welding of sufficient integrity to contain all fluids under high pressure during drilling and well completion. Further, ensure that wells adhere to the appropriate BLM cementing policy.

Construct reserve pits so that a minimum of one-half of the total depth is below the original ground surface on the lowest point within the pit. To prevent seepage of fluids, utilize drilling mud gel or poly liners to line reserve pits in areas where subsurface material would not contain fluids. Liners would be of sufficient strength and thickness to withstand

normal installation and use. The liner would be impermeable (i.e., having a permeability of less than 10^{-7} cm/sec) and chemically compatible with all substances which may be put in the pit.

Maintain two feet of freeboard on all reserve pits to ensure the reserve pits are not in danger of overflowing. Shut down drilling operations until the problem is corrected if leakage is found outside the pit.

Extract hydrostatic test water used in conjunction with pipeline testing and all water used during construction activities from sources with sufficient quantities and through appropriation permits approved by the State of Montana.

Discharge all concentrated water flows within access road rights-of-way onto or through an energy dissipater structure (e.g., rip-rapped aprons and discharge points) and discharge into undisturbed vegetation.

Develop and implement a stormwater pollution plan for stormwater runoff at drill sites as required per Montana Department of Environmental Quality stormwater MPDES permit requirements.

Coordinate with the U.S. Army Corps of Engineers to determine the specific Clean Water Act (CWA) Section 404 permit requirements and conditions (including the potential requirement of compensatory mitigation) for each facility that occurs in waters of the U.S. to prevent the occurrence of significant impact to such waters.

Ensure that the project must comply with all applicable requirements of the CWA, including the requirement to obtain an MPDES permit.

Evaluate all project facility sites for occurrence and distribution of waters of the U.S., special aquatic sites, and jurisdictional wetlands. Locate all project facilities out of these sensitive areas. If complete avoidance is not possible, minimize impacts through modification and minor relocations. Coordinate activities that involve dredge or fill into wetlands with the Corps of Engineers.

Soils

Prior to any surface disturbance on sensitive soils a reclamation plan must be approved by the authorized officer. The plan must demonstrate that no other practicable alternatives exist for relocating the activity. The plan must include a detailed description of how the activity would: (1) control wind and water erosion; (2) control surface runoff; (3) minimize sediment production; (4) maintain site productivity; and (5) complete reclamation. The plan will consider avoidance, size limitations, timing restrictions (e.g. limiting wet condition road usage), physical mitigation, and off-site mitigation. Sensitive soils are defined as those with severe erosion ratings (wind and water).

Surface-disturbing activities would be avoided if possible on badlands, rock outcrop, or slopes susceptible to mass failure. The authorized officer may grant an exception to this requirement for pipelines if the operator submits a reclamation plan that clearly demonstrates effects from the proposed actions can be adequately mitigated. An exception may also be granted if an activity would occur on a previously disturbed area if the operator submits a reclamation plan that clearly demonstrates effects from the proposed actions can be adequately mitigated.

Stabilization efforts shall be completed within 30 days of the initiation of construction activities.

Reduce the area of disturbance to the absolute minimum necessary for construction and production operations while providing for the safety of personnel. Where possible, disturbance should be limited to the topping of shrubs and grasses. The operator should avoid off-road vehicle activity.

Where feasible, locate buried pipelines immediately adjacent to roads to avoid creating separate areas of disturbance and in order to reduce the total area of disturbance.

Reclamation shall not be conducted using frozen or saturated soil material.

Where possible, minimize disturbance to vegetated cut-and-fill areas on existing improved roads.

Construction, drilling, completion, pipeline installation, interim or final reclamation activities shall not be performed during periods when the soil is too wet to adequately support equipment/vehicles. If such equipment/vehicles create ruts in excess of 3 inches deep, operations must cease as the soil will be deemed too wet to adequately support equipment/vehicles. If safety, disrepair, erosion and/or excessive rutting problems are discovered, the operator will be responsible to repair, improve and/or maintain the roads to assure safety, stability and to limit soil erosion/rutting.

Additional measures can be found in Appendix J, Reclamation.

Visual Resources

Minimizing potential visual impacts from pumpjack units should include consideration of whether a well can be relocated to take advantage of distance, vegetation, or topography to reduce its visibility or contrast with the characteristic landscape from the point of view of recreational use of BLM land. When it can be used, site selection can be critical (as is color choice) in reducing the contrast of a pumpjack unit.

Since the visual impact potential of a pumpjack unit depends on location, Visual Resource Management (VRM) land classification, and visibility from BLM land in and near recreation sites, a determination of impact would require analysis of the specific circumstances surrounding a well. This would occur when the operator submits an APD.

Wastes, Hazardous and Solid

Recycle drilling mud to the extent feasible.

Drilling mud could be provided to private landowners for use as stock pond sealant.

Use closed-loop systems with above-ground steel tankage for exotic drilling mud operations.

Recycle completion fluids to the extent feasible.

Provide receptacles for trash and construction debris generated during construction and operations prior to transport in closed containers to a county sanitarian-approved landfill for disposal.

Recycle used oil and methanol to the extent feasible.

Investigate the feasibility of using produced water in well drilling and completion processes.

Use lined produced-water evaporation pits at high-volume central facilities.

To minimize undue exposure to hazardous situations, require measures that would preclude the public from entering hazardous areas and place warning signs alerting the public to truck traffic.

Institute a Hazard Communication Program for all operator employees and require subcontractor programs in accordance with OSHA 29 CFR 1910.1200. These programs are designed to educate and protect the employees and subcontractors with respect to any chemicals or hazardous substances that may be present in the workplace. As every chemical or hazardous material is brought on location, require that a Material Safety Data Sheet accompany that material and become part of the file kept at the field office as required by 29 CFR 1910.1200. Ensure that all employees receive the proper training in storage, handling, and disposal of hazardous substances.

Inventory and report chemical and hazardous materials in accordance with the Superfund Amendments and Reauthorization Act (SARA) Title III 40 CFR Part 335, if quantities exceeding 10,000 pounds or the threshold planning quantity (TPQ) are to be produced or stored in association with the proposed action. Submit the appropriate Section 311 and 312 forms at the required times to the state and county emergency management coordinators and the local fire departments.

Transport and/or dispose of any hazardous wastes, as defined by the Resource Conservation and Recovery Act (RCRA), in accordance with all applicable federal, state, and local regulations.

Design operations to severely limit or eliminate the need for extremely hazardous substances, and avoid the creation of hazardous wastes as defined by RCRA wherever possible.

Write and implement Spill Prevention Control and Countermeasure (SPCC) Plans as appropriate in accordance with 40 CFR Part 112 to prevent discharge of oil into navigable waters of the United States.

Manage gas transmission system equipment maintenance fluids such as used oil and antifreeze through third-party or in-house recyclers.

Implement the system-wide SPCC, expanded when necessary to cover new facilities, as required by the Clean Water Act (40 CFR 112.7).

Recycle methanol to minimize the need for disposal.

Provide portable toilets for field operations.

Wildlife

Bald Eagle

Surface-disturbing and disruptive activities would be avoided if possible within 1/2 mile of bald eagle nest sites that were active within the preceding 5 breeding seasons.

Bighorn Sheep Lambing

Surface-disturbing and disruptive activities would be avoided if possible within bighorn sheep lambing areas.

Bighorn Sheep Range

Prior to surface-disturbing or disruptive activities a plan to maintain bighorn sheep habitat will be prepared by the proponent and implemented upon approval by the authorized officer. This plan shall address how short-term and long-term direct and indirect effects to bighorn sheep range will be mitigated based on current science and research.

Black-footed Ferret

Surface-disturbing and disruptive activities would be avoided if possible within 1/4 mile of black-footed ferret habitat.

Black-tailed Prairie Dog

Surface-disturbing and disruptive activities would be avoided if possible within 1/4 mile of black-tailed prairie dog habitat.

Colonial Waterbirds

Surface-disturbing and disruptive activities would be avoided if possible within 1/4 mile of a waterbird nesting colony. Additionally, surface-disturbing and disruptive activities would be avoided from April 1 through July 15 within 1/2 mile of a waterbird nesting colony.

Minimize or avoid disturbance near important nesting and foraging areas such as Nelson Reservoir, Whitewater Lake, Pea Lake, Hewitt Lake, and other areas identified by the BLM based on the most current information available.

Crucial Winter Range

Prior to surface-disturbing or disruptive activities a plan to maintain functionality of crucial winter range for big game and/or Greater Sage-Grouse will be prepared by the proponent and implemented upon approval by the authorized officer. Within crucial winter range surface-disturbing or disruptive activities would be avoided if possible within 6/10 of a mile from any existing surface-disturbing or disruptive activity. The plan shall address how short-term and long-term direct and indirect effects to crucial winter range will be mitigated based on current science and research.

Endangered Species Act Section 7 Consultation

This 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 a BLM-approved activity that will contribute to a need to list such species or their habitat. The BLM may require modifications to or disapprove a 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 surface-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.

Grassland Bird/Greater Sage-Grouse Priority Habitat Management Areas

Surface-disturbing and disruptive activities would be avoided if possible within the boundaries of all Greater Sage-Grouse Priority Habitat Management Areas. Additional conservation measures and BMPs applicable in PHMA can be found in Appendix M, Greater Sage-Grouse.

Greater Sage-Grouse General Habitat Management Areas

Surface-disturbing and disruptive activities would be avoided if possible within 0.6 mile of Greater Sage-Grouse leks. Additional conservation measures and BMPs applicable in GHMA can be found in Appendix M, Greater Sage-Grouse.

Within Greater Sage-Grouse general habitat surface-disturbing and disruptive activities would be avoided if possible within 2 miles of sage-grouse leks to protect nesting and brood rearing habitat March 1 – June 15. Prior to surface-disturbing or disruptive activities a plan to maintain functionality of Greater Sage-Grouse habitat will be prepared by the proponent and implemented upon approval by the authorized officer. This plan shall address how short-term and long-term direct and indirect effects to nesting and brood-rearing areas will be mitigated based on current science and research.

Require a one-day notice prior to any planned activity so that the pad site and any undeveloped access route or pipeline can be nest-dragged to determine the presence or absence of active nests. Require a second nest-drag survey if drilling activity begins more than two days after completion of pad construction.

Prioritize pad development based on suitability of habitat; construct pads that are in less suitable habitat (i.e., along existing roadways or within degraded habitats) during the breeding season, and construct pads located in more suitable habitat prior to or after the critical breeding season.

Avoid sagebrush, but if disturbance is necessary, interim reclamation should include sage plantings/seedings and/or the use of minimum disturbance practices to protect sage on well pads and pipelines.

Manage produced water to reduce the spread of West Nile virus within sage-grouse habitat areas. Implement the following impoundment construction techniques and measures to eliminate water sources that support breeding mosquitoes:

- Overbuild the size of ponds to accommodate a greater volume of water than is discharged. This will result in non-vegetated and muddy shorelines that breeding mosquitoes avoid.

- Build steep shorelines to reduce shallow water and aquatic vegetation around the perimeter of impoundments. Construction of steep shorelines also will increase wave action that deters mosquito production.
- Maintain the water level below rooted vegetation for a muddy shoreline that is unfavorable habitat for mosquito larvae. Rooted vegetation includes both aquatic and upland vegetative types. Always avoid flooding terrestrial vegetation in flat terrain or low-lying areas.
- 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.
- Fence pond sites 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.
- Use adulticides to target adult mosquito populations and larvicides to control the hatching of mosquito larvae, using approved pesticides and utilizing licensed applicators with a Pesticide Use Plan.

Greater Sage-Grouse Winter Range

Surface-disturbing and disruptive activities would be avoided if possible from December 1 through March 31 in Greater Sage-Grouse winter range.

Interior Least Tern

Surface-disturbing and disruptive activities would be avoided if possible within 1/4 mile of interior least tern occupied habitat.

Mountain Plover

Surface-disturbing and disruptive activities would be avoided if possible within mountain plover habitat. Additionally, surface-disturbing and disruptive activities would be avoided if possible from April 1 through July 15 within 1/4 mile of mountain plover habitat.

Pallid Sturgeon

Prior to surface-disturbing or disruptive activities occurring in or within 1/2 mile of river or stream shorelines identified as pallid sturgeon habitat, a plan to maintain pallid sturgeon habitat would be prepared by the proponent and implemented upon approval by the authorized officer. Any proposed development would require consultation with the USFWS which could result in a revised buffer distance.

Peregrine Falcon

Surface disturbing and disruptive activities would be avoided if possible within 1 mile of peregrine falcon nest sites active within the preceding 7 breeding seasons.

Piping Plover

Surface-disturbing and disruptive activities would be avoided if possible within 1/4 mile of piping plover habitat.

Potential piping plover nesting habitat near drilling and construction sites at Nelson Reservoir and Whitewater Lake will be identified and appropriate surveys will be conducted for this species prior to oil and gas activities. A timing stipulation during the nesting season would protect nesting piping plovers, but would not protect the function and utility of the site for subsequent nesting activity or occupancy. Therefore, no surface occupancy would apply to all new developments as well as to modifications of existing developments within 1/4 mile of piping plover nest sites, piping plover nesting habitat, and designated critical habitat (critical habitat is on the Bowdoin NWR). This condition of approval will minimize threats and disturbances to piping plovers, and prevent fragmentation and degradation of piping

plover nesting habitat and critical habitat. Waivers, exceptions, and modifications may apply if it is determined that the factors leading to its inclusion have changed sufficiently to make the protection provided by the condition of approval no longer justified, so long as the proposed operations would have “No Effect” on piping plovers and would not “Adversely Modify” piping plover critical habitat.

Raptors

Surface-disturbing and disruptive activities would be avoided if possible within 1/4 mile of raptor nest sites that were active within the past 7 years. Additionally, surface-disturbing and disruptive activities would be avoided from March 1 through July 31 within 1/2 mile of active raptor nest sites.

Install and maintain power line facilities to reduce raptor collisions and electrocutions, and discourage perching and nest-building on infrastructure.

Conduct nesting raptor surveys in suitable nesting habitats within 1/2 mile of proposed disturbance. Surveys could be conducted throughout the year; however, any potential nest sites located must be resurveyed during the breeding season to determine activity. Construction activities would be avoided within one mile of an active nest of listed or sensitive raptor species, and 1/2 to 3/4 mile (depending upon species or line of sight) of an active nest of other raptor species from March 1 through August 31, or until fledging and dispersal of the young. The nature of the restrictions and the protection radius would vary according to the raptor species involved and would be determined by the BLM.

Sharp-tailed Grouse Leks

Surface-disturbing and disruptive activities would be avoided within 1/4 mile of sharp-tailed grouse leks.

Sharp-tailed Grouse Nesting Habitat

Surface-disturbing and disruptive activities would be avoided if possible from March 15 through June 30 within 1/2 mile of sharp-tailed grouse nesting habitat.

Sprague’s Pipit

Surface-disturbing and disruptive activities would be avoided if possible from April 15 through July 15 in Sprague’s pipit habitat.

Winter Range

Surface-disturbing and disruptive activities would be avoided if possible from December 1 through May 15 within identified big game winter range. Within winter ranges, locate disturbances so that specific important vegetation types, as identified by the BLM, would be avoided where possible.

Appendix O

Fire and Emergency Stabilization and Rehabilitation

Fire

The following table compares fire management categories. The table is an excerpt from the Fire/Fuels Management Plan Environmental Assessment/Plan Amendment for Montana and the Dakotas (2003), and can be found on the internet at http://www.blm.gov/mt/st/en/prog/fireaviation/fire_management_plans/state_plan.html.

**Table O-1
Fire Management Category Descriptions**

<p>Category A:</p> <p>Fire is not desired at all (None of this category is in the planning area)</p> <p>Fire Management Activities:</p> <ul style="list-style-type: none"> • Mitigation and suppression required • Fire should not be used to manage fuels <p>Rationale for Categorization:</p> <ul style="list-style-type: none"> • Direct threats to life or property • Ecosystems not fire dependent • Long fire return intervals <p>Fire Suppression Considerations:</p> <ul style="list-style-type: none"> • Emphasis on prevention, detection, and rapid suppression response and techniques <p>Multiple Fire Priority: ¹ Highest</p>	<p>Category B:</p> <p>Unplanned fire is likely to cause negative effects</p> <p>Fire Management Activities:</p> <ul style="list-style-type: none"> • Suppression required • Fire and non-fire fuels treatments may be used <p>Rationale for Categorization:</p> <ul style="list-style-type: none"> • Unplanned ignitions would have negative effects on ecosystems unless mitigated <p>Fire Suppression Considerations:</p> <ul style="list-style-type: none"> • Emphasis on prevention/education and suppression <p>Multiple Fire Priority: ¹ High</p>	<p>Category C:</p> <p>Fire is desired to manage ecosystems, but current vegetative condition creates constraints on use</p> <p>Fire Management Activities:</p> <ul style="list-style-type: none"> • Suppression may be required • Fire and non-fire fuels treatments may be used <p>Rationale for Categorization:</p> <ul style="list-style-type: none"> • Significant ecological, social, or political constraints <p>Fire Suppression/Use Considerations:</p> <ul style="list-style-type: none"> • Emphasis on reducing unwanted ignitions, resource threats, and fuels accumulations <p>Multiple Fire Priority: ¹ Medium</p>	<p>Category D:</p> <p>Fire is desired; no constraints on its use (None of this category is in the planning area)</p> <p>Fire Management Activities:</p> <ul style="list-style-type: none"> • Suppression may not be necessary • Both fire and non-fire treatments could be used <p>Rationale for Categorization:</p> <ul style="list-style-type: none"> • Few ecological, social, or political constraints • Less need for fuels treatment <p>Fire Suppression/Use Considerations:</p> <ul style="list-style-type: none"> • Emphasis on using planned and unplanned wildfire to achieve resource objectives <p>Multiple Fire Priority: ¹ Lowest</p>
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¹ If multiple fires were burning, Categories A and B would generally receive priority for fire management resources.

Emergency Stabilization and Rehabilitation (ES&R)

Introduction

Emergency stabilization plans and/or rehabilitation plans are prepared after a wildland fire to minimize threats to life or property and stabilize and prevent unacceptable degradation to natural and cultural resources resulting from the effects of the fire, in a cost-effective and expeditious manner. Not all fires need emergency stabilization and/or rehabilitation.

The Burned Area Emergency Stabilization and Rehabilitation Handbook (H-1742-1) provides detailed information specific to BLM policies, standards, and procedures used in the Burned Area ES&R programs. The Handbook is intended to be the primary guidance to BLM ES&R activities. ES&R activities and treatment undertaken in the HiLine District will follow the Handbook guidance. ES&R activities and treatments in Wilderness Study Areas will comply with policy in the Management of BLM Wilderness Study Areas (BLM Manual 6330). As updates and revisions to the departmental manuals are completed, conformance to the new direction will supersede the criteria included herein.

Emergency stabilization is defined as “Planned actions to stabilize and prevent unacceptable degradation to natural and cultural resources, to minimize threats to life and property resulting from the effects of a fire, or to repair/replace/construct physical improvements necessary to prevent degradation of land or resources. Emergency Stabilization actions must be taken within one year following containment of a wildland fire.” (620 DM 3.3E)

Rehabilitation is defined as “Efforts undertaken within three years of containment of a wildland fire to repair or improve fire-damaged lands unlikely to recover naturally to management approved conditions, or to repair or replace minor facilities damaged by fire.” (620 DM 3.3M)

Emergency stabilization and rehabilitation funds are not used for rehabilitation of wildland fire suppression efforts; this includes rehabilitating firelines, helispots, fire camp, etc. Costs for rehabilitating wildland fire suppression efforts will be funded by the wildland fire project code.

Emergency Stabilization and Rehabilitation Protocols

Emergency stabilization protection priorities are: 1) human life and safety; and 2) property and unique biological resources (designated Critical Habitat for Federal and State listed, proposed or candidate threatened and endangered species) and significant heritage sites (620 DM 3.7A). Burned area rehabilitation protection priorities are: 1) to repair or improve lands damaged directly by a wildland fire; and 2) to rehabilitate or establish healthy, stable ecosystems in the burned area (620 DM 3.8A).

Emergency Stabilization

The objective of emergency stabilization is “To determine the need for and to prescribe and implement emergency treatments to minimize threats to life or property or to stabilize and prevent unacceptable degradation to natural and cultural resources resulting from the effects of a fire.” (620 DM 3.4A)

Emergency stabilization plans are prepared by an interdisciplinary team, immediately following a wildland fire and specify emergency treatments and activities to be carried out within one year following containment of the wildfire. Generally, activities are only prescribed within the perimeter of a burned area.

Allowable emergency stabilization actions are limited to the following items, grouped by issue topic:

Human Life and Safety

- Replacing or repairing minor facilities essential to public health and safety when no other protection options are available.

Soil/Water Stabilization

- Placing structures to slow soil and water movement.
- Stabilizing soil to prevent loss of degradation or productivity.
- Increasing road drainage frequency and/or capacity to handle additional post-fire runoff.
- Installing protective fences or barriers to protect treated or recovering areas.

Designated Critical Habitat for Federal/State Listed, Proposed, or Candidate Species

- Conducting assessments of critical habitat in those areas affected by emergency stabilization treatments.
- Seeding or planting to prevent permanent impairment of designated Critical Habitat for Federal and State listed, proposed or candidate threatened and endangered species.

Critical Heritage Resources

- Conducting assessments of significant heritage sites in those areas affected by emergency stabilization treatments.
- Stabilizing critical heritage resources.
- Patrolling, camouflaging, burying significant heritage sites to prevent looting.

Greater Sage-Grouse Priority Areas and Protection Priority Areas

- Prioritize native seed allocation for use in Greater Sage-Grouse habitat in years when preferred native seed is in short supply. Where probability of success or native seed availability is low, non-native seeds may be used as long as they meet sage-grouse habitat conservation objectives. Re-establishment of appropriate sagebrush species/subspecies and important understory plants, relative to site potential, shall be the highest priority for rehabilitation efforts.
- Design post-ES&R management to ensure long term persistence of seeded or pre-burn native plants.
- Consider potential changes in climate when proposing post-fire seedings using native plants. Consider seed collections from the warmer component within a species' current range for selection of native seed.

Invasive Plants

- Seeding to prevent establishment of invasive plants, and direct treatment of invasive plants. Such actions will be specified in the emergency stabilization plan only when immediate action is required and when standard treatments are used that have been validated by monitoring data from previous projects, or when there is documented research establishing the effectiveness of such actions.
- Using integrated pest management techniques to minimize the establishment of non-native invasive species within the burned area. When there is an existing approved management plan that addresses non-native invasive species, emergency stabilization treatments may be used to stabilize the invasive species.

Monitoring

- Monitoring of treatments and activities for up to three years from date of fire containment.

Burned Area Rehabilitation

The objectives of rehabilitation are: 1) to evaluate actual and potential long-term post- fire impacts to critical cultural and natural resources and identify those areas unlikely to recover naturally from severe wildland fire damage; 2) to develop and implement cost-effective plans to emulate historical or pre-fire ecosystem structure, function, diversity, and dynamics consistent with approved land management plans, or if that is infeasible, then to restore or establish a healthy, stable ecosystem in which native species are well represented; and 3) to repair or replace minor facilities damaged by wildland fire (620 DM 3.4B).

Rehabilitation plans are prepared by an interdisciplinary team as a separate plan, independent of an emergency stabilization plan. The rehabilitation plan specifies non-emergency treatments and activities to be carried out within three years following containment of a wildfire. Generally, rehabilitation activities are prescribed only within the perimeter of a burned area.

Allowable rehabilitation actions are limited to the following items, grouped by issue topic:

Lands Unlikely to Recover Naturally

- Repair or improve lands unlikely to recover naturally from wildland fire damage by emulating historical or pre-fire ecosystem structure, function, diversity, and dynamics consistent with existing land management plans.

Weed Treatments

- Chemical, manual, and mechanical removal of invasive species, and planting of native and non-native species, restore or establish a healthy, stable ecosystem even if this ecosystem cannot fully emulate historical or pre-fire conditions.

Tree Planting

- Tree planting to reestablish burned habitat, reestablish native tree species lost in fire, prevent establishment of invasive plants.

Repair/Replace Fire Damage to Minor Facilities

- Repair or replace fire damage to minor operating facilities (e.g., fences, campgrounds, interpretive signs and exhibits, shade shelters, wildlife guzzlers, etc.) Rehabilitation may not include the planning or replacement of major infrastructure, such as visitor centers, residential structures, administration offices, work centers and similar facilities. Rehabilitation does not include the construction of new facilities that did not exist before the fire, except for temporary and minor facilities necessary to implement burned area rehabilitation efforts.

Monitoring

- Monitoring of treatments and activities for up to three years from date of fire containment.
- After three years, the long-term monitoring of an ES&R project will be officially transferred to a designated resource program. Long-term responsibility for tracking the ES&R investment should be identified early in the ES&R planning process through an interdisciplinary team. The resource program is encouraged to conduct an evaluation at the five-year interval to identify management changes needed to ensure project success in reaching the intended objectives. (WO-IM-2010-195, 9/3/2010).

Policies on timeframes for ES&R planning funding, and implementation are very specific. ES&R treatments must be implemented, to the extent possible, before additional damage occurs to the burned area, immediately down slope of the burned area, or before undesirable vegetation becomes established. Treatments must be implemented at a time that will ensure a high or maximum probability of success. The ES&R Program timeframes in relations to tasks and responsibilities are shown in Table O-2.

Due to the broad spectrum of situations encountered in emergency stabilization and/or rehabilitation, several options of possible treatments, either separately or in combination, must be considered. The ES&R Handbook list several treatments under the Treatment Guidance section.

**Table O-2
ES&R Program Timeframes, Tasks and Responsibilities**

<i>Event</i>	<i>Timeframes</i>	<i>Task</i>
Wildfire occurs.	Immediately	Manager assigns a Resource Advisor (RA). While the fire is still burning, the RA, in consultation with resource specialists and the appropriate Manager, decides if ES&R is warranted bases on Values-at-Risk/ Resources-at-Risk. If it is decided that ES&R is warranted, the RA is to notify the Central Montana Fire Zone (CMFZ) or District Office ES&R lead, prior to containment. The CMFZ or District Office ES&R Lead will then notify the State Office ES&R Program Lead of the scope of the fire and the anticipated fire containment date.
Initial ES Plan needed. Submit Form 1310-2 plus supplemental attachments (both 2822 and 2881 may be indicated on Form, although funding under 2881 may not occur until the following fiscal year).	Within 7 days of fire containment	Concurrently to State ES&R Program Lead, National ES&R Program Lead, and Denver Budget Office (BC-612).
Complete ES Plan needed. Prepare/Submit complete ES Plan.	Within 21 days of fire containment	<\$100,000 submit to State ES&R Program Lead. ≥\$100,000 submit to State ES&R Program Lead (for review) and concurrently to National ES&R Program Lead.
Receive approval/disapproval of ES Plan.	Within 6 working days of receipt by Approval Office	Requesting Office receives memo approving funding, or need for revision on a plan by plan basis. State Director or acting has funding approval authority for plans <\$100,000. Bureau Budget Officer, after concurrence with Assistant Director WO-200 or their designee, has funding approval authority for plans ≥\$100,000.
Receive notification of ES funding approval.	Immediately	Local fire office enters project data into NFPORS.
BAR Plan needed. Prepare/Submit BAR Plan.	Timely, ideally soon after submitting ES Plan, but no later than Sept. 5 annually	To State ES&R Program Lead and National ES&R Program Lead. Field Office. Local fire office enters project data into NFPORS.
Receive approval/disapproval of BAR Plan funding.	Before October 31 annually	Funding for BAR Plans is approved via the Annual Work Plan.
Accomplishment Report and Funding Request Form for next FY 2881 funds.	Early September	To State ES&R Program Lead for review and submission to National ES&R Program Lead for concurrence. Funding for years 2 and 3 is approved via the Annual Work Plan.
Close-out Report.	Early September of 3 rd year	To State ES&R Program Lead for review and submission to National ES&R Program Lead.

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Appendix P Recreation Sites and Management Areas

The BLM released Handbook H-8320-1, Planning for Recreation and Visitor Services, on August 22, 2014. The handbook assists BLM staff in the planning and management of recreation and visitor services on public land. The release of the handbook coincided with the final development of the HiLine Proposed RMP/Final EIS. Accordingly, not all recreation and visitor services decisions in this Approved Plan follow the recommended format provided in the handbook. As a result of following guidance in the earlier handbook, the Approved Plan contains both land use planning-level and implementation-level decisions for recreation and visitor services. Implementation-level decisions for recreation management areas and recreation sites are presented below.

Recreation Sites

Any existing recreational facilities, such as picnic tables or fire rings, would be removed from areas that would not be managed as recreation sites. Whether or not to remove or maintain livestock enclosure fences would be analyzed on a case-by-case basis. The BLM will manage 49 recreation sites and facilities (Table P-1 and Appendix A2, Map H).

Recreation sites and facilities will be maintained and managed to promote resource value protection, public safety and health, quality facilities, visitor experiences, management efficiency, and value-based returns. New sites could be developed commensurate with public demand, resource constraints, and management capabilities. Priority will be given to new sites that have partnership funding strategies and are consistent with established management guidelines.

In Priority Habitat Management Areas, the BLM will not construct new recreation facilities (e.g., campgrounds, trails, trailheads, staging areas) unless the development would have a net conservation gain to Greater Sage-Grouse 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.

**Table P-1
BLM-Managed Recreation Sites and Facilities**

<i>Recreation Site Name</i>
Blaine County
Anita Fishing Reservoir
BR-12 Watchable Wildlife Reservoir
Don Fishing Reservoir
Floyd Flynn Fishing Reservoir
FR Fishing Reservoir
North Faber Fishing Reservoir
Reser Fishing Reservoir
Salmo Fishing Reservoir
South Cassidy Fishing Reservoir (BR-19)
Glacier County
Sullivan Bridge Boat Take Out Area
Hill County
Fresno OHV
Gauging Station Boat Take Out Area

<i>Recreation Site Name</i>
Liberty County
Moffat Bridge Boat Take Out Area Pugsley Bridge Recreation Area
Phillips County
Batosh Fishing Reservoir Buffington Day Use Picnic Area Camp Creek Campground/Watchable Wildlife Area Cottonwood Riparian Protection Area Current Fishing Reservoir Karsten Coulee Fishing Reservoir King Fishing Reservoir Lark Fishing Reservoir Montana Gulch Campground Paleface Fishing Reservoir Plutz Fishing Reservoir PR-18 Fishing Reservoir PR-20 Fishing Reservoir PR-54 Fishing Reservoir Rebate Fishing Reservoir Sagebrush Fishing Reservoir Sentinel Fishing Reservoir Shallow Fishing Reservoir Taint Fishing Reservoir Thunder Cloud Fishing Reservoir Whiteface Fishing Reservoir Wrangler Fishing Reservoir
Valley County
Atlas Fishing Reservoir Big Fishing Reservoir Bitter Creek WSA/Watchable Wildlife Area Faraasen Park Recreation Area Glasgow OHV Helen Fishing Reservoir Hose Fishing Reservoir Langen Fishing Reservoir Paulo Fishing Reservoir Timber Creek Ridge Troika Fishing Reservoir Valley Fishing Reservoir Wards Dam Watchable Wildlife Area

Special Recreation Management Areas and Extensive Recreation Management Areas

The BLM has established a three-tier system of lands managed for recreation where Special Recreation Management Areas (SRMAs) will be given management priority to provide quality recreation opportunities and visitor experiences. Extensive Recreation Management Areas (ERMAs) will also require specific management consideration, but commensurate with the management of other resources and resource uses. All remaining lands will be managed as public lands not designated as recreation management areas (LND), and would generally be managed only to address basic recreation and visitor services and resource stewardship needs such as visitor safety and use, and user conflicts. The three Recreation Management Area categories are described below. For more complete descriptions, see BLM 2015, Appendix S.

- **Special Recreation Management Areas**

SRMAs are administrative units where the existing or proposed recreation opportunities and recreation setting characteristics are recognized for their unique value, importance and/or distinctiveness, especially as compared to other areas used for recreation.

- **Extensive Recreation Management Areas**

ERMAs are administrative units that require specific management consideration in order to address recreation use, demand or recreation and visitor services program investments.

- **Public Lands Not Designated as Recreation Management Areas**

All remaining public lands not designated as recreation management areas would generally be managed only to address basic recreation and visitor services and resource stewardship needs such as visitor safety and use, and user conflicts.

The existing and proposed SRMAs and ERMAs in the HiLine planning area were evaluated in the HiLine Proposed RMP/Final EIS (BLM 2015, Appendix S). A summary listing of areas designated as SRMAs and ERMAs in this Approved Plan is shown below.

**Table P-2
SRMAs and ERMAs in the HiLine District**

<i>Name</i>	<i>SRMA</i>	<i>ERMA</i>
BR-12 Watchable Wildlife Area		✓
Cottonwood Riparian Area		✓
Faraasen Park		✓
Fresno OHV Area		✓
Glasgow OHV Area	✓	
Little Rocky Mountains SRMA	✓	
Marias River		✓
Paulo Reservoir		✓
South Phillips Recreation Complex		✓
Sweet Grass Hills		✓
Timber Creek Ridge		✓
Troika Reservoir		✓

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