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Jefferson County Southeast Planning Area Environmental Assessment

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CHAPTER 1

1.1 Introduction and Background

The Jefferson County South East (JCSE) Planning Area (PA) is located in Jefferson County, Montana and drains portions of the Boulder and Elkhorn mountain ranges and London Hills. The planning area lies within Townships 1-4 North and Ranges 1-4 West Principal Meridian Montana (P.M.M.).

Within the JCSE PA there are approximately 231,330 total acres of land, of which 24,490 are public lands administered by the Bureau of Land Management (BLM), 181,000 privately owned, 14,750 State of Montana, 11,060 United States Forest Service, and 30 Local Government. Of the total BLM-administered lands, 24,311 acres are allotted for livestock grazing and 179 acres are unallotted. This Environmental Assessment (EA) analyzes resource concerns to address land health concerns identified in the Assessment Report (AR), travel routes located on public (BLM) land, and the cumulative effects of activities occurring throughout the PA.

The assessment area covers public lands administered by BLM from Fitz Creek in the west to Shoddy Springs in the east, and from the Boulder River in the north, south to Huller and Sappington Springs. Elevation on BLM land ranges from approximately 4,600 to 7,100 feet. Lands administered by BLM within the JCSE receive about 8 to 19 inches of average annual precipitation.

In 2012, an interdisciplinary team (IDT) assessed BLM administered lands within the JCSE PA for the five Standards of Rangeland Health, as well as forest health and fuels conditions. The Standards are: **Upland Health, Riparian Health, Water Quality, Air Quality, and providing for Biodiversity**. The JCSE AR described the condition/function of resources within the assessment area to the Authorized Officer. The JCSE AR and the Authorized Officer's Summary and Determination have been made available to the public and may be reviewed at the Butte Field Office (BFO), or on the internet at http://blm.gov/l1kd.

The condition/function and recommendations in the JCSE AR, along with comments received through public scoping, have been used to develop management alternatives (Chapter 2). The alternatives are designed to initiate progress towards Proper Functioning Condition (PFC) and address site specific resource concerns. This EA was completed in accordance with established procedures to analyze and implement allotment, landscape, or site specific changes.

Resource management on a PA basis facilitates decisions and projects on a landscape scale. It is the BLM's intent to implement management cooperatively, and all proposed changes would be initiated through the BLM's decision process.

A Travel Management Plan (TMP) has not been completed for the 67 miles (approximately) of inventoried travel routes (i.e. roads, primitive roads and trails) located within the JCSE PA. Wheeled motorized vehicle travel in the area is currently being managed as "Limited" to existing routes under the *Record of Decision (ROD*) for the *Off-Highway Vehicle (OHV) Environmental Impact Statement (EIS) and Proposed Plan Amendment for Montana, North Dakota and South Dakota (2003)*. This designation was intended to prevent further cross-country motorized travel and serve as interim management guidance until such time as a forma TMP could be completed.

1.2 Purpose and Need for Action

The purpose and need for action is to improve land health and enhance biodiversity while continuing to provide for livestock grazing and to address travel management needs.

The JCSE AR described several causal factors, which, when combined, negatively impact the biological, physical, and ecological processes in the JCSE PA. As a result, the Authorized Officer determined that one or more of the Land Health Standards were not met in six of the nineteen grazing allotments (Table 1.1).

There is a need to complete the following actions:

- Restoring, enhancing, and/or maintaining riparian, wetland, and aquatic habitats through revised livestock grazing management, construction and/or maintenance of structural projects, road maintenance (including stream crossing and culvert improvements), and/or implementation of vegetative treatments.
- Restoring, enhancing, and/or maintaining upland health through revised livestock grazing management, structural projects, and/or implementation of vegetative treatments.
- Mitigating resource impacts from recreational activities while providing access to public lands through a travel management plan.
- Address the increased use of motorized routes in the project area, and the resulting impacts to the area's natural and cultural resources.
- Provide for clear delineation of and appropriate use on designated routes through informational kiosks, maps, signing, and local educational forums.
- Designate travel routes as "Open," "Limited," Limited (Administrative or Non-motorized)," or "Closed" to motorized vehicles and complete a Travel Management Plan (TMP), which would include these and other motorized and non-motorized designations (see Appendix B), per page 7 of the 2009 Record of Decision (ROD) and Approved Butte Resource Management Plan (RMP).
- Eradicating new and containing/controlling existing noxious weed and invasive species.
- Reduce travel-related spread of noxious weeds and invasive species.
- The BLM proposes to renew term grazing permits within the JCSE PA. As a result of resource conditions documented in the JCSE AR, management alternatives would be developed that may modify the mandatory terms and conditions of some grazing permits in order to meet Land Health Standards.

The Fundamentals of Rangeland Health and Land Health Standards require the BLM to initiate management actions that ensure, "Watersheds are in, or are making significant progress toward, properly functioning condition, including their upland, riparian-wetland, and aquatic components…," if an assessment determines one or more of the Land Health Standards are not being met (43 CFR 4180.1(a)).

Table 1.1 Summary of the Authorized Officer's determination of each standard in each grazing allotment in the JCSE PA.

Table 1.1 Authorized Officer's Determination of Standards by Grazing Allotment

Allotment Name, Number, & BLM Acres	Are Land Health Standards Being Met?					Primary Resource Concerns Causing Failure to Achieve BLM Standard
	Upland	Riparian Wetland	Water Quality	Air Quality	Bio-diversity	
Black Sage, 20216, Acres:1829	Y	NA	NA	Y	Y	All BLM Standards for healthy rangelands being met.
Boulder River, 20212, Acres: 20212	Y	NA	NA	Y	Y	All BLM Standards for healthy rangelands being met.
Bull Mountain, 20220, Acres: 5299	Y	N	N	Y	Y	Impacts to riparian reaches by livestock, conifer encroachment, and noxious weeds.
Cottonwood, 10285, Acres: 1305	Y	NA	NA	Y	Y	All BLM Standards for healthy rangelands being met.
Cottonwood Springs, 11025, Acres: 612	Y	N	N	Y	Y	Impacts to riparian reaches by livestock, conifer encroachment, and noxious weeds.
County Line, 20210, Acres: 4123	Y	NA	NA	Y	Y	All BLM Standards for healthy rangelands being met.
Dry Hollow, 20299, Acres: 120	Y	NA	NA	Y	Y	All BLM Standards for healthy rangelands being met.
Fitz Creek, 20308, Acres: 1733	Y	Y	Y	Y	Y	All BLM Standards for healthy rangelands being met.
Huller Springs, 10264, Acres: 1680	N	N	Y	Y	Y	Impacts to riparian reaches by conifer encroachment and noxious weeds.
Lower Butte, 11175, Acres: 138	Y	NA	NA	Y	Y	All BLM Standards for healthy rangelands being met.
McKenna, 20302, Acres: 40	Y	NA	NA	Y	Y	All BLM Standards for healthy rangelands being met.
North Doherty, 20211, Acres: 1482	Y	NA	NA	Y	Y	All BLM Standards for healthy rangelands being met.
Sappington, 20271, Acres: 474	Y	Y	Y	Y	Y	All BLM Standards for healthy rangelands being met.

Allotment Name, Number, & BLM Acres	Are Land Health Standards Being Met?					Primary Resource Concerns Causing Failure to Achieve BLM Standard
	Upland	Riparian Wetland	Water Quality	Air Quality	Bio-diversity	
Shoddy Springs, 11024, Acres: 160	Y	NA	NA	Y	Y	All BLM Standards for healthy rangelands being met.
South Doherty, 20217, Acres: 1629	Y	N	N	Y	Y	Impacts to riparian reaches by livestock, conifer encroachment, and noxious weeds.
T4N, R2W, Sec 21, 20262, Acres: 40	Y	NA	NA	Y	Y	All BLM Standards for healthy rangelands being met.
Three East Pastures, 20375, Acres: 1280	Y	N	N	Y	Y	Impacts to riparian reaches by livestock and conifer encroachment.
Wickham Field, 20260, Acres: 140	Y	N	N	Y	Y	The Boulder River (BDLW-9) is considered by the State of Montana to be impaired and is on the 303(d) list.
Willow Spring Road, 20260, Acres: 50	Y	NA	NA	Y	Y	All BLM Standards for healthy rangelands being met.

The Authorized Officer determined that livestock grazing impacts are contributing to one or more of the Standards not being met in four grazing allotments. Pursuant to 43 CFR 4180.2(c), livestock-caused failure to meet any of the Standards mandates the BLM to change the terms and conditions of the grazing permit/lease for the applicable grazing allotment prior to the next grazing season and implement actions that will result in significant progress toward fulfillment of the Standards. Further, BLM guidance stipulates that if other actions are necessary and cannot be implemented before the next grazing season interim adjustments will be made prior to the next grazing season and a schedule for final changes must be developed and documented (H-4180-1). Allotments requiring livestock management changes to address specific resource problems are: Bull Mountain, Cottonwood Springs, South Doherty, and Three East Pastures.

1.3 Issues

Identification of Key Issues

Scoping. This assessment is the product of public and agency input over the past two years. BLM staff has had informal conversations on resource conditions and opportunities, with individuals, community groups, neighboring landowners, tribes and federal, state and local agencies. These discussions contributed towards the identification of issues and the development of potential actions in this plan.

Scoping is a process by which the BLM solicits internal and external input on issues, impacts, and potential alternatives that are used to formulate the various alternatives and prepare the Environmental Assessment.

In a letter dated, January 7, 2013, the Butte Field Office formally requested public scoping comments on project work in the JCSE PA. This letter was sent out to a mailing list of individuals and organizations that have requested BLM to notify them of future projects, to the local media, and posted on the BLM website. The letter generated approximately 95 written responses along with phone calls and requests for BLM staff to speak at several organizations' meetings.

Key Issues. Key issues are used to drive development of alternative ways to achieve the purpose and need. The effects to these issues are analyzed in detail. Differences in these effects are used to measure the trade-offs between alternative actions.

1.3.1 Key Issues

Issue #1: Riparian, Wetland, Aquatic Health and Associated Species
One of the Western Montana Standards for Rangeland Health is "Riparian and Wetland Areas are in Proper Functioning Condition (PFC)." PFC is defined as the ability of a stream or wetland to perform its riparian functions. These functions include sediment filtering, bank building, water storage, aquifer recharge and hydrologic energy dissipation. Streams or wetlands that are categorized as Functional-At-Risk (FAR) with an upward trend also meet the riparian health standard. The methods and procedures used to determine riparian health in the JCSE PA are discussed in the JCSE AR.

Objectives:

- Increase composition and cover of deep-rooted riparian species along reaches within the Bull Mountain and South Doherty Allotments (Reach Numbers: BDLW-2-1 and #BDLW-4).
- Increase vigor and regeneration of desirable woody species along reaches within the Bull Mountain, Cottonwood Springs, Huller Springs, and Three East Pastures Allotments (Reach Numbers: BDLW-2-1, JFLW-1, JFLW-8, and WTLT-1).

- Maintain/enhance existing aspen and promote successful regeneration of aspen and cottonwood along reaches within the Bull Mountain and Three East Pastures Allotments (Reach Numbers: BDLW-2-1 and WTLT-1).
- Improve the ability of all streams that were rated FAR to develop stable channel dimensions, (width/depth), patterns (sinuosity), and profiles (slope) within natural ranges of variability. (Exception would be the Boulder River, where activities that contribute to FAR rating are outside of BLM management control.)
- Reduce livestock generated sediment inputs into reaches within the Bull Mountain, South Doherty, Cottonwood Springs, Huller Springs, and Three East Pastures Allotments (Reach Numbers: BDLW-2-1, BDLW-4, JFLW-1, JFLW-8, and WTLT-1).

Issue #2: Upland Health

"Uplands are in PFC" is identified as one of the Western Montana Standards for Rangeland Health. The determination of upland health was based on the evaluation of three criteria: degree of soil stability and watershed function, nutrient cycles and energy flows, and available recovery mechanisms. The indicators used to determine upland health are discussed in the JCSE Assessment Report.

In the JCSE PA, upland health was rated as PFC in 18 of the 19 grazing allotments. The Huller Springs Allotment did not meet the upland health standard due primarily to changes in the biotic community (i.e. juniper and Douglas-fir encroachment, noxious weed infestations).

Objectives:

- Maintain or increase composition and cover of native perennial cool season bunchgrasses.
- Restore/maintain open sagebrush communities in habitats that are currently becoming dominated by Rocky mountain juniper and/or Douglas-fir.
- Improve wildlife habitat.

Issue #3: Noxious and Invasive Species

Spotted knapweed, houndstongue, Canada thistle, common mullein, dalmation toadflax, and cheatgrass occur within the JCSE PA. These noxious and invasive species can affect upland health, riparian health, and biodiversity.

Objectives:

- Reduce the composition of noxious and invasive vegetative species within the PA.
- Mitigate the spread of noxious and invasive plants into, within, or from the PA.

Issue #4: Travel Management Planning and Route Designation
BLM is required to complete a Travel Management Plan, including travel route designations for motorized vehicles, for areas that currently do not have a plan in place, which includes all BLM lands and travel routes within the JCSE PA.

Objectives:

- Develop, designate and maintain a transportation network that protects recreation commercial, administrative, and jurisdictional access to public lands, while minimizing impacts to:
  - Cultural Resources
  - Human Health and Public Safety
  - Minerals Materials and Mining
  - Rangeland Management
  - Recreation
  - Soil and Water
  - Travel and Transportation Access
  - Tribal Interests/Native American Religion
  - Weeds
  - Wilderness Study Area
  - Wildlife/Special Status Species

1.3.2 Key Issues Considered, but Eliminated from Analysis

Increased Non-Motorized Recreation Opportunities
Scoping comments identified the need for increased non-motorized recreation trail opportunities in the planning area. Many commenters pointed to the Pipestone OHV area as not conducive to mountain biking, horseback riding or hiking. A specific suggestion was even received for developing a new non-motorized trail system in the Doherty Mountain portion of the JCSE PA.

The BLM acknowledges this as an issue but has determined it would be better addressed outside the JCSE planning process for several reasons. First, there are potential areas where non-motorized trail development outside the JCSE PA that may better address the issue; and second, to consider such trail development would require site specific information and analysis that is not available within the planning timeframe established for the JCSE PA.

Section 2.2.1 provides a detailed description on why the Doherty Mountain trail proposal was eliminated from the alternatives analysis.

Socioeconomics was also eliminated from further consideration, although some of the alternatives may affect individuals, none of the alternatives would change the socioeconomics within the PA.

1.4 Scope of this Environmental Analysis – Scope, Plan Conformance, Critical Elements

1.4.1 Scope

The scope of the actions considered includes authorizing livestock grazing, implementing vegetation treatments, prescribed burning, and travel management/route evaluation within the JCSE PA. Vegetation treatments are designed to restore specific habitat types on public lands. Actions may also include installation, construction, removal or modification of fences, water developments, road maintenance (including maintenance, removal, or addition of culverts and hardened crossings).

The analysis addresses several program areas that affect land health. It is not an all-inclusive management plan or a programmatic EA.

1.4.2 Conformance with BLM Land Use Plans, Programs, and Policies

The landscape plan is in conformance with the terms and conditions of the Butte RMP of April 2009 and the Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Montana, North Dakota and South Dakota ("Montana S&G" EIS) approved in August of 1997. Goal LG1 of the Butte RMP states, "Manage for a sustainable level of livestock grazing while meeting or progressing toward Land Health Standards."

The RMP identified goals, objectives, land use allocations, and management actions for each program area on public lands managed by the BLM BFO. All alternatives in this EA, except the No Action Alternative, propose treatments in support of these identified actions, allocations, and objectives.
The actions are in conformance with FLPMA, the Taylor Grazing Act, the Standards for Rangeland Health and Guidelines for Grazing Management (43 CFR 4180), the Interim Management Policy for Lands Under Wilderness Review (BLM Handbook H-8550-1), BLM policies and Federal regulations.

All treatments of invasive species would conform to all applicable guidance and standards set forth in the Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Programmatic EIS approved on September 29, 2007 and the Noxious Weed Control on Public Lands EA (MT-050-08-12), approved April 2008, to which this EA is tiered.

All pheromones treatments (e.g., verbenone, MCH) would conform to all applicable guidance and standards set forth in the BFO Pheromone Use EA (MT-DOI-BLM-MT-B070-2011-0041-EA), approved February 20, 2012.

National and state policies are also designed to protect public health and safety. The AML actions would be conducted within the parameters of IM 2007-096 which directs the BLM to prioritize and address hazards associated with AML sites and IM 2008-190 which directs the BLM to identify and report AML sites and hazards and to implement immediate temporary or permanent measures to mitigate known dangerous sites.

All travel management action alternatives conform to the 2009 Butte RMP, which guided and controlled the development of actions associated with the TMP (see Appendix B). The boundaries of the planning area, as well as many of the actions suggested in this EA and associated TMP, were first outlined in the RMP. A major requirement imposed by the RMP was that "future site-specific travel planning" must designate individual roads, primitive roads and trails as "open," "limited" or "closed". Where necessary, statements from the *2009 Butte RMP* are repeated in this plan to ensure conformance.

1.5 Decisions to be Made

The BLM is preparing this EA to allow the Authorized Officer to make a reasoned and informed decision regarding improving riparian health, improving upland health, completing vegetative treatments, improving wildlife habitat, enhancing biodiversity, designating travel routes, and revising or renewing term grazing permits.

Revised grazing permits would contain appropriate terms and conditions to initiate significant and measurable progress towards achieving the Standards and established goals and objectives within the JCSE PA.

Each of the travel routes in the network would be explicitly designated as "Open," "Limited," "Limited (Administrative or Non-motorized)," or "Closed," as required by 43 CFR 8342.1, BLM manual 16266 and Handbook 8342.

The Authorized Officer will choose the alternative that best addresses issues identified by the BLM, through scoping, and provides for multiple use.

The Authorized Officer must also determine if a selected alternative is a major Federal Action that significantly affects the quality of the human environment. If he determines that it is, then an EIS must be prepared before the JCSE PA management plan can proceed. Implementation of the decisions issued as a result of this management plan/EA would begin in 2013, but full implementation may take several years and is subject to budget constraints. The decisions would be implemented in consultation and coordination with the affected permittees, the agencies having lands or managing resources within the area, and other interested parties. As with all similar BLM decisions, affected parties would have an opportunity to protest and/or appeal these decisions.

1.6 Applicable Legal and Regulatory Requirements

Consideration must be given to all applicable laws, regulations and policies in the development of implementation plans like this one. Detailed discussions of requirements and policies are found in *2009 Butte RMP*. All documents cited there are considered to be incorporated into this plan by this reference. Listed below are the manuals, handbooks, and other national strategic plans, which provide specific guidance for the formation of travel management actions. Copies of all documents mentioned here and in the RMP can be found on the BLM government website http//www.blm.gov.

- Title 43, Code of Federal Regulation, Part 4100
- Taylor Grazing Act of June 30, 1934, as amended
- Sikes Act of 1960, as amended (Habitat improvement on Public Land)
- National Historic Preservation Act of 1966, as amended
- Carlson-Foley Act of 1968 (Weed Control on Public Lands)
- National Environmental Policy Act of 1969 (NEPA)
- Endangered Species Act of 1973
- Federal Noxious Weed Act of 1974, as amended in 1988, 1994
- Federal Land Policy and Management Act of 1976 (FLPMA)
- Fishery Conservation and Management Act of 1976
- Clean Water Act of 1977
- Public Rangelands Improvement Act of October 25, 1978
- Fish and Wildlife Improvement Act of 1978
- State of Montana Streamside Management Zone Law of July 1991
- National Fire Plan of 2000
- Healthy Forests Initiative of 2002
- Healthy Forests Restoration Act of 2003
- Butte Resource Management Plan of 2009
- Greater Sage-Grouse Interim Management Policies and Procedures No. 2012-043
- 43 Code of Federal Regulation, Parts 8340 – 8342.3
- 43 Code of Federal Regulation 9268 Law Enforcement – Recreation Programs
- BLM, 2011 Manual 1626, *Travel and Transportation*
- BLM, 2012 H-8342 *Travel and Transportation Handbook*
- BLM, *Recreation 2000, A Strategic Plan*
- BLM, *National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands* (2001)
- BLM, *National Mountain Bicycling Strategic Action Plan (2002)*

Federal agencies are directed to manage motorized vehicle use on public lands by President Nixon's 1972 Executive Order 11644 and President Carter's 1977 Executive Order 11989, which were incorporated into the Code of Federal Regulations, under 43 CFR 8342.1. They require that BLM administered lands are designated in land-use plans as either "Open," "Limited," or "Closed" to OHV use.

1.7 Coordination Requirements

According to 43 CFR subparts 4110, 4120, 4130 and 4160, coordination requirements include affected permittees or lessees, the interested public, the State having lands or responsible for managing resources within the area, other Federal or State resource management agencies, and the BLM Resource Advisory Council.

In addition to state and local government agencies and various interested parties, the Butte Field Office is continuing its efforts to coordinate with tribal governments that have a historical connection to the area, including: the Chippewa-Cree Tribes of the Rocky Boy Reservation, Shoshone-Bannock Tribes, the Confederated Salish and Kootenai Tribes of the Flathead Reservation, the Blackfeet Nation, and the Nez Perce Tribe.

"Interested public" means an individual, group or organization that has submitted a written request to the Authorized Officer to be provided an opportunity to be involved in the decision making process for the management of travel routes and livestock grazing on specific allotments, or has submitted written comments to the Authorized Officer regarding the management of livestock grazing on a specific allotment.

Following the JCSE AR and Determination of Standards, BLM met with other federal agencies, state agencies, lessees and the interested public while developing this management plan/EA. A full list of persons and agencies consulted is in Chapter 4.

CHAPTER 2: DESCRIPTION OF ALTERNATIVES

This chapter describes the alternative development process, alternatives considered but eliminated from further analysis, and the four management alternatives carried forward and fully analyzed: the No Action Alternative (continuation of current management) and three action alternatives. Alternatives may apply to individual allotments (e.g., grazing management changes), or across a broader landscape (e.g., travel management, noxious and invasive species mitigation). The identified issues, combinations of allowable use levels, grazing systems, stocking rates, vegetative treatments and program specific projects, were discussed at length by the IDT and carefully considered to formulate the management alternatives.

2.1 Process Used to Formulate Alternatives

The development of management alternatives for the PA was guided by provisions of FLPMA and NEPA, as well as the issued identified in Chapter 1, and public input received during scoping. Other laws, as well as BLM planning regulations and policy, also directed alternative considerations and focused the alternatives on appropriate PA-level decisions. Chapter 1 discusses the issues considered during the alternative development. The Affected Environment (Chapter 3) discusses existing resource conditions related to the issues and resource concerns identified in Chapter 1.

<u>Travel Route Inventory and Evaluation</u>

In 2011, the BLM BFO contracted with Advanced Resource Solutions (ARS) to complete a comprehensive travel route inventory for the JCSE PA. ARS created maps for use during the field inventory utilizing existing maps and available recent aerial photography/satellite imagery provided to them by the BFO. ARS field crews traveled on all depicted routes and trails with either 4x4 vehicles or on foot (except for those not accessible due to locked gates). They also gathered information on any additional routes observed in the field that had not been previously identified. The ARS team tracked their movements using a Global Positioning System and took photos along each route.

The BLM also contracted with ARS to develop a systematic, standardized method to collect data and evaluate factors affecting each travel route and the resources around them. During this process, a team of BLM staff specialists, along with an ARS facilitator, carefully and systematically discussed and examined factors related to both the overall area and each individual travel route contained within it. A database was then created, which includes statutory-driven factors and issues that may affect resources and the use of travel routes within the JCSE PA. The database incorporates issues discussed in *Travel Management Appendix D* of the *Approved Butte Resource Management Plan* (*2009),* as well as staff and public concerns.

Four options for a comprehensive travel route network and associated TMP were considered and refined through this evaluation process. BLM Staff reviewed the purpose and need for action, as well as the goals and objectives for travel management, which resulted in the development of three action alternatives (B, C, and D), as presented in Chapter 2.

2.2 Alternatives Considered but Eliminated from Further Analysis

Alternatives that would not make significant progress toward addressing the issues (Section 1.2), or that are not consistent with the intent of current BLM legal and regulatory requirements or policy, are not fully analyzed in this document. Alternatives that propose exclusive production or protection of one resource at the expense of other resources are not considered. FLPMA mandates the BLM to manage public lands for multiple use and sustained yield. This eliminates alternatives such as closing all public land to livestock grazing, oil and gas leasing, or managing only for wildlife values at the exclusion of other considerations. In addition, resource conditions do not warrant PA-wide prohibitions of any specific use. Each alternative considered in this EA allows for some level of support, protection, and/or use of all resources present in the planning area. The following alternatives were considered, but eliminated from further analysis.

2.2.1 No Grazing on All Allotments

This alternative has been analyzed in detail in the National Rangeland Reform 1994 Environmental Impact Statement. Livestock grazing is authorized by law and regulation and is a well-established use within the BLM's multiple-use mandate. Implementation of a No Grazing Alternative from all public lands in allotments of the project area was considered as one management option to resolve range and PA management issues. This alternative is not considered feasible or necessary except in specific, localized situations where livestock use may be incompatible with attainment of land health standards or with other management objectives. The Butte RMP authorizes livestock grazing use on approximately 270,000 acres of the Butte Field Office, including most of the BLM-administered lands in the JCSE PA.

Land health assessments conducted in 2012 do not warrant the prohibition of livestock grazing within the entire PA. A No Grazing Alternative is analyzed for three allotments within the project area that are currently authorized for grazing (Bull Mountain, South Doherty, and Three East Pastures). These allotments were determined not to be meeting one or more of the Standards for Rangeland Health due, at least in part, from current grazing management.

2.2.2 Doherty Mountain Non-Motorized Trail System

In November 2012, the Montana Mountain Bike Alliance submitted a proposal to construct a 25 mile, non-motorized, single-track trail system for the Doherty Mountain area. One trailhead and approximately 15 miles of the trail system would have been located on BLM managed lands. The remaining 10 miles of trail system, and one trailhead, were to be located on the adjacent Candlestick Ranch, a property owned and managed by the Golden Sunlight Mine. While the BLM does not issue approvals to private entities to construct trail systems, BLM did consider the Montana Mountain Bike Alliance proposal as one alternative to address the issue raised by the public that non-motorized trails needed to be increased.

After extensive scoping was completed, it became apparent that there were both significant support and opposition to this project. The opposition stated that there are critical concerns related to the safety of hikers and horseback riders when sharing a trail system with mountain bikers. They also stated that the hunting opportunities within the area could be negatively impacted by an influx of new visitors into the area. Most of the opposition came from nearby residents and a local sportsmen's group of the neighboring community of Whitehall, MT.

After hearing these concerns, the Golden Sunlight Mine removed its support for the project including the trailhead and the portions of trail system on their property, until such time as local support could be obtained. This created a less feasible project and fragmented the larger proposed trail system. In response to these issues, the Montana Mountain Bike Alliance withdrew its proposal for this project. Therefore, the non-motorized trail system is not being carried forward for further analysis at this time.

2.3 Description of Alternatives

2.3.1 Features Common to All Alternatives, Including the No Action

Livestock Management
Term grazing permits/leases for fifteen allotments that met land health standards, or where no management changes are proposed under Alternatives C and/or D, would be reissued with the same season of use, number of livestock, AUM's and terms and conditions described in Alternative A. These allotments are: Black Sage, Boulder River, Cottonwood, County Line, Dry Hollow, Fitz Creek, Huller Springs, Lower Butte, McKenna, North Doherty, Sappington, Shoddy Springs, T4N, R2W, Sec 21, Wickham Field, and Willow Spring Road.

In the event of a prescribed fire, allotments or portions of allotments would be rested from livestock grazing up to one year prior to treatment, if necessary, to produce fine fuels to carry the burn. Treatment areas would be rested for a minimum of two growing seasons following treatment to promote recovery of vegetation. Livestock rest for more or less than two growing seasons could be justified on a case-by-case basis (Butte RMP 2009, page 25).

Encourage, and, if warranted, require use of temporary electric fence, livestock supplement (e.g., salt, protein block) placement, riding, and herding as a means of improving livestock distribution in all alternatives. All existing range improvement projects would be maintained to BLM specifications.

The following terms and conditions are common to all grazing permits:

- No salt and/or mineral blocks shall be placed within ¼ mile of livestock water, springs, meadows or streams. In the event that topography and/or available water sources do not allow for the ¼ mile requirement, coordination would be done with BLM personnel prior to placement of salt each year.
- You are required to perform normal maintenance on the range improvements to which you have been assigned maintenance responsibility as part of your signed range improvement permit (s), cooperative agreement (s) or assignment of range improvements agreement.
- The terms and conditions of your permit/lease may be modified if additional information indicates that revision is necessary to conform with the standards and guidelines for rangeland health (43 CFR 4180).

- No livestock grazing would be allowed within any fenced spring, riparian area, or vegetative study exclosure.
- Motorized wheeled cross-country travel is limited to the administration of the lease or permit.

Conifer Treatments
Pheromones (e.g., verbenone, MCH) may be applied to selected areas where trees are determined to be at risk to bark beetle attack (refer to BFO Pheromone Use EA #MT-DOI-BLM-MT-B070-2011-0041-EA from February 20, 2012).

Cultural Resources
As required by Section 106 of the National Historic Preservation Act, a Class III cultural resource inventory is required prior to the implementation of any proposed range, forestry, or habitat improvement projects. Should significant cultural resources be identified, adverse impacts would be mitigated through project abandonment or redesign. Care would be taken to avoid and protect significant cultural resources and any standing structures (should they occur) during the course of any proposed project. In addition, personnel from the BLM should be notified of the presence and location of any cultural resources encountered by contractors or lessees during the course of operations on public lands.

Noxious and Invasive Species
Management of noxious weeds would continue in cooperation with Jefferson County, federal and state agencies, private landowners, and other partners under the current Butte Field Office Weed Plan Revision (2009), which allows an integrated management approach to noxious and invasive species. All invasive species on the Montana state noxious weed list will be treated to the degree financial resources allow. Areas where private landowners cooperate, participate, and support the BLM's weed management strategies, are given a higher priority for treatment.

Recreation
Dispersed recreational activities would continue to be managed consistent with other resource management objectives. Special Recreation Permits (SRP) would continue to be considered on a case-by-case basis with the exception of big game hunting. Outfitted big game hunting would continue to be limited to existing permits and use levels. Opportunities for big game hunting, wildlife viewing, horseback riding, and other backcountry recreation would be maintained.

Special Status Species
Activities that disturb mineral soil (such as blading, plowing, ripping, etc.) may not be allowed within the boundaries of populations of special status plant species. In habitats likely to support rare plants, field inspections would be conducted to search for special status plant species prior to authorizing surface disturbing activities. If rare plants are found in the course of the botanical survey, adverse impacts would be mitigated through project redesign or abandonment.

Travel Management
Travel management would be conducted in a manner that would meet, or move toward meeting, Land Health Standards.

In accordance with the 2003 Statewide OHV ROD (USDI-BLM 2003c), under the "Limited" designation, all cross-country wheeled motorized vehicle travel would be prohibited, with the following exceptions:

- Any military, fire, search and rescue, or law enforcement vehicle for emergency operations
- Official BLM administrative business (prescribed fire, noxious weed control, and range, recreation, travel management, etc.)
- Other government agency business (surveying, damage control, etc.)
- Administration of a federal lease or permit (e.g. livestock permittee maintaining fence, delivering salt, etc.)
- For dispersed camping within 300 feet of an open travel route. Site selection must be completed by non-motorized means, and accessed by the most direct route causing the least damage

Opportunities would be sought to disperse or distribute user to help provide a quality recreational experience.

Easement agreements would be pursued as needed to gain agency and public access to BLM lands.

BLM would continue to participate with the Southwest Montana Interagency Travel Management Committee (SWMITMC) maintaining map and sign consistency, and seasonal restrictions.

Wilderness
The Black Sage Wilderness Study Area would continue to be managed in accordance with the *Interim Management Policy for Lands Under Wilderness Review* (BLM Handbook H-8550-1) to ensure that those wilderness characteristics that existed at the time of the 1979 wilderness inventory remain unimpaired until such time as Congress either designates the area as wilderness, or releases it from further consideration.

Monitoring
Under all alternatives, resource monitoring will be implemented to measure progress toward meeting site-specific objectives.

2.3.2 Description of Alternative A - No Action (Continuation of Current Management)

The No Action Alternative is defined as the continuation of current management. This alternative is analyzed to provide baseline information against which other alternatives can be compared, allowing for the Authorized Officer to make a reasoned and informed decision.

Under the No Action Alternative, all other currently authorized activities (e.g., recreation permits, mineral development) would continue as permitted. No changes to travel management designations, vegetative treatments, or construction/rebuild of range improvements would be implemented under the No Action Alternative. Treatment of noxious weeds would continue as in the past with roads, trails, and washes (i.e., spread vectors) being the primary targets.

Livestock Management

Under Alternative A, livestock management would continue to occur under the current Terms and Conditions in 19 grazing allotments (Table 2.1).

Table 2.1 Current Livestock Management by Grazing Allotment

Allotment Name, Number	Livestock Number & Kind[1]	Season of Use	Grazing System[3]	BLM Stocking Rate	BLM AUMs	BLM Acres	Acres in Other Ownership[4]	Total Acres
Black Sage, 20216	60 C	6/21-9/8	D	11.6	158	1,829	PVT=70	1,899
Boulder River, 20212	15 C	4/1-12/31 (East Pasture)	D	13.4	163	2,177	PVT=5,000	7,177
	4 C	3/1-5/25 & 10/15-2/28 (Towhy Pasture)						
Bull Mountain, 20220	82 C	6/1-9/30	D	8.1	654	5,299	PVT=330	5,629
	81 C	6/1-9/30						
Cottonwood, 10285, Acres: 1305	136 C	5/17-6/15 (North Pasture)	RR	14.8	88	1,305	ST=220; PVT=500	2,025
	21 C	5/17-5/31 (South Pasture)						
Cottonwood Springs, 11025	23 C	6/1-10/31	D	5.2	118	612	PVT=960	1,572
County Line, 20210	76 C	5/16-11/15	RR, D	21.5	192	4,123	ST=640; PVT=18,827	23,590
Dry Hollow, 20299	2 C	5/1-10/31	CU	10	12	120	PVT=4,360	4,480
Fitz Creek, 20308	25 H	10/1-2/28*	SL	12.7	136	1,733	PVT=487	2,220
Huller Springs, 10264	12 C	5/1-10/30	D	23.3	72	1,680	0	1,680
Lower Butte, 11175	1 H	3/1-2/28	CU	9.9	14	138	ST=480; PVT=840	1,458
McKenna, 20302	5 C	5/15-7/16	D	4	10	40	ST=643; PVT=3,828	4,511

Allotment Name, Number	Livestock Number & Kind[1]	Season of Use	Grazing System[3]	BLM Stocking Rate	BLM AUMs	BLM Acres	Acres in Other Ownership[4]	Total Acres
North Doherty, 20211	8 C	5/15-6/15	RR	5.4	274	1,482	ST=640; PVT=3,572	5,694
	134 C	11/15-12/30						
Sappington, 20271	64 C	7/1-8/15	D	16.3	29	474	PVT=633	1,107
Shoddy Springs, 11024	12 C or 10 H	7/1-9/30	D	4.4	36	160	PVT=960	1,120
South Doherty, 20217	20 C	6/5-9/5 (Harris Pasture)	RR	9.6	170	1,629	PVT=320	1,949
	60 C	9/6-10/31 (Knucky Pasture)						
T4N, R2W, Sec 21, 20262	6 C	6/1-7/30	CU	3.3	12	40	PVT=600	640
Three East Pastures, 20375	31 C	5/1-11/1	D	7	184	1,280	PVT=6,200	7,480
Wickham Field, 20260	7 C	6/1-10/15	CU	4.4	32	140	PVT=120	260
Willow Spring Road, 20260	1 C	6/1-11/30	D	5	10	50	PVT=1,840	1,890
BLM Totals				**AVG = 10.0**	**2,363**	**24,311**	**52,070**	**76,381**

[2]*Livestock Kind: C=cattle, H=horse*

[3]*Grazing System: SL=season long, RR=rest rotation, D=Deferred, CU=custodial use*

[4]*Other Ownerships: ST=Montana DNRC, PVT=Private*

** If the pasture division fence is built in the future, there will be two pastures and ending date would be extended to 3/31*

Terms and conditions listed for the allotments below are in addition to those terms and conditions that are common to all allotments (Section 2.3.1, Livestock Management):

Black Sage #20216 (Map 4)

- Permitted grazing dates may be adjusted by one week. Authorized AUMs may not be exceeded.
- The Black Sage Allotment (20216) is to be grazed in accordance with the 1986 Black Sage Allotment Management Plan.

Boulder River #20212 (Map 5)

- Seasons will be regulated, and livestock numbers would not be regulated. If use is not detrimental to the condition of the public lands.

Bull Mountain #20220 (Map 6)

- Use would be made in accordance with the Bull Mountain Allotment Management Plan and in coordination with the Golden Sunlight Mine. Deviations from this plan would be approved only when they are made in close coordination with the BLM's Range Management Specialist.

Cottonwood #10285 (Map 2)

- Grazing rotation on the South Pasture would be early/early/rest.
- Grazing rotation on the North Pasture would be early/rest.
- The South Pasture would be grazed 05/17 to 06/15 for 2 years, and then rested the 3rd year in the grazing plan.
- The North Pasture would be grazed 05/17 to 05/31 every other year and rested every other year.
- Livestock would be removed from BLM administered land when either 50 % average forage utilization is reached at designated monitoring areas (i.e. Cottonwood Creek) or when all active AUMs have been used, whichever occurs first.
- The begin/end grazing date may be adjusted by two weeks to address annual weather variability as long as the number of permitted grazing days remains the same. Adjusted grazing dates must be coordinated with the BLM prior to turnout.

Cottonwood Springs #11025 (Map 7)

- This allotment would be used in conjunction with your normal livestock operation, during the period shown, as long as such use is not detrimental to the public lands and fees are paid prior to turnout.

County Line #20210 (Map 2)

- Livestock use of the East Pasture is limited to either the north or south half of the pasture through control of stock water and placement of salt/minerals each year. The rested half is then grazed the following year and the previously grazed half is rested. To provide a seasonal variation of use, grazing dates for each half vary from its last scheduled use, depending upon weather and vegetation conditions.
- Livestock numbers would not be regulated, if use is not detrimental to the condition of the public lands during the period shown.

Dry Hollow #20299 (Map 2)

- This allotment would be used in conjunction with your normal livestock operation, during the period shown, as long as such use is not detrimental to the public lands and fees are paid prior to turnout.

Fitz Creek #20308 (Map 8)

- Livestock would be removed from the permit prior to green-up of the forage base so that resident mule deer will not be in competition with livestock for this early forage.
- Horses would be marked with a visible form of ownership identification (e.g. paint, tags, etc.) in addition to a brand before turnout.
- The number of horses at the allotment would not be regulated as long as the subsequent provisions are followed:
    a. Authorized AUMS are not exceeded.
    b. The BLM is notified before horses are added or removed from the allotment.
    c. The permittee submits an actual use report at the end of each grazing season within 15 days of the off-date.

- Starting in the fall of 2009, the Fitz Creek Allotment would be grazed in a two-pasture deferred rotation, providing the Fitz Ridge Fence is functional. The North Pasture would only be grazed from mid-November to mid-February or when snow or ice provides cover and the surface soil has frozen to a depth of 2 inches in the BLM Fitz Creek riparian area to minimize hoof impacts. Grazing time should be divided equally between the two pastures.
- The permittee would repair and build fence to close gaps in the Fitz Ridge Fence before the start of the 2009 fall grazing season. After that time, if the fence is not completed or functional (i.e. the deferred rotational would not work), horses would be removed from the allotment by February 28 of each year. After that time, if the fence is not completed or functional (i.e. the deferred rotational would not work), horses would be removed from the allotment by February 28 of each year.

Huller Springs #10264 (Map 9)

- The permit dates present a window of time for livestock use. Grazing would be scheduled annually for dates within that window and would provide a seasonal variation of use from each year (e. g. spring, summer and fall), depending upon weather, soil moisture and vegetation conditions. As a result, higher numbers of cattle would be grazed for a shorter duration of time but authorized AUMs would not be exceeded. Scheduling would be done with the Bureau of Land Management (BLM) before turnout. Actual use would be submitted at the end of the grazing season.
- Livestock may be grazed on the allotment 14 days before or after the scheduled grazing dates to account for variability in permittee operations, weather, soil moisture and/or vegetation conditions as long as authorized AUMs are not exceeded.

Lower Butte #11175 (Map 2)

- During the period shown you may use this range in conjunction with your livestock operation, during the period shown, as long as such use is not detrimental to the public lands.

McKenna #20302 (Map 2)

- This allotment would be used in conjunction with your normal livestock operation, during the period shown, as long as such use is not detrimental to the public lands and fees are paid prior to turnout.

North Doherty #20211 (Map 2)

- This allotment would be used in conjunction with your normal livestock operation, during the period shown, as long as such use is not detrimental to the public lands and fees are paid prior to turnout.

Sappington #11024 (Map 2)

- If private lands become fenced out and only public lands remain within the Sappington Allotment, the authorized dates are no longer valid. An environmental assessment would be completed before livestock turnout to authorize new grazing dates that allow for periodic allotment rest and/or a variable season of use (i.e. spring, summer , fall or winter).

Shoddy Springs #11024 (Map 2)

- This allotment would be used in conjunction with your normal livestock operation, during the period shown, as long as such use is not detrimental to the public lands and fees are paid prior to turnout.
- You may substitute 10 horses for 12 cattle from 07/01 to 09/30.

South Doherty #20217 (Map 10)

- This allotment would be used in conjunction with your normal livestock operation, during the period shown, as long as such use is not detrimental to the public lands and fees are paid prior to turnout.

T4N, R2W, Sec 21 #20262 (Map 2)

- This allotment would be used in conjunction with your normal livestock operation, during the period shown, as long as such use is not detrimental to the public lands and fees are paid prior to turnout.

Three East Pastures #20375 (Map 11)

- This allotment would be used in conjunction with your normal livestock operation, during the period shown, as long as such use is not detrimental to the public lands and fees are paid prior to turnout.

Wickham Field #20260 (Map 2)

- This allotment would be used in conjunction with your normal livestock operation, during the period shown, as long as such use is not detrimental to the public lands and fees are paid prior to turnout.

Willow Spring Road #20280 (Map 2)

- Livestock numbers would not be regulated, if use is not detrimental to the condition of the public lands. Use will be made only during the period shown.

Travel Management
Under Alternative A, wheeled motorized vehicle travel on routes within the JCSE PA would continue to be managed under the "Limited" designation, as stated in the *ROD - OHV EIS and Plan Amendment for Montana, North Dakota, and Portions of South Dakota (2003).*

The BLM would accept the 2011 inventory of the 136 travel routes, covering approximately 67 miles, as the existing network (see Travel Map 1). This catalog of existing routes would allow management to identify newly created unauthorized roads, trails and cross-county use. In response, BLM staff could close/rehabilitate any new ground disturbances created by users. Law enforcement actions would also be based on this network.

The majority of existing travel routes in the PA are currently managed as "Open" yearlong to motorized use, with the following exceptions: Nine routes (2.3 miles) are closed, but not abolished, and one route (.03 miles) is "Limited" to administrative use and mining operations. These routes were closed or limited in previous actions, and would remain so in this alternative.

2.3.3 Features Common to Action Alternatives B, C, and D
This section covers actions and project design features that would be implemented regardless of the action alternative or combination of alternatives chosen by the Authorized Officer.

Administrative Actions

Livestock Management
- Livestock management changes would be initiated during the 2013/2014 grazing season. Full implementation, which is dependent on other proposals (e.g., rangeland projects), may take up to several years, due to financial, logistical, or other constraints.
- AUMs reduced from current active use would be held in suspended non-use on the revised term grazing permits/leases.
- Annual utilization guidelines on cool-season bunchgrasses would be 45% on native forage and 55% on non-native forage (to maintain plant health/vigor) (2009 Butte RMP, page 25).
- With prior approval, flexibility would be authorized for the season of use on each allotment if annual weather conditions and forage production warrant. The turnout date may be adjusted up to seven days earlier than specified on the permit, due to yearly variations in weather affecting forage production. Livestock may need to be removed from a specific pasture prior to the maximum number of days specified in the grazing schedule. If this occurs, the time allocated in subsequent pastures would be adjusted proportionally.
- After consultation with the BLM, and written approval, permittees/lessees may be required to adjust the pre-planned pasture grazing sequence identified in an Allotment Management Plan (AMP) or other management plan due to drought or other unforeseen natural events. Also, with prior approval, more livestock may be grazed for a shorter period within the authorized season of use. However, the maximum authorized AUMs, or season of use, as specified in the term grazing permits/leases cannot be exceeded by allowing this flexibility.

- Permittees or lessees shall provide reasonable administrative access across private and leased lands to the BLM for the orderly management and protection of the public lands.

Conifer Treatments

- State of Montana Best Management Practices (BMPs), the Streamside Management Zone (SMZ) laws, and RMZ (Butte RMP 2009, pages 21 and 22) would be followed for all treatments or road activities in or near riparian areas. Guidelines as described in the Montana SMZ law (available at http://www.mt.nrcs.usda.gov/technical/ecs/forestry/technotes/forestryMT18/) would be the minimum standard design features unless alternative practices authorizations are obtained.
- Where commercial treatment units are implemented through a timber sale, standard timber sale contract provisions, which provide protection from erosion, sedimentation, and soil compaction would be adhered to. The timber sale contract would be made available to the general public upon advertisement of the sale.
- If market conditions permit, biomass material may be removed from within commercial treatment units. Sufficient residual biomass material would be left on site to maintain nutrient recycling and desirable micro-site conditions.
- Conifer Treatment units would be monitored for noxious weeds and cheatgrass, and treated to prevent the expansion of noxious weeds.
- Conifer Treatment units in suitable habitat would be surveyed for goshawk and great gray owl nesting prior to implementation. If a goshawk or great gray owl nest is found in a treatment unit, timing stipulations would be enforced to avoid disturbing nesting activity (refer to Wildlife design features below).
- Off road vehicles and equipment would be required to be pressure washed to remove weeds and weed seeds prior to starting operations.
- Pre-treatment weed inventory/control and post treatment weed control would be completed within each unit.

Noxious and Invasive Species

- Any new noxious weed infestations would be targeted for prompt eradication before they have a chance to become established.
- Biological control agents would be released on larger infestations of noxious and invasive species in remote and difficult terrain to reduce the plant's competitiveness and help control the spread of weeds by reducing seed production.
- When a biological control becomes available for houndstongue it would be considered for release on infestations within the PA.
- All ground disturbing equipment would be washed for noxious weed seed prior to entering public lands.
- All project maintenance or construction involving ground disturbance will be reseeded with a native seed mix approved by the authorized officer.
- Areas where noxious weeds dominate the landscape will be reseeded with a native seed mix approved by the authorized officer.

Special Status Plant Species

- Any newly identified population of Special Status Plants would be documented and forwarded on to the Montana Natural Heritage Program for their tracking system.
- All projects would have Special Status Plant clearances done prior to implementation. If the clearance shows that Special Status Plants are present, the project may be redesigned or abandoned to mitigate impacts on the species.

Water Developments

- All applicable State and Federal Permits would be obtained and the terms and conditions applied.
- Spring sources and associated riparian wetland habitat would be fenced to exclude livestock use on developed springs.
- Flow measurements would be gathered at springs proposed for new development. Springs that have inadequate flows to provide a reliable water source for authorized livestock, while maintaining existing wetland/riparian habitat would not be developed. Adequate water would be left at the spring source to maintain wetland hydrology, hydric soils, and hydric vegetation.
- No new roads would be authorized as a result of water developments. However, existing roads or trails, leading to previously authorized water developments, may be maintained. Permit/lease holders may be authorized to travel along pipeline routes to perform maintenance as defined in the term grazing permit/lease.
- All old materials (pipeline, troughs, head boxes, etc.) would be cleaned up and removed when springs are redeveloped, maintained, or abandoned. Permittees are responsible for cleanup on projects they maintain or construct; BLM is responsible for cleanup on projects that BLM maintains and/or constructs.
- Soil disturbance resulting from pipeline installation would be seeded with a BLM approved native seed mix following construction.

Stream Crossings

- All applicable State and Federal Permits would be obtained and all permit conditions would be followed for construction of stream crossings.
- The most appropriate stream crossings (e.g., culverts, hardened crossings or temporary bridges), would be selected based on site specific conditions and potential impacts, including: floodplain fill, economics, road safety as well as impacts to stream channel and vegetation.
- Temporary and/or permanent culverts would be adequately sized to maintain stream dimensions, patterns and profiles.

Fences

- All new fences would be configured and maintained to wildlife-friendly specifications in accordance with BLM Handbook H-1741-1 (1989) or *A Landowner's Guide to Wildlife Friendly Fences: How to Build Fence with Wildlife in Mind* (Paige 2012).
- High tensile electric fences would be considered in areas where they may provide an effective alternative to traditional barbed wire construction. These would also be constructed in conformance with BLM Fencing Handbook H-1741-1.

Wildlife

- Prescribed burning could only occur between May 1 and August 30 if surveys identify low potential for nesting birds or if mitigation measures could adequately reduce negative impacts.
- If raptor nests are discovered during marking, logging, or thinning operations, a 40-acre modified treatment buffer would be established to conserve the nest area. No treatment related disturbance could occur within the nest buffer area from March through late July. The time of implementation could be modified based on the species using the site and the size of the buffer could be larger than 40 acres, depending on species and location of the nest. Although thinning could occur around nest site, suitable habitat would be retained within 40 acres (or the adequate buffer size determined for the site) surrounding any active or inactive raptor or owl nest sites.
- Trees and snags containing raptor nests (active or inactive) would not be cut.
- Unless otherwise stated, all snags >15" DBH would be retained, with the exception of those threatening human safety.

Bull Mountain Upland Treatment

- Commercial removal of wood products (e.g., sawlogs, firewood) would be allowed on up to 312 acres within the St. Paul, Pipeline, and Sheep Gulch Pastures. Treatments would be conducted if mineral exploration or mine expansion is planned to occur within forested areas. Wood products may be removed prior to the mine building new roads or mining new areas.

Travel Management

- Travel Management Plan: Each of the action alternatives would adopt the JCSE PA TMP, as described in Appendix B. However, individual route designations would vary by alternative, and are described in Chapter 2 of this EA.
- Route Designations: All motorized travel would be "Limited" to designated roads, primitive roads, and trails." No cross-country motorized vehicle travel would be allowed, unless otherwise managed.
- Administrative Access: This designation would "Limit" motorized access to BLM administrative and authorized uses only. BLM employees and authorized users (i.e. permittees, contractors and personnel from other agencies) would be allowed motorized access for resource management, maintenance, inventory, monitoring, and/or compliance purposes without the need for a travel variance. Public use on these administrative routes would be limited to non-motorized access. Administrative access for rights-of-ways or other permit holders would be limited to authorized or permitted activities only. No motorized recreational use would be authorized on these routes.
- Access to BLM Lands and Routes across Private Property: Where public motorized access is contingent upon the governing consent of adjoining private landowner (s), BLM would exercise a reciprocal "All or None" road use policy. This means that as long as the public is allowed access to these roads, no changes in travel management would occur. However, should the adjacent landowner refuse public access, the BLM would reciprocate by closing its travel routes to their use as well, without amending the TMP.

2.3.4 Description of Alternative B

Livestock Management
Alternative B was designed to provide an additional basis for comparison on the Bull Mountain, Cottonwood Springs, South Doherty, and Three East Pastures, which did not meet standards, due to livestock grazing.

Under Alternative B, no livestock grazing would be authorized on the Bull Mountain, Cottonwood Springs, South Doherty, or the Three East Pastures Allotments, because these allotments did not meet one or more land health standards in part due to livestock grazing.

Grazing Management for the following allotments would be the same as Alternative A for the: Black Sage, Dry Hollow, Fitz Creek, Lower Butte, McKenna, North Doherty, Shoddy Springs, T4N, R2W, Sec 21, and Wickham Field.

New terms and conditions would be added to the allotments below, in addition to those identified under Alternative A. Administrative errors would be corrected on permits, and range improvements projects would be built as described below. Refer to Appendix A for maps depicting range improvement projects and allotment locations.

Black Sage #20216
Structural Projects:
Reconstruct approximately 6,000 feet of the Black Sage Pipeline to replace the old pipe that is deteriorating. This is the pipeline segment from the storage tank to the western most stock tank. High Density Polyethylene (HD PE) pipe, 1.5 inch diameter, of approximately 250 pounds per square inch (psi) rating would be trenched into the ground at a depth of 12-18 inches. A rubber tired or steel tracked vehicle would be used for ditching and reclamation of the disturbed soil. The disturbed area would be restored to contour and reseeded with a native seed mix.

Administrative Error Correction:
A portion of the Black Sage Allotment that is physically separated from the main Black Sage Allotment was patented out of public ownership through Phase II of the Ward Ranch Exchange in 2004. These lands lay approximately 3 to 5 miles west of the main Black Sage Allotment and were described as Pastures B and C. All public lands in Pastures B and C were patented out of public ownership in 2004, except a 160 acre tract in Pasture C, described as T3N, R3W, Sec. 22: NW ¼. Following this exchange, all lands in Pastures B and C were removed from the BLM's Range Administration System (RAS). This administrative error would be corrected by creating the Fox Place Allotment, which would contain those public lands in T3N, R3W, Sec. 22: NW ¼. The Fox Place Allotment would be added to authorization # 2507852, which also includes the Black Sage Allotment.

Fox Place #03350
Grazing Management

Livestock Number & Kind	Begin Date	End Date	% Public Land	AUMs
5 Cattle	06/01	10/31	100	26

Additional Terms and Conditions:

- The Fox Place Allotment is grazed in a deferred rotation – earlier in the season during year 1 (starting approximately 06/01) and later in the season during year 2 (starting approximately 08/01). The rotation is then repeated in following years. The allotment is grazed for 30 to 45 days within the authorized window of time each year.

Boulder River #20212 (map #3)

- The Twohy Pasture would be grazed approximately 30 days or less every other year within the window of time from 06/01 to 12/31. Grazing utilization would be within the 29 AUM carrying capacity and no more than 45 % utilization standard, once the Twohy Boundary Fence is constructed.

Structural Projects:
Construct approximately 10,771 feet of wire and steel and wood post fence, 7,445 feet on public lands and 3,326 feet on private property, which would divide the Ida Mine Pasture into two pastures (Ida Mine North and South) to create more efficient livestock management of the Ida Mine Pasture area. Minimal ground disturbance is anticipated. Most of the fence is on moderate slopes and would have the posts pounded with a rubber or steel tracked post pounder. Any disturbed areas would be seeded with a native seed mix. Rigid plastic fence flags, 5" in length, would be placed on wires to increase fence visibility and mitigate impacts to wildlife. The Twohy Boundary fence would also be constructed to separate BLM and private pastures and reduce grazing to 30 days or less every other year between 6/1 and 12/31.

Fitz Creek #20308 (map #8)
Structural Projects:
The following actions are proposed by BLM to improve the function of the Chokecherry Spring #2 water development and reduce the impacts of runoff sediment and erosion:

- Use heavy equipment (backhoe/trackhoe) to install a new water collection system with sediment-filtering fabric and approximately 200 feet of new buried pipeline.
- Install a new 1,100-gallon fiberglass tank and extend the pipeline approximately 150 feet south of the current tank location.

Relocating the tank down the drainage approximately 150 feet would provide better elevation drop to compensate for the proposed larger tank. This action would entail moving a short section of allotment boundary fence between the Fitz Creek Allotment and the adjacent Three East Pastures Allotment. The tank and boundary fence could be positioned so that horses in the Fitz Creek Allotment could use the tank in the winter, and cattle grazing the Three East Pastures Allotment would have an additional water source during summer.

Upland Treatments:
Because sediment from runoff along the upper 500 feet of this dry drainage is contributing to the continuing burial of the headbox and pipeline, 80 to 90% of the Rocky Mountain Juniper that has colonized along the drainage would be removed along both sides of the drainage. Junipers would not be cut any further than 50 feet on either side of the drainage. The cut junipers would be laid perpendicular to the drainage to help capture sediment from runoff and reduce erosion. Cutting the juniper may also free up water availability to the tank and provide water to wildlife, horses, and cattle.

In addition to dropping juniper across the drainage, BLM proposes to build small dams with nearby rocks to help trap sediment and control erosion.

Huller Springs #10264 (map #9)

- The authorized permit dates present a window of time for livestock use. Grazing would be scheduled annually for and is not to exceed 45 days per year.

Upland Treatments:
Up to 1,200 acres of non-commercial mechanical/prescribed fire treatments are proposed under Alternative B in the Huller Springs allotment (Map 9). Treatment would focus on areas where conifers have most noticeably expanded into sagebrush/grassland compared to historic aerial photographs and field reconnaissance. The primary goal would be to kill/remove 60% or more of conifers less than 40 feet tall. Treatment methods would be a combination of cutting (lop and scatter), mastication, and/or prescribed fire. Treatment boundaries within the allotment would be based on topographic features such as ridges and drainages, and man-made features such as trails and roads. The objective to use prescribed fire and mechanical activities is to reduce conifer colonization and move toward an open mosaic of sagebrush/grasslands.

One season of rest from livestock grazing may be needed prior to burning to allow sufficient growth of fine fuels (grasses) to ensure a successful burn. Generally, two growing seasons of rest from livestock grazing would be required following burns to allow regrowth and reestablishment of vegetation in the treated areas. Temporary fencing may be used to allow the appropriate rest before or after a prescribed fire treatment. A burn plan would be prepared and approved prior to implementing prescribed fire treatments, and units would be burned as fuel and weather conditions allow. The implementation of prescribed fire treatments would occur over the next 10 years. Fire managers would coordinate the timing of prescribed fire treatments (seasonally) and the area treated per year to minimize public resource use conflicts. Fire managers and wildlife biologists would coordinate the timing of prescribed fire treatments (seasonally and yearly), and the acres treated per year to minimize conflicts with wildlife use.

Sappington #11024 (map #13)

- Grazing would alternate between 06/20 – 08/03 and 07/20 – 09/02 every other year. Use periods would be kept to 45 days or less per year.

Travel Management
Alternative B emphasizes higher levels of non-motorized uses and a higher degree of resource protection than Alternatives C or D (see Travel Map 3). Under this Alternative, decommissioned travel routes and routes designated as "Limited (Administrative or Non- Motorized Use)," would be considered not as essential for vehicle travel. Under this Alternative, there would be 15 roads and primitive roads designated as "Open" (12.43 miles) and there are 41 "Limited" routes (33.88 miles). Alternative B would decommission 80 travel routes (21.3 miles).

2.3.5 Description of Alternative C
Grazing management, structural treatments, riparian treatments, and conifer treatments would be the same as Alternative B for the following allotments: Black Sage, Boulder River, Cottonwood, County Line, Dry Hollow, Fitz Creek, Huller Springs, Lower Butte, McKenna, North Doherty, Sappington, Shoddy Springs, T4N, R2W, Sec 21, Wickham Field, and Willow Spring Road. Refer to Appendix A for allotment maps and project locations.

Bull Mountain #20220
Grazing Management:
The Bull Mountain Allotment would be grazed under a rest rotation grazing system, with emphasis placed on resting the pastures where riparian concerns were identified. In addition to a rest rotation grazing system, riparian vegetation treatments, and range improvement projects are also proposed. The AUMs would remain the same as the No Action Alternative; however, the turn-out date would be 6/15, to reflect the date that the permittees typically turn livestock onto the allotment. The rest-rotation grazing schedule would be implemented, however adjustments may be made to the schedule annually due to changes in resource conditions and water availability.

Table 2.2. Alternative C rest-rotation grazing schedule for the Bull Mountain Allotment.

YEAR	Pasture	Pasture	Pasture	REST
1	St Paul	Pipeline	Sheep Gulch	Conrow
2	Conrow	Sheep Gulch/Rock	St Paul	Pipeline
3	Pipeline	St Paul	Sheep Gulch/Rock	Conrow
4	Sheep Gulch/Rock	Conrow	Pipeline	St Paul
5	St Paul	Pipeline	Conrow	Sheep Gulch/Rock

Additional Terms and Conditions:

- Use would be made in accordance with the Bull Mountain Allotment Management Plan and in coordination with the Golden Sunlight Mine. Deviations from this plan must be approved by the BLM.
- If after 5 years, if trend monitoring indicates that progress is not being made towards meeting the Riparian Standard, and livestock grazing continues to be a causal factor, adaptive management would be implemented through a reduction in the season of use or the number of authorized livestock or a combination of both.

Structural Projects:
Mud Spring Exclosure Fence Reconstruction and Water development – This project would increase the size and repair the non-functioning Mud Spring Exclosure Fence that is located on this site at present, and rebuild the existing stock water source and pipeline. The proposal is to construct approximately 2,400 feet of fence line around the Middle Fork stock watering site located near the BLM/ USFS boundary fence. The exclosure fence would be steel and wood post and 4 wire construction. The top three wires would be barbed and the bottom wire smooth, spaced at 42", 30", 24" and 18" from the ground. Rigid plastic fence flags, 5" in length, would be placed on wires to increase fence visibility and mitigate impacts to wildlife. About 825 feet of the existing 4-strand barbed wire exclosure fence would be removed, and one 475 foot section of the removed fence would be rebuilt and incorporated into the new Mud Spring Exclosure Fence (Map 6). Approximately 100 to 200 feet of this fence line would be jack and rail construction across a high surface rock area if posts cannot be pounded into the ground at this location.

Reconstruction of the Mud Spring Pipeline would connect pipe to the overflow pipe on the USFS Mud Springs Stock Water Tank, and run this water to a stock tank on nearby BLM managed lands. The pipe would be 1 ¼ inch, 160 psi HD PE pipe. Pipe would laid from the USFS Mud Springs Water Development above ground for approximately 445 feet, and be buried about 12" to 18" deep for approximately 75 feet after crossing the BLM/USFS Boundary Fence and connecting with the BLM Mud Springs Tank. An overflow and a drain pipeline would be buried 12" to 18" deep for approximately 100 feet from the stock tank toward the Middle Fork drainage. The existing 420 gallon stock tank would be replaced with a 1,150 gallon round fiberglass tank. A stock tank pad of approximately 15 x 15 feet would be cleared and leveled in the same location as the existing tank. The non-functioning stock tank would be removed and recycled. Any ground disturbance would be seeded with an approved native seed mix and a bird ladder placed in the new tank to assist small animals that fall into the water tank in getting out.

Microwave Spring Tank Redevelopment – Replace the existing 420 gallon stock tank with a round 1,150 gallon tank. The existing metal tank has had a fiberglass tank set inside it to serve as a liner. An approximate 15 x 15 foot pad would be cleared for the larger tank. The new pad would be leveled and some plumbing site excavation would be completed with a rubber tired or metal tracked back hoe. A number of trees would be cut down to create a more drivable access route to the stock tank location. The new larger tank would be taken to the site with a pickup truck and trailer, and the old tanks removed.

Seventeen Spring Tank and the Middle Fork Tank—Replace existing stock tanks with 420 or 1150 gallon stock tanks that are no longer functioning and beyond repair. The pad location receiving a 1150 gallon tank would need to be leveled to approximately 15' x 15'. This pad leveling and plumbing site excavation, for each tank, would be completed with a rubber tired or metal tracked back hoe. Some conifer tree trimming may have to be done to access these tank locations. Wood material would be cut to about 4' lengths and scattered on site. The existing trails/roads to these tank locations would need some soil and rock movement and leveling improvement in certain locations along their lengths to allow safe access for a backhoe, an ATV with a trailer and possibly a 4 wheel drive pickup truck and trailer. The old tanks would be removed with the machinery used to deliver the new tank. Any ground disturbance would be

seeded with an approved native seed mix and a bird ladder placed in the new tank to assist small animals that fall into the water tank in getting out.

Riparian Treatments:
Middle Fork Directional Tree Falling -- Conifers would be felled along up to 0.5 miles of the Middle Fork Riparian Reach # BDLW-2. The downed trees would be strategically placed along the stream in areas of excessive livestock trailing to reduce access to the stream and promote riparian vegetation recovery. A few conifers would be placed directly below the Mud Spring Exclosure Fence to prevent livestock access and promote riparian vegetation recovery. Trees to be cut down are primarily 15" DBH. No trees larger than 25" DBH would be cut.

Administrative Error Correction:
The administrative errors that occurred during the 2003 transfer of preference would be corrected when the new grazing permits are issued as follows:

Authorization #	AUMs held previous to 2003	AUMs acquired in 2003	Total AUMs held following acquisition
2507859	112	216	329
2507891	189	136	325

Cottonwood Springs #11025
Structural Projects:
Construct approximately 3,372 feet of wire and steel and wood post exclosure fence which would restrict all livestock from the Cottonwood Springs Riparian Reach # JFLW-1. The majority of the posts would be pounded with a rubber tired or steel tracked post pounder. Some Rocky Mountain Juniper trees may be utilized as a fence post. A treated board would be nailed to the tree and then the fence wires would be stapled to this board. Rigid plastic fence flags, 5" in length, would be placed on wires to increase fence visibility and mitigate impacts to wildlife. Material would be delivered to the site with a 4 wheel drive vehicle or an All-Terrain Vehicle (ATV). An ATV may also be used during fence construction, and travel most of the fence route.

In approximately three locations where the fence would be built, a 5-8 foot path would be cut through conifers. The trees would be scattered and left on site. In areas where the soils are too rocky or shallow to pound posts, jack and rail fence would be constructed. Any disturbed areas would be seeded with a native seed mix.

Riparian Treatments:
Juniper would be cut along ~1,500 feet stretch of the Cottonwood Springs Riparian Reach. The juniper would be cut to approximately 4' to 6' lengths and scattered on site.

South Doherty #20217
Grazing Management:

Livestock Number & Kind	Begin Date	End Date	% Public Land	AUMs
18 Cattle	09/01	11/15	100	45
62 Cattle	11/01	12/31	100	124

Additional Terms and Conditions:

- Livestock grazing in the Harris Pasture is authorized in the fall season from 09/01 to 11/15.

If changing the grazing season in the Harris Pasture, to 09/01 to 11/15, does not result in upward riparian trend a wire exclosure fence with steel and wood posts and a stock water tank would be constructed. The ~633 foot 4-wire fence would be built. The top three wire would be barbed and the bottom smooth, measuring 42", 30", 24" and 18" from the ground. The fence would be constructed by hand or with a metal tracked or rubber tired post pounder. Material would be delivered to the site with a 4 wheel drive vehicle or an All-Terrain Vehicle (ATV). An ATV or 4 wheel drive vehicle may also assist with fence construction, and travel most or the entire fence route.
The offsite water development would consist of installing a headbox within the exclosure fence and next to Harris Stream. The headbox would consist of a metal lid, and a piece of metal culvert measuring approximately 36" tall x 32"diameter with holes cut in its back, so water can more readily enter the collection box with an outlet on its front, for the pipeline connection. A 1 ¼ inch,160 psi, HD PE pipe would be attached to the headbox outlet and buried 12" to 18"in the ground for approximately 228 feet to a stock tank location. The stock tank location would have the soil leveled to create an approximate 15x15 foot pad for the tank to sit on. Trenching and reclamation of disturbed ground for the pipeline would be completed by a backhoe. The pipeline excavation and stock tank pad clearing/leveling would be seeded with a native seed mix.

Three East Pastures #20375 (map #17)
Grazing Management
Additional Terms and Conditions:

- Permittee would coordinate with the BLM prior to turning into the Upper East Pasture.
- The amount of time that cattle are authorized to graze within the Upper East Pasture is limited to a maximum of 14 days during any one grazing season.

Structural Projects: A groundwater well could be drilled within the Upper East Pasture. The well would be located on the east side of Black Butte in T2N, R4W, SE ¼ Sec. 2. A rubber tire stock tank would be placed at the same location to provide an alternative source of livestock water within the pasture.

See the proposed action in Alternative B as related to the Fitz Creek Allotment on page 23 of this EA. In addition to providing livestock water to the Fitz Creek Allotment, this proposal would provide additional livestock water to the Upper East Pasture of the Three East Pastures Allotment.

Conifer Treatments:
As detailed in the assessment report, the allotment did not meet Western Montana Standard #2: *"Riparian and wetland areas are in proper functioning condition";* with livestock trailing and conifer encroachment being identified as causal factors.

Up to 10 acres of non-commercial mechanical treatment of juniper is proposed under Alternative B within the Three East Pastures Allotment. Treatment would occur within the riparian area associated with WTLT-1 (Black Butte Creek) (Map11). The primary goal would be to remove up to 90% of junipers that are located within the riparian area. Where possible, junipers would be directionally felled in a manner that would limit or hinder livestock movement within the riparian area.

Fence Modifications
All fences would be removed if they are not functioning or unnecessary, as funding and time permits. All necessary fences would be configured and maintained to wildlife-friendly specifications in accordance with BLM Handbook H-1741-1 (1989) or *A Landowner's Guide to Wildlife Friendly Fences: How to Build Fence with Wildlife in Mind* (Paige 2012).

Travel Management
Alternative C emphasizes moderate levels of motorized access, resource protection, and restoration (see Travel Map 4). The difference between alternatives B, C and D is in the actual designations of the travel routes in the network. Details of this network are found in the TMP (see Appendix B). Under this alternative, there would be 82 roads, primitive roads and trails designated as "Open" (48.52 miles) and 30 "Limited" routes (15.7 miles). Alternative C would decommission 24 routes (3.38 miles).

2.3.6 Description of Alternative D
Grazing management, structural projects, riparian treatments, fence modifications, conifer treatments, and commercial firewood cutting would be the same as Alternative C unless otherwise described below.

Bull Mountain #20220
The season of use and AUMs would be reduced to lessen the amount of hot season grazing. Additionally, a deferred rotation grazing schedule would be implemented to move livestock through each pasture quickly, limiting the amount of hot season grazing as well as the number of days in any given pasture. Structural projects including the spring developments that need to be rebuilt that were identified in Alternative C would be completed, however no conifers would be felled along riparian areas since hot season grazing is limited under this alternative.

Livestock Number & Kind	Begin Date	End Date	% Public Land	AUMs
125 Cattle	06/15	08/1	100	197
125 Cattle	06/15	08/1	100	197

Travel Management
Alternative D emphasizes access to public land and a full range of recreational opportunities and experiences, especially for motorized use, while still attempting to reduce travel impacts (see Travel Map 5). Decommissioned routes and routes designated as "Limited (Administrative or Non-Motorized)," would be those that have direct or considerable impacts to natural or cultural resources. Under this alternative, there would be 103 roads, primitive roads and trails designated as "Open" (55.3 miles) and 19 "Limited" routes (9.98 miles). Alternative D would decommission 14 routes (2.31 miles).

2.3.7 Summary of Alternatives

Table 2.3 Summary and Comparison of Alternatives

Black Sage #20216	Alternative A	Alternative B	Alternative C	Alternative D
Season of Use	6/21-9/8	6/21-9/9	Same as Alternative B.	Same as Alternative B.
Livestock Number & Kind	60 C	61 C		
Active BLM AUMs	158	159		
Grazing System	Deferred	Deferred		
Structural Projects	None	Reconstruct Black Sage Pipeline. Fox Place Allotment added.		
Boulder River #20216	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	4/1-12/31 (East Pasture)	4/1-12/31 (East Pasture)	Same as Alternative B.	Same as Alternative B.
	3/1-5/25 & 10/15-2/28 (Towhy Pasture)	3/1-5/25 & 10/15-2/28 (Towhy Pasture)		
Livestock Number & Kind	15 C (East Pasture)	16 C (East Pasture)		
	4 C (Towhy Pasture)	5 C (Towhy Pasture)		
Active BLM AUMs	134 (East Pasture)	135 (East Pasture)		
	29 (Towhy Pasture)	30 (Towhy Pasture)		
Grazing System	Deferred	Deferred/ Additional Terms and Conditions Added		
Structural Projects	None	Construct approximately 7,445 feet of new fence on BLM to divide the Ida Mine Pasture.		
Bull Mountain #20220	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	6/1-9/30	No Grazing	6/15-9/30	6/15-8/1
Livestock Number & Kind	82 C		82 C	125 C
	81 C		81 C	125 C
Active BLM AUMs	654		579	394
Grazing System	Deferred		Deferred, Rest Rotation/ Administrative Error Correction	Deferred, Rest Rotation/ Administrative Error Correction
Structural Projects	None		Reconstruct Mud Spring Exclosure, rebuild Mud Springs Pipeline, & replace Microwave Spring Tank.	Reconstruct Mud Spring Exclosure, rebuild Mud Springs Pipeline, & replace Microwave Spring Tank.
Upland Treatments	None	None	Up to 312 acres of commercial removal of wood products.	Up to 312 acres of commercial removal of wood products.

Riparian Treatments	None	None	Conifer removal on reach #BLDW-2.	None
Cottonwood #10285	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	5/17-6/15 (North Pasture)	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
	5/17-5/31 (South Pasture)			
Livestock Number & Kind	136 C (North Pasture)			
	21 C (South Pasture)			
Active BLM AUMs	88			
Grazing System	Rest Rotation			
Cottonwood Springs #11025	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	6/1-10/31	No Grazing	6/1-10/31	Same as Alternative C.
Livestock Number & Kind	23 C		23 C	
Active BLM AUMs	118		118	
Grazing System	Deferred		Deferred	
Structural Projects	None		Construct exclosure fence.	
Riparian Treatments	None		Juniper removal on reach #JFLW-1.	
County Line #20210	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	5/16-11/15	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
Livestock Number & Kind	76 C			
Active BLM AUMs	192			
Grazing System	Rest Rotation, Deferred			
Dry Hollow #20299	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	5/1-10/31	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
Livestock Number & Kind	2 C			
Active BLM AUMs	12			
Grazing System	Custodial Use			
Fitz Creek #20308	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	10/1-2/28	10/1-2/29	Same as Alternative B.	Same as Alternative B.
Livestock Number & Kind	25 H	26 H		
Active BLM AUMs	136	137		
Grazing System	Season Long	Season Long		

Structural Projects	None	Improve the Function of Chokecherry Spring #2: Expose the buried headbox, install a new 450-gallon fiberglass tank, & extend the pipeline approximately 150 feet.		
Upland Treatments	None	Juniper removal along 500 feet on both sides of the drainage with the headbox.		
Fox Place #03350	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	Allotment does not currently exist.	6/1-10/31	Same as Alternative B.	Same as Alternative B.
Livestock Number & Kind		5 C		
Active BLM AUMs		26		
Grazing System		Deferred, Rest Rotation		
Huller Springs #10264	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	5/1-10/30	5/1-10/31	Same as Alternative B.	Same as Alternative B.
Livestock Number & Kind	12 C	13 C		
Active BLM AUMs	72	73		
Grazing System	Deferred	Deferred Additional Terms and Conditions Added		
Upland Treatments	None	Up to 1,200 acres of non-commercial/prescribed fire treatments to reduce conifer colonization.		
Lower Butte #11175	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	3/1-2/28	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
Livestock Number & Kind	1 H			
Active BLM AUMs	14			
Grazing System	Custodial Use			
McKenna #20302	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	5/15-7/16	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
Livestock Number & Kind	60 C			
Active BLM AUMs	158			
Grazing System	Deferred			
North Doherty #20211	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	5/15-6/15	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
	11/15-12/30			
Livestock Number & Kind	8 C			
	134 C			

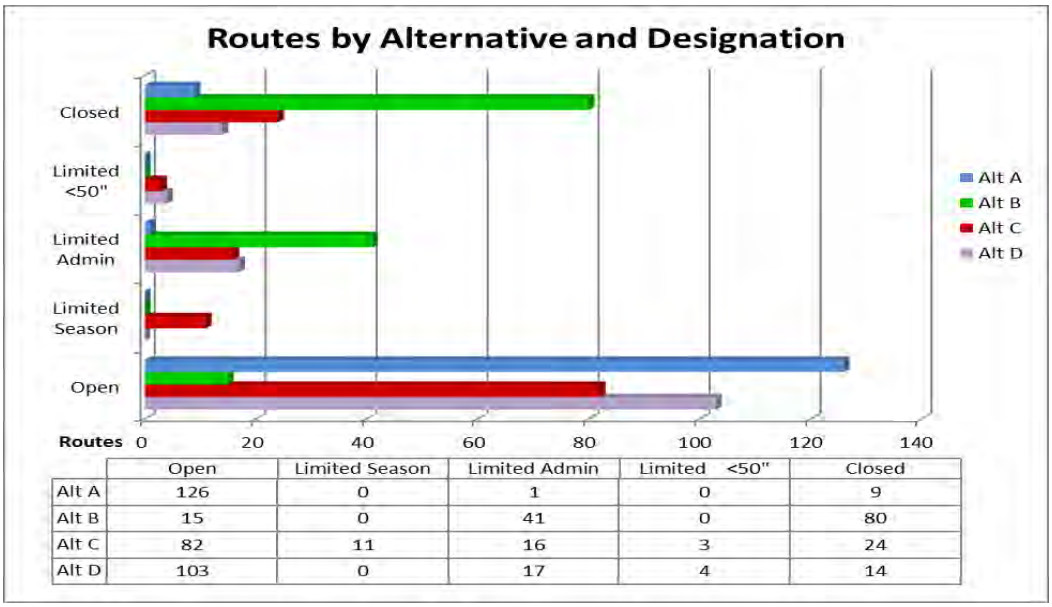
Active BLM AUMs	274			
Grazing System	Rest Rotation			
Sappington #20271	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	7/1-8/15	7/1-8/16	Same as Alternative B.	Same as Alternative B.
Livestock Number & Kind	64 C	65 C		
Active BLM AUMs	29	30		
Grazing System	Deferred	Deferred Additional Terms and Conditions Added		
Shoddy Springs #11024	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	7/1-9/30	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
Livestock Number & Kind	12 C or 10 H			
Active BLM AUMs	36			
Grazing System	Deferred			
South Doherty #20217	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	6/5-9/5 (Harris Pasture)	No Grazing	9/1-11/15 (Harris Pasture)	Same as Alternative C.
	9/6-10/31 (Knucky Pasture)		11/1-12/31 (Knucky Pasture)	
Livestock Number & Kind	20 C (Harris Pasture)		18 C (Harris Pasture)	
	60 C (Knucky Pasture)		62 C (Knucky Pasture)	
Active BLM AUMs	170		169	
Grazing System	Rest Rotation		Rest Rotation	
Structural Projects	None		Install exclosure fence & install a water development.	
T4N, R2W, Sec 21 #20262	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	6/1-7/30	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
Livestock Number & Kind	6 C			
Active BLM AUMs	12			
Grazing System	Custodial Use			
Three East Pastures #20375	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	5/1-11/1	No Grazing	5/1-11/1	Same as Alternative C.
Livestock Number & Kind	31 C		31 C	
Active BLM AUMs	184		184	
Grazing System	Deferred		Deferred	
Structural Projects	None		Drill a groundwater well & install new stock tank	

Riparian Treatments	None		Up to 10 acres of non-commercial mechanical conifer removal	
Wickham Field #20260	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	6/1-10/15	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
Livestock Number & Kind	7 C			
Active BLM AUMs	32			
Grazing System	Custodial Use			
Willow Spring Road #20260	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Season of Use	6/1-11/30	6/1-11/31	Same as Alternative B.	Same as Alternative B.
Livestock Number & Kind	1 C	2 C		
Active BLM AUMs	10	11		
Grazing System	Deferred	Deferred		
Travel Management	**Alternative A**	**Alternative B**	**Alternative C**	**Alternative D**
Number of Routes by Alternative (Figure 2.1)	126 Open 0 Limited Season 1 Limited Admin 0 Limited <50" 9 Closed	15 Open 0 Limited Season 41 Limited Admin 0 Limited <50" 80 Closed	82 Open 11 Limited Season 16 Limited Admin 3 Limited <50" 24 Closed	103 Open 0 Limited Season 17 Limited Admin Limited <50" 14 Closed
Miles of Routes by Alternative (Figure 2.2)	65.1 Open 0 Limited Season 0.3 Limited Admin 0 Limited <50" 2.3 Closed	12.4 Open 0 Limited Season 33.9 Limited Admin 0 Limited <50" 21.3 Closed	48.5 Open 4.6 Limited Season 9.4 Limited Admin 1.8 Limited <50" 3.4 Closed	55.3 Open 0 Limited Season 8.6 Limited Admin 1.8 Limited <50" 2.3 Closed

Travel Management

The following two figures present the differences between the four alternatives, by the number of routes (Figure 1.1), and by number of miles (Figure 1.2). These figures subdivide the "limited" designation into three categories: routes limited to vehicles 50 inches wide and less; routes limited to administrative or permitted use (also open to non-motorized); and routes that are limited by seasonal closures. A few routes have more than one type of limitation.

Figure 2.1 Number of Routes by Alternative



	Open	Limited Season	Limited Admin	Limited <50"	Closed
Alt A	126	0	1	0	9
Alt B	15	0	41	0	80
Alt C	82	11	16	3	24
Alt D	103	0	17	4	14

Figure 2.2 Miles by Alternative

	Open	Limited Season	Limited Admin	Limited <50"	Closed
Alt A	65.1	0.0	0.3	0.0	2.3
Alt B	12.4	0.0	33.9	0.0	21.3
Alt C	48.5	4.6	9.4	1.8	3.4
Alt D	55.3	0.0	8.6	1.8	2.3

2.4 Identification of the Preferred Alternative

Alternative C has been identified as the Agency Preferred Alternative. Identification of a preferred alternative does not constitute a decision, but is intended to provide the public a focus for their comments. At the conclusion of the public comment period the Management Plan/EA will be completed and a new preferred alternative could be identified that contains elements from any of the alternatives. The final preferred alternative will be selected in a Decision Record at the conclusion of the process.

CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

This chapter describes the potentially affected existing environment (i.e. the physical, biological, social, and economic values and resources) of the analysis area as identified by the ID team and during public scoping and comment. This chapter then describes the changes, or potential impacts, to those resources that could occur if each alternative were implemented.

3.2 General Setting

Vegetation in the PA reflects the diversity of ecological conditions across the landscape. The dominant plant communities and habitat types change according to soils, precipitation, elevation, slope and aspect (direction the slopes are facing). A wide variety of vegetation is found, from riparian species dependent on water and moist soils, to sagebrush and grass dominated plant communities that thrive on dryer sites. Forested habitats cover the mid to higher elevations. This diverse landscape provides habitat and structural niches for a wide variety and abundance of wildlife.

The variety and distribution of plant communities and seral stages in the PA is a function of climate, geology, and soil combined with:

- historic uses (e.g., grazing, mining, etc.)
- short term weather patterns
- disturbance regimes (e.g., drought, fire, floods, and herbivory)

Current vegetative cover was calculated using satellite imagery (LANDFIRE 2011b). Table 3.1 summarizes the estimated cover types on all land ownerships within the JCSE PA (differences in acreage totals are contributed to mapping errors).

Table 3.1. Summary of Acres by General Cover Type within the JCSE PA.

Cover Type	BLM Acreage	% of BLM Acreage	Total PA Acreage	% of Total Acreage
Agriculture	0	0%	20,295	9%
Barren	518	2%	4,577	2%
Conifer	6,191	25%	29,400	13%
Grassland	4,075	17%	43,222	19%
Hardwood	7	<1%	78	<1%
Curleaf Mountain Mahogany	163	<1%	603	<1%
Open Water	6	<1%	290	<1%
Riparian	16	<1%	1,200	<1%
Shrubland	13,414	55%	12,8212	55%

Cover Type	BLM Acreage	% of BLM Acreage	Total PA Acreage	% of Total Acreage
Other	62	0%	3,453	1%
Totals	**24,452**	**100%**	**231,330**	**100%**

Dominant Processes and Historical Uses

Composition and configuration of vegetation in the JCSE PA prior to European settlement was shaped by natural disturbances and processes and, to a lesser extent, Native American land management. Natural disturbances and processes that influenced and will likely continue to influence vegetation in this area include climate variability, PA processes (i.e. flooding, mass wasting, debris flows, avalanches), fire events, and insect population dynamics. Native American land management was characterized by fire ignitions for travel corridors, forage improvement, game habitat improvement, and maintenance of native plant food sources.

More recently, vegetation after European settlement has been shaped by BLM, FS, and private land management practices, such as domestic grazing and fire suppression.

Current Levels of Use

Much of the land within the project area is used for a variety of activities including motorized and non-motorized recreation, hunting, fishing, camping, wildlife viewing, firewood cutting, commercial uses including outfitting/guiding, timber harvest, mining, as well as livestock grazing.

Mineral activity in the Planning Area is mostly concentrated in the vicinity of the Golden Sunlight Mine area at the south end of the Bull Mountains. This property was discovered in the late 1800s and was mined intermittently in the 1900s prior to being permitted as an open pit mine in 1982. Operations have continued since then and the mine has an active exploration program in the general vicinity of the mine.

Current levels of livestock grazing for each BLM grazing allotment within the planning area are described in Chapter 2, Table 2.1.

Climate Change

Climate change is defined by the Intergovernmental Panel on Climate Change (IPCC) as "a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and persist for an extended period, typically decades or longer. It refers to any change in climate over time, whether due to natural variability or as a result of human activity." (IPCC 2007). Climate change and climate science are discussed in detail in the Climate Change Supplementary Information Report for Montana, North Dakota, and South Dakota, Bureau of Land Management (Climate Change SIR 2010). This document is incorporated by reference into this EA.

Global average temperature has increased approximately 1.4°F since the early 20th century (Climate Change SIR 2010). Warming has occurred on land surfaces, oceans and other water bodies, and in the troposphere (lowest layer of earth's atmosphere, up to 4-12 miles above the earth). Other indications of global climate change described by IPCC 2007b (Climate Change SIR 2010) include:

- Rates of surface warming increased in the mid-1970s and the global land surface has been warming at about double the rate of ocean surface warming since then;
- Eleven of the last 12 years rank among the 12 warmest years on record since 1850;
- Lower-tropospheric temperatures have slightly greater warming rates than the earth's surface from 1958-2005.

A number of activities contribute to the phenomenon of climate change, including large wildfires, activities using combustion engines, changes to the natural carbon cycle, and changes to radiative forces and reflectivity (albedo).

Montana ranks as the 42nd highest GHG-emitting states (by volume) http://assets.opencrs.com/rpts/RL34272_20071205.pdf, Ramseur 2007). Montana's GHG inventory (http://www.eia.doe.gov/oiaf/1605/archive/gg04rpt/emission.html, Center for Climate Strategies 2007) shows that activities within the state contribute 0.6 percent of U.S and 0.076 percent of global GHG emissions (based on 2004 global GHG emission data from the IPCC, summarized in the Climate Change SIR 2010).

Potential effects of climate change in Montana (Climate Change SIR, 2010) include:

- Temperature increases between 3 to 5°F at mid-21st century and between 5 to 9°F at the end of the 21st century. Resulting in more heat waves
- Precipitation increases in winter and spring up to 25 percent in some areas. Precipitation decreases of up to 20 percent may occur during summer, with potential increases or decreases in the fall. In the fall western Montana may see little change in precipitation while the northwestern portion of the state may experience 5 to 10 percent increases.
- Annual median runoff is expected to decrease between 2 and 5 percent, but northwestern Montana may see little change in annual runoff. Mountain snowpack is expected to decline, reducing water availability in localities supplied by meltwater.
- Conditions in Montana wetlands across much of the northern part of the state are predicted to remain relatively stable.
- Water temperatures are expected to increase in lakes, reservoirs, rivers, and streams. Fish populations are expected to decline due to warmer temperatures.
- Wildland fire risk is predicted to continue to increase due to climate change effects on temperature, precipitation, and wind.

3.2.1 Critical Elements of the Human Environment

The affected environment of the project area is considered and analyzed by the ID team as documented in this EA and the Critical Elements Checklist found in Table 3.2. The checklist indicates which resources of concern are either present, not present in the project area, or if present would not be impacted to a degree that requires detailed analysis.

Table 3.2 Critical Elements of the Human Environment

CRITICAL ELEMENTS		
Determination*	**Resource**	**Rationale for Determination**
PI	Air Quality	Prescribed fire may temporarily affect air quality.
NP	Areas of Critical Environmental Concern	Project location not in an ACEC.
NI	Environmental Justice	No alternative considered in the course of this analysis resulted in any identifiable effects or issues specific to any minority or low income population or community as defined in Executive Order 12898.
NI	Farmlands (Prime or Unique)	Although Prime and Unique Farmlands occur within the planning area, actions taken are not expected to alter the chemical or physical properties of those soils.
NI	Floodplains	No treatments are proposed in floodplains. Effects from treatments upslope or up drainage of floodplains would not impact or impede floodplain function.
PI	Invasive, Non-native Species	Invasive, non-native plant species are present in the project area, and are contributing to allotments not meeting Land Health Standards. Annual weed control efforts plus mitigation measures will be implemented to reduce the potential spread of noxious weeds during pre and post project implementation.
PI	Native American Religious Concerns	Native plants, animals, minerals, and certain geographical locations are important resources that are guaranteed by the federal government through various treaties. It is the position of the BFO that habitat enhancement projects would insure the availability of those resources for future generations. A Class III cultural resources inventory will be conducted prior to all ground-disturbing activities to locate prehistoric sites and potential sacred areas. If cultural resources are present where range improvement projects would be constructed, the projects would be relocated or abandoned, therefore cultural resources would not be impacted by any of the alternatives.
NI	Threatened, Endangered or Candidate Plant or Animal Species	Grizzly bears, lynx, or wolverines could travel through the PA. However, favored habitat for these species does not occur and no Federally listed animal species are known to be permanent residents in the PA. No listed plants occur in the PA
NP	Wastes (hazardous or solid)	No hazardous wastes have been identified in project area.
PI	Water Quality (drinking/ground)	Alternatives B, C, and D would improve water quality by decreasing sediment loading in streams. Alternative A would cause water quality to remain static and possibly become more impaired.

CRITICAL ELEMENTS		
Determination*	**Resource**	**Rationale for Determination**
PI	Wetlands/Riparian Zones	Alternatives B, C, and D would improve riparian areas and wetlands. Alternative A would cause riparian condition to remain static in some areas and in other areas conditions could continue to decline.
NP	Wild and Scenic Rivers	None present.
NP	Wilderness	None present.

*Possible determinations:

NP = not present in the area impacted by the proposed or alternative actions.

NI = present, but not affected to a degree that detailed analysis is required.

PI = present with potential for impacts and analyzed in detail in the EA.

3.3 Issue #1: Riparian, Wetland, Aquatic Health, and Associated Species

3.3.1 Description of Riparian

Riparian areas and associated wetlands are some of the most important habitats across the landscape for providing ecological functions and values. Riparian areas are the green strips bordering springs, streams, and other bodies of water and include wetlands, stream channels, and vegetation adapted to soil and moisture conditions transitional between uplands and wetlands.

Riparian areas are important, because they generally have better quality soils than the surrounding uplands and, because of their position lower in the landscape, often retain moisture over a longer period. Riparian areas support a higher diversity of plants and animals than non-riparian land. This is a result of the wider range of habitats and food types present as well as the proximity to water, microclimate, and refuge. Many native plants are found only, or primarily, in riparian areas, and these areas are essential to many animals for all or part of their lifecycle. Riparian areas also provide a refuge for native plants and animals in times of stress, such as drought or fire, and play a large role in providing corridors for wildlife movement.

There are no riparian resources with the Black Sage, Boulder River, Cottonwood, County Line, Dry Hollow, Lower Butte, McKenna, North Doherty, Shoddy Springs, T4N, R2W, Section 21, or Willow Springs Allotments.

The JCSE PA contains both lotic (e.g., streams) and lentic (e.g., wet meadows) systems.

There were 10.27 miles of perennial and intermittent stream reaches identified and inventoried during the 2012 land health assessments. These reaches are identified in Table 3.3, below. In addition to the name and identification number, the table includes whether the stream was classified as perennial or intermittent by the ID team, Rosgen stream type and length of the reach.

Table 3.3. Riparian (Lotic) Resources in the JCSE PA.

Reach	Name	Perennial or Intermittent System	Rosgen Channel Type	Length (miles)
BDLW-2	Middle Fork	Intermittent	B-3	0.90
BDLW-2-1	Middle Fork	Perennial-interrupted	B-3 w/A inclusions	1.02
BDLW-3	Conrow Creek	Perennial	B-3	0.92
BDLW-4	Harris Spring	Perennial	B-3	0.19
BDLW-9	Boulder River	Perennial	C	0.14
JFLW-1	Cottonwood Springs	Intermittent	B	0.89
JFLW-3	Sappington Spring Exclosure	Perennial	B-2 w/lentic inclusion	0.23
JFLW-5	Dry Creek	Intermittent	B-3/5	0.54
JFLW-6	Huller Spring	Perennial-interrupted	B-3/4	1.09
JFLW-7	Jefferson River Tributary	Intermittent-interrupted	B-3	0.25
JFLW-8	Jefferson River Tributary	Intermittent	B-3/5	0.62
JFLW-10,11,12	Jefferson River	Perennial	C	1.07
JFMD-2	Sheep Gulch	Intermittent	B	0.72
WTLT-1	Black Butte	Intermittent	B-4	0.80
WTLT-2	Fitz Creek	Perennial	B-4 w/lentic inclusions	0.89

Table 3.4 includes the allotment in which the reach is located, the 2012 PFC rating and the previous PFC rating if the reach had been previously assessed. Table 3.5 shows the causal factors for the streams that received a FAR or NF rating.

Table 3.4. Current PFC Ratings of Lotic Resources in the JCSE PA.

Reach	Name	Allotment	2012 Rating	Previous Rating
BDLW-2	Middle Fork	Bull Mountain	PFC	FAR
BDLW-2-1	Middle Fork	Bull Mountain	FAR Down	FAR
BDLW-3	Conrow Creek	Bull Mountain	PFC	FAR
BDLW-4	Harris Spring	South Doherty	FAR	FAR UP
BDLW-9	**Boulder River**	**Wickham Field**	**FAR**	**FAR**
JFLW-1	**Cottonwood Springs**	**Cottonwood Springs**	**FAR Down**	**PFC**
JFLW-3	Sappington Spring Exclosure	Sappington Spring	PFC	FAR
JFLW-5	Dry Creek	Huller Spring	PFC	FAR DOWN
JFLW-6	Huller Spring	Huller Spring	PFC	FAR DOWN
JFLW-7	Jefferson River tributary	Huller Spring	PFC	FAR DOWN
JFLW-8	**Jefferson River tributary**	**Huller Spring**	**FAR**	**FAR DOWN**
JFLW-10,11,12	Jefferson River	N/A	PFC	PFC
JFMD-2	Sheep Gulch	Bull Mountain	PFC	FAR
WTLT-1	**Black Butte**	**Three East Pastures**	**FAR**	**FAR UP**
WTLT-2	Fitz Creek	Fitz Creek	PFC	NF

Table 3.5 Causal Factor(s) for FAR or NF Rating.

Reach	Name	Allotment	2012 Rating	Causal Factor(s) for FAR or NF Rating
BDLW-2-1	Middle Fork	Bull Mountain	FAR Down	Livestock, conifer expansion
BDLW-4	Harris Spring	South Doherty	FAR	Livestock
BDLW-9	Boulder River	Wickham Field	FAR	303(d) listed
JFLW-1	Cottonwood Springs	Cottonwood Springs	FAR Down	Livestock, conifer expansion
JFLW-8	Jefferson River tributary	Huller Spring	FAR	Livestock
WTLT-1	Black Butte	Three East Pastures	FAR	Livestock, conifer expansion.

Table 3.6 Current PFC Ratings of Wetland (Lentic) Resources in the JCSE PA.

Reach	Name	Allotment	2012 Rating	Size (acres)
BDLW-2-1	Middle Fork	Bull Mountain	PFC	1
JFLW-6-1	Huller Spring	Huller Spring	PFC	1

Two (2) small lentic areas were identified and assessed in 2012 (Table 3.6). Despite the fact that both areas are <1.0 acre in size, the ID team felt that they warranted being rated separately from the lotic portions of their respective reaches. These small wetlands are located within reaches BDLW-2-1 and JFLW-6. Both were delineated and mapped.

In addition, there were several small lentic areas that were identified, but due to their small size (<0.5 acres) they were not broken out and assessed separately. These lentic areas are located within reaches JFLW-3 and WTLT-2.

The following is not an all-encompassing list of conditions found by the IDT during the assessment, but describes some of the issues and general resource concerns that prevented certain reaches from meeting Western Montana Standard #2.

- Alteration of stream morphology which includes; channel shape, gradient, sinuosity and width to depth ratio.
- Excessive erosion or deposition in at least a portion of the reach.
- Composition, cover, structure and vigor of riparian vegetation differing from what is expected for the reach.

Many of the resources within the BFO stream and wetland database have been identified based upon mapped information, aerial photos, and USGS Quads. As part of the JCSE PA assessment process, the resource inventory has been updated based upon field notes, photographs and ground surveys.

Developed Springs

Federal protection of wetlands and riparian systems became official policy under the authority of two Executive Orders issued in 1977. The majority of developed springs in the JCSE PA were developed prior to the issuance of these orders, other federal laws, directives, or regulations for the management and protection of wetlands (Mitch 1986). Current management direction requires minimization of wetland loss or degradation as well as preservation and enhancement of natural and beneficial values. This includes maintenance of hydrology. Alternatives analyses are conducted to determine whether it is feasible to develop springs and where spring boxes might be best located to maintain resource values. Management, restoration, and conservation of springs are resource management objectives for the BLM.

The developed springs within the JCSE PA work to various degrees of efficiency and success. Much of this depends upon the amount of water the spring supplies that particular year, which is often directly related to the amount of annual precipitation that is received. Developed spring sources typically improve livestock management. In most cases, livestock will use developed water and stock tanks over undeveloped water such as streams, springs, or seeps.

Well managed springs have the potential to support rare plants, macroinvertebrates, insects, fish, springsnails, amphibians and migratory birds as well as to provide water for wildlife and livestock.

However, when spring sources are not properly developed or regularly maintained, they can result in reduced wetland function due to soil compaction, the loss of desirable vegetation, and the loss of the potential for diversity of life forms.

3.3.2 Impacts to Riparian

Alternative A - No Action (Continuation of Current Management)
Riparian areas that were assessed in 2012, and determined to be PFC, would be expected to remain PFC under current management.

Reaches that were determined to be FAR or NF would not be expected to improve under this alternative. Riparian areas with limited composition of desirable riparian vegetation, or altered stream morphology would not be expected to improve without a change in management. Recovery of desired riparian species in these areas would not be expected to occur.

Alternative B
Riparian areas that were assessed in 2012, and determined to be PFC, would be expected to remain PFC under this alternative.

No livestock grazing would occur on the Bull Mountain, Cottonwood Springs, South Doherty, and Three East Pasture Allotments. These allotments were determined to not be meeting Standard #2 due, at least in part, to livestock grazing.

Impacts from livestock grazing would no longer occur on these allotments; however improvements to riparian conditions may not occur under this alternative, because livestock grazing was often not the only causal factor in riparian standards not being met.

In the 1970's, livestock exclosures were constructed by a number of researchers and land managers to evaluate the potential for vegetation change following livestock removal. Results were often dramatic. However, grazing management outside the exclosure was generally not changed and the dramatic improvements were compared to inappropriate grazing practices outside the exclosures. The conclusion has been that livestock grazing is not suitable when trying to improve degraded riparian areas. A more accurate conclusion should be that cattle exclusion is an improvement over inappropriate grazing. Grazing can often be compatible with improving deteriorated riparian conditions and with maintaining those functioning properly. The key is appropriate grazing prescription, which must be site and situation specific, and adherence to that prescription (Borman et al. 1999).

It appears that grazing exclusion should be the management alternative of last choice when comparing the exclusion of livestock grazing in riparian areas to the effects of deferred rotational grazing, time control grazing (Savory Method) and season long grazing (Marlow et al. 1989).

Huller Springs: The treatment of noxious weeds within JFLW-8 would be expected to improve the overall functionality of the reach. Reducing the amount of noxious weeds within the area would allow for an increase in frequency and vigor of desirable vegetation, such as sedges, riparian grasses, and riparian shrubs.

Alternative C

Riparian areas that were assessed in 2012, and determined to be PFC, would be expected to remain PFC under this alternative.

Bull Mountain: The change to the livestock grazing system under Alternative C along with associated range improvement projects is expected to improve riparian habitats within the Bull Mountain Allotment.

Thinning conifers could lead to an expansion of riparian vegetation within BDLW-2-1, and increase desired riparian species and overall vigor of desired plants. More favorable growing conditions would be created to allow for recruitment of desired woody species such as aspen, willows, and red-osier dogwood along the reach. In addition, the placement of felled conifers in areas of heavy livestock trailing would help to reduce livestock impacts along portions of the reach and allow for the recruitment of desirable riparian vegetation.

The projects proposed under Alternative C would provide the BLM and permittee some of the tools necessary for improved livestock management within the allotment. The projects would provide the opportunity to make significant progress towards meeting the BLM's Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Montana, North Dakota and South Dakota.

Rebuilding the Mud Springs Exclosure fence, would restrict livestock access to the upper portion of BDLW-2. The combination of reducing hot season grazing and implementing the rest-rotation grazing system would promote regrowth of grazed and browsed riparian species. Over time, species composition and cover of desirable riparian species would increase, resulting in improved stream morphology.

Cottonwood Springs: Thinning conifers could lead to an expansion of riparian vegetation within JFLW-1 and increase desired riparian species and vigor of plants. More favorable growing conditions would be created to allow for recruitment of early seral cottonwood, and other desired riparian species, both woody and herbaceous within the reach.

Constructing the exclosure would eliminate livestock trailing and trampling within JFLW-1.

Huller Springs: The effects would be the same as those described in Alternative B.

South Doherty: The level of utilization occurring on a site, including riparian areas, is the most important consideration. Most results suggest that the specific grazing system is not of dominant importance, but good management is, with control of use in the riparian area a key item. Specifically designed grazing systems that control degree and timing of use in the riparian area can be highly beneficial (Clary et al. 1989). The monitoring of livestock utilization levels

throughout the grazing season would help to ensure that the BLM can measure whether or not significant progress is being made towards the allotment meeting the BLM's standards per 43 CFR 4180.1.

Utilization levels would also provide the BLM and permittees the ability to know when the benchmark levels are approaching within a specific pasture and would help to facilitate the goals of adaptive management. If utilization levels at the end of the growing season indicate that grazing management is not achieving use levels compatible with the desired riparian resource objectives, then the appropriate action should be identified and implemented (The University of Idaho Stubble Height Review Team 2006).

Maintaining a minimum stubble height helps to preserve forage plant vigor, retain sufficient forage to reduce cattle browsing of willows (*Salix* spp.), stabilize sediments, indirectly limit stream bank trampling, maintain cattle gains, and provides an easily communicated management benchmark. Based on limited specific research of riparian system response and on the knowledge of how cattle graze, a residual stubble height of 10 cm (approx. 4") is recommended as a starting point for improved riparian grazing management (Clary et al. 2000). Research indicates that 30 percent utilization levels on Nebraska sedge (*Carex nebrascensis)* in early August results in a stubble height of approximately 10 cm and 50% utilization on tufted hairgrass *(Deschampsia cespitosa)* results in a stubble height of approximately 4 cm (approx. 1.6").

When stubble heights are reduced to less than 10 cm, the ability of cattle to forage becomes less effective and efficient. This can result in increased livestock trailing and increased browsing of woody species such as willows. Data indicates that when considering a number of riparian issues such as; maintaining forage vigor, entrapping and stabilizing sediment under inundated flow, trampling of stream banks, sustaining forage intake and cattle gain and diversion of willow browsing that a stubble height of 10 cm on streamside graminoids may be the best compromise in many situations (Clary et al. 2000).

Three East Pastures: Thinning conifers could lead to an expansion of riparian vegetation, and increase desired riparian species and vigor of plants. More favorable growing conditions would be created to allow for recruitment of early seral aspen, willow, cottonwood and other desired riparian species within WTLT-1.

Providing additional sources of off-site water within the Upper East Pasture would reduce the amount of time that livestock spend in and adjacent to WTLT-1.

Alternative D

Riparian areas that were assessed in 2012, and determined to be PFC, would be expected to remain PFC under this alternative.

The effects of this alternative on riparian areas within the JCSE PA would be the same as described in Alternative C.

3.4 Issue #2: Upland Health

3.4.1 Description of Uplands

Soils
Soils in the Jefferson County Southeast Planning Area (JCSE) are included in the Jefferson County Area and Part of Silverbow County Soil Survey (NRCS, 2012). Soils are primarily affected by climate (temperature and precipitation), topography (slope and aspect), and parent material (geology and geomorphology). The soils in this PA are mostly in the Frigid soil temperature regime. Lands administered by BLM within the JCSE receive about 8 to 19 inches of average annual precipitation and fall into the Aridic and Ustic soil moisture regimes. Within the planning area boundary, elevations range from about 4,600 feet, on the Cottonwood Allotment, to above 7,000 feet on the Bull Mountain Allotment.

The soils within the PA formed in alluvium, colluvium, and residuum, mainly from quartzite, limestone, sandstone, and granitic rock sources. Major landforms include flood plains, stream terraces, outwash terraces, alluvial fans, escarpments, hills and mountain slopes. Slopes range from nearly level and undulating (1 to 8 percent), rolling and hilly (8 to 30 percent), to steep and very steep (25 to more than 45 percent). Soil textures are mainly Loamy-skeletal and coarse loamy; soil depths generally vary from shallow (less than 20 inches to a root restrictive layer) to deep (more than 60 inches to a restrictive layer); the calcium carbonate equivalent within 40 inches ranges from none to 50 percent.

Soil classifications and ecological sites within the assessment area reflect these soil physical and chemical properties and variables. The main soil Orders encountered within the assessment area include: Entisols, Inceptisols, and Mollisols. The Major Ecological Sites associated within the upland areas include Limy and Silty.

Vegetation
Uplands are defined as land at a higher elevation than the alluvial plain or low stream terrace; all lands outside the riparian-wetland and aquatic zones. According to satellite imagery, 74% of the JCSE PA is classified as sagebrush-steppe and grassland uplands (55% shrubland, 19% grasslands), including mountain big sagebrush, Wyoming big sagebrush, and basin big sagebrush (Table 3.1). Winterfat (*Krascheninnikovia lanata*) is also found on many alkaline sites in the watershed. Some of the prominent herbaceous species included in the grasslands are bluebunch wheatgrass, western wheatgrass (*Pascopyrum smithii*), Sandberg's bluegrass (*Poa secunda*), needle and thread, prairie junegrass (*Koeleria macrantha*), and Idaho fescue (*Festuca idahoensis*). These same cool season grasses are prominent understory vegetation in the shrubland cover types. Rubber rabbitbrush (*Ericameria nauseosa*), green rabbitbrush (*Chrysothamnus viscidiflorus*), fringed sagewort, and broom snakeweed are common native shrubs found on numerous ecological sites throughout the watershed. Additional information describing the condition of vegetation on each allotment is included in the Jefferson County SE Assessment Report (March, 2013).

Forested habitats occupy 13%, approximately 29,400 acres, within the JCSE PA, primarily at higher elevations and on north-facing slopes. A wide elevation variance promotes a diverse

mixed conifer forest. Species include Douglas-fir, lodgepole pine (Pinus contorta), ponderosa pine (Pinus ponderosa), limber pine, and Rocky Mountain juniper. Also, numerous quaking aspen (*Populus tremuloides*) stands and two species of cottonwoods, black cottonwood (*Populus trichocarpa*) and narrowleaf cottonwood (*Populus angustifolia*) contribute to structural diversity and canopy cover.

Scattered, isolated patches of curleaf mountain mahogany are found on rocky slopes and ridges throughout the watershed. It provides year-round cover and forage for deer and is a crucial source of winter forage for many wildlife species.

Fuels

The 2009 Butte RMP states that all fire management activities will use Fire Regime Condition Class (FRCC) to determine levels of fuel treatment. FRCC assessments determine how similar a landscape's fire regime is to its natural or historical state. Fire regime condition classes are broken down into three categories: 1, 2, and 3. Landscapes determined to fall within the category of FRCC 1 contain vegetation, fuels, and disturbances characteristic of the natural regime; FRCC 2 landscapes are those that are moderately departed from the natural regime; and FRCC 3 landscapes reflect vegetation, fuels, and disturbances that are uncharacteristic of the natural regime. A landscape in FRCC 1 has key ecosystem components, such as large old trees and soil characteristics that would naturally be found on that site, intact. A landscape with an FRCC rating of 3 indicates that the land is not very similar to its natural regime in terms of its vegetation or disturbance or both. (Table 3.7)

Table 3.7. A Simplified Description of the FRCC Classes (Hann and Bunnell 2001).

FRCC	DESCRIPTION
Condition Class 1	Less than 33 percent departure from the central tendency of the historical range of variation. Fire regimes are within the natural or historical range, and the risk of losing key ecosystems components is low. Vegetation attributes are well intact and functioning.
Condition Class 2	33-66 percent departure. Fire regimes have been moderately altered. Risk of losing key ecosystems components may have departed by one or more return intervals (either increased or decreased). This departure may result in moderate changes in fire and vegetation attributes.
Condition Class 3	Greater than 66 percent departure. Fire regimes have been substantially altered. Risk of losing key economical components is high. Fire frequency may have departed by multiple return intervals. This may result in dramatic changes in fire size, fire intensity and severity and landscape patterns. Vegetation attributes have been substantially altered.

To determine the existing vegetation, 231,330 acres were delineated using both BLM and FS stand data across three - 4th code hydrological unit's code (HUC) watersheds. Through a GIS exercise, 28,615 acres were identified as water, barren, agriculture and/or developed and were removed from the FRCC analysis. The project area accounts for 24,448 acres of BLM-administered lands (differences in acreage totals are contributed to mapping errors). The historical reference condition was determined for the landscape by using the LANDFIRE Biophysical Setting Model (USGS 2007).

The JCSE landscape was distributed among the seven major Biophysical Settings (BpS) for analysis of the FRCC. BpS is described as a way of grouping ecologically similar vegetation types modeled with characteristic disturbance inputs and uses for FRCC assessments. The eight BpS for the JCSE PA area were selected through a GIS exercise that allowed evaluation of all the BpS habitat types on the landscape. The smaller BpS polygons were grouped into one of the seven BpS that closely represents the habitat type through referencing the vegetation descriptions of the BpS.

Table 3.8 shows how far out of departure or the difference between current and reference acres for each seral state throughout the JCSE PA. Acres labeled as Other account for agriculture, open water, developed areas, and barren sites. Riparian acres were inadequately mapped. Based on our observations, riparian acres were historically overestimated, due to mapping errors, and currently underestimated, mainly attributed to conifers overtopping and encroaching into riparian areas.

Table 3.8 Existing Vegetation Conditions Compared to Historic Reference Condition for JCSE PA.

Biophysical Settings (Bps)	Seral Stage	Existing Condition (Acres)	Historic Reference Condition (Acres)	Departure (Acres) (-) Shortage (+) Abundance
Douglas-fir	Early	878	5466	-4588
	Mid Open	5705	4099	+1606
	Mid Closed	5267	8198	-2931
	Late Open	2414	5466	-3052
	Late Closed	7680	4099	+3581
	Total	**21944**	**27328**	**-5384**
Lodgepole Pine	Early	298	934	-636
	Mid Open	1939	2803	-870
	Mid Closed	1789	934	+855
	Late Open	820	311	+509
	Late Closed	2610	1246	+1364
	Total	**7456**	**6228**	**+1228**
Inter-Mountain Basins Big Sagebrush	Low Cover	12821	29910	-17089
	Mod. Cover	21797	44865	-23068
	High Cover	80774	74774	+6000
	Uncharacteristic	12821	0	+12821
	Total	**128212**	**149549**	**-21337**
Grassland	Early	20747	851	+19896
	Mid	6483	4258	-2224
	Late	432	11921	-11489
	Uncharacteristic	15560	0	+15560
	Total	**43222**	**17030**	**+26192**
Aspen Forest and Woodland	Early, Mid and Late Development	78	8	+70
	Total	**78**	**8**	**+70**
Riparian Systems	Early, Mid and Late Development	1080	27785	-26705
	Uncharacteristic	120	0	+120
	Total	**1200**	**27785**	**-26585**
Mountain Mahogany	**Total**	**603**	**1991**	**-1388**
Other**	**	**28615**	**0**	**+28615**
	Total	**231330**	**** 231160**	
FRCC Calculation	**Total (Minus Other)**	**202715**		

** A difference of 170 acres exists between the existing and historic conditions due to the GIS exercise and discrepancy in mapping.

With the use of the LANDFIRE FRCC Software Application, 3.0, the current vegetation condition was compared to the reference condition of the landscape, as well as BLM administered lands. Table 3.9 and Table 3.11 show the summary report from the FRCC software programs. The Fire Regime Groups for the BpS and acres of the BpS breakdown in regards to Condition Class are included. The planning area was calculated to have an overall departure of 28%, while the BLM administered lands rated at 30% which both equates to a rating of Condition Class 1, a condition that is within the natural range of variability compared with historic reference values. With FRCC ratings of 28% and 30%, both FRCC runs show that the areas are approaching the Condition Class 2 (33-66%) that characterizes a departure that may result in moderate changes in fire and vegetation attributes. Maintenance in these vegetative types is encouraged to continue to maintain these areas in a Condition Class 1. Two complete FRCC reports can be found in the Project Administration Record.

Table 3.9 FRCC Landscape Report for the JCSE PA.

FRCC Landscape Report for JeffCoSE					
Biophysical Setting (BpS Code)	FRG (I-V)	Condition Class 1 (Acres)	Condition Class 2 (Acres)	Condition Class 3 (Acres)	Total Acres
Rocky Mountain Montane Riparian Sy... (1911590)	III	385	1439	203	2027
Inter-Mountain Basins Curl-leaf Mo... (1910620)	III	608	1419	0	2027
Inter-Mountain Basins Big Sagebrus... (1910800)	IV	33934	79180	12568	125683
Rocky Mountain Subalpine Dry-Mesic... (1910550)	III	1216	4054	2838	8109
Middle Rocky Mountain Montane Doug...(1911661)	I	9142	5352	7805	22299
Northern Rocky Mountain Lower Mont... (1911390)	II	6487	0	34056	40543
Rocky Mountain Aspen Forest and Wo...(1910110)	I	1014	0	1014	2027
Total Acres		52787	91445	58483	202715

Table 3.10 Existing Vegetation Conditions Compared to Historic Reference Condition for JCSE BLM Administered Lands.

Biophysical Settings (Bps)	Seral Stage	Existing Condition (Acres)	Historic Reference Condition (Acres)	Departure (Acres) (-) Shortage (+) Abundance
Douglas-fir	Early	244	1460	-1216
	Mid Open	1585	1095	+490
	Mid Closed	1463	2190	-727
	Late Open	**670**	1460	-790
	Late Closed	2133	1095	+1038
	Total	**6095**	**7300**	**-1205**
Lodgepole Pine	Early	4	4	0
	Mid Open	25	13	-12
	Mid Closed	23	4	-19
	Late Open	10	2	-8
	Late Closed	34	6	-28
	Total	**96**	**29**	**-67**
Inter-Mountain Basins Big Sagebrush	Low Cover	1341	2566	-1225
	Mod. Cover	2279	3850	-1571
	High Cover	8446	6415	+2031
	Uncharacteristic	1341		+1341
	Total	**13407**	**12831**	**+577**
Grassland	Early	1956	114	+1842
	Mid	611	570	+41
	Late	41	1596	-1555
	Uncharacteristic	1467		+1447
	Total	**4075**	**2280**	**+1795**
Aspen Forest and Woodland	Early, Mid and Late Development	7	1	+6
	Total	**7**	**1**	**+6**
Riparian Systems	Early, Mid and Late Development	14	1273	-1259
	Uncharacteristic	2	0	+2
	Total	**16**	**1273**	**-1257**
Mountain Mahogany	**Total**	**163**	**379**	**-216**
Other**	**	**589**	**0**	**+589**
	Total	**24448**		
FRCC Calculation	**Total (Minus Other)**	**23859**		

** The other category accounts for acres that are identified as agriculture, water, developed and barren sites. Historically, there was a larger area that consisted of riparian acres on this landscape.

Table 3.11 FRCC Landscape Report for the JCSE BLM Administered Lands.

FRCC Landscape Report for JeffCoBLM					
Biophysical Setting (BpS Code)	FRG (I-V)	Condition Class 1 (Acres)	Condition Class 2 (Acres)	Condition Class 3 (Acres)	Total Acres
Rocky Mountain Montane Riparian Sy... (1911590)	III	45	169	24	239
Inter-Mountain Basins Curl-leaf Mo... (1910620)	III	72	167	0	239
Inter-Mountain Basins Big Sagebrus... (1910800)	IV	3543	8267	1312	13122
Rocky Mountain Subalpine Dry-Mesic... (1910550)	III	36	119	84	239
Middle Rocky Mountain Montane Doug... (1911661)	I	2446	1432	2088	5965
Northern Rocky Mountain Lower Mont... (1911390)	II	611	0	3207	3817
Rocky Mountain Aspen Forest and Wo... (1910110)	I	119	0	119	239
Total Acres		6871	10154	6833	23859

3.4.2 Impacts to Uplands

Impacts to uplands are predominantly changes in desired vegetation composition and a decrease in soil fertility occurring from a number of activities on the land including, but not all inclusive, overgrazing, an increase in noxious weeds and conifer encroachment. Livestock grazing would affect composition of vegetation due to dietary preference and selectivity of forage at varying degrees. Carrying capacity allocations on each allotment have been designed to allow moderate utilization of less than 50% annually, which would generally promote production and reestablishment of desired native species. Areas of livestock congregation (e.g. salt licks or near developed water sources) would remain trampled and relatively void of vegetation. However, these areas are few and small in size.

All Alternatives- Including the No Action

Forest insects and disease will continue to cause a decline in forest health throughout the PA. In some areas, forested habitats may undergo a slight species conversion. Limited forest resources occur on BLM administered lands and no forest health projects are being proposed.

Alternative A - No Action (Continuation of Current Management)

The Upland Standard was met on the Black Sage, Cottonwood, Cottonwood Springs, County Line, Dry Hollow, Fitz Creek, Sappington, Lower Butte, Willow Spring Road, McKenna, North Doherty, Shoddy Springs, T4N R2W, Sec 21, South Doherty, and Wickham Field and livestock management and levels of use would be expected to maintain healthy upland vegetation conditions and the allotments would continue to meet the Upland Standard.

Because no significant changes to grazing management would occur, the current conditions of upland habitat for wildlife would remain the same. Areas that have been impacted by livestock grazing would continue to be impacted under current management, and conifers may continue expanding into upland habitats.

Boulder River:
The Upland Health Standard has been met in the Land Health Assessments of 2007 and 2012. Current livestock management maintains the healthy conditions of the uplands on this allotment, however in the Twohy Pasture in the Boulder River vegetation composition has shifted away from bluebunch wheatgrass dominated site to more shallow-rooted species as result of repeated spring grazing. Without construction of a boundary fence between BLM and private pastures these conditions are likely to continue.

Bull Mountain:
Continuing current livestock management on the Bull Mountain allotment would maintain healthy upland vegetation. Since stock water developments that need rebuilt would not occur, water availability would limit management options in the several pastures that would increase livestock distribution and further enhance already healthy upland vegetation.

If mineral exploration was planned, commercial removal of forest products on up to 312 acres would not be allowed, however the trees would still be removed and no public benefit would be gained from removing forest productions. As exploration areas are reclaimed, vegetation, including conifers would be expected to return to the sites.

Huller Springs:
The Upland Health Standard was not met on this allotment in the Land Health Assessments of 2006 and 2012, because of the conifer encroachment and noxious weeds throughout the allotment. Although current grazing management was not the causal factor for failing to meet the Upland Standard, livestock and wildlife would continue to be vectors for further spread of noxious weeds and reduce the composition of diversity of native herbaceous species. Without addressing conifer encroachment, the Upland Standard would not be met. Competition for nutrients and water as a result of conifer encroachment would continue to reduce the cover and quantity of native upland herbaceous species and shrubs within the allotment.

Fuels:
With the No Action Alternative, no vegetative treatments would occur on the JCSE landscape. The amount of dead and dying trees, small diameter encroachment and ladder fuels would continue to increase. This alternative would not alter any of the seven BpS's identified in Chapter 3 that has uncharacteristic fire regimes and vegetation classes. The FRCC on this landscape was rated at 28% departure and is classified at Condition Class 1 - which states the fire regimes are within the natural or historical range and the vegetation attributes are well intact and functioning. With the No Action Alternative, these conditions would continue to degrade and will eventually reach Condition Class 2 (>33% departure), which is described as where fire regimes have been moderately altered and the risk of losing key ecosystems components may have departed by one or more return intervals. This departure may result in moderate changes in fire and vegetation attributes.

Fencing:
Fences would not be reconfigured to wildlife-friendly specifications. Removal of nonfunctioning fences may not occur. This could result in wildlife becoming entangled in fences. Fences that may currently be barriers to wildlife, especially pronghorn antelope, would not be reconfigured and would continue to inhibit wildlife movement.

All Action Alternatives
Impacts to upland vegetation on the Cottonwood, County Line, Dry Hollow, Sappington, Lower Butte, Willow Spring Road, McKenna, North Doherty, Shoddy Springs, T4N, R2W, Sec 21, and Wickham Field allotments would be the same as Alternative A. There would be no differing effects to wildlife from any alternative on these allotments. The Fox Place allotment proposed under Alternative B, C, and D would also be managed no differently than it is managed currently as part of the Black Sage allotment.

Fuels:
Vegetation treatment in two of the seven identified BpS's would occur under Alternative B, C and D. The proposed treatments include 1,200 acres of conifer encroachment in sagebrush habitat in the Huller Springs allotment included in Alternatives B, C, and D; conifer and juniper removal is proposed on less than 10 acres of riparian habitat in the Bull Mountain, Fitz Creek, and Cottonwood Springs allotments in Alternative B, and less than 20 acres in Alternatives C and D.

The treatments proposed in the Mountain Big Sage BpS are estimated on 1,200 acres or approximately less than 5 percent of the BLM-administered lands in the JCSE. The proposed treatment in Mountain Big Sage would move more than 7 percent of the acres into a Condition Class 1 while maintaining the overall FRCC rating of 1. The overall FRCC rating on the BLM administered lands would be reduced by 2 percent to 28 percent with the completion of the proposed treatment. The additional treatments of conifer and juniper removal in riparian areas are less than .1% of the project area and would not have a noticeable impact on FRCC ratings for the planning area or the BLM administered lands.

Other:
Commercial removal of wood products (e.g., sawlogs, firewood) would be allowed on up to 312 acres within the St. Paul, Pipeline, and Sheep Gulch Pastures. Treatments would be conducted if mineral exploration or mine expansion is planned to occur within forested areas. Wood products may be removed prior to the mine building new roads or mining new areas. The removal of commercial wood products would only occur in advance of mine development and would have no significant impact on wildlife with appropriate advance surveys for raptors, sensitive species, and timing restrictions.

Alternative B
Bull Mountain, Cottonwood Springs, South Doherty, and Three East Pastures allotments:
Livestock grazing would not be authorized on these allotments under Alternative B due to the Riparian and Water Quality Standards not being met, in part, due to current livestock grazing. However, the allotments did meet the Upland Standard, and the difference in composition and diversity of upland vegetation would likely be similar to the composition and diversity of

vegetation occurring under current livestock grazing (Alternative A). Overall, more forage would be available for wildlife, and the small, isolated areas where livestock congregate near water sources and salting areas would gradually recover and become dominated by native herbaceous species. The Upland Standard would continue to be met on all four of these allotments as under current management in Alternative A.

Fitz Creek:
Although the allotment is currently meeting the Upland Standard, by modifying the existing Chokecherry Spring #2 water development the current grazing system, as well as the two pasture system that would be implemented when the division fence is completed, would better distribute the horses across the allotment by offering a reliable water source. The water source would also provide additional water to wildlife. The two-pasture grazing system would not work if there was not a consistent source of water in the southern pasture. Due to the location of the source within a dry drainage (Photo #1) that has little to no vegetation cover, no impacts to vegetation are expected during construction. Moving the tank location to a dry, flat area just inside the boundary of the adjacent Three East Pastures Allotment would not disturb any vegetation. This location is on rocky soil. Nearby aspens are large enough in stature (above the browse height) not to be considered a food supply to cattle using the tank.

Junipers would be cut down and left on site along the dry drainage, which is the source for the Chokecherry Spring #2 water development. Cutting down the juniper would promote herbaceous plant recovery for grasses and forbs that were shaded and were out-competed by the juniper for water and other nutrients (Photo #1).

Photo 3.1 Dry Drainage at the Chokecherry Spring #2 Water Development.

Huller Springs:
Although minimal changes to the fire regime condition class as a result of the 1,200 acres of conifer removal are expected, site specific effects of prescribed fire and thinning on vegetation would occur. Removing conifers that have encroached in upland sites would promote herbaceous species and mountain sage that have been over-crowded by conifers. Immediately following prescribed fire, above ground biomass of herbaceous species and mountain sage would be reduced, however long-term benefits of removing conifers include increased plant vigor of mountain sage, as well as grasses and forbs. Overall, plant diversity would also increase by removing conifers that out-compete the sagebrush, grasses and forbs for resources.

Boulder River:
The Twohy Pasture boundary fence and the Ida Mine Pasture division fence would further benefit upland vegetation by improving grazing management. The Twohy Pasture boundary fence would separate the BLM and private lands would benefit upland vegetation by reducing the amount of allowable use to 29 AUMs and changing the season of use in that pasture to 6/1 through 12/31. Deferring grazing until June 1, limiting the number of days of use to no more than 30 days, and reducing the grazing intensity to light grazing would promote bluebunch wheatgrass recovery. By eliminating grazing during early spring when cool season grasses are most susceptible to grazing prior to seedhead emergence seedling establishment is also expected to increase. Because this pasture is dominated by blue gramma, seedling establishment and recovery of deep-rooted perennial grasses, including bluebunch wheatgrass, would very gradual and take many years.

The Ida Mine pasture division fence would provide an addition pasture in the current rotation that benefits uplands in BLM and adjacent private lands that are fenced with BLM. Rotating livestock grazing through more pastures would improve the vigor of upland species by utilizing the plants at different growth stages each year. Plants in a given year of the rotation would be allowed to complete growth cycles prior to grazing, which would further improve reproduction and seedling establishment.

Implementing these management change would continue to allow the allotment to meet the Upland Standard and further enhance the already healthy upland conditions occurring throughout the majority of the Boulder River allotment. These management changes would also improve the quality of habitat for wildlife.

Black Sage:
Reconstructing the existing pipeline would provide a more consistent, reliable water source that would increase livestock distribution. Although the allotment did meet the Upland Standard, further enhancing livestock distribution on the allotment would benefit upland vegetation by spreading livestock across the allotment. This would also provide an additional water source for wildlife. Some vegetation would be driven over during construction. The physical impact of the crawler tractor to vegetation along the pipeline route would involve the crushing, breaking and uprooting of some sagebrush, grasses, and forbs. The impacts from construction, however, would be short-term and diminish within a few years. Natural re-vegetation and settling of the sod layer over the pipeline would allow for near total rehabilitation of the site in addition to hand seeding native species to augment recovery.

Fencing:
New fences would be configured to wildlife-friendly specifications, reducing the chance for wildlife conflicts. Removal of nonfunctioning fences may not occur. This could result in wildlife becoming entangled in fences. Fences that may currently be barriers to wildlife, especially pronghorn antelope, would not be reconfigured and would continue to inhibit wildlife movement.

Alternative C
Livestock Grazing:
Impacts to upland vegetation on the Cottonwood, Cottonwood Springs, County Line, Dry Hollow, Sappington, Lower Butte, Willow Spring Road, McKenna, North Doherty, Shoddy Springs, T4N R2W Sec 21, and Wickham Field allotments would be the same as Alternative A.

Impacts to upland vegetation on the Fitz Creek, Huller Springs, Black Sage, and Boulder River allotments would be the same as Alternative B.

Bull Mountain:
The grazing system would be changed from a deferred rotation to rest rotational system to emphasize riparian recovery. Rest rotation grazing system would improve the vigor of upland species by utilizing the plants at different growth stages each year while also allowing vegetation to complete an entire growth cycle without grazing (with the exception of wildlife use). Grazing would also be deferred until June 15th, which reflects the typical turn-out date that the current permittees have turned their cattle on the Bull Mountain allotment since they have had the permit.

Reconstruction of Mud Spring Pipeline would cause short-term impacts to vegetation and soils during construction. The physical impact of the crawler tractor to vegetation along the pipeline route would involve the crushing, breaking and uprooting of some sagebrush, grasses, and forbs. The impacts from construction, however, would be short-term and diminish within a few years. Natural re-vegetation and settling of the sod layer over the pipeline would allow for near total rehabilitation of the site in addition to hand seeding native species to augment recovery.

Replacing stock tanks on Microwave, Seventeen, and Middle Fork water developments would cause soil disturbance where the pads are leveled to place the tanks, as well as vegetation the may be crushed, broken, or uprooted by the crawler tractor during this process. Trees may need to be removed along access routes to these projects, which would be cut into 4 foot lengths and left on site. All areas where vegetation may be heavily disturbed during construction would reseeded with native seed mix in addition to natural revegetation from the existing seed sources on site. In addition to the short-term direct impacts of construction, indirect impacts of improving these spring sources would be increased livestock distribution within each pasture to promote move even utilization and healthy upland conditions.

South Doherty:
On the South Doherty allotment, the season of use in the Harris pasture would be changed from season long to fall/winter grazing, and from fall to winter grazing in the Knucky pasture. Grazing while plants are dormant in the fall and winter allows them to complete their annual growth cycle

before grazing occurs, which improves plant vigor and promotes seedling establishment. The Upland Standard would continue to be met by changing the season, and the existing healthy conditions would be further improved.

Fencing:
Fences within the PA would be altered to conform to wildlife-friendly specifications wherever they currently do not, as funding and time permits. Unnecessary and nonfunctioning fences would be removed. This would prevent wildlife from becoming entangled in fences and remove barriers to wildlife movement.

Alternative D
Livestock Grazing:
Impacts to upland vegetation on the Cottonwood, Cottonwood Springs, County Line, Dry Hollow, Sappington, Lower Butte, Willow Spring Road, McKenna, North Doherty, Shoddy Springs, T4N R2W Sec 21, and Wickham Field allotments would be the same as Alternative A.

Impacts to upland vegetation on the Fitz Creek, Huller Springs, Black Sage, and Boulder River allotments would be the same as Alternative B.

Bull Mountain:
The season of use would be reduced to 6/15-/1 and number of active AUMs would be reduced to 394 AUMs (~32% reduction) on the Bull Mountain allotment. The range improvement projects identified in Alternative C would be completed and the grazing rotation would be the same as Alternative A (current management), however less time in each pasture and fewer AUMs would be available for livestock. Impacts to upland vegetation would be lighter overall use, and healthy upland conditions would continue as under Alternatives A, B, and C. Impacts to timber resources from mine exploration would be the same as Alternative B.

Fencing:
Impacts would be the same as Alternative B.

3.5 Issue #3: Noxious and Invasive Species

3.5.1 Description of Noxious and Invasive Species

Invasive plants are defined by the Federal Interagency Committee for Management of Noxious and Exotic Weeds as "plants that have been introduced into an environment in which they did not evolve and thus usually have no natural enemies to limit their reproduction and spread." Currently there are 35 weeds on the statewide noxious weed list and of these 35, many are found in the Jefferson County South East (JCSE) planning area. Problem species known to occur in the PA are dalmatian toadflax, spotted knapweed, hoary alyssum, whitetop, and houndstongue. Canada thistle, another state declared noxious weed also found in the JCSE mostly in riparian areas, is widespread throughout the Butte Field Office. Due to its location in riparian areas, it is difficult to treat effectively. Four other weeds that Jefferson County has designated as noxious; black henbane, common mullein, bull thistle, and musk thistle, are found scattered throughout the planning area, mostly in disturbed areas.

Spotted knapweed, a biennial or short lived perennial, is found scattered throughout the JCSE. Most infestations are found along roads and trails but the larger infestations are found around past disturbance sites and old mining claims. Of these infestation sites the one with the most invasive species is the Huller Springs allotment largely in part because of an old burn. One of the stock water tanks in the Bull Mountain allotment in the Conrow Pasture has a significant problem with whitetop that was found during the 2012 summer land health assessments. Invasive weeds were a contributing factor for riparian standards not meeting the Land Health Stantards on Bull Mountain, Cotton Wood, Huller Springs, and South Doherty pastures. Houndstongue is found scattered in trace amounts along roads and trails, with the larger infestations occurring along streams and in riparian areas. Because of its seeds ability to cling to hair and clothing, the potential is high for it to be spread rapidly within the planning area. Houndstongue, like Canada thistle, is generally found in areas that make treatment difficult.

Another invasive weed that could present a threat to the JCSE in the future is cheatgrass. Cheatgrass is found in small patches throughout the planning area primarily on south and west facing slopes naturally devoid of vegetation or where there has been some past disturbance.

3.5.2 Impacts to Noxious and Invasive Species

Impacts Common to All Alternatives, Including the No Action
Human activities, such as road maintenance activities, recreation, mining, and other disturbances, as well as livestock, wildlife, wind, water and fire will continue to spread weeds into and within the planning area. Noxious weeds will continue to be treated as resources allow through the existing cooperative effort between the BLM, Jefferson County, private landowners and other partners. Spread of noxious and invasive species outside of known infestations would be prevented or mitigated to the degree that resources allow. This will likely maintain noxious weed infestations at current levels or result in a slow decrease in plant densities. If there are resource constraints, density and/or size of current infestations may not be reduced. Noxious and invasive species would continue to affect vegetative composition and cover, causing increased run-off and soil erosion, reducing forage and affecting upland and riparian health in localized areas within the planning area.

Impacts Common to All Action Alternatives
Targeting new noxious weed infestations would help stop the spread of existing populations within and out of the planning area as well as stop any new species from becoming established.

Biological control insects that feed exclusively on the target species are expected to reduce the seed production, vigor and competitiveness of existing population of these species. There would be fewer seeds to expand the infestation and reduced vigor would allow native vegetation to compete better with these aggressive invaders and mitigate further spread within and adjacent to existing infestations.

Design features for conifer treatments and construction of structural projects is expected to mitigate cheatgrass and noxious weed spread resulting from soil disturbance during treatment/project implementation.

The Bull Mountain, Cottonwood Springs, and Huller Springs allotments did not meet land health standards partially the result of noxious weed expansion. Additional treatments would be implemented to reduce the spread of weeds within these allotments. Over time, treatments would reduce or eliminate weeds within these allotments and allow significant progress to be made towards meeting standards.

Enhanced grazing management that maintains and promotes healthy upland and riparian habitats or improves the vigor, cover and composition of upland and riparian habitats in areas that are not meeting standards; increases the resilience of these habitats and reduces invasion and/or expansion of noxious weeds.

Alternative B
The Bull Mountain, South Doherty, Three East Pastures, and Cottonwood Springs allotments would not be grazed by livestock, which would eliminate one vector known to transport some species of noxious weeds in fur. By not allowing livestock grazing under this alternative, one of the vectors for transporting weed seeds would be removed; however wildlife would still remain a vector for seed transport in addition to human-related vectors previously mentioned.

3.6 Issue #4: Travel Management and Route Designation

Potential impacts were identified that only applied to the proposed travel management prescriptions and route designations, as stated in Chapter 2. These issues were not identified for other proposed program actions contained within the JSCE EA. Therefore, this section of the affected environment and subsequent impacts analysis is specific only to travel management and route designation.

3.6.1 Description of Travel Management and Route Designation

Scoping identified issues with the implementation of the proposed action, or one of its alternatives, that would affect the following eleven resources, or their components. Potential activities may have both beneficial and detrimental effects. BLM will determine whether the possible impacts directly or indirectly affect resources or resource uses. In addition, BLM analysis of the impacts will qualify impacts as negligible, minor, moderate, major, short-term or long-term (see Appendix - B, *Glossary*). To focus the analysis, the issues are stated as questions.

<u>Cultural Resources</u>

Issues for Analysis

- ✓ How would the proposed route network and the alternatives affect the protection of historic districts, historic sites, and other cultural resources?

Description of Affected Environment
Known prehistoric sites in the travel plan area reflect the same type distribution found elsewhere in the Butte Field Office management unit. Lithic scatters are the most commonly identified site type, but other types of prehistoric sites have been identified: stone cairns and alignments, hunting and habitation areas. Site types identified in other parts of the Butte Field Office management unit may be present, but are not represented in the current data set.

The overwhelming historic site type in the travel planning area is related to mining. Most of the known historic sites are associated with the prospecting phase, while a few others are associated with mineral extraction. The largest concentration of mining sites is located in and around the Cardwell/Whitehall mining district north of Whitehall.

The most aggressive phase of mining in the Jefferson County Southeast Planning Area occurred in the 19th century. There was a small resurgence of prospecting and mining during the Great Depression, but very few sites reflect this time period. There are a few sites that show mining activity in the late 1960's and early 1970's, but the most significant period of mining activity is represented by the Golden Sunlight open pit mine, east of Whitehall.

Environmental Effects

Cultural and historic sites or areas are not recorded on maps or in the route reports for the planning area due to the sensitivity of the information. Cultural properties within the planning area were described during route evaluation process as part of a "Historic District" with identified historical sites. The majority these cultural resources are related to historic mining. Currently, 58 routes (29.7 miles) are identified within or traveling through the historic district and 40 of those are either directly or indirectly identified with historic sites. Four primitive roads (1.93 miles) were identified outside of historic district that have historic resources or site concerns. During route evaluation, only 5 routes (7.48 miles) were identified as indirectly affecting cultural resources that could be considered eligible for the National Historic Register.

Route evaluations described routes that directly affect cultural resources as either in or crossing sensitive areas. Direct impacts include the physical displacement of cultural resources by traffic over the route and/or routine maintenance that maybe required for keeping a route available for travel. Primitive roads or trails may also have indirect potential to affect these resources when they lead to or are proximate to cultural properties. The intensity and the long-term effects depend upon the potential for actual removal or vandalism of resources.

Alternative A
In Alternative A (no action), 11% of the open routes in the network have the possibility of directly affecting historic resources and another 21.3% of the open routes inventoried could have indirect impacts.

Alternative B
In Alternative B, the percentage of open routes with the potential to impact historic sites is reduced to 2.9% for direct and 0.7% for indirect.

Alternative C
In Alternative C (the proposed action) the potential impact is reduced to 8.8% for direct and 8.8% for indirect effects.

Alternative D
In Alternative D, the percentage of potential direct impacts does not change from Alternative A, but the indirect effects are reduced to 14.7%.

Some routes that are open in Alternative A would be designated as limited to administrative use and/or seasonal use in other alternatives. These limiting designations would reduce the opportunity for impacts to historic resources both directly and indirectly. Impacts would also be reduced due to decommissioning routes under the action alternatives.

Ultimately, the impacts of vandalism to cultural resources may not rest with the designation of roads "Open" or "Closed", but the level of visitor use.

Mitigating the "adverse effects" of travel planning begins with evaluating the site for its' potential for listing on the National Register of Historic Places. Those sites that are found "not eligible" do not need any further consideration. Sites that are determined to be "eligible" are most easily protected by moving or closing the route. However, the situation must be monitored regularly for effectiveness. Lastly, a site that is determined to be "eligible", but located in a very high traffic area, may need to be removed (excavated). Tribal considerations may preclude an invasive form of data recovery. If that is the case, a non-invasive form of mitigation may be needed.

Human Health, Public Safety

Issues for Analysis

- ✓ Does the selection of a specific travel network decrease or increase the potential for the public to endanger themselves in areas known to be unsafe, such as abandoned mine lands or other hazardous areas within the Jefferson SE TPA?

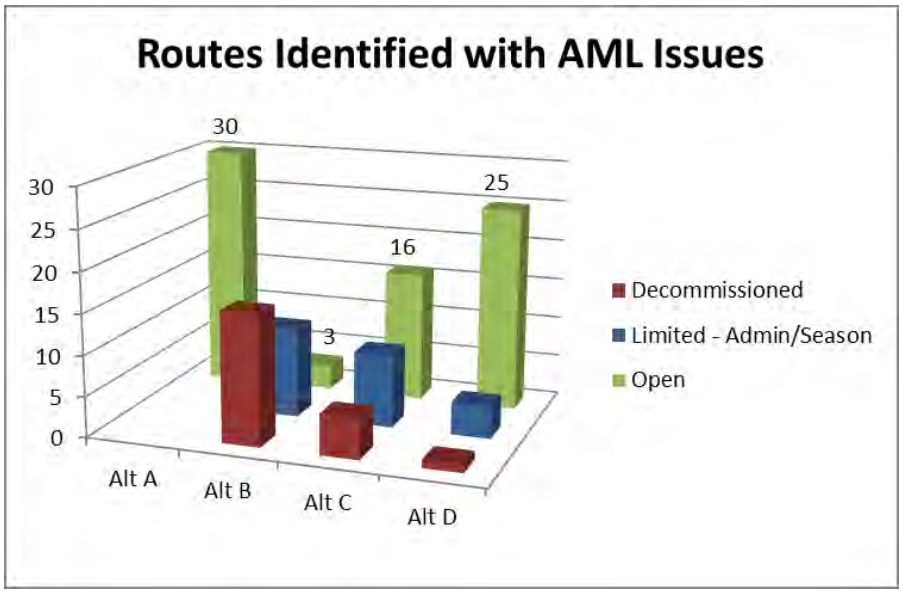
Description of Affected Environment

A major public safety concern is the presence of old excavation sites that pre-date modern mining and environmental regulations. Mining activities at these sites have left a collection of improperly closed shafts, adits, tailings, impoundments and waste-rock piles on public lands. Viewed as an attraction to the recreating public, these places are a public-safety concern, especially in the Golden Sunlight area. This area has 77 identified mining sites. These range from prospect pits and trenches to adits and shafts. Fifty-eight of these sites have been identified as having rehabilitation and safety measures in progress under the Butte Field Office's Abandoned Mine Land (AML) program. Safety measures include fencing, gates and posting hazards. No further action is required on the remaining 19 sites. Currently, 39 routes (16.73 miles) are identified with these mining sites. Thirty of those routes (13.3 miles) are considered directly related to the possible hazardous sites. Approximately twelve routes also access mining sites on private lands. During route evaluation, no other significant public safety issues were identified in the planning area.

Environmental Effects
The impact to public safety to be analyzed is the relationship of the route network and potential for accidents related to drop offs, unstable tailings and structures, unmarked shafts and dangers related to confined spaces. An unknown quantitative factor includes the number of visitors traveling on the network. While BLM has a database of the conditions of each site, this analysis focuses on the network and not the condition of each AML site. Only 1.67 miles of inventoried routes are found actually within 150 feet of known mine sites. The choice of network has an insignificant effect on the percentage of the network that could directly increase public safety.

The proposed network or alternatives could have an indirect negative impact on public safety by providing both vehicle and non-motorized access to AML sites (see Figure 3.1). In Alternative A, 19% of the inventoried routes are access to mine sites. In Alternative B, the percentage of open routes with this potential to impact public safety is reduced to 2.2%, Alt C is 11.8%, and Alt D is 15.4%.

Figure 3.1 Routes Identified with AML Issues



Alternative B also limits vehicle access on 11 routes to administrative/permitted use, which is around 6.6% of the network (4.59 miles); Alt C is 9 routes; 3.7% of the network (3.12 miles) and Alt D is 4 routes 2% of the network (1.35 miles). Furthermore, limited routes can have a beneficial effect to public safety. Besides discouraging non-mining visits, the presence of administrative trails encourages hikers and equestrians to travel established paths. This would decrease non-motorized travel cross country where there could be unmarked hazards. AML corrective actions on the mine sites would be used to mitigate the long term effect of the proposed action or it's alternatives on public safety. The potential impacts to public safety, regardless of the alternative network chosen, can be considered minor to moderate and not significant.

Minerals

Issues for Analysis

- ✓ What would be the effect of the proposed action or the alternatives on access to minerals for exploration, delineation and development?
- ✓ How would repeat access by miners with travel variances on roads limited to authorized users influence the other visitors?

Description of Affected Environment

Under federal mining laws, casual use for mineral exploration and mining is defined as activities ordinarily resulting in negligible surface disturbance. This includes any disturbance associated with establishing a claim. Actions are considered casual use if they do not involve the use of explosives, mechanized earthmoving equipment or motorized vehicles in areas designated as closed to off-road vehicles. At this time, public lands within the planning area are limited to "existing routes," and miners are not allowed to travel cross-country for mineral exploration with vehicles. A variance or permit may be issued under an approved plan of operations or notice. Currently, there are 135 inventory routes open to vehicles and available for mineral development (64.8 miles). There are 69 routes directly associated mining activities, such as known mining claims, abandoned mine lands (AML) or active and inactive mines (32.29 miles). Thirty-nine of these routes were discussed in the previous section covering public safety.

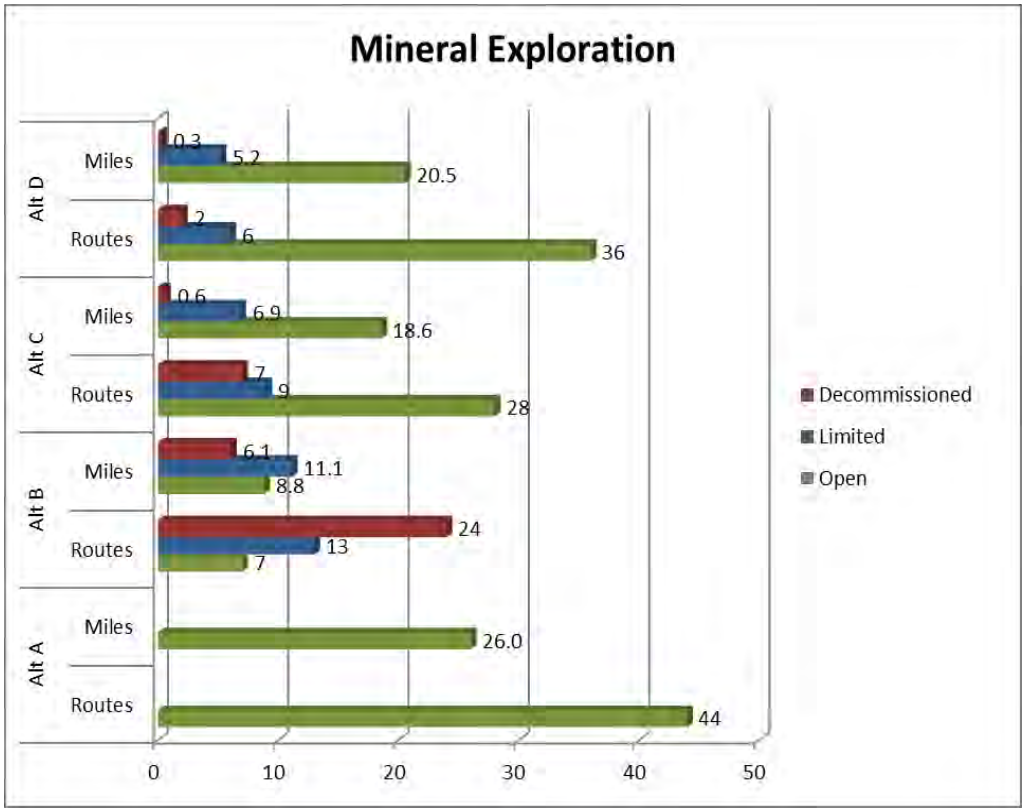
Environmental Effects

The choice of network alternatives can affect casual mining use by restricting where vehicles can travel on open routes. As shown in Figure 3.1 above, the existing condition (Alt A) provides 64.8 miles of open primitive roads; Alt D provides 56 miles of vehicle access, then Alt C with 44.5 miles, and Alt B with 12.5 miles. Alternative B could have a major effect on casual use, Alt C a moderate effect, and Alt D a minor effect.

Figure 3.2 focuses this analysis on routes specifically identified with mineral exploration. Alternative B designates 13 of these as limited. While this would restrain casual use; vehicle access for mining could be obtained with either a plan of operation or notice.

Repeated permitted access can encourage other vehicle traffic on limited access. The additional use impacting the purpose for the limitation, such as protecting a historical site or public safety. Mitigation could be required for permitted use of routes designated as limited in all alternatives except Alt A.

Figure 3.2 Routes Identified with Mineral Exploration



Over time, installation of gates might be required to restrict access. These kinds of mitigation measures would increase costs and maintenance requirements. If all limited routes associated with mineral exploration required gates, Alternative C costs would be approximately 31% less than Alt B and Alt D 54% less than Alt B.

Rangeland Management

Issues for Analysis

- ✓ How would the proposed action or the alternatives affect required or permitted access to range improvements?
- ✓ Would recreational use on the travel network potentially impact the working condition of range facilities and/or the health of grazing animals?

Description of Affected Environment

Table 3.12 below displays the allotments that have inventoried routes and the type and number of range improvements. Range facilities shown in chart are located on BLM. Some routes access facilities on private lands.

Table 3.12 Range Existing Conditions

Inventoried Routes (Alt A)			Range Facilities on BLM	
Allotment	Routes	Miles	Point	Linear
Black Sage	2	2.6	5 Tanks	
Black Sage (Closed)	1	0.56		
Boulder River	11	4.7	1 Cattle Guard	1 Allotment Fence
Boulder River (Closed)	1	0.43		
Bull Mountain	63	35.8	1 CG, 11 Tanks	
Cottonwood	2	1.6		
Cottonwood Springs	5	1.4		
County Line	3	2.4		
Dry Hollow	2	0.24		
Fitz Creek	8	4.6	1 Spring, 4 Tanks	1 Pipeline, Fence - 2 Allotment., 2 Pasture
Huller Springs	6	3.9	1 Spring, 1 Tank	
Lower Butte	1	0.7		
North Doherty	3	1.5	1 Tank	1 Allotment Fence
Shoddy Springs	4	1.2		
South Doherty	2	0.62	1 Tank	Fence - 1 Allotment 2 Pasture
T4N, R2W, Section 21	1	0.04		
Three East Pastures	15	7.8		1 Allotment Fence
Wickham Field	3	1.9		1 Allotment Fence
Willow Spring Road	1	0.76		
Note: 129 individual routes are identified with active allotments, but 5 routes cross more than one allotment. Closed routes are Black Sage WSA.				

Environmental Effects
The route designations in the proposed route network or its alternatives would have minimal effects on permitted access to range improvements and grazing management. Any open route is available for allotment operators or permittees to maintain their facilities and access blocks of public land. There are exceptions to the planning area's current "Limited to Existing Routes" designation. For range management, cross-country vehicle travel for the administration of a federal lease or permit is allowed. The travel management plan encourages allotment managers to travel on designated routes, but their lease will allow for necessary cross-county vehicle travel regardless of which travel management alternative shall be chosen. Another issue is access for vegetative management and weed control. These types of actions require a BLM permit.

Reduced vehicle access could lower the incidence of vandalism or accidental shooting of grazing animals. Alternative B decommissions 80 routes and limits approximately 59% of the existing network; Alt C decommissions 24 routes and limits 18% and Alt D decommissions 14 routes and limits 10%. So Alternative B has the greatest potential to lower incidence of vandalism. This assumes that all routes provide equal access and does not consider the number visitors or type of users traveling across various parts of the network. Other factors not reflected in this analysis are the current condition of facilities and the number of sites directly accessed by inventory routes. Overall, the potential effect of implementing any of the alternatives would not be considered significant on rangeland management.

Recreation

Issues for Analysis
- ✓ How would the proposed travel network or its alternatives affect recreation access to public lands?
- ✓ Would routes that were traditionally used for motorized access that are newly designated as non-motorized under the plan or alternatives affect hunting and other recreational opportunities?
- ✓ How would closing and decommissioning routes under the plan or its alternatives affect non-motorized use on public lands?

Description of Affected Environment
The Recreational Opportunity Spectrum (ROS) consists of the settings that define the type of opportunities and experiences BLM maintains and offers to recreational visitors of public lands.

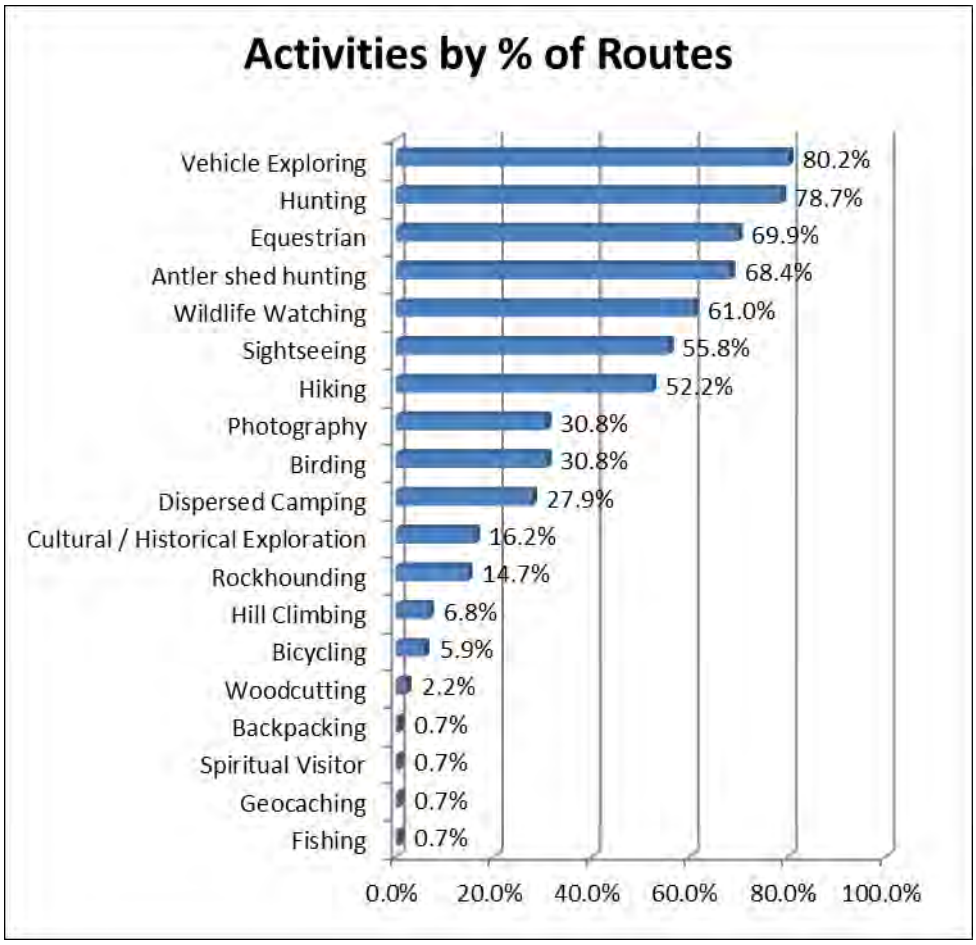
Public lands within the JCSE PA are described as:
- Semi-Primitive Non-Motorized (3386.3 Acres/incorporating 4 routes),
- Semi-Primitive Motorized (12608.6 Acres/34 routes),
- Roaded Natural (5239.3 Acres/49 routes),
- Roaded Modified (2235.2 Acres/42 routes) or
- Rural (979.5 Acres/11 routes).

Appendix B-8 contains a detailed description of these ROS categories.

Current recreation access to public lands within the JCSE PA is limited due to the isolated nature of these federal lands, which are typically surrounded by private ownership. Due to this fact, reports on the type and amount of recreational use on the inventoried travel network are also limited. No studies or surveys were found that directly address recreation in the planning area or in Jefferson County. In 2012, however, Jefferson County was included in the *Public Recreation Use Study*, which was part of the *Montana Statewide Outdoor Recreation Plan (SCORP)*. There are seven other counties and Jefferson County that make up the study's "*Southwest Region."* The study cautioned against making regional assumptions, as this region only had 50 respondents. Still, according to this survey, the current recreational needs within the planning area are (in order): off-road ATV trails, natural or wild areas, hiking trails, scenic byways, and wildlife viewing areas.

Anecdotal information for the planning area indicates that the majority of visitors are participating in wildlife-related activities such as antler shed collecting, wildlife viewing, hunting for elk, deer, antelope, turkeys, and other upland game birds. During route evaluation, inventoried routes were linked with activities shown in Figure 3.3.

Figure 3.3 Recreational Activities by % of Routes



Major trail systems designated for only non-motorized uses or only motorized uses are not currently found within the PA. Scoping showed that there is extensive interest in creating new, non-motorized and motorized specific trail systems in the PA.

Due to the isolated nature of BLM lands in the JCSE PA (i.e. small parcels typically surrounded by private lands with limited access), the BFO is unable to provide these types of opportunities at this time. However, it should be noted that OHV users have extensive trail riding opportunities just west of the PA in BLM's Pipestone OHV area, the most popular of its kind in Montana. Furthermore, new mountain-biking trails have recently been added just south of the PA in the Lewis and Clark Caverns State Park.

Environmental Effects

Alternatives A, B, C & D

Alternative A (No Action) would keep approximately 67 miles of travel routes "Open" yearlong to wheeled motorized vehicles. While the number of routes open to such uses would remain the same, and provides the highest level of motorized wheeled access among the 4 alternatives, beneficial experiences and outcomes would not be maximized due to the uncoordinated nature of the existing travel route system. Under this alternative, there is the potential for negative impacts to natural conditions, which is one of the values that recreationists expect to find in the much of the JCSE PA. These impacts would be derived from the continuation of route proliferation in the area, especially smaller spurs and redundant routes.

The other three action alternatives (B, C & D) would create a clear and defined travel route network, and would include travel route signing, mitigation, monitoring and focused law enforcement (as described in Appendix B) to reduce or limit route proliferation. Each of the alternatives would close or abolish routes that have the highest potential to impact other resources, thus protecting the opportunity for positive recreational outcomes (i.e. opportunities, experiences and benefits), while continuing to provide access, but at varying levels. Alternative B closes and restricts the highest number of travel routes available for motorized vehicle access, which improves recreational outcomes for non-motorized users, but creates negative outcomes for motorized users. Conversely, Alternative D closes and restricts the least number of travel routes available to wheeled motorized users, which creates negative outcomes for non-motorized users, but positive outcomes for motorized users. Alternative C closes and restricts moderate numbers of travel routes open to wheeled motorized vehicle access, and thus provides more balanced outcomes for both motorized and non-motorized users.

Table 3.13 Route Designation by Recreation Opportunity Spectrum (ROS)

ROS Classes	Designation	Alt A		Alt B		Alt C		Alt D	
		Routes	Miles	Routes	Miles	Routes	Miles	Routes	Miles
Rural	Decommissioned	0	0	7	1.7	0	0	0	0
	Limited - Admin	0	0	3	1.2	0	0	0	0
	Open	11	3.6	1	0.8	11	3.6	11	3.6
Roaded-Modified	Decommissioned	0	0	28	8.3	8	1.1	4	0.7
	Limited - Admin	0	0	7	8.4	5	5.6	6	5.7
	Open	42	25.59	7	8.8	29	18.85	32	19.3
Roaded Natural	Decommissioned	1	0.1	21	3.3	11	1.7	6	1.3
	Limited - Admin/Season	1	0.3	20	16.6	10	3.6	2	0.3
	Open	47	25.57	8	6.0	28	20.63	41	24.3
Semi-Primitive, Motorized	Decommissioned	8	8	21	7.0	5	0.6	4	0.4
	Limited - Admin/Season	0	0	13	14.44	11	4.7	7	2.2
	Open	26	26	0	0	18	16.13	23	18.8
Semi-Primitive, Non-motorized	Decommissioned	0	0	3	1.1	0	0	0	0
	Limited - Admin	0	0	1	0.7	4	1.8	4	1.8
	Open	4	1.8	0	0	0	0	0	0

As stated in the affected environment, public lands within the JCSE PA are identified with specific ROS classes. Therefore, the proposed action, or its alternatives, could alter the type of recreational experiences available to the public. Table 3.13 displays the potential effect that the alternative route designations may have on recreational opportunities. In most cases, the impact to ROS classes is minor. However, there is a major effect for lands currently classified as semi-primitive, motorized. Alternative B decommissions or limits use to non-motorized except for administration vehicles. Alt B could eliminate the "motorized" recreational experience on these lands to the point of creating additional non-motorized areas or roadless backcountry.

While the decommissioning of routes would increase the opportunities for primitive recreation, the converse is also true. The opportunity for slightly more developed recreation can depend on motorized vehicle access. Consider hunting; it doesn't require vehicle access (in fact one cannot legally hunt from a vehicle) access to hunting areas or camps can involve motorized access. Only one limited route was identified as game retrieval routes (Appendix X Glossary). The entire planning unit is closed to cross-country vehicle travel for recreation, regardless of alternative.

The effect of Alternative B on recreation access to public lands can be considered a major change from the current status (Alt A). Alt D maintains the majority of motorized recreational opportunities and has minor repercussions to non-motorized experiences. Alt C balances these two spectrums and the resulting impacts on recreation can be considered negligible or insignificant.

Soil and Water

Issues for Analysis

- ✓ Would the proposed travel network or its alternatives affect riparian areas, wetlands, or areas having hydric soils?

Description of Affected Environment

The estimated soil or surface disturbance created by the existing 67 mile network is around 153 acres. This area for the network or a route disturbance is estimated by multiplying average width of a route by its length. Slope, surface roughness, soil erodibility, vegetative cover, the amount of vehicle use and average precipitation all factor into the amount of sedimentation in a watershed contributed by a route network. The planning area covers a large portion Jefferson River watershed. The Jefferson River and Fitz Creek within this watershed were identified as water sources with potential issues with respect to sedimentation from impacts in riparian areas in the 2008 *Butte Proposed RMP/Final EIS* (See Table 3 in the EIS).

Riparian areas are found along perennial streams, springs, wet meadows, and small standing ponds. The dominate plant species in these areas are sedges, rushes, willows, red osier dogwood, water birch, aspen, or cottonwoods. Their defining characteristic is the presence of hydric soils which is formed under saturation lasting long enough during the growing season to have developed anaerobic (the absence of free oxygen) conditions in the upper part of the soil. The Natural Resources Conservation Service hydric soils list[1] and soils map identify approximately 114 acres on public lands as having hydric soil. There are six existing routes which travel through soil map units, published in the soil survey for the area, noted to include hydric soil (NRCS, 2012). Field assessments of routes did not find the intersection of any hydric soils with roads, except adjacent to stream crossings, which comprise less than 0.25 acres.

Environmental Effects

The existing route system (Alt A) covers approximately 153 acres or 0.6% of the public lands in the planning area. Alternative B closes 42 acres through abolishing routes and their potential ground disturbances. In comparison, Alternative C closes 7 acres, and Alt D, 4 acres. Potential vegetative growth and vehicles not disturbing the soils changes the dynamic of the soil/surface retention. These closures could have long-term, but minor reduction on sedimentation in water sources for the area. The impact to watershed sedimentation from the existing network on public lands is minor. The actual impact to the watershed could be larger, if the total primitive road system both on public and private lands is considered.

Stream and route monitoring would identify impacts to hydric soils, riparian condition and water quality. Adaptive management at stream crossings would be employed to prevent sedimentation and erosion and compaction of hydric soils (see Appendix B and riparian section). The impacts to hydric soil in any of the three action alternatives would be considered minor due to the small acreage affected. Direct impacts to water resources, within the planning area, due to additional sedimentation from ground disturbance from vehicles crossing riparian soils would not be significant.

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[1] Lists of Hydric Soils, National List all states (April 2012) (xlsx; 13.5 MB), http://soils.usda.gov/use/hydric/

Travel and Transportation

Issues for Analysis

- ✓ Would the proposed action or its alternatives have an impact on non-BLM local transportation systems or private properties?
- ✓ Would the various maintenance intensities assigned to designated routes affect the range of travel opportunities and travel experiences provided by the network?

Description of Affected Environment

There are approximately 67 miles of existing primitive roads in the planning area. While all routes are open to both motorized and non-motorized travel, the majority of the use is by four-wheel drive vehicles for either exploration or hunting. These routes may also be used by BLM staff and other authorized users (i.e. permittees) to maintain facilities and manage resources such as wildlife and vegetation. It is presumed that OHV use will remain at or near present levels within the JCSE PA. There is direct access on four BLM managed routes to roads identified as a county or state public roads, all other routes in the area must be accessed via some use of private roads. There are 24 routes that cross BLM that provides primary access to neighboring sections of private land.

Environmental Effects

The choice of travel route network alternative can affect access, and the range of experiences provided by the network. For a comparison of the four alternative travel networks, see figures 2.1 and 2.2 in Chapter 2 for a summary of the alternatives.

Alternative A

Under Alternative A (No Action), wheeled motorized vehicle travel would continue to be "Limited" to the existing route network. The current inventory describes all existing travel routes in the network. This aids BLM in determining whether new routes have been proliferated illegally. Without on-the-ground identification of which routes are open to motorized and mechanized travel, the public may continue to create new travel routes. This existing situation would fail to manage or control route proliferation produced by illegal cross-country travel. Both non-motorized and motorized travel could be hampered by a lack of clearly defined travel routes.

Alternatives B, C & D

All three of the other alternatives, the action alternatives, would involve posting signs throughout the travel network, plus monitoring and minor maintenance of the routes to ensure that vehicle travel stays on the designated routes (see Sign Plan in Appendix B-4). These measures will help limit route proliferation and will provide a well-defined travel network.

Alternative B has a major long-term impact to transportation access, as it decommissions 32% of the existing route mileage. In comparisons, Alternative C closes 5%, and Alt D 3% of the mileage. The travel route network's effectiveness and range of experience it provides can be affected by decommissioning routes.

Alternative B designates approximately 52% of existing miles of the network as "Limited (Administrative and Non-Motorized Only)." This designation provides the needed wheeled motorized vehicle access for BLM staff and permittees and creates travel routes for non-motorized users. However, wheeled motorized vehicle access for public users would be significantly decreased. In contrast, Alternative C designates 14% and Alt D 13% of the network as "limited to administrative use." Alternatives C and D also create 1.8 miles of ATV or motorcycle trails by limiting access to vehicles with a width of 50 inches or less. Furthermore, Alternative C designates approximately 7% of the route miles as closed to vehicles during the fall/winter or winter/spring periods. This designation leaves open 4.6 miles to recreational vehicle use during the summer.

Table 3.14 Primary Access to Private Lands

Number of Routes with Primary Access to Private Land				
	Alt A	Alt B	Alt C	Alt D
Open	23	3	19	23
Limited	0	18	4	1
Decommissioned	1	3	1	0

Table 3.14 indicates the number of routes identified during the evaluation process as providing "primary" access to neighboring lands. The proposed route for decommissioning in Alternatives A and C crosses a private mining site and is currently closed by the owner. The private lands accessed by this route and the additional two routes closed in Alternative B have other means of access besides these BLM routes. Land owners wishing to use routes designated as limited to administrative use only, would require a permit or variance from BLM to use these routes. Overall, the effect on local transportation and access to private properties would be minor regardless of the alternative chosen.

Tribal Interest/Native American Religion

Issues for Analysis

- ✓ Could there be possible effects from the proposed action or its alternatives to tribal interests such as trail corridors or tribal access to harvesting, fishing and hunting areas?

Description of Affected Environment

There is no comprehensive description of "affected environment" when it comes to issues pertaining to traditional cultural practices of Native Americans. The focus of the traditional life is confidential, even to land management agencies. However, it is known that resources identified by treaty are present in the planning area, and those locations where those resources are available remain critical to traditional Native peoples.

Native American religious considerations include those areas which offer a range of resources vital to the traditional practice of Native American life. Along with access to plant, animal and mineral resources, traditional practices of various types also require solitude, viewsheds, and access to prehistoric site locations (for example, rock art sites).

Environmental Effects
No specific locations in the Jefferson County SE Planning Area have been identified as "significant" by tribal governments. It is known that solitude and silence are important features to traditional Native American religious practices. Therefore, open roads could have an impact on some traditional religious practices if those roads are close enough to areas that require silence and solitude.

Implementation of vegetation and range management treatments would benefit renewable resources guaranteed by treaty. The design of vegetation treatments can enhance environmental biodiversity. Routes can provide access to these renewable resources. Routes can also avoid historic properties, which would insure that those resources are available for future generations. See Appendix B for adaptive management, mitigation measures, monitoring, and standard operating procedures that would be implemented to protect and preserve cultural resources.

Invasive, Nonnative Species

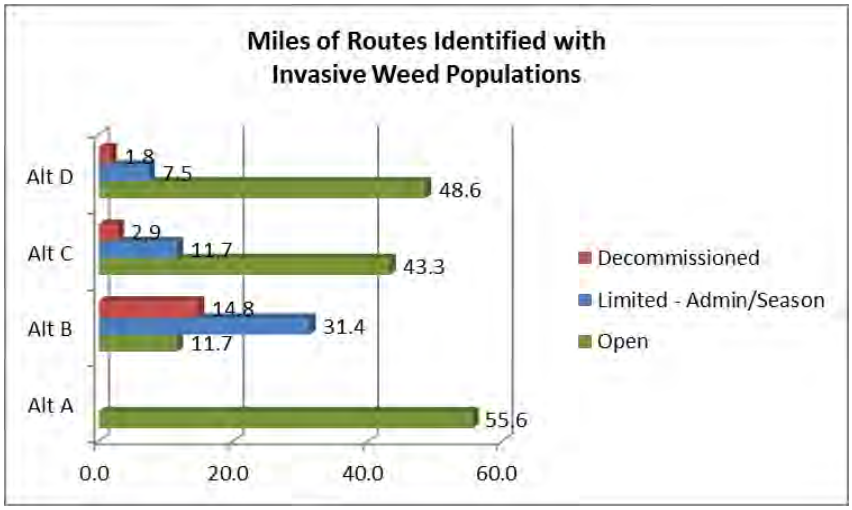
Issues for Analysis

- ✓ Under each of the alternatives, how might vehicle traffic on open primitive roads and trails affect the transportation of noxious weeds? Specifically spotted knapweed and Dalmatian toadflax weeds from BLM lands to and from private lands?
- ✓ How might decommissioned routes affect the ability of the BLM to carry out weed control operations?

Description of Affected Environment
During route evaluation, 95 of the existing routes (56 miles) were identified as having potential for increasing the spread of invasive weeds. Montana Weed Control Association webpages provide detailed descriptions, photographs and recommended possible weed control actions (http://www.mtweed.org/weed-identification/).

Environmental Effects

Figure 3.4 Mileage of Route with Weed Concerns



Preventing vehicle traffic by closing routes should decrease the potential for the spread of invasive weeds. These plants are highly adaptable, and most prefer disturbed soils. The method used to close or abolish a route also has an influence. The disturbed area or footprint of closed routes could be infested before native species can take hold. Monitoring and mitigation would be essential for minimizing the impacts regardless of the alternatives chosen to implement the route network. Actual locations and levels of infestation along these routes are unknown factors in the analysis of the proposed plan and its alternatives.

Figure 3.4 shows the number of miles by network alternative. Alternative B closes approximately 27% of the existing mileage and limits another 56%. In Alternative C the percentages are 5% closed, and 21% limited; and in Alt D they are 3% and 13% respectively. The effect of closing more miles of the existing routes could slow the spread of weeds, providing a beneficial long-term effect. The closure of routes could also have minor effect by limiting the BLM in its ability carry out weed control.

Wilderness Study Area

Issues for Analysis

- ✓ Would naturalness and the opportunity for primitive and unconfined recreation in the Black Sage Wilderness Study Area change over time if the proposed travel network or its alternatives were implemented?

Description of Affected Environment

The Black Sage Wilderness Study Area (WSA) was established in 1981 by the BLM. The 11 primitive routes (7.5 miles) mapped within the WSA will remain undesignated until Congress chooses either to formally designate the area as Wilderness or to release it from WSA status. This is in accordance with BLM's Travel and Transportation Handbook, H-8342 (March 2012), which states that "Primitive roads and motorized/mechanized trails shall not be designated and classified as an asset within a WSA."

The travel route inventory within the WSA is simply a description of existing conditions. Seven primitive routes (2.1 miles) inventoried in the area are closed to vehicle traffic since they did not exist at the time of the wilderness study inventory in 1981. Until the WSA is either designated as Wilderness or released, these closures will continue. If Congress chooses to designate the area as Wilderness, all routes will be closed to motorized and mechanized transportation. If, on the other hand, Congress releases the area from WSA status, the route designations chosen for the final version of this TMP would be implemented at that time.

The Black Sage WSA was recommended as unsuitable as Wilderness in the *Wilderness Environmental Impact Statement for the Headwater Resource Area, Jefferson and Park Counties Montana (USDI-BLM 1986)***.**

Environmental Effects

Table 3.15 Black Sage Future Route Designation

Black Sage Future Designation(s)	Alt A		Alt B		Alt C		Alt D	
	Routes	Miles	Routes	Miles	Routes	Miles	Routes	Miles
Open	4	5.3	0	0.0	5	5.5	5	5.5
Limited - Admin	0	0.0	5	5.1	6	1.9	6	1.9
Decommissioned	7	2.1	6	*2.4*	0	0.0	0	0.0

The effects of the proposed action or its alternatives addressed here relate to the inherent wilderness characteristics in the Black Sage area, independent of its WSA or Wilderness status. Wilderness characteristics include the size of an area, the naturalness of the area, the opportunity for solitude or primitive unconfined recreation, and any supplemental values, such as geology or ecology.

<u>All Alternatives</u>
The <u>size</u> of the area would not change in any of the travel network alternatives. The main change, if the WSA status is released, would be to designate "primitive routes" as open or limited primitive roads or trails. They then would be formally considered as an asset for the BLM transportation network (See *Maintenance Prescription* in the attached Travel Management Plan – Appendix B).

<u>Alternatives B, C & D</u>
Alternatives C and D have the same potential designations. They would limit the number of open vehicle routes to those that cross public lands and connect private lands beyond. All other routes within the area would be designated limited to administrative use. This produces non-motorized trails open to vehicle use only with a permit or variance. The open routes would have the effect of segmenting the 'roadless' area. Neither alternative would decrease the overall naturalness that is currently found in the area. Alternative B closes all routes within the area and would in the long term increase the naturalness of the area. Alternatives C and D maintain some form of travel routes, but would not change the overall opportunities for solitude or primitive and unconfined recreation currently in the area. Alternative B has the potential to increase these opportunities. If the public lands in the Black Sage area are released from WSA status, the choice of proposed action or one of its alternatives would not create a significant impact on the existing wilderness characteristics.

Wildlife/Special Status Species

Issues for Analysis

- ✓ How might implementation of the proposed travel route network (or its alternatives) result landscape fragmentation and habitat loss?
- ✓ How would the proposed travel route network (or its alternatives) work toward meeting RMP direction for reducing road density in big game winter range?

Description of Affected Environment

Wildlife in the planning area is typical of southwestern Montana. The primary big game animals are elk and mule deer. Much of the JCSE PA is winter range for these species. A total of 72,934 acres or 31.5% of the PA is considered winter range for elk and mule deer. A total of 14,937 acres or 60.1% of BLM land in the PA is considered winter range for these species. Pronghorn antelope, moose, and whitetail deer also use much of the planning area during summer but have a limited winter presence here. Bighorn sheep do not inhabit the area.

Several species listed under the Endangered Species Act (ESA) could disperse through the planning area but are unlikely to be permanent residents. The grizzly bear and lynx (both Threatened), and wolverine (Candidate for listing) are wide-ranging species and could cross through BLM land in the planning area but are unlikely to be permanent residents due to lack of appropriate habitat characteristics. The Upper Missouri River Distinct Population Segment of the arctic grayling is a Candidate species for listing and is considered a rare resident of the Jefferson River. BLM land borders the north shore of this river for about 0.9 miles between the river and the Lewis and Clark Caverns State Park. The Sprague's pipit, another Candidate for listing, could occur in grassland habitats in the area but has not been documented.

Many species of birds inhabit the planning area. A few common species include: mountain bluebird, common raven, Townsend's solitaire, chipping sparrow. A number of bird species that are considered BLM Sensitive or MT Species of Concern have been documented in the planning area, including: mountain plover, pinyon jay, Clark's nutcracker, long-billed curlew, sage thrasher, Brewer's sparrow, burrowing owl, veery, Bobolink, loggerhead shrike, ferruginous hawk, peregrine falcon, golden eagle, and bald eagle. Most of these species have been documented around the periphery of the planning area where access for researchers is easier to obtain, but they also likely occur where appropriate habitat exists for their species in the interior of the planning area.

Sensitive mammal species known to occur in the planning area include Townsend's big-eared bat, hoary bat, fringed myotis, and black-tailed prairie dogs. The bat species do occur on BLM land but the prairie dogs do not.

Prairie rattlesnake, rubber boa, and garter snakes are typical reptiles of the area. The only sensitive herpetological species that likely occurs in the planning area is the western toad. Fish-bearing waters are a very minor component of BLM land in the planning area; about 0.14 miles of the Boulder River flows through BLM land, and 0.9 miles of the Jefferson River flows by BLM on the north shore. There are no other fish-bearing streams on BLM in the planning area.

Travel Alternatives
In general, roads have negative impacts on wildlife and ecosystems. Impacts of roads include mortality to organisms from road construction, mortality from collision with vehicles, modification of animal behavior, disruption of movement patterns, habitat fragmentation, alteration of the physical environment, spread of exotics, and increased use of areas by humans. It is estimated that about one-fifth of the U.S. land area is affected ecologically by the system of public roads (Trombulak and Frissell 2000, Forman 2000).

High speed, high traffic, wide roads such as interstate highways do have more effects on wildlife and ecosystems than low speed, low traffic, and narrow roads. Highways can have impacts on wildlife up to a half mile or more from the actual roadway. Alternatives in this EA cover only roads on BLM land within the PA, and these roads are generally low-speed, gravel or two-track dirt roads. Major factors in road effects on wildlife are the amount, timing and type of use a route receives. There have been no visitor-use studies or wildlife effect studies for routes within the PA.

Elk are one of the most-studied species where road effects are concerned. Road avoidance is characteristic of large animals such as elk. Avoidance of forest roads by distances of 300 to 600 feet is common. Roads result in habitat changes, modified animal behavior, and changes in wildlife populations result (Gucinski et al 2001). The direct impacts of roads and associated traffic on elk, in addition to mortality from vehicle collision, include:

- Avoidance of areas near open roads.
- Vulnerability to mortality from legal and illegal hunter harvest increases as open road density increases.
- In areas of higher road density, elk exhibit higher levels of stress and increased movement rates (Rowland et al 2005).

One objective in the Butte RMP is that open road densities in big game winter and calving ranges will be reduced where they currently exceed 1 mi./square mi. (BFO RMP *Goals WF2, WF4, WF5, SE4*). Elk and mule deer winter range cover the majority of BFO land in the PA. To determine whether each alternative would meet RMP objective reducing road densities in winter range, polygons were developed where road density within big game winter range was more than one mile per square mile, and included more than one road contributing to the density so as not to include single roads that curved or were more than one mile due to topography. See Maps 12-15.

Table 3.16 Average Road Densities and Acres of BLM Lands in Big Game Winter Range with Road Densities Above 1 mi./sq. mi.

	Alt A	Alt B	Alt C	Alt D
PA acres with > 1 mi./sq. mi. open road densities in elk/mule deer winter range	9140	0	5620	9140
BLM acres with > 1 mi./sq. mi. open road densities in elk/mule deer winter range	5924	0	4217	5924
Total Miles of open and open with management roads within winter range on BLM.	17.9	0	9.2	17.4
Average BLM road densities in areas of winter range where density is > 1 mi./sq. mi.	1.93	0	1.4	1.88

As shown in Table 3.16, only Alternative B would fully meet this objective. Alternative B would also result in the least amount of habitat fragmentation and loss for all species, because the least amount of roads would be open. Alternative C would reduce average current road densities within winter range by 0.53 mi./sq. mi when compared to Alternative A (the existing travel route network), and exceeds RMP objectives by 0.4 mi./sq. mi. Alternative C would reduce the area on BLM land in which road density exceeds the RMP objective by 1707 acres. Alternatives A and D exceed the RMP objectives for road densities in big game winter range habitat on average, by 0.93 and 0.88 mi./sq. mi., respectively. Alternatives A and D would not reduce the acres on which the RMP objective is exceeded.

3.7 Air Quality

The state of Montana is divided into ten airsheds by the Montana Air Quality Bureau (DEQ 2011) and monitored by the Idaho/Montana Airshed Group. Each airshed in Montana is designated as "Class 1" or "Class 2", with "Class 1" having the strictest standards. Air Quality Standards are set by the state. The project area lies within Airsheds 6 and 7, having a "Class 2" air quality designation. The nearest Class 1 airsheds to the project area include the Anaconda-Pintler Wilderness Area, located approximately 52 miles west of the project area, the Gates of the Mountains Wilderness about 48 miles north and Yellowstone National Park, about 58 miles southeast of the project area.

These zones surround cities where prescribed burning emissions could adversely affect air quality. Butte is the closest Smoke Impact Zone and is located approximately 14 miles west of the project area. This Smoke Impact Zone coincides with a State and Environmental Protection Agency (EPA) designation for Butte as a particulate nonattainment zone. Existing air quality within the airshed and project area is affected by smoke, dust and motor vehicle exhaust. Smoke is produced from wildland fires, prescribed burning, residential wood burning and agricultural field burning. Additional smoke is blown into the area from fires outside the area, including western Montana, Idaho, the Pacific Northwest and Canada. Sources of dust primarily result from wind erosion of cropland and vehicle traffic on gravel roads.

Land Health Assessments found no adverse impacts to air quality. Dust from roads is localized and temporary.

Impacts to Air Quality

<u>Alternative A</u>
Under the No Action Alternative, current uses would continue, and undisturbed sites would continue to function as they are presently. Current trends and processes would continue. Temporary and localized fugitive dust from roads would be highest under Alternative A due to the largest number of open roads.

<u>Alternative B</u>
Mechanical and burn treatments would expose the soil surface, subjecting it to wind erosion. Fugitive dust would be temporary, lasting for the duration of operations and ceasing upon reclamation of roads and natural recovery of burned areas. Exhaust from equipment would also be temporary. Prescribed burning would release carbon dioxide (CO2) into the atmosphere; this gas is considered by the BLM and State of Montana, among other agencies, to be a greenhouse gas. CO2 emissions from exhaust and prescribed burning resulting from treatment implementation would be temporary.

The amount of fugitive dust from roads would likely be least in Alternative B resulting from the fewest open roads.

Alternative C
Dust and CO2 emissions from treatments would be similar to Alternative B. Fugitive dust from open roads would be less than Alts A and D, but more than B, corresponding to the mileage of open roads.

Alternative D
Dust and CO2 emissions from treatments would be similar to Alternative B. Fugitive dust from open roads would be less than Alt A, but more than B and C, corresponding to the mileage of open roads.

3.8 Cumulative Effects for All Alternatives

Cumulative effects are those that result from adding the anticipated direct and indirect effects of the proposed action, to impacts from other past, present and reasonably foreseeable future actions. These additional impacts are considered regardless of what agency or person undertakes such actions. The cumulative impacts area for this EA is defined as all land, regardless of ownership, in the JCSE PA (map 1) for all issues and resource concerns except Socioeconomics, for which the cumulative impacts area is Jefferson County. Climate change is analyzed at the regional level. The temporal boundary when analyzing cumulative impacts is 10 years. Some past, present and reasonably foreseeable actions are discussed in Chapter 3 (Affected Environment) and/or Chapter 2 (Features Common to all Alternatives).

Past and Present Actions
The project area shows evidence on human activities, which have affected the disturbance regime and thus plant succession and existing vegetation. Limited amounts of timber harvesting, Christmas tree cutting, and firewood collecting have occurred throughout the JCSE PA. Use of these resources is limited due to marginal growing conditions for many species of conifer. Little-to-no timber harvest has occurred on State of Montana and USFS-administered lands within the JCSE PA. An unknown acreage of forested land has been harvested on private lands.

Excluding fire from the landscape, by removing fine fuels via livestock grazing and suppressing fire over the past century, has increased the accumulation of fuel loads and altered forest conditions.

Livestock grazing currently occurs in the adjacent valley bottoms, foothills, and lower mountain areas and has for the past 100 to 150 years. Domestic livestock grazing increased dramatically in the Boulder River and Jefferson River valleys in the mid-1800s. According to the National Agricultural Statistics Service, there are 20,500 head of cattle and 1,000 head of sheep in Jefferson County, and Jefferson County rank 44th for cattle production in the state (NASS, 2011).

Unregulated livestock use during the mid-to late 1800s and early 1900s changes the hydrologic and vegetation character of most mountain stream in the Intermountain West (Elmore and Beschta 1987) in addition to historic mining. Impacts on lands upstream from BLM administered land may contribute sediment to streams and subsequently may adversely affect downstream water quality on public land. Approximately 80 miles of 303-d listed streams occur within the JSCE PA, that are included on the 303-d list in many cases due to past actions that are

now currently regulated to prevent further point-source pollutants and sediment from entering streams.

Reasonably Foreseeable Future Actions
Reasonably foreseeable future actions that would affect the same resources in the cumulative impact area as the proposed action and alternatives discussed below.

The risk of wildfire on all ownerships would continue. Fires suppression efforts, utilizing resource benefit objectives, would continue on federally-administered lands within the PA.

Impacts resulting from grazing, vegetative projects and/or recreation on private and State lands are expected to continue. This could impact wildlife migration and dispersal depending on timber harvests planned on State and private lands in the future. Any reductions in AUMs on BLM lands would increase grazing use on private or state land within the PA if herd numbers remain consistent.

Increasing loss of basin and mountain big sagebrush habitat through Douglas-fir or juniper expansion can be anticipated. In areas that are treated to remove competing conifers, the seral stage of sagebrush would be moved back to early seral and would take up to 30 years to progress back to late seral. This creates seral and structural diversity within sagebrush habitats across the landscape.

The Butte BLM has a 250 acre unit identified to remove conifer encroachment in sagebrush through mechanical and prescribed fire in 2013 – 2014 under the Whitetail Pipestone EA. The Forest Service has treated 1235 acres of conifer encroachment through mechanical and prescribed fire with the Mud Springs and Black Canyon projects in the late 1990's. The Jefferson District of the USFS does not have any addition planning documents in place that identifies fuels treatments or prescribed fire at this time.

Invasive and non-native weed treatments are likely to occur, budget permitting, within Jefferson County by the Beaverhead-Deerlodge National Forest, Jefferson County Weed District, Montana Department of Transportation, State Parks, and private land owners. Ground disturbing activities that happen on private land in Jefferson County may not have weed control activities or may not be reseeded with weed free certified seed mix. Weed spread will likely occur along roadways if left untreated along all roadways in Jefferson County.

Livestock production and sustainability will continue to be important in Jefferson County and the State of Montana. According to the United Nations, the world's population increased from 2.6 to 7 billion between 1950 and 2012 (UN 2012). The world's population is predicted to reach 8.92 billion by 2030 (UN 2004). Given this projection, food security is and will continue to be an important issue and livestock are integral to addressing food security. The United Nations Food and Agriculture Organization (UNFAO), using the year 2000 as a baseline, estimates that global meat production will double between 2000 and 2050 (UNFAO 2006). In 2000, the UNFAO launched the Livestock Environment and Development (LEAD) Initiative to devise and promote ecologically sustainable livestock production strategies and practices with a concern towards reducing world poverty (UNFAO 2009). Livestock production and sustainability, as well as food security, will continue to be important issues locally and globally.

The economic situation of the permittees/lessees is affected by changes in cattle prices, hay prices, fuel prices, interest rates, land prices, labor costs, labor inputs, equipment costs, equipment maintenance costs, facilities maintenance costs, costs of feed supplements, irrigation costs and availability of irrigation water, livestock loss, private land lease rates, veterinary costs, local weather and other miscellaneous factors. Cumulative economic impacts could influence grazing lessees to subdivide private land to maintain economic viability.

Fencing on other land ownerships and on BLM boundaries that are not built to provide wildlife passage, may lessen the benefit of fence modification efforts on public lands to improve wildlife movements.

The AML program is an ongoing program which has been addressing legacy mining issues throughout southwest Montana. AML work will continue until all environmental and physical safety issues that can be resolved have been completed. Reclamation will be prioritized by the magnitude of the environmental problem, the severity of the safety risk, funding available, and/or the partnerships available to conduct the work. It will be conducted on a PA or district scale when possible.

To determine the best reclamation method for each mine a detailed field evaluation must be conducted. Sites with potential water quality issues are reviewed under the CERCLA process, those with physical safety issues only are addressed under the NEPA process. Site assessment includes, but is not limited to, a review for a potentially responsible party (PRP), the geochemical character of the waste rock and tailings impoundments, delineation of the extent of contaminant transport, a cultural inventory and clearance through SHPO, evaluation of the sites for potential animal habitat, and a sensitive plant species review. The reclamation method chosen for each mine is based on the relative importance of the critical components of the site as well as the accessibility/workability of the area. As work progresses, mining areas which have not been sufficiently inventoried will be assessed.

Ongoing reclamation activities in 2013 will include a cooperative venture with Golden Sunlight Mine (GSM) for AML sites west of the GSM mine collectively known as the “West District”.

The following is an overview of GSM’s potential land disturbance during their exploratory drilling proposal within the Bonnie area. GSM is highly likely to submit a permit for an open pit if drilling samples identify an economically viable gold resource. However, currently GSM activity in the planning area is limited to the drilling exploration process.

The Bonnie area is located within Sec. 18, T2N, R3W (north of existing pit) and is approximately 322.8 aces. GSM has proposed a total of 59 drill sites. Most are located on BLM land, with a few scattered farther north and south on patented land. Approximately 1.53 acres of road is proposed on BLM land (all falling within Sec. 18, N ½ Sec. 19, T2N, R3W). A good portion of the drillholes will be drilled from existing roads. Two microwave towers were located within the proposed area. A monitoring well will be located on the West side of the exploration area. The portion of the road located next to this area may need some work before vehicles travel safely on it.

Recreation, especially hunting and fishing, is expected to slightly increase in the JCSE PA in the future. Impacts expected from this increased use are new camp sites, spreading of weed seed, more use of roads and increased wildlife disturbance.

Private land owners can close roads on their land that access BLM lands to the general public. Public lands should not be open to just one land owner, so BLM would be required to limit that land owner's access to public lands at the same time.

3.8.1 Cumulative Effects of All Alternatives, Including the No Action

The intermingling of private and state lands with public lands throughout the PA ensures that activities outside the control of BLM would continue. Grazing on these lands at various times throughout the year would influence forage and cover availability, and distribution of seasonal wildlife uses.

Habitats that have a high probability of containing or supporting sensitive plant would be surveyed prior to any ground disturbing activities on federal land, but botanical surveys are not required on private and state lands even on cooperative projects (e.g., a pipeline that crosses multiple-ownerships).

Approximately 13 percent of the JCSE PA is classified as a Conifer Cover Type (Table 3.1). The loss of forest canopy and cover, due to insect and disease mortality, is likely to continue across all ownerships in forested habitats, resulting in the accompanying loss of wildlife habitat. Large-scale mortality of trees across forested portions of all ownerships within the JCSE PA may increase annual stream flows and change the timing of water delivery, due to decreased water uptake by trees and reduced interception of precipitation resulting from the loss of canopy (Colorado State Forest Service, 20013). Species conversions in insect and disease affected forests is also likely.

Invasive and non-native weed treatments are likely to occur, budget permitting, within Jefferson County by the Beaverhead-Deerlodge National Forest, Jefferson County Weed District, Montana Department of Transportation, State Parks, and private land owners. All BLM projects will be pretreated, post treated, and reseeded with a suitable seed mix decided on by the BLM. Areas where Land Health Standards were not being met, because of invasive and non-native species would be treated, budget allowing, until an upward trend is noticed during monitoring, and then become areas where yearly maintenance treatments occur. The incremental effect of weeds treatments throughout the planning area will continue to reduce the spread and rate of spread of noxious weeds across all ownerships.

The Butte BLM has a 250 acre unit identified to remove conifer encroachment in sagebrush though mechanical and prescribed fire in 2013 – 2014 under the Whitetail Pipestone EA. The Forest Service has treated 1,235 acres of conifer encroachment through mechanical and prescribed fire with the Mud Springs and Black Canyon projects in the late 1990's. The Jefferson District of the USFS does not have any additional planning documents in place that identifies fuels treatments or prescribed fire at this time.

The impacts to historic properties depend entirely on the location of those properties in relationship to the roads designated as "Open". Therefore, the number of roads designated "Closed" does not determine the most protective alternative for cultural resources. Since portions

of the travel plan area have not been inventoried, it is not possible to compare the impacts to historic properties, per alternative.

Those routes designated as "Open", per the selected alternative, will be subjected to Section 106 review for determination of eligibility. Upon receiving a determination of "eligible", the road will either be closed, re-routed, or following tribal consultation; either excavated or its' loss mitigated by another non-invasive means.

3.8.2 Cumulative Effects of Alternative A – No Action (Continuation of Current Management)

Without grazing management changes and construction/reconstruction of new range improvement projects, and non-functioning projects, livestock induced riparian health concerns on BLM administered lands identified in this document and the Jefferson County South East Assessment Report would not be addressed and objectives for improving riparian health would not be accomplished. Static or downward trends would continue along 2.9 miles of stream reaches, which could affect riparian health and/or water quality downstream from BLM administered lands. Conversely, on those allotments that were meeting rangeland health standards, resource conditions are expected to continue meeting or making progress toward management objectives. The predicted effects of climate change would be the same as described in section 3.9; however, Alternative A would likely present the least climate change mitigation due to no change in vegetation age class diversity, lack of wildfire mitigation, and lack of riparian improvements.

Alternative A has the highest potential for long-term effects, and over time creates the potential for significant impacts to many of the affected resources discussed above in this environmental assessment, since resource concerns would not be addressed.

3.8.3 Cumulative Effects of All Action Alternatives

The proposed changes in livestock management would generally improve riparian function on BLM-administered land and other lands (private, state) within BLM allotments at varying degrees and timeframes. The expected effect to downstream riparian habitats and water quality would be improved sediment transport, better access to floodplains, dissipation of energy and, over time, improvements in channel morphology. The effects of implementation of the selected alternative would be quantitatively determined by monitoring physical and vegetative indicators of riparian and upland function, and monitoring vegetative components of habitat.

The intermingling of private and state lands with public lands throughout the watershed ensures that activities outside the control of BLM would continue. Grazing on these lands at various times throughout the year would influence forage and cover availability, and distribution of seasonal wildlife uses. Although wildlife habitat needs are generally met within the watershed, this grazing may influence suitability and availability of that habitat on a localized basis or during a specific time frame.

The loss of forest canopy and cover, due to insect and disease mortality, is likely to continue across all ownerships in forested habitats, resulting in the accompanying change in wildlife habitat that may favor some species of wildlife over other that require standing and live conifers. Large-scale mortality of trees across forested portions of all ownerships within the JCSE PA may increase annual stream flows and change the timing of water delivery, due to decreased water

uptake by trees and reduced interception of precipitation resulting from the loss of canopy (Colorado State Forest Service, 2013). Species conversions in insect and disease affected forests is also likely.

The implementation of the land health standards, site specific rangeland improvements, and site-specific mitigation would maintain or improve vegetative composition, diversity, vigor and cover, maintain or restore soil function and limit stream bank disturbance and associated soil loss where these concerns were noted. As areas not meeting the land health standards move towards proper functioning condition, the BLM anticipates an increase in vegetative cover, a reduction in bare ground, soil compaction, and soil erosion, and an increase in stream bank stability. All lands included within allotment and pastures boundaries are expected to improve as described under the action alternatives, not just BLM administered lands.

Sensitive plants could be accidentally or inadvertently impacted by construction or placement of range improvement projects on non-federal lands. Indiscriminate or random placement of livestock supplements could also cause impacts to individual plants or populations across all ownerships.

Slightly increased labor costs are assumed under Alternatives B and C to implement and check the allowable use grazing guidelines. During drought periods, total authorized AUMs may not be available. All reduced AUMs would be held in suspended non-use on the term grazing permits/leases.

Alternatives B, C and D share basic management actions when considering the long-term, direct and indirect cumulative impacts. These three alternatives are similar in nature except in the number of miles allocated to each type route of designation. A travel network with all routes designated as “open”, “limited” or “closed “and decommissioned, is expected to address public and administrative access needs, protect resources, promote public safety, and minimize conflicts among the various users of public lands.

Motorized OHV use and other forms of outdoor recreation are expected to continue increasing as the population increases, and may contribute to user conflicts. As the TMP is implemented, there would be an increase in limitations on OHVs and enforcement of the designations. Cumulatively, this would increase management presence throughout the planning area in the form of signs, markers, gates, law enforcement, staff and volunteer monitoring.

Climate Change:
Determining the effect on climate change from alternatives considered is difficult at the project scale. However, improving/restoring riparian and wetland areas, improving age class diversity, health and resiliency of forests, mitigating the size and intensity of wildfires, and maintaining/improving livestock grazing management increase the ability of vegetation and soil to sequester carbon and can help to mitigate the effects of climate change (Climate Change SIR, 2010).

Lacking the ability to measure project specific effects, there is no method to determine differences between Alternatives B, C and D for land treatments, and given Montana’s contributions to climate change, effects between alternatives would be negligible.

Travel Management (as it relates to Climate Change):
Changes in the quantity and type of route designations do not correlate to changes in GHG emissions from vehicles because use can shift to other routes. It cannot be assumed that route closures equate to fewer vehicle hours used, and lower GHG emissions.

Considering the isolated nature of the routes and the overall number of miles considered relative to those in Montana, albedo would contribute no discernible difference to climate change between alternatives. Also, considering the miles or routes in the travel plan in context of a relatively small cumulative contribution of GHGs produced in Montana, differences between alternatives would be negligible.

3.8.4 Cumulative Effects of Alternative B

Elimination of livestock grazing in the Bull Mountain, Cottonwood Springs, South Doherty (Harris Pasture), and the Three East Pastures Allotments would be expected to improve riparian and instream habitats. Livestock operations on these allotments would probably be shifted to other lands owned or controlled by these range users or the livestock would be sold. Under Alternative B none of the projects proposed on the Bull Mountain, Cottonwood Springs, South Doherty (Harris Pasture) or the Three East Pastures Allotments would be constructed and no costs to the BLM or the permittees would occur.

If fewer AUMs were authorized on BLM-administered lands, livestock would have to be pastured elsewhere for part of the grazing season or the herd size may have to be reduced. Reducing authorized AUMs may increase livestock use on private property adjacent to or near public lands. When viewing the PA as a whole, this may directly affect similar resources on private property and offset the benefits to public land. If private livestock numbers were permanently reduced, a decrease in Jefferson County's tax revenues may result.

Implementing the conifer treatments proposed in Alternative B, in conjunction with past and reasonably foreseeable future actions, would reduce conifer colonization and move treated areas toward an open mosaic of sagebrush/grasslands. Wildfires would continue to occur, but in treated areas the intensity would be reduced due to the lesser amount of fuel that would be available.

Alternative B is intended to provide the greatest protection of resources by reducing the number of primitive roads and increasing non-motorized trails. It is anticipated that by significantly reducing the number of routes through closures and rehabilitation, land health standards would be maintained and overall impacts to vegetation, visual resources, wildlife, and cultural resources would be reduced. It cannot be assumed, however, that the numbers of visitors and commercial users of the travel network would be reduced. It is reasonable to assume that users would be concentrated on the fewer remaining "open" and "limited" routes and staging areas or trailheads, potentially increasing the impacts on or near remaining travel routes.

3.8.5 Cumulative Effects of Alternative C

The amount of authorized forage would remain unchanged for the majority of the allotments in the planning unit. Improvement of riparian habitats is the primary objective associated with the proposed changes in livestock management on four allotments. The allotments which have proposed changes, including structural improvements, would generally have improved riparian function on public land and other lands within BLM allotments at varying degrees and timeframes after these changes are implemented. The expected effect to downstream riparian habitats and water quality would be improved vegetation composition and sediment transport, better access to floodplains, dissipation of energy and, over time, improvements in channel morphology. Developing and redeveloping additional reliable stock water sources for use throughout the grazing season would create more livestock management options. Rotational grazing systems, which may include a rest period, where plants are not grazed during the same time period each season or primarily during the plant's dormant season are proposed. Rest, on allotments where it is possible, would provide plants the opportunity to make and store food, to recover vigor following livestock grazing.

Alternative C is intended to provide a substantial amount of resource protection while providing an optimal travel network for visitors and commercial users.

3.8.6 Cumulative Effects of Alternative D

Cumulative impacts associated with livestock grazing would be the same as Alternative C.

Alternative D provides the greatest amount of access and would likely provide the least amount of resource protection. The extent of the route network in this alternative would be difficult to manage and monitor, given limits to cost and personnel.

CHAPTER 4: LIST OF PREPARERS & CONSULTATION/COORDINATION

4.1 Public Involvement

The JSCE project appeared on the Butte Field Office NEPA log April 11, 2013. The NEPA log provides information about ongoing and planned project proposals. This report is available at: http://www.blm.gov/style/medialib/blm/mt/blm_information/nepa_logs.

A news release was issued on January 10, 2013 at the same time the scoping letter was mailed to approximately 48 individuals, organizations, and tribes. BLM received 95 responses providing comments on the proposal. The majority of the responses were on four issues.

Comments were addressed by modifying and refining project design features, creating alternatives, incorporating the comments into analysis, or explaining why the comment did not warrant further agency response. The IDT reviewed the public comments receiving during scoping and used the comment to develop and refine the alternatives and design the agency preferred alternative to be responsive to public concerns. In general we received comments expressing concerns about the following:

North Doherty Non-Motorized Trail Proposal

Livestock Grazing Management

Noxious Weed Treatments

Vegetative Restoration Treatments

4.1.1 Core IDT Members:

Michael O'Brien	Forester – IDT Leader, Forest Resources
John Sandford	Natural Resource Specialist – Rangeland Resources
Erik Broeder	Rangeland Management Specialist – Rangeland Resources, Riparian, Water Quality
Scot Franklin	Wildlife Biologist
Brad Colin	Outdoor Recreation Planner – Travel Management Lead, Recreation, VRM, Wilderness
Roger Olsen	Rangeland Management Specialist – Soil, SS Plants
Greg Campbell	Fire Management Specialist

4.1.2 Support IDT Members:

Lacy Decker	Range Technician – Weeds
Vickie Anderson	Range Technician – Rangeland Resources
Brad Matthews	GIS
Carrie Kiely	Archeologist
Dave Williams	Geologist – Air Quality

4.1.3 Other Support Personnel

Mike Philbin	Supervisory Physical Scientist, MT/DAK BLM State Office
Katie Lucas	Geology Tech
Anna Courtney	Soils Tech
Erin Smith	Range Tech

4.2 Consultation/Coordination

4.2.1 Persons and Agencies Consulted

Vanna Boccadori	Wildlife Biologist, MT FWP Butte
Pat Flowers	Regional Supervisor, MT FWP Bozeman
Forest Service	Jefferson Ranger District
Forest Service	Butte Ranger District

Jefferson Valley Sportsmen
Chippewa-Cree Tribe
Confederated Salish and Kootenai Tribes of the Flathead Reservation
Shoshone-Bannock Tribes of the Blackfeet Nation

4.2.2 Notifications

Scoping Media Release – January 2012
Scoping Letter Internet Release– Butte Field Office Homepage – January 2012
Scoping Letter Sent to Mailing List – January 2012
Assessment Report Media Release – April 2012
Assessment Report Internet Release – Butte Field Office Homepage – April 2012
Assessment Report Sent to Mailing List – April 2012

Glossary of Terms

Adaptive Management: A decision process that promotes flexible 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 the outcomes both advances scientific understanding and helps adjust policies or operations as part of an iterative learning process. Adaptive management also recognizes the importance of natural variability in contributing to ecological resilience and productivity. (Williams et al. 2007)

Allotment: An area of land designated and managed for livestock grazing.

Allotment Management Plan (AMP): A documented program developed as an activity plan that focuses on, and contains the necessary instructions for, the management of livestock grazing on specified public lands to meet resource conditions, sustained yield, multiple use, economic and other objectives.

Alluvium: Clay, silt, sand, gravel or similar detrital material deposited by running water.

Animal unit month (AUM): Amount of forage necessary for the sustenance of one cow or its equivalent for a one-month period.

Area of Critical Environmental Concern (ACEC): Areas within the BLM administered 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.

Colluvium: Is the name for loose bodies of sediment that have been deposited or built up at the bottom of a low-grade slope or against a barrier on that slope, transported by gravity.

DEQ: Department of Environmental Quality

Ecological site: A kind of land with specific physical characteristics which differs from other kinds of land in its ability to produce distinctive kinds and amounts of vegetation and in its response to management.

Endemic: A population of potentially injurious plants, animals, or viruses that are at low levels.

Epidemic: Pertaining to populations of plants, animals, and viruses that build up, often rapidly, to unusually and generally injurious high levels – *synonym* outbreak – *note* many insect and other animal populations cycle (periodically or irregularly) between endemic and epidemic levels.

Functional at risk (FAR): Riparian wetland areas that are functional, but an existing soil, water, or vegetation attribute makes them susceptible to degradation.

Geomorphology: Is the scientific study of landforms and the processes that shape them.

Glacial Till: Is unsorted glacial sediment. It is that part of glacial drift which was deposited directly by the glacier.

Historical range of variation (HRV): The "HRV" concept refers to the expected variation in physical and biological conditions caused by natural climatic fluctuations and disturbance regimes (i.e., flooding, fire, and windthrow). HRV is derived from an ecological history of the landscape and is estimated from the rate and extent of change in selected physical and biological variables. For example, in the Douglas-fir forest, HRV was determined by looking at existing fire scar evidence which indicated one to several fire events during the life of the older to oldest trees. The relatively uniform age groups of younger trees found in the direct vicinity of older fire scarred trees that have seeded in and grown since the last major historical fire disturbance event(s) also indicate a lack of fire in recent history.

Hydric soil: Soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

Hydrologic Unit: The USGS has developed a system of geographic units based upon watersheds. These units were originally subdivided to four levels. Subsequently two additional subdivisions have been developed. Currently there are six levels, with the sixth being the smallest unit.

Lentic: Standing or still water such as lakes and ponds.

Lotic: Flowing or actively moving water such as rivers and streams.

Moraine: Accumulated glacial debris - a mass of earth and rock debris carried by an advancing glacier and left at its front and side edges as it retreats.

Parent Material: The underlying geological material (generally bedrock or a superficial or drift deposit) in which soil horizons form.

Pedestal: Plants or rocks that appear to be elevated as a result of soil loss by wind or water erosion.

Proper functioning condition (PFC): Lotic riparian-wetland areas are considered to be in proper functioning condition when adequate vegetation, landform, or large woody debris is present to: Dissipate stream energy associated with high waterflows, reducing erosion and improving water quality; Filter sediment, capture bedload, and aid floodplain development; Improve flood-water retention and ground-water recharge; Develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; Support greater biodiversity

Riparian zone: The banks and adjacent areas of water bodies, water coursed, seeps, and springs whose waters provide soil moisture sufficiently in excess of that otherwise available locally so as to provide a moister habitat than that of contiguous flood plains and uplands.
Seral: Of, relating to, or constituting an ecological sere.

Sere: A series of ecological communities that succeed one another in the biotic development of an area or formation.

Topography: The study of Earth's surface shape and features. It is also the description of such surface shapes and features (especially their depiction in maps). The topography of an area can also mean the surface shape and features themselves.

Total Maximum Daily Load (TMDL): The goal of the Clean Water Act (CWA) is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Under section 303(d) of the CWA, states are required to develop lists of impaired waters. The law requires that states establish priority rankings for waters on the lists and develop TMDLs for these waters. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still safely meet water quality standards.

TMDL Planning Areas: Montana DEQ is using a watershed approach to address TMDLs based on the premise that water quality restoration and protection are best addressed through integrated efforts within a defined geographic area. DEQ has divided the state into 91 watershed planning areas to facilitate development of TMDL/water quality restoration plans.

Wilderness Characteristics: These attributes include the area's size, its apparent naturalness, and outstanding opportunities for solitude or a primitive and unconfined type of recreation. They may also include supplemental values.

Woodland: Forest communities occupied primarily by noncommercial species such as juniper, mountain mahogany, or quaking aspen groves. Woodland tree and shrub canopy cover varies, but generally individual plant crowns do not overlap.

Note: Travel Management definitions are located in Appendix B - Glossary.

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Note: Travel Management references are located in Appendix B - References.

APPENDIX A: MAPS

JEFFERSON COUNTY SE PLANNING AREA

U.S. Department of the Interior
Bureau of Land Management
Butte Field Office
106 N. Parkmont
Butte, Montana 59701
Phone: (406) 533-7600
FAX: (406) 533- 7660

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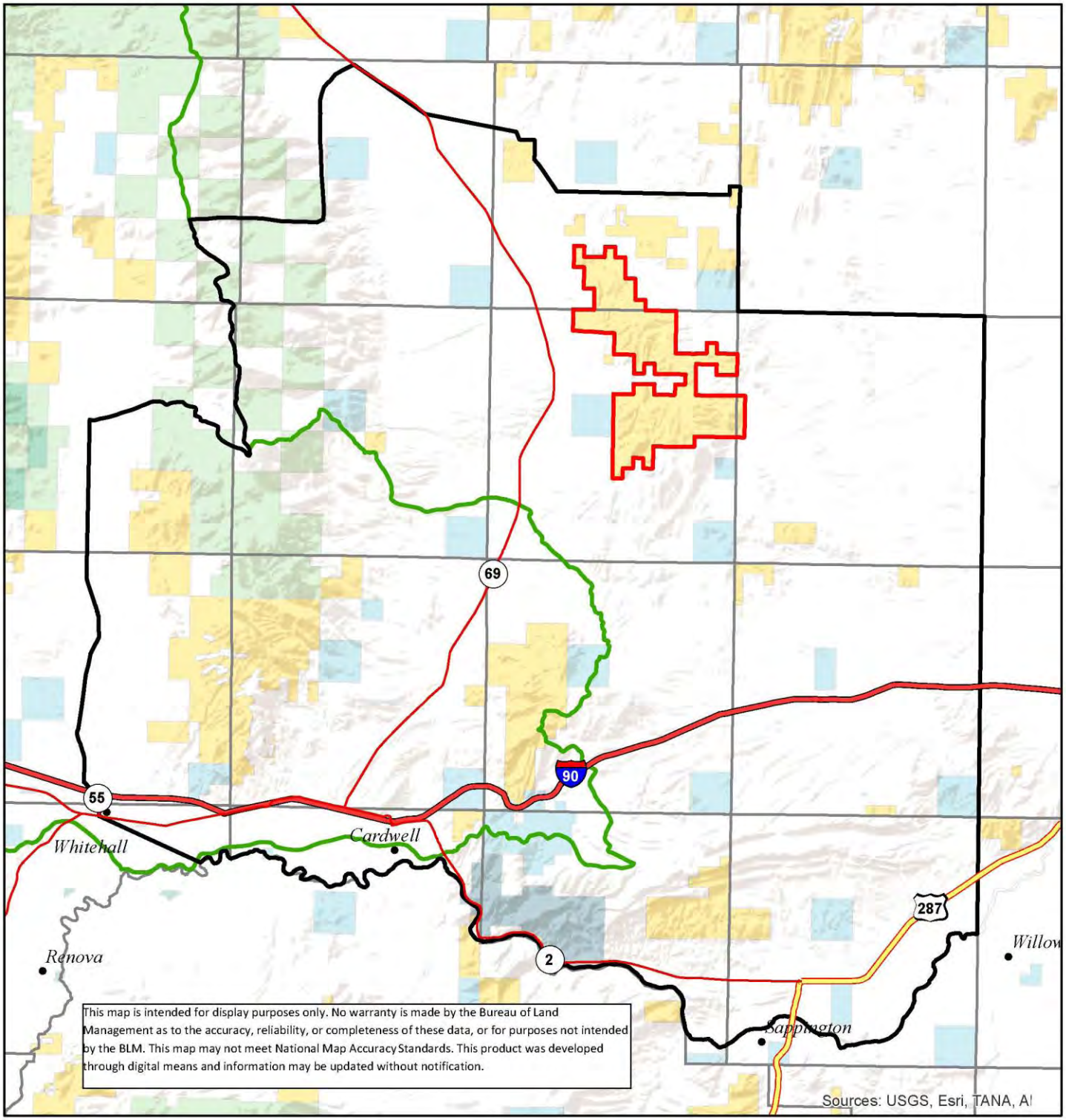
United States Department of Interior
Bureau of Land Management
Butte Field Office

Jefferson County Southeast
Planning Area

Planning Area Overview
(Map 1)



- Planning Area
- Black Sage WSA
- Whitetail/Pipestone Plan Area
- BLM
- Local Government
- Private
- Division of State Lands
- State Fish and Wildlife
- State Parks and Recreation
- US Fish and Wildlife Service
- US Forest Service

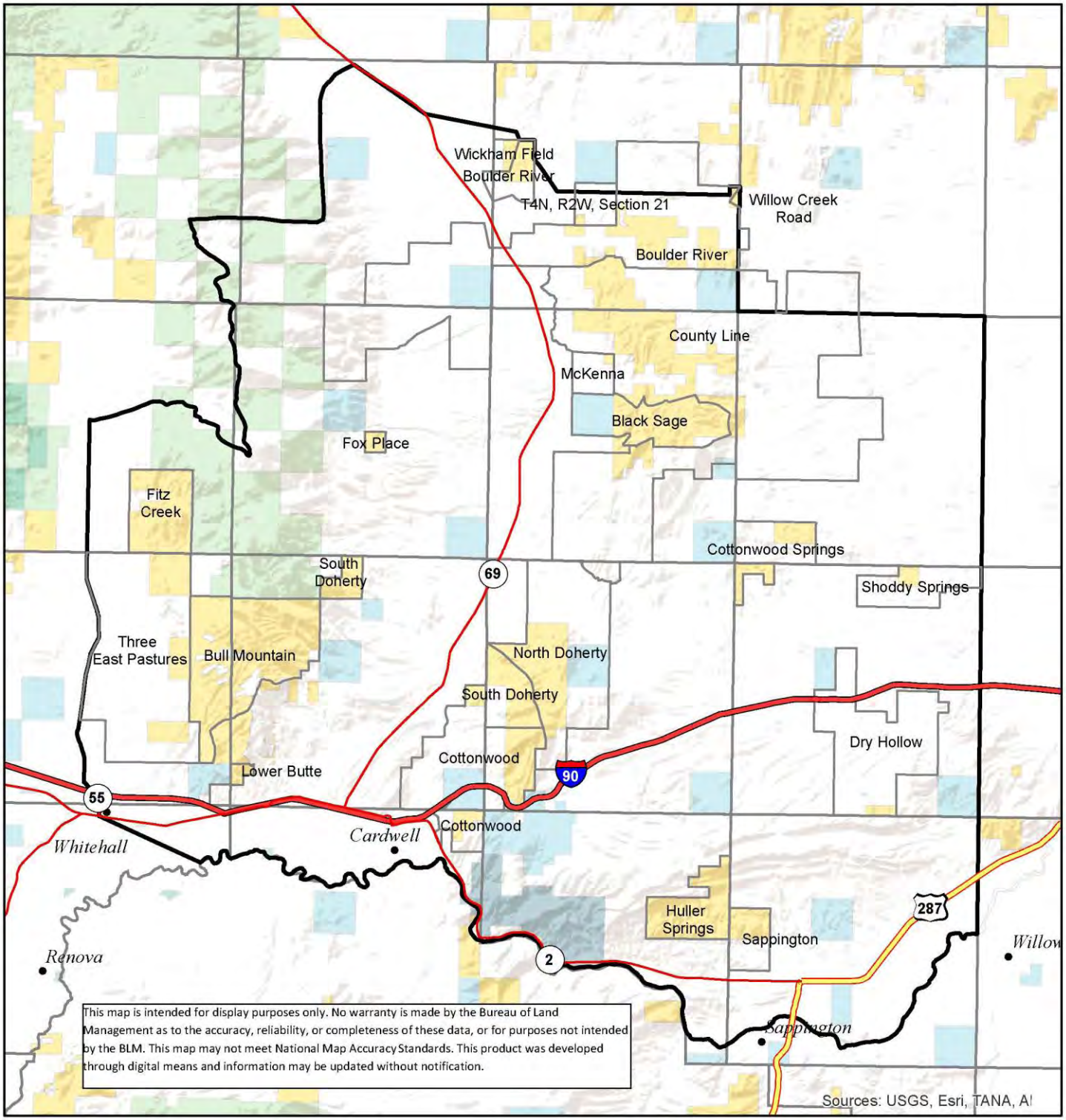
2 1 0 2 4 Miles

United States Department of Interior
Bureau of Land Management
Butte Field Office

Jefferson County Southeast
Planning Area

Grazing Allotments Overview (Map 2)

- Planning Area
- Allotments
- BLM
- Local Government
- Private
- Division of State Lands
- State Fish and Wildlife
- State Parks and Recreation
- US Fish and Wildlife Service
- US Forest Service



2 1 0 2 4 Miles

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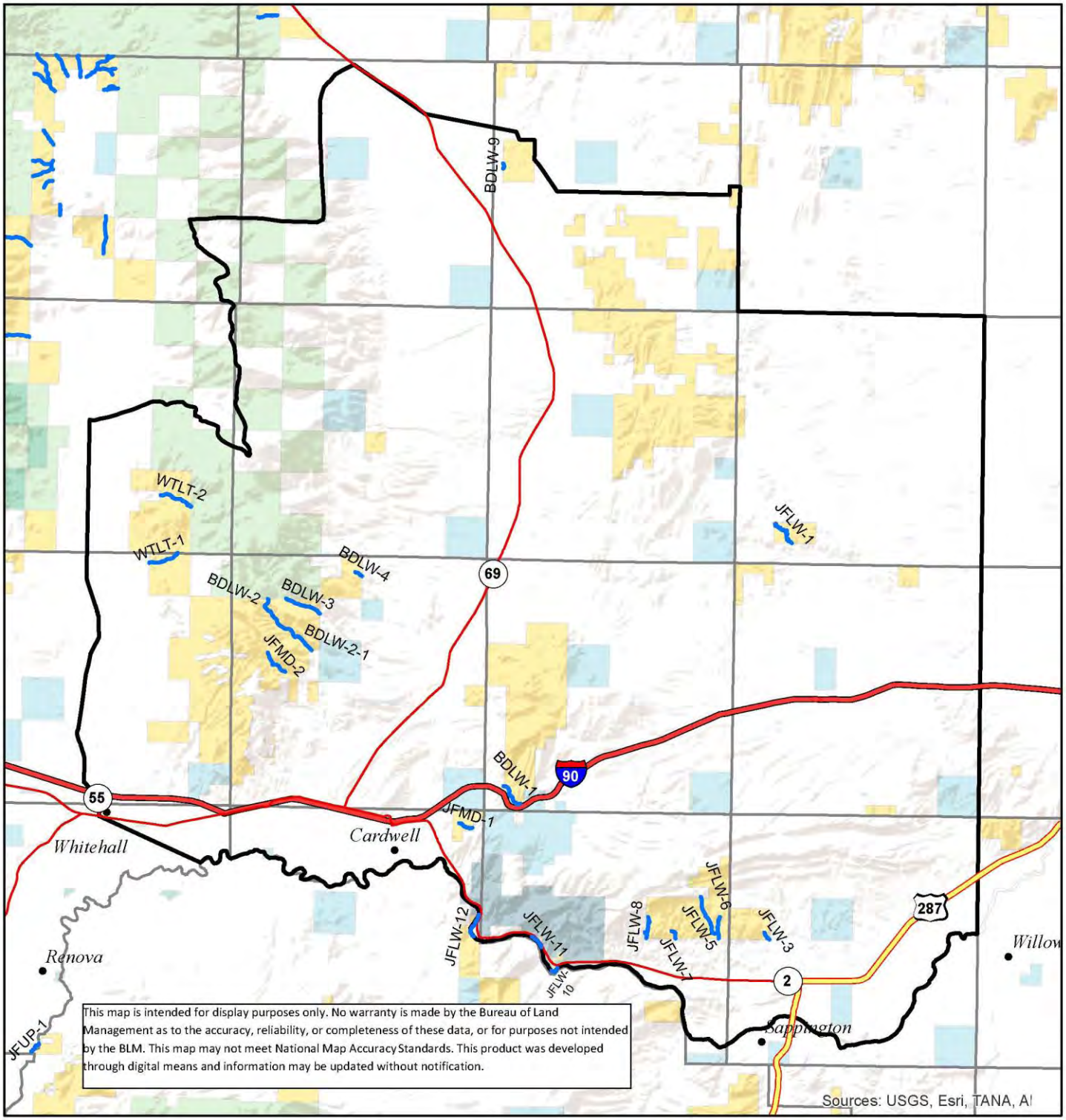
Bureau of Land Management
Butte Field Office

Jefferson County Southeast Planning Area

Riparian Resources (Map 3)



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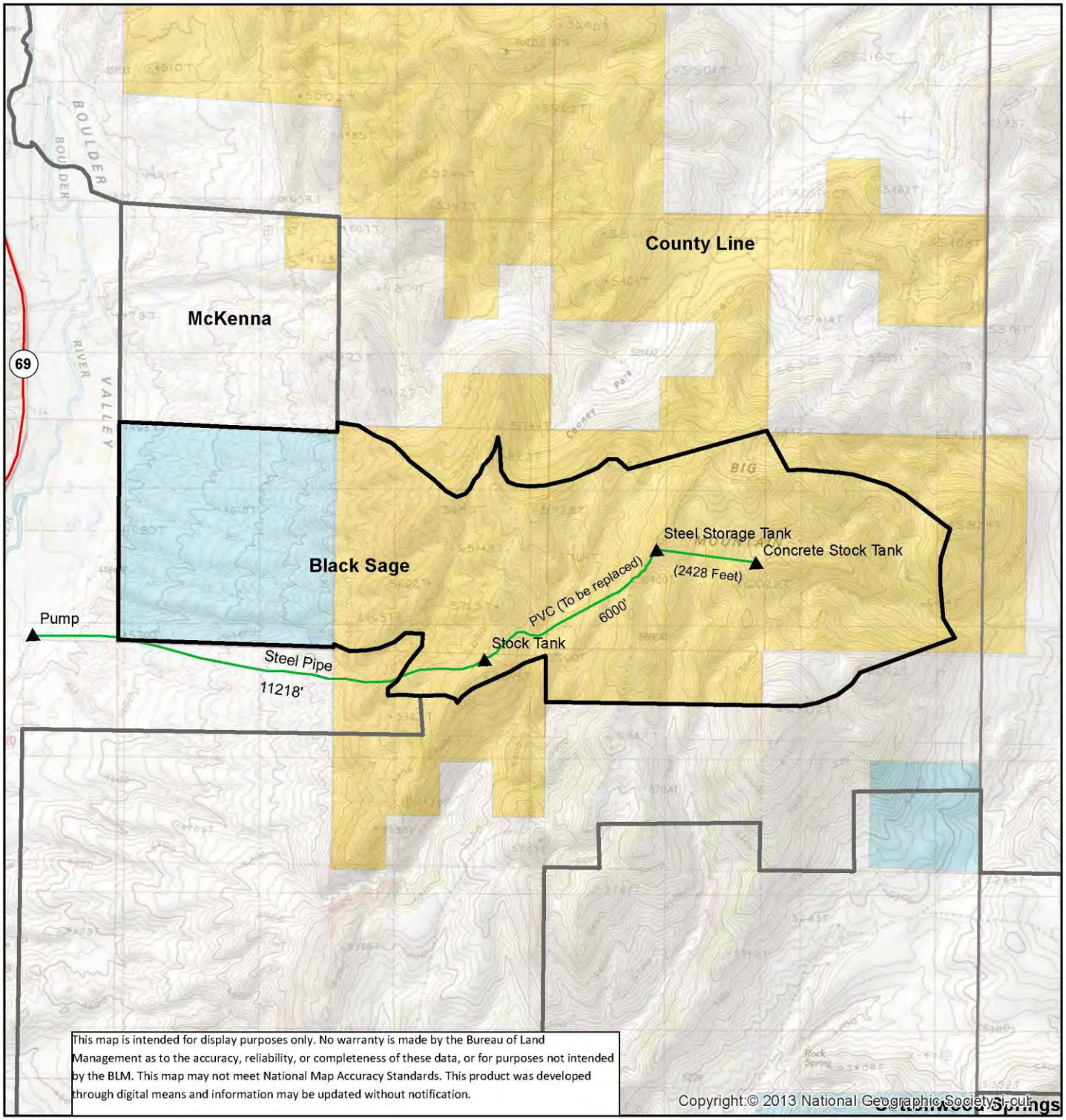
- Riparian Reach
- Planning Area
- BLM
- Local Government
- Private
- Division of State Lands
- State Fish and Wildlife
- State Parks and Recreation
- US Fish and Wildlife Service
- US Forest Service

2 1 0 2 4 Miles

United States Department of Interior
Bureau of Land Management
Butte Field Office

Jefferson County Southeast Planning Area

Black Sage Allotment (Map 4)



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- Black Sage Range Improvements
- Black Sage Pipeline
- Riparian Reach
- Allotment
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- US Forest Service

2,000 1,000 0 2,000 4,000 Feet

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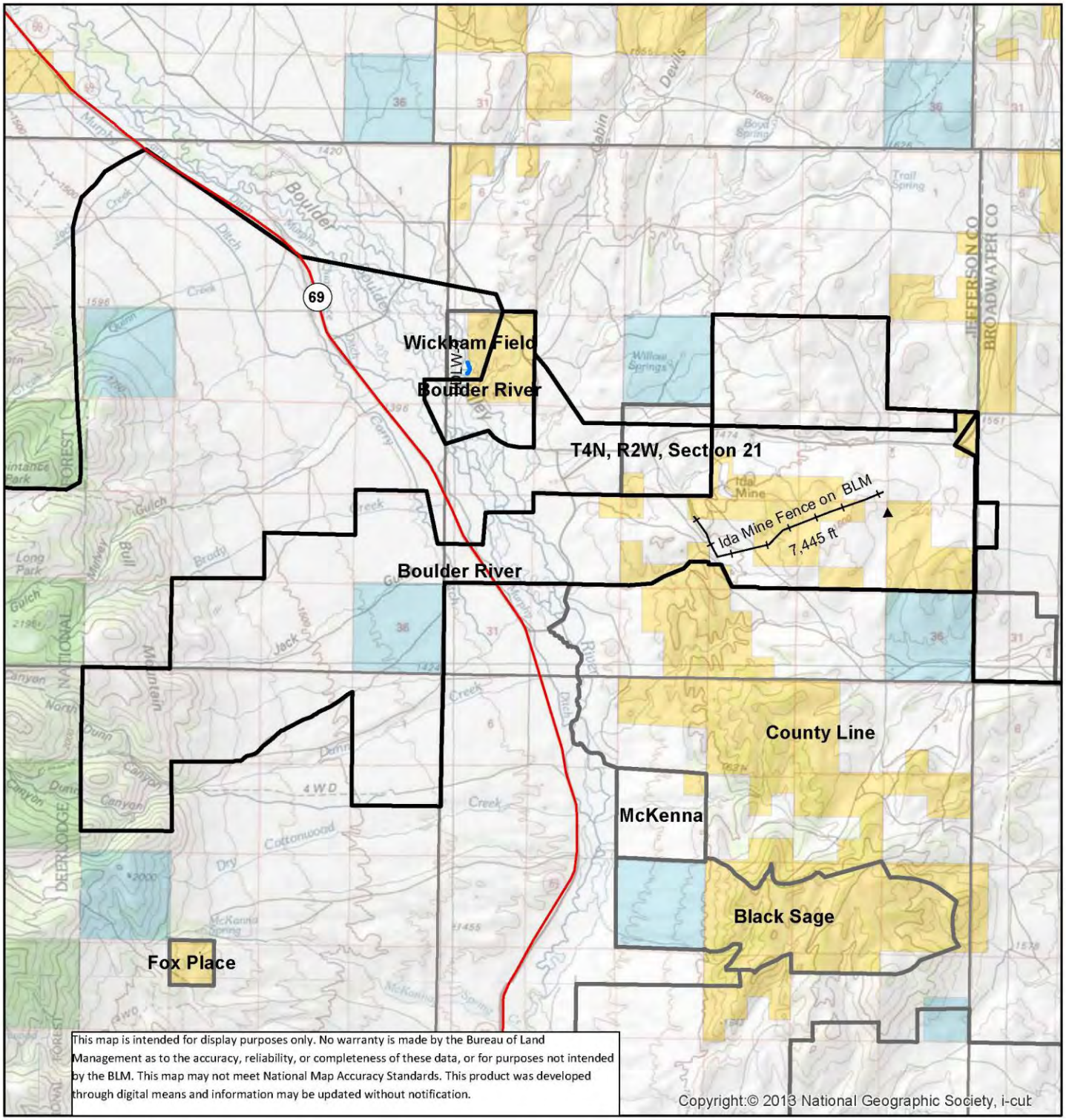
Butte Field Office

Jefferson County Southeast Planning Area

Boulder River Allotment (Map 5)



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- State Parks and Recreation
- US Fish and Wildlife Service
- US Forest Service

4,900 2,450 0 4,900 9,800 Feet

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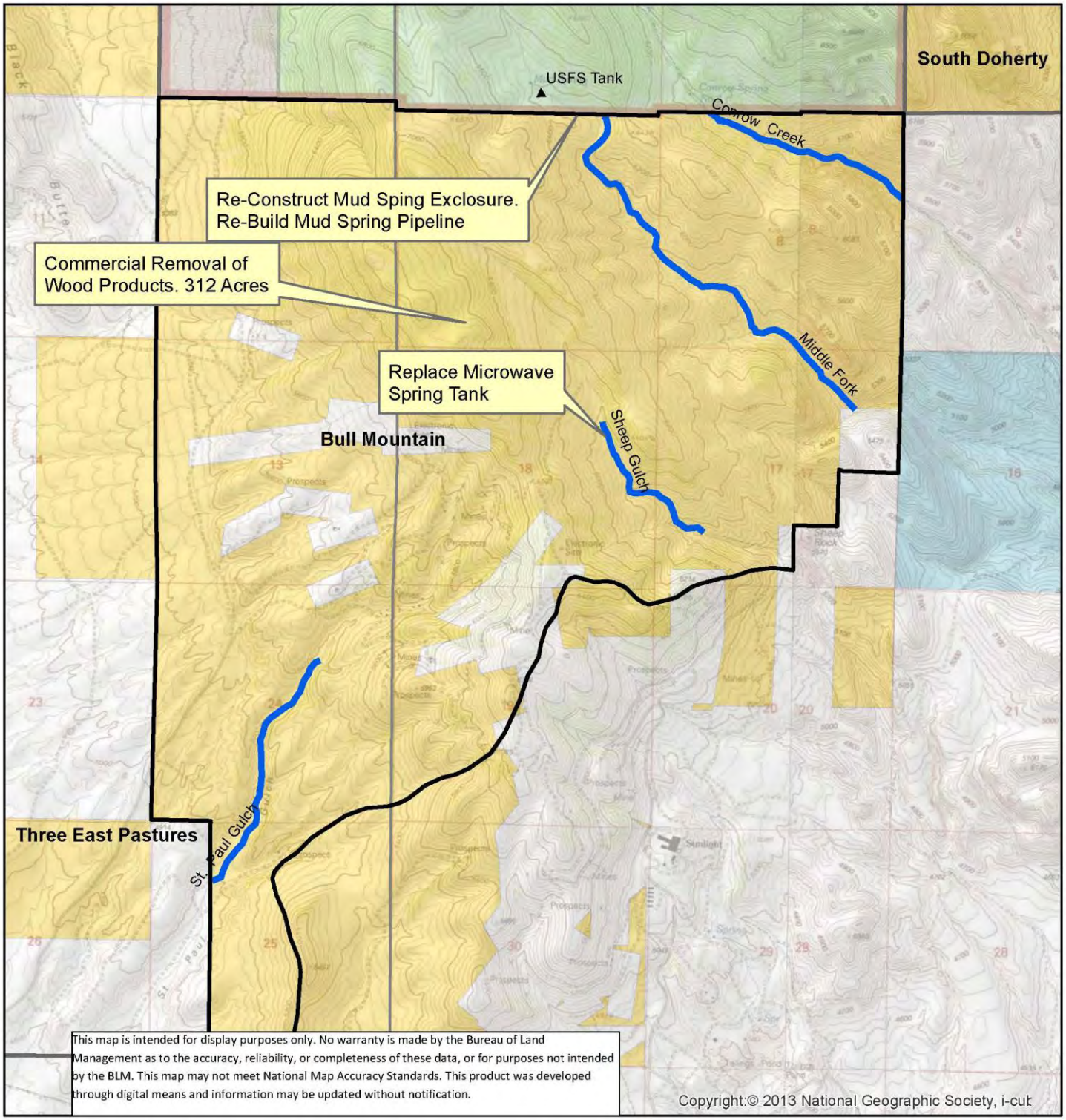
Bureau of Land Management
Butte Field Office

Jefferson County Southeast Planning Area

Bull Mountain Allotment (Map 6)



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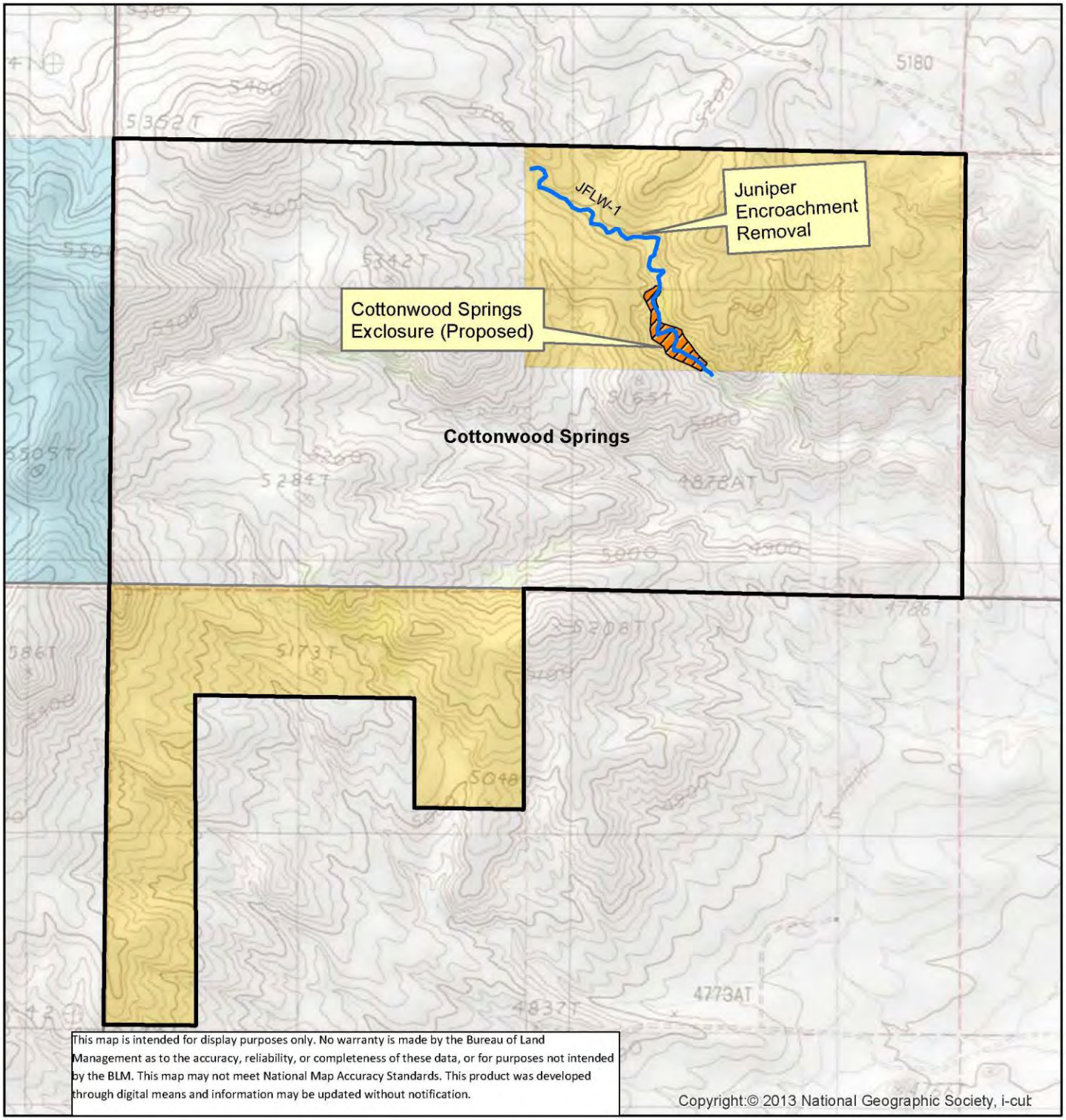
- US Forest Service

1,800 900 0 1,800 3,600 Feet

United States Department of Interior
Bureau of Land Management
Butte Field Office

Jefferson County Southeast
Planning Area

Cottonwood Springs Allotment
(Map 7)



Riparian Reach
Cottonwood Springs Exclosure
BLM
Local Government
Private
Division of State Lands
State Fish and Wildlife
State Parks and Recreation
US Fish and Wildlife Service
US Forest Service

1,000 500 0 1,000 2,000 Feet

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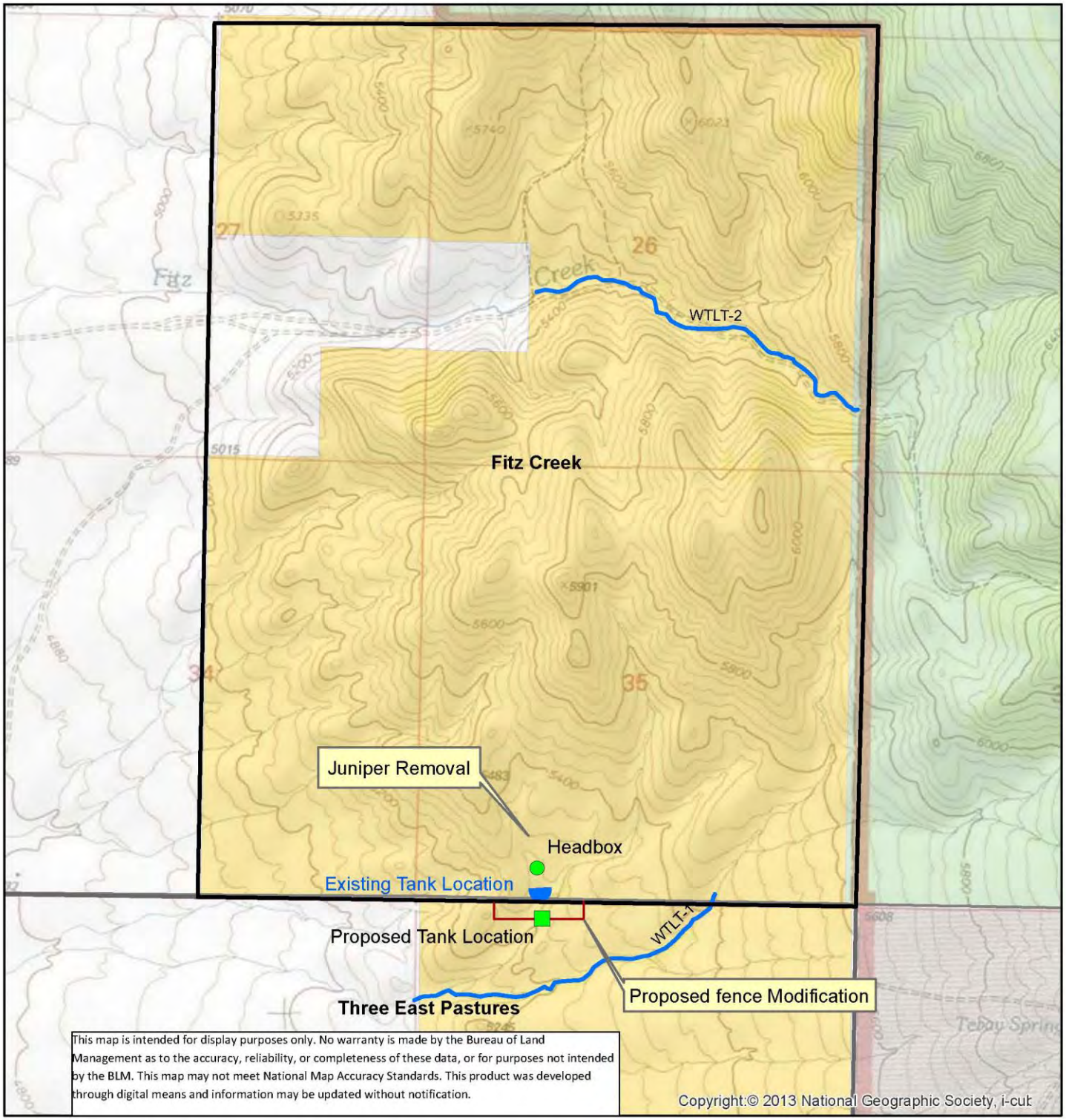
Jefferson County Southeast
Planning Area

Fitz Creek Allotment
(Map 8)



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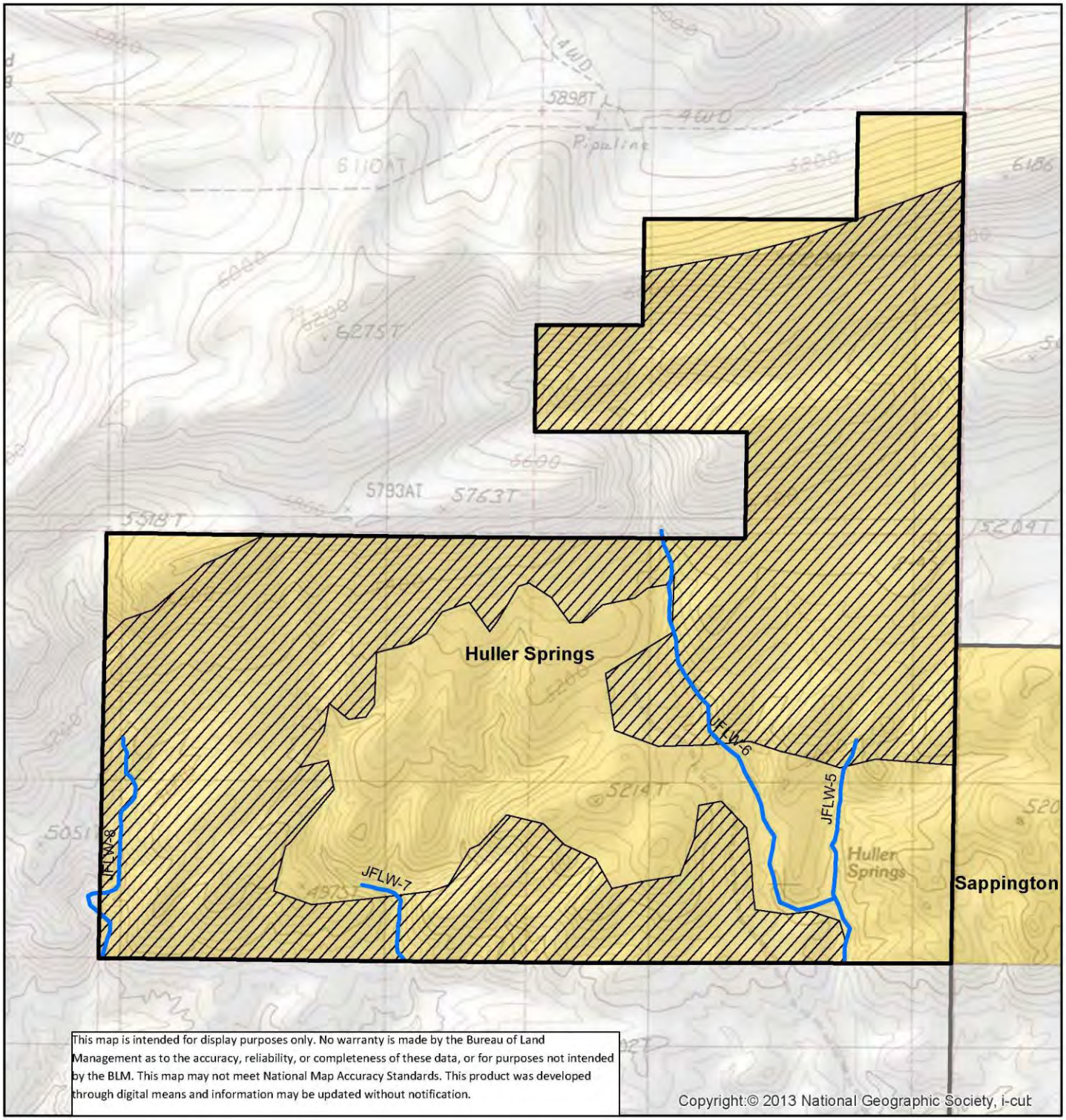
Planning Area

Huller Springs Allotment (Map 9)



Riparian Reach
Huller Springs Fuels Treatment
BLM
Local Government
Private
Division of State Lands
State Fish and Wildlife
State Parks and Recreation
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1,000 500 0 1,000 2,000 Feet

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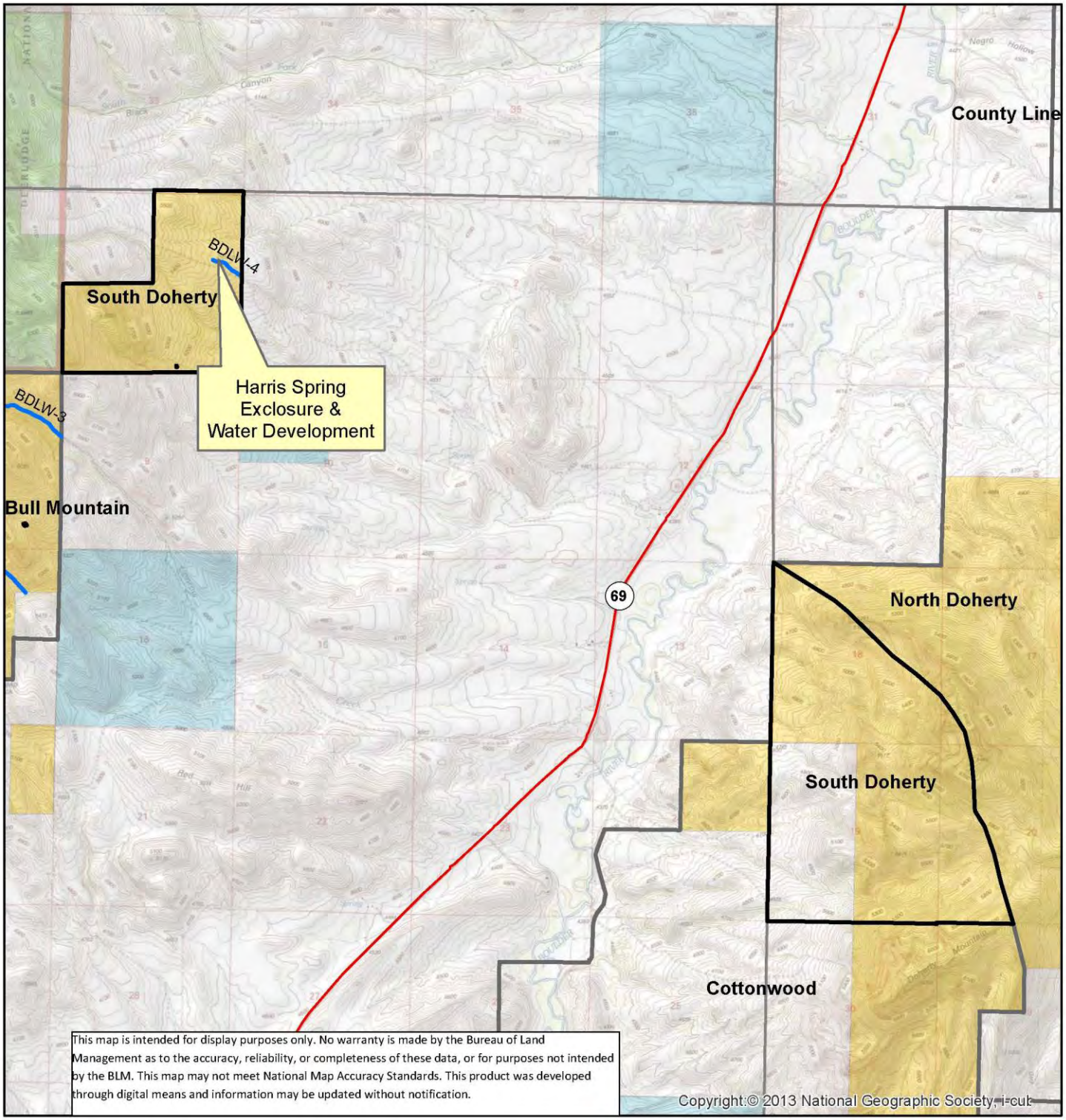
Jefferson County Southeast Planning Area

South Doherty Allotment (Map 10)



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2,500 1,250 0 2,500 5,000 Feet

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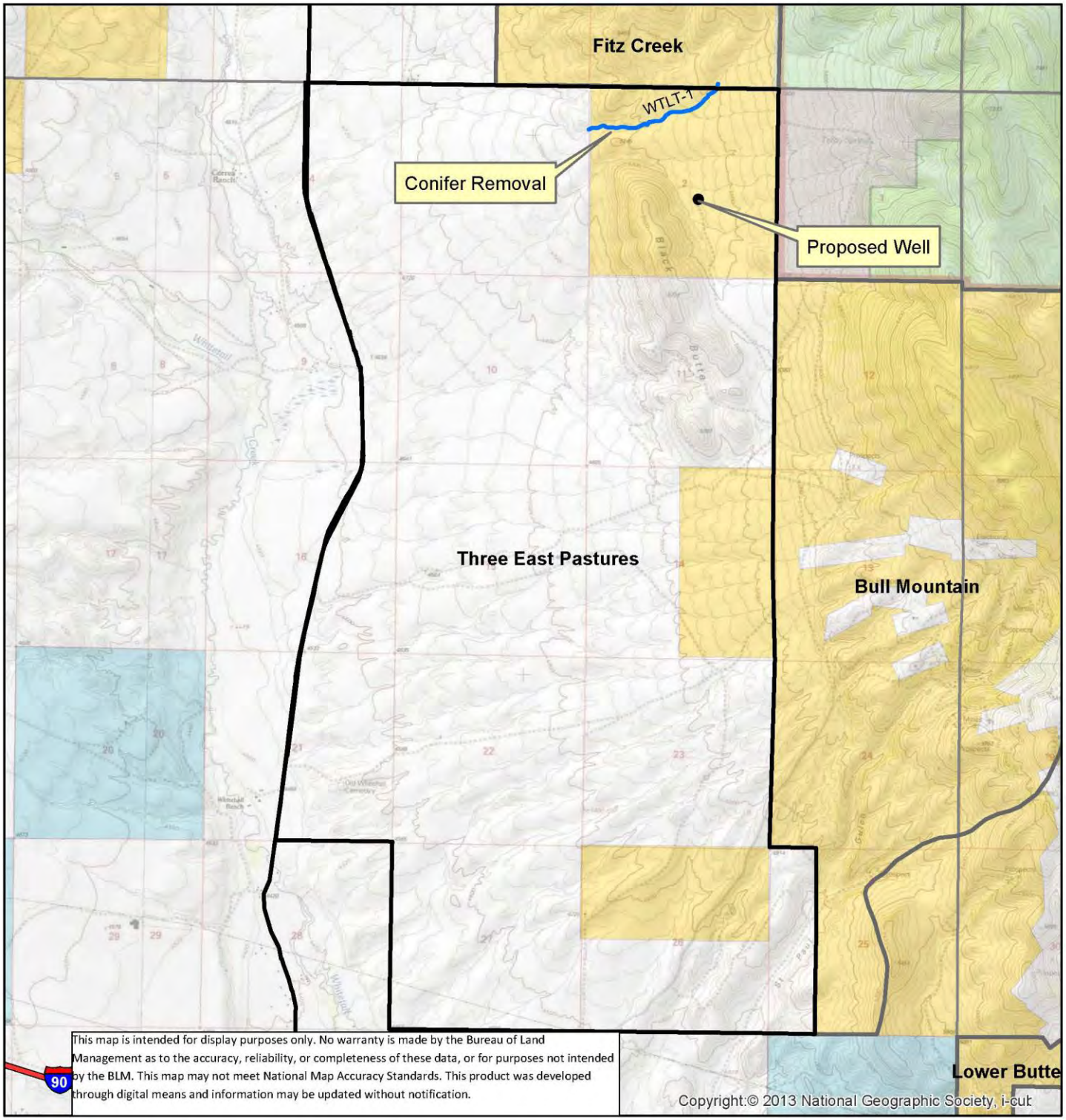
Butte Field Office

Jefferson County Southeast
Planning Area

Three East Pastures Allotment
(Map 11)



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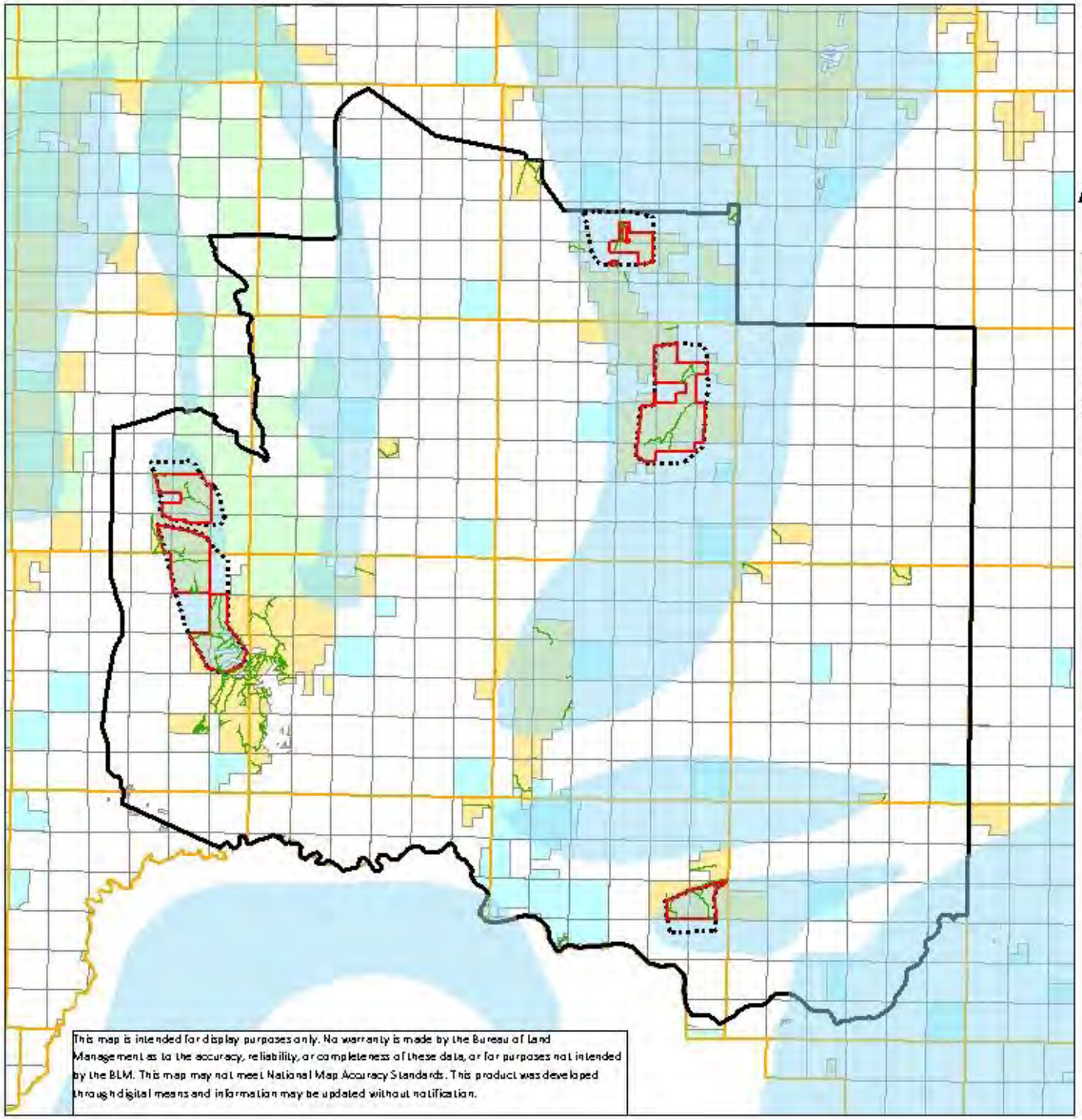
2,300 1,150 0 2,300 4,600 Feet

Map 12



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Jefferson County Southeast Planning Area

Alt. A Big Game Winter Range

- Alt. A Open Roads
- Alts. A, D BLM Wtr. Range Roads >1 mi/sq mi
- Alts. A, D PA Wtr. Range Roads > 1 mi/sq mi
- Big Game Winter Range
- Planning Area

Land Ownership

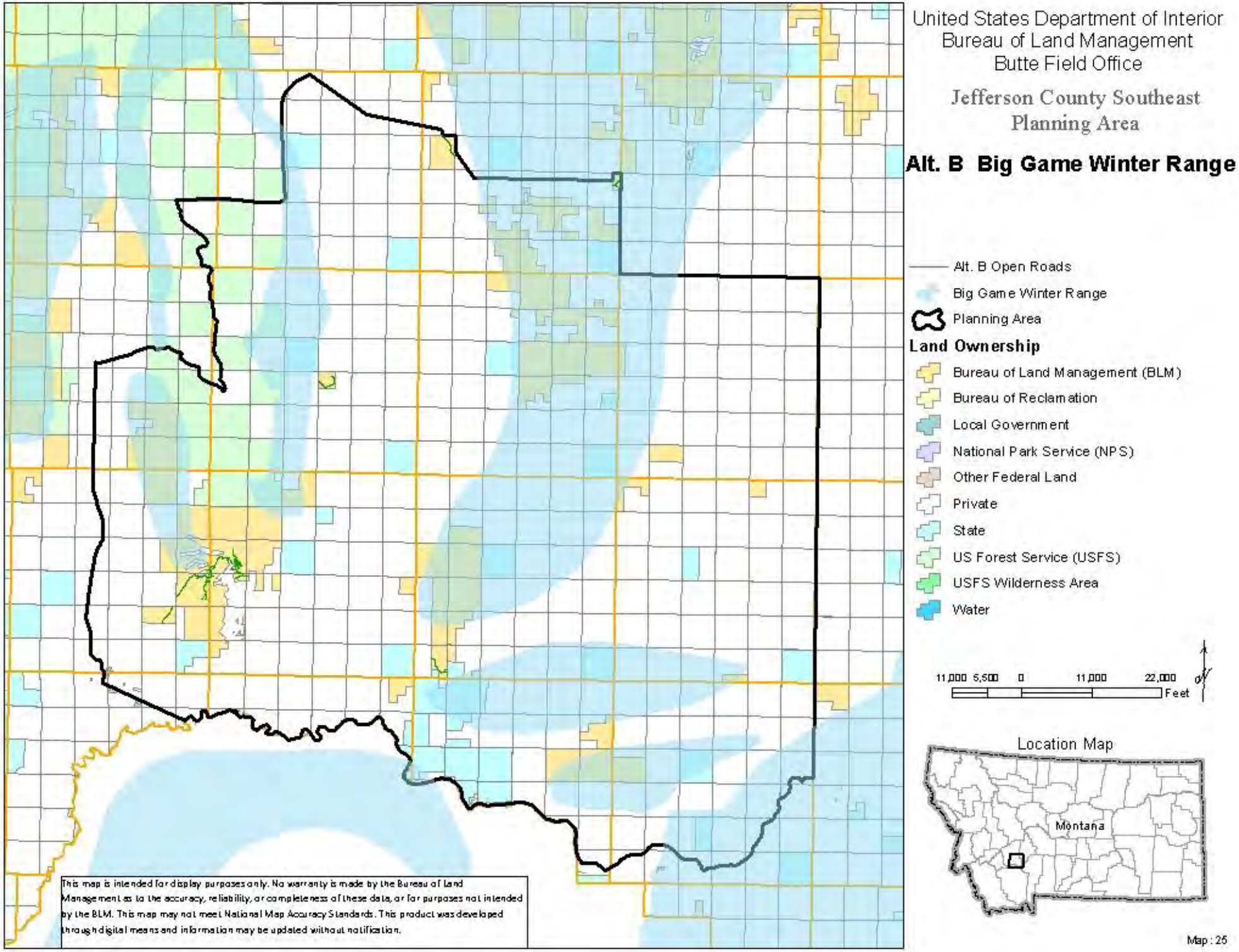
- Bureau of Land Management (BLM)
- Bureau of Reclamation
- Local Government
- National Park Service (NPS)
- Other Federal Land
- Private
- State
- US Forest Service (USFS)
- USFS Wilderness Area
- Water

11,000 5,500 0 11,000 22,000 Feet

Location Map

Map : 25

Map 13


United States Department of Interior
Bureau of Land Management
Butte Field Office
Jefferson County Southeast
Planning Area
Alt. B Big Game Winter Range
Alt. B Open Roads
Big Game Winter Range
Planning Area
Land Ownership
Bureau of Land Management (BLM)
Bureau of Reclamation
Local Government
National Park Service (NPS)
Other Federal Land
Private
State
US Forest Service (USFS)
USFS Wilderness Area
Water
11,000 5,500 0 11,000 22,000
Feet
Location Map
Montana
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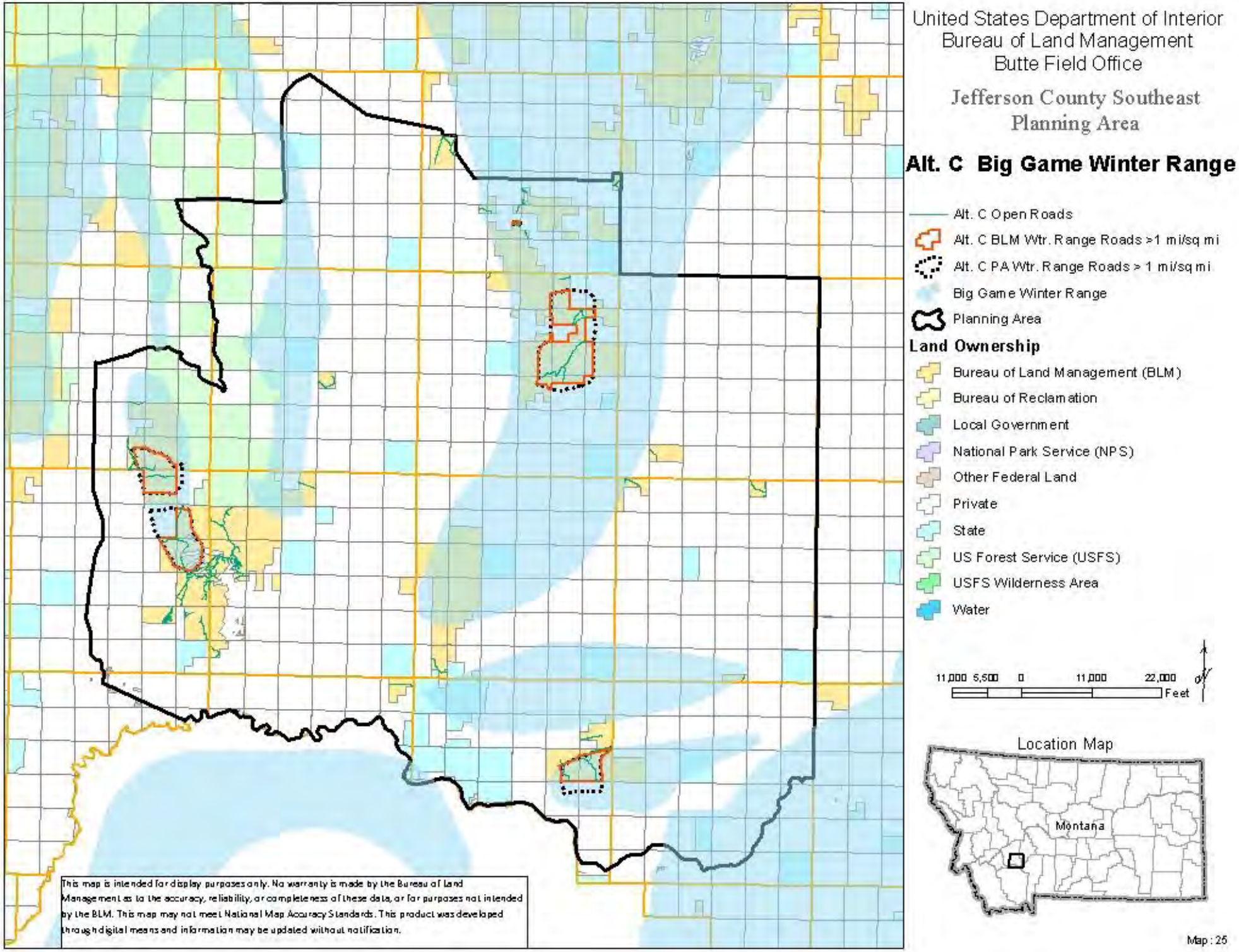
Map : 25

Map 14


United States Department of Interior
Bureau of Land Management
Butte Field Office
Jefferson County Southeast
Planning Area
Alt. C Big Game Winter Range
Alt. C Open Roads
Alt. C BLM Wtr. Range Roads >1 mi/sq mi
Alt. C PA Wtr. Range Roads > 1 mi/sq mi
Big Game Winter Range
Planning Area
Land Ownership
Bureau of Land Management (BLM)
Bureau of Reclamation
Local Government
National Park Service (NPS)
Other Federal Land
Private
State
US Forest Service (USFS)
USFS Wilderness Area
Water
11,000 5,500 0 11,000 22,000
Feet
Location Map
Montana
Map : 25
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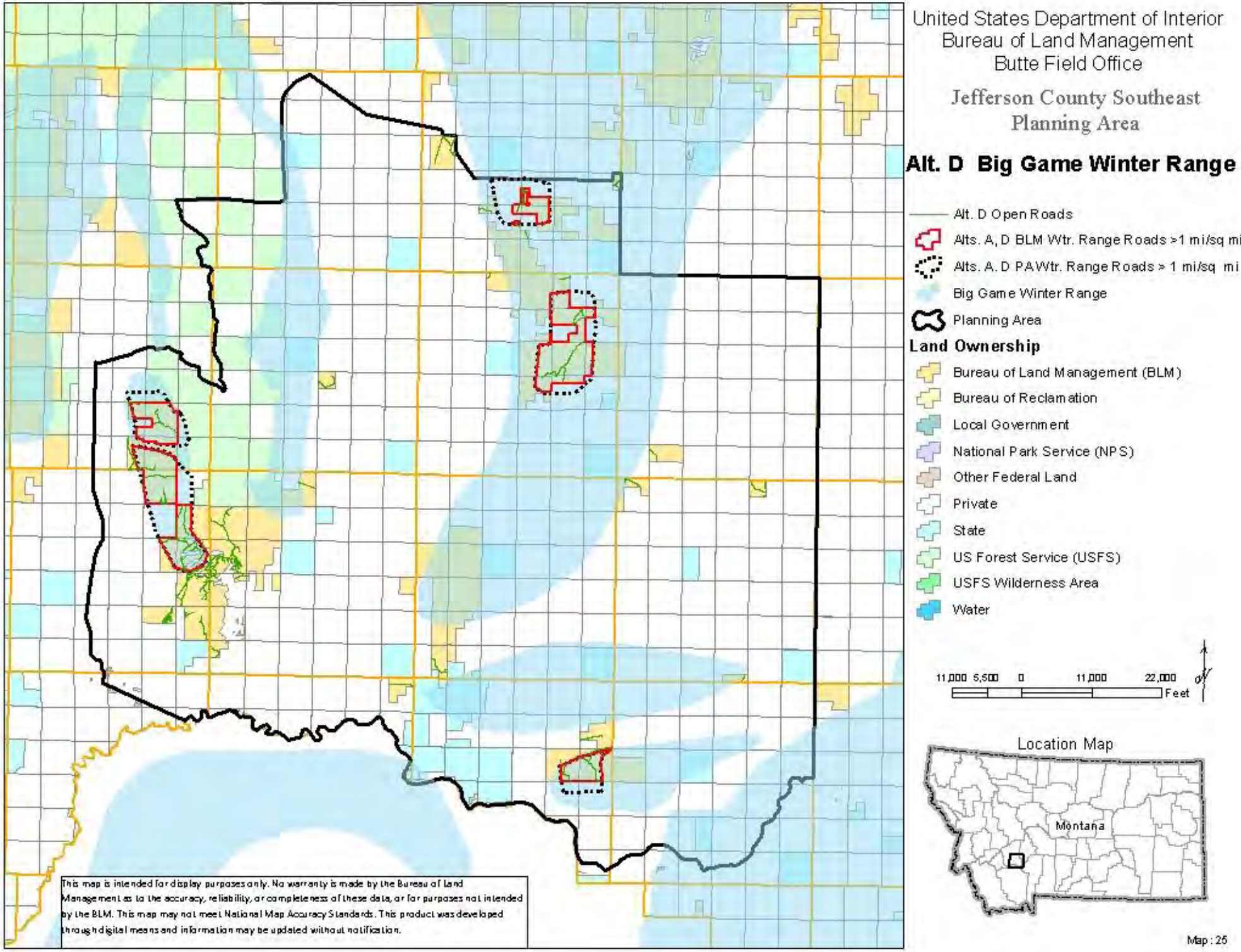
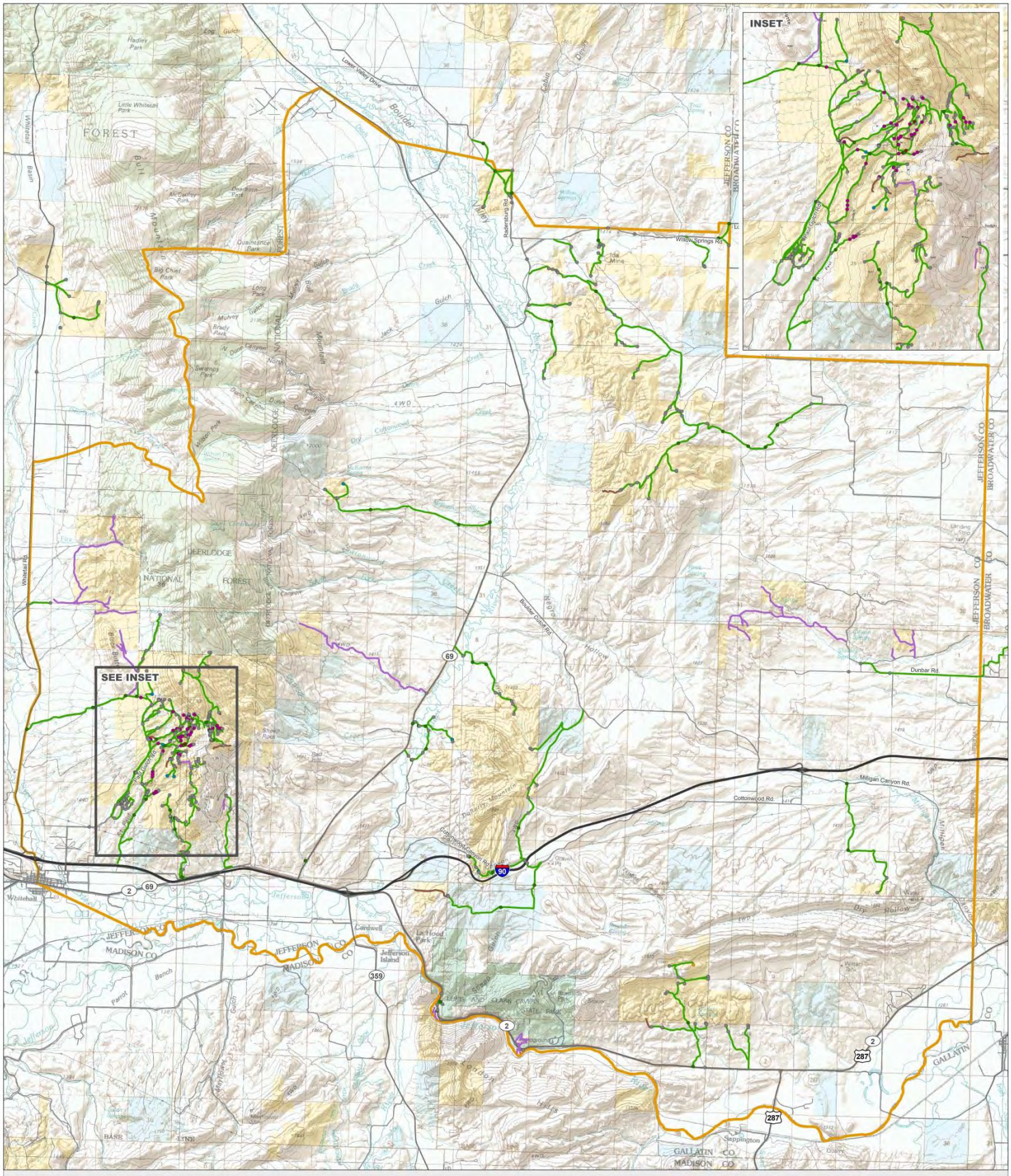
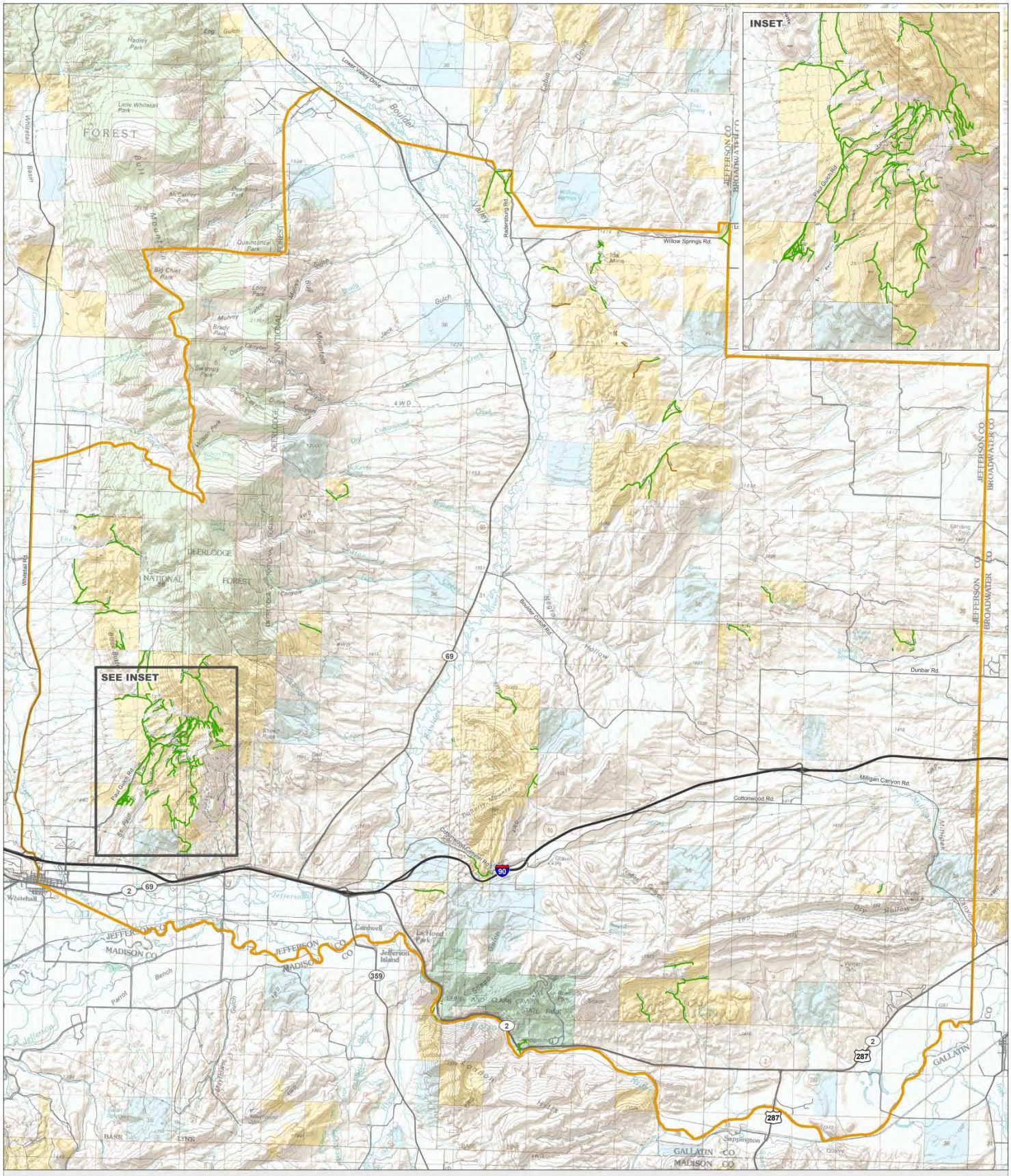
Map 15


United States Department of Interior
Bureau of Land Management
Butte Field Office
Jefferson County Southeast
Planning Area
Alt. D Big Game Winter Range
Alt. D Open Roads
Alts. A, D BLM Wtr. Range Roads >1 mi/sq mi
Alts. A. D PA Wtr. Range Roads > 1 mi/sq mi
Big Game Winter Range
Planning Area
Land Ownership
Bureau of Land Management (BLM)
Bureau of Reclamation
Local Government
National Park Service (NPS)
Other Federal Land
Private
State
US Forest Service (USFS)
USFS Wilderness Area
Water
11,000 5,500 0 11,000 22,000
Feet
Location Map
Montana
Map : 25
This map is intended for display purposes only. No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these 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.

Map 16


INSET
SEE INSET
Whitehall
Jefferson Island
Cardwell
Sappington
JEFFERSON CO
MADISON CO
BROADWATER CO
GALLATIN CO
Radersburg Rd
Willow Springs Rd
Dunbar Rd
Cottonwood Rd
Milligan Canyon Rd
Boulder Chute Rd
Whitetail Rd
Lower Valley Drive
Dry Hollow
Dry Mountain
Big Chief Park
Quintancio Park
Swamp Park
Willow Park
Little Whitetail Park
Hadley Park
Bear Horn Park
McCauley Park
Brady Park
Long Pass
Mulvey
Log Gulch
Boulder
Jack
Cottonwood
Willow Springs
Dunn Canyon
North Dunn
Dunn Cabin
Dunn Cabin Canyon
Dunn Canyon
Sheep Rock
Bad Hill
Bear Hollow
Cabin
Devils
Trail Canyon
Willow Springs
Ida Mine
McKenna Spring
Cottonwood Canyon
Cottonwood Canyon Rd
Jefferson
Parrot
Bench
Gulch
Mayflower
Cabin
Hills
Hollow
Willow
Willow Creek
Willow Creek Rd
Willow Creek Campground
Lewis and Clark Caverns State Park
Jefferson River
Boulder River
Big Boulder Creek
Little Boulder Creek
Big Boulder Creek
Little Boulder Creek
Boulder River
Boulder Creek
Big Creek
Little Creek
Big Creek
Little Creek
Big Creek
Little

Map 17



No-Action Travel Route Network - Alternative A

BLM, Montana, Butte Field Office - Jefferson County Southeast Planning Area

This product may not meet BLM standards for accuracy and content. Different data sources and input scales may cause some misalignment of data layers. This map is intended to assist the Butte Field Office staff with transportation management planning, and is not intended for any other use.

Datum: North American 1983 (NAD83)
Projection: State Plane Montana FIPS 2500
Map Scale: 1:42,500
Created By: Advanced Resource Solutions, Inc.
Created On: April 24, 2013
Sources: USGS, ESRI, TANA, AND, NPS, MDT

N

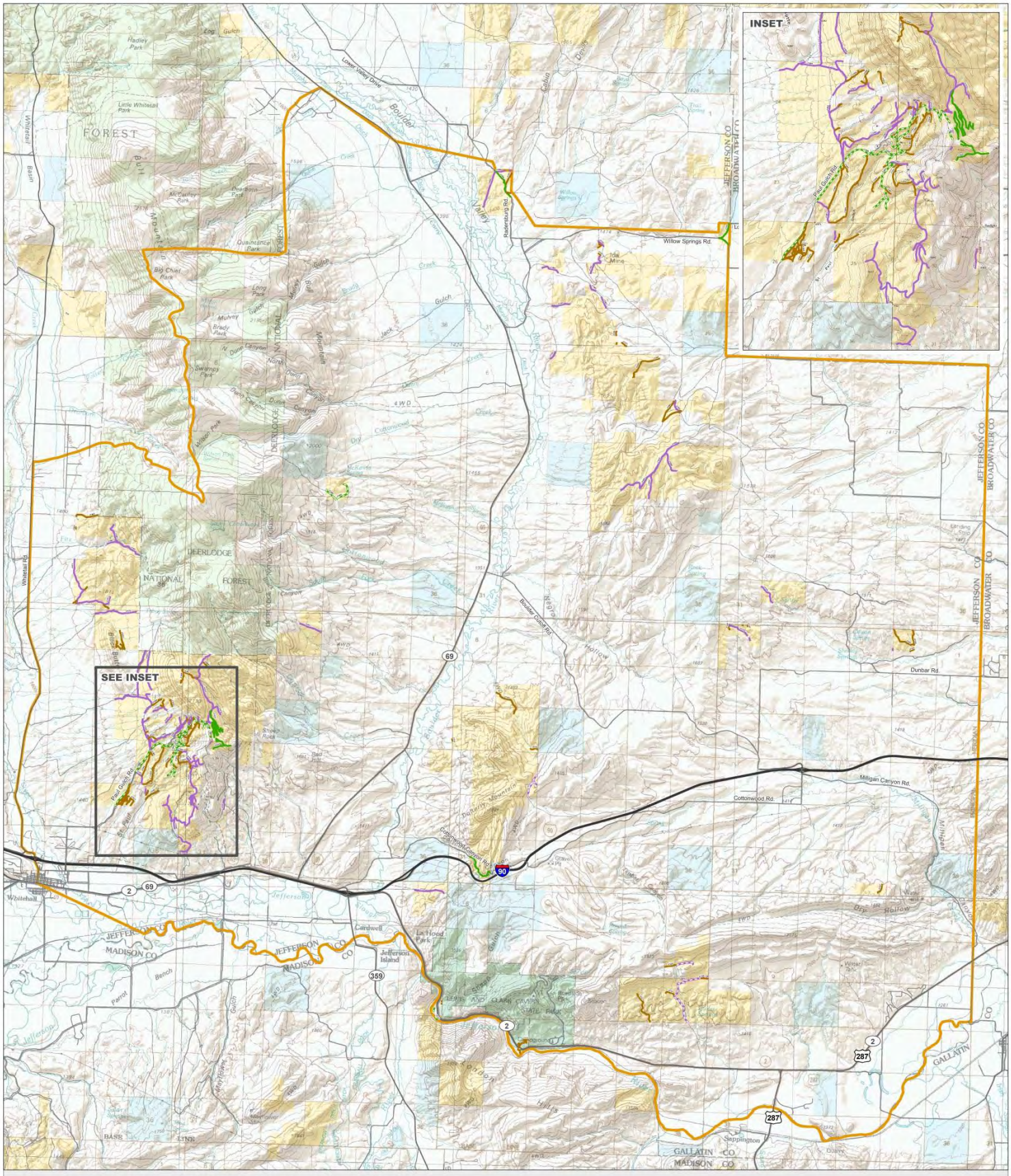
0 0.5 1 2 3 4 Miles

Route Designation
Alternative A
- Open to All Uses
- Limited to Authorized Users
- Closed to All Uses
- Plan Area

MDT Routes
- Interstate
- Ramp
- Highway or State Route
- Primary or Secondary Route
- Local Routes
- World Terrain Base

Public Lands
- US Bureau of Land Management
- US Forest Service
- Montana Fish, Wildlife, and Parks
- State of Montana, Montana State Trust Lands
- National Park Service
- Other Federal Lands
- Unknown

Map 18



Proposed Travel Route Designations - Alternative B

BLM, Montana, Butte Field Office - Jefferson County Southeast Travel Planning Area

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Datum: North American 1983 (NAD83)
Projection: State Plane Montana FIPS 2500
Map Scale: 1:42,500
Created By: Advanced Resource Solutions, Inc.
Created On: April 23, 2013
Sources: USGS, ESRI, TANA, AND, NPS, MDT

N

0 0.5 1 2 3 4 Miles

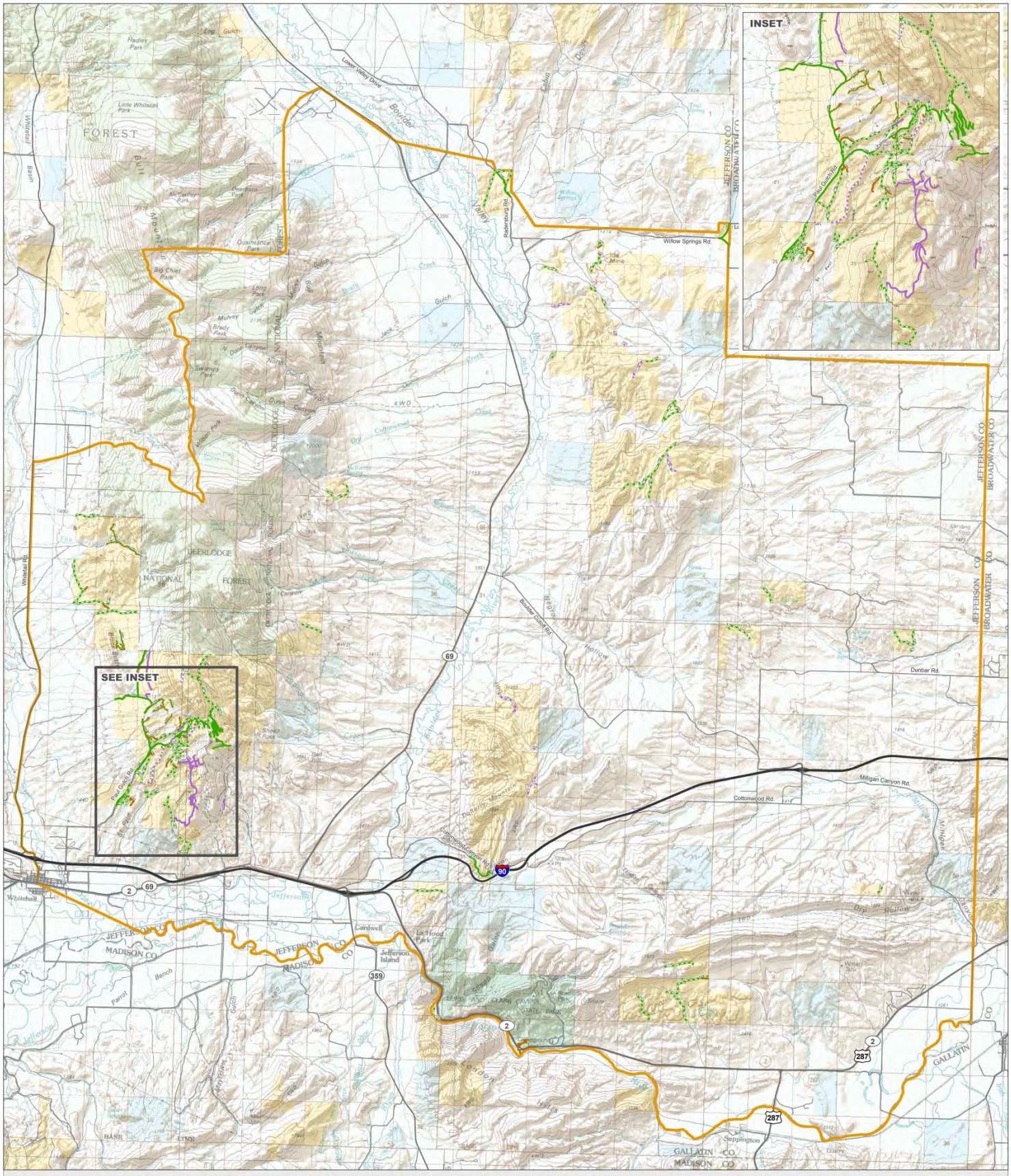
Proposed Route Designation
Alternative B
- Open to All Uses
- Open to All Uses with Additional Management
- Limited to Authorized Users
- Limited to Authorized Users with Additional Management
- Closed to All Uses

Plan Area

MDT Routes
- Interstate
- Ramp
- Highway or State Route
- Primary or Secondary Route
- Local Routes

Public Lands
- US Bureau of Land Management
- US Forest Service
- Montana Fish, Wildlife, and Parks
- State of Montana, Montana State Trust Lands
- National Park Service
- Other Federal Lands
- Unknown

Map 19



Proposed Travel Route Designations - Alternative C

BLM, Montana, Butte Field Office - Jefferson County Southeast Travel Planning Area

This product may not meet BLM standards for accuracy and content. Different data sources and input scales may cause some misalignment of data layers. This map is intended to assist the Butte Field Office staff with transportation management planning, and is not intended for any other use.

Datum: North American 1983 (NAD83)
Projection: State Plane Montana FIPS 2500
Map Scale: 1:42,500
Created By: Advanced Resource Solutions, Inc.
Created On: April 23, 2013
Sources: USGS, ESRI, TANA, AND, NPS, MDT

N

0 0.5 1 2 3 4 Miles

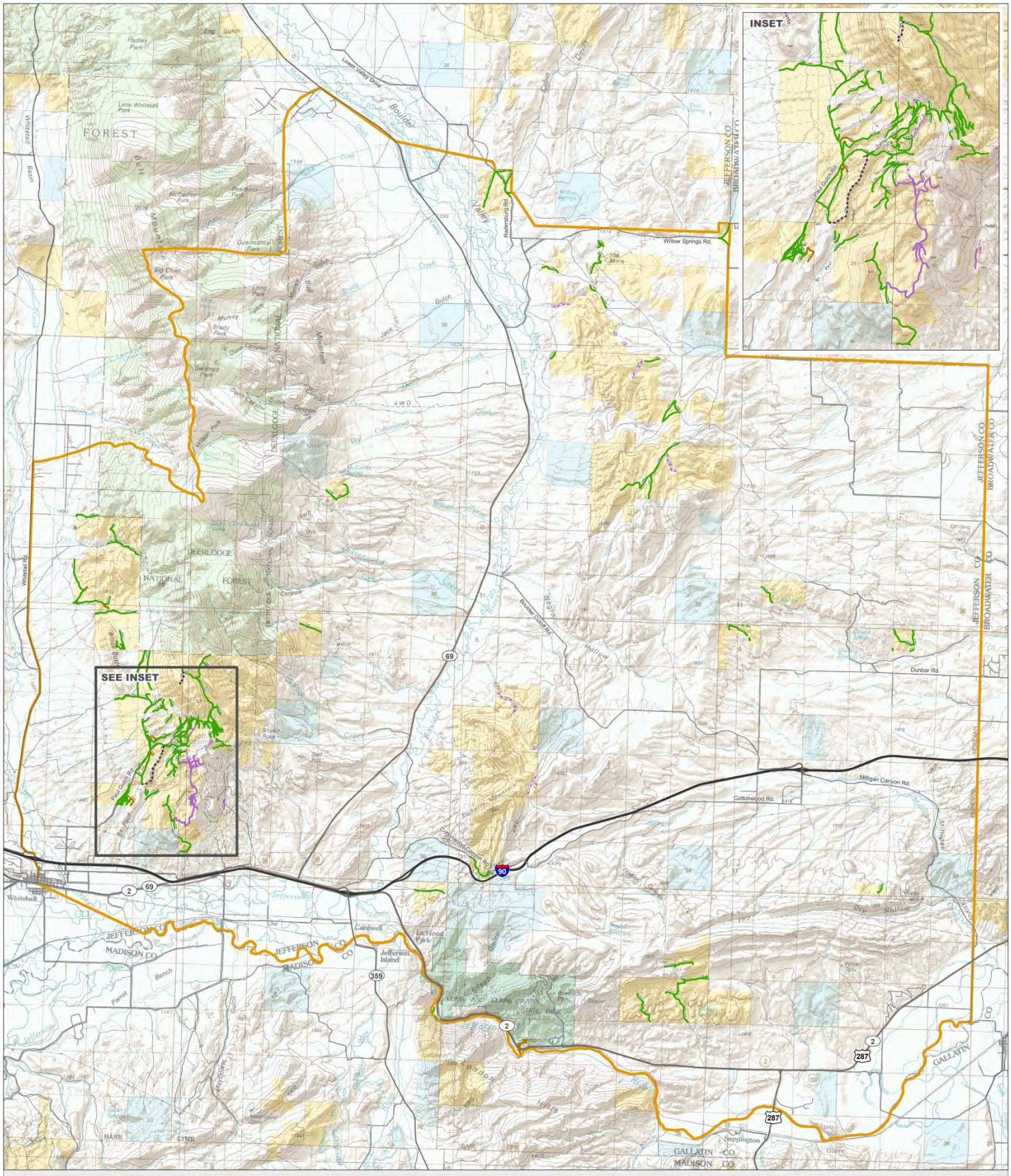
Proposed Route Designation
Alternative C
- Open to All Uses
- Open to All Uses with Additional Management
- Seasonal Motorized Closure to Public
- Limited to Authorized Users
- Limited to Authorized Users with Additional Management
- Limited to Vehicles 50" Wide or Smaller with Additional Management
- Closed to All Uses

Plan Area

MDT Routes
- Interstate
- Ramp
- Highway or State Route
- Primary or Secondary Route
- Local Routes

Public Lands
- US Bureau of Land Management
- US Forest Service
- Montana Fish, Wildlife, and Parks
- State of Montana, Montana State Trust Lands
- National Park Service
- Other Federal Lands
- Unknown

Map 20



Proposed Travel Route Designations - Alternative D

BLM, Montana, Butte Field Office - Jefferson County Southeast Travel Planning Area

This product may not meet BLM standards for accuracy and content. Different data sources and input scales may cause some misalignment of data layers. This map is intended to assist the Butte Field Office staff with transportation management planning, and is not intended for any other use.

Datum: North American 1983 (NAD83)
Projection: State Plane Montana FIPS 2500
Map Scale: 1:42,500
Created By: Advanced Resource Solutions, Inc.
Created On: April 23, 2013
Sources: USGS, ESRI, TANA, AND, NPS, MDT

N

0 0.5 1 2 3 4 Miles

Proposed Route Designation
Alternative D
- Open to All Uses
- Limited to Authorized Users
- Limited to Authorized Users with Additional Management
- Limited to Vehicles 50" Wide or Smaller for the Public and Full-Sized Vehicles for Authorized Users
- Limited to Vehicles 50" Wide or Smaller
- Closed to All Uses

Plan Area

MDT Routes
- Interstate
- Ramp
- Highway or State Route
- Primary or Secondary Route
- Local Routes

Public Lands
- US Bureau of Land Management
- US Forest Service
- Montana Fish, Wildlife, and Parks
- State of Montana, Montana State Trust Lands
- National Park Service
- Other Federal Lands
- Unknown

APPENDIX B: TRAVEL MANAGEMENT PLANNING

JEFFERSON COUNTY SE PLANNING AREA

U.S. Department of the Interior
Bureau of Land Management
Butte Field Office
106 N. Parkmont
Butte, Montana 59701
Phone: (406) 533-7600
FAX: (406) 533- 7660

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JEFFERSON COUNTY SE TRAVEL MANAGEMENT PLAN

Introduction

This appendix presents, in detail, the proposed actions for travel management on Bureau of Land Management (BLM) lands within the Jefferson County Southeast (JCSE) Travel Management Area (TMA), also referred to as Planning Area (PA). This Travel Management Plan (TMP) identifies a proposed network of roads, primitive roads and trails, along with terms for their use and maintenance. The Environmental Assessment (EA) section of this document provides analysis of the proposed TMP and the three alternatives considered during the planning process (see *Jefferson County Southeast Planning Area EA).*

Publication of the proposed TMP and EA will be followed by a 30-day public review period, in which additional data or information that may fundamentally alter the proposed TMP will be sought. Upon completion of the review period, and if no fundamental alterations are needed for the TMP, a Finding of No Significant Impact (FONSI) would be issued for the EA along with a Decision Record (DR). Following approval of the decision by BLM's Authorized Officer (AO), a notice, pursuant to the Code of Federal Regulations (CFR) under 43CFR8342 and 43CFR8365, would be published in the Federal Register, if necessary to establish the rules necessary to implement the travel management portion of the JCSE EA and associated route designations.

Overview of the Planning Area

The JCSE PA is located in Jefferson County, Montana (MT), and drains portions of the Boulder and Elkhorn mountain ranges and the London Hills area. The PA is located in southwest MT, lying within Townships 1-4 North and Ranges 1-4 West, Principal Meridian Montana. There are approximately 231,330 total acres of land with multiple jurisdictions, as shown in Table 1.

Table 1 – Jefferson County Southeast Planning Area Acreages

Jurisdiction	BLM	USFS	State	Local	Private Lands	Total
Number of Acres	24,490	11,060	14,750	30	181,000	231,330

Background

The BLM Butte Field Office (BFO) manages approximately 67 miles of travel routes within the JCSE TMA, as depicted on Map 1 (see page 2). Because no formal TMP has been completed for the area, travel routes are currently being managed under the *Record of Decision (ROD*) for the *Off-Highway Vehicle (OHV) Environmental Impact Statement (EIS) and Proposed Plan Amendment for Montana, North Dakota and South Dakota (2003).* Under this decision, the "Area" designation changed from "Open" to "Limited" under BLM regulations set forth in 43 CFR 8342, as defined under 43 CFR 8340.0-5(g). After this decision was issued in 2003, cross-country wheeled motorized vehicle travel was no longer allowed, except for administrative, authorized and permitted uses. All wheeled motorized vehicle travel on BLM managed routes was restricted to only those travel routes that existed in 2003. Any unauthorized routes that have been added to the travel network since 2003 are not available to wheeled motorized vehicle use.

Map 1 – BLM Travel Route Network Overview

Travel Route Inventory and Evaluation

Travel Route Inventory

In 2011, the BLM contracted with Advanced Resource Solutions (ARS) to complete a comprehensive travel route inventory for the JCSE PA. ARS created maps for use during the field inventory utilizing existing maps and available recent aerial photography/satellite imagery provided to them by the BLM. ARS field crews traveled on all depicted travel routes with either 4x4 vehicles or on foot (except for those not accessible due to locked gates). They also gathered information on any additional travel routes observed in the field that had not been previously identified. The ARS team tracked their movements using a Global Positioning System (GPS) and took photos along each travel route. Map 1 (see page 2) provides an overview of the BLM travel route network in the JCSE PA, as inventoried by ARS.

Travel Route Evaluation Process

The BLM also contracted with ARS to develop a systematic, standardized method to collect data and evaluate factors affecting each inventoried travel route and associated resources. During this process, an evaluation team consisting of BLM staff specialists and an ARS facilitator carefully and systematically discussed and examined factors related to both the overall area and each individual travel route contained within it.

The evaluation team also considered how the JCSE travel route designations fit within the entire travel network managed by the BLM and adjacent, or nearby, transportation systems, such as those managed by the United States Forest Service, State of Montana, Jefferson County, and local agencies.

During the evaluation process, a database was created, which includes statutory-driven factors and issues that may affect resources and the use of travel routes within the JCSE TMA. The database also incorporates staff and public concerns, as well as issues that were discussed in *Travel Management Appendix D* of the *Approved Butte Resource Management Plan* (*2009).*

Criteria for the database generally fall under three general categories:

(1) Commercial, administrative, private-property and economic issues (CAPE);
(2) Public uses; and,
(3) Special resource concerns.

Figure 1 (see page 41) contains the actual criteria used during the evaluation process.

Using these criteria, four options for a comprehensive travel route network and associated TMP were considered and refined. BLM Staff reviewed the purpose and need for action, public input and the goals and objectives for travel management, which resulted in the development of three action alternatives (B, C, and D). These are summarized in Chapter 2 of the *Jefferson County SE Planning Area EA,* which incorporates, by reference, the analysis of resources contained in the *Butte Resource Management Plan and Final Environmental Impact Statement (2008).*

Scoping and Public Participation

This TMP is the product of public and agency input over the past 3 years. BLM field office staff has had informal conversations on issues and opportunities related to travel management, with individuals, community groups, neighboring landowners, tribes, and federal, state and local agencies. These discussions contributed toward the development of this TMP.

Scoping is a process by which the BLM solicits internal and external input on issues, impacts and potential alternatives to the proposed action. In a letter dated, January 7, 2013, the BLM formally requested public input on the management of various resources in the JCSE PA. The notice was sent to the BLM's mailing list (people and organizations that have requested BLM to notify them of future projects), local media and posted on the BLM website. The official comment period closed February 15, 2013. The BFO office received 95 written responses along with phone calls and requests for BLM staff to speak at their meetings.

Issues and Concerns

The following is a summary of the comments, issues and concerns that were gathered through external (public) and internal (BLM staff) scoping. Not all site-specific observations are included here. However, all substantive comments were addressed in the formation of this TMP and the alternatives. This list does not suggest order of importance or priority.

External Scoping identified the following Issues and Concerns:

- Public access to BLM lands through private lands
- Increased non-motorized recreation opportunities
- Construct a non-motorized trail system on Doherty Mountain
- Increased motorized recreation opportunities
- Reclaim or decommission closed or unauthorized travel routes
- Consider designating trails for wheeled motorized vehicles 50" wide and less
- Enforcement of travel restrictions (i.e. wheeled motorized use on non-motorized travel routes)
- Impacts of travel decisions (including non-motorized trail system) on local economy
- Signing (number, wording, and placement, of travel management signs)
- Power assisted bicycle use on non-motorized travel routes

Internal BLM Scoping identified that travel management decisions could impact:

- Cultural Resources
- Human Health and Public Safety
- Minerals Materials and Mining
- Rangeland Management
- Recreation
- Soil and Water
- Travel and Transportation
- Tribal Interest/Native American Religion
- Weeds
- Wilderness Study Area
- Wildlife and Special Status Species

Proposals Considered During the Planning Process

Doherty Mountain Non-Motorized Trail System
In November 2012, the Montana Mountain Bike Alliance submitted a proposal to the BLM BFO to construct a 25 mile, non-motorized, single-track trail system for the Doherty Mountain area. One trailhead and approximately 15 miles of the trail system would have been located on BLM BFO managed lands. The remaining 10 miles of trail system, and one trailhead, were to be located on the adjacent Candlestick Ranch, a property owned and managed by the Golden Sunlight Mine.

After extensive scoping was completed, it became apparent that there was both significant support and opposition to this project. The opposition stated that there were critical concerns related to the safety of hikers and horseback riders when sharing a trail system with mountain bikers. They also stated that the hunting opportunities within the area could be negatively impacted by an influx of new visitors into the area. Most of the opposition came from nearby residents and a local sportsmen's group of the neighboring community of Whitehall, MT.

After hearing these concerns, the Golden Sunlight Mine removed its support for the project, including the trailhead and the portions of trail system on their property, until such time as local support could be obtained. This created a less feasible project and fragmented the larger proposed trail system. In response to these issues, the Montana Mountain Bike Alliance withdrew its proposal for this project. Therefore, that portion of the proposed action is not being carried forward for further analysis at this time.

Conformance

Resource Management Plan
The *2009 Record of Decision (ROD) and Approved Butte Resource Management Plan* (RMP) guided and controlled the development of the actions in this TMP. A major requirement of the RMP was that "future site-specific travel planning" must designate individual roads, primitive roads and trails as "Open," "Limited," "Limited (Administrative or Non-motorized)," or "Closed," as required by 43 CFR 8342.1, BLM manual 16266 and Handbook 8342.

Other Laws, Regulations, Policies & Program Guidance
In addition to the RMP, consideration must be given to all applicable laws, regulations and policies in the development of implementation plans such as this. Detailed discussions of requirements and policies are found in the *2009 Butte RMP* (pages 10-13). All documents cited there are considered to be incorporated into this TMP by this reference. Listed below are the manuals, handbooks, and other national strategic plans, which provide specific guidance for the formation of travel management actions.

- 43 Code of Federal Regulations, Parts 8340 – 8342.3
- 43CFR9268 Law Enforcement – Recreation Programs
- BLM, 2011 Manual 1626, *Travel and Transportation*
- BLM, 2012 H-8342 *Travel and Transportation Handbook*
- BLM, *Recreation 2000, A Strategic Plan*
- BLM, *National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands* (2001)
- BLM, *National Mountain Bicycling Strategic Action Plan (2002)*

Purpose and Need

Federal agencies are directed to manage motorized vehicle use on public lands by President Nixon's 1972 Executive Order 11644 (see Appendix B-2) and President Carter's 1977 Executive Order 11989**,** which were incorporated into the Code of Federal Regulations, under 43 CFR 8342.1. They require that BLM administered lands are designated in land-use plans as either "Open," "Limited," or "Closed" to OHV use. The JCSE TMA was designated as "Limited" in the *2003 Off-Highway Vehicle (OHV) Environmental Impact Statement (EIS) and Proposed Plan Amendment for Montana, North Dakota and South Dakota (2003 OHV EIS), and in the Approved Butte RMP* (2009).

In addition to "Area" designations, each individual travel route must also be designated as "Open", "Limited," "Limited (Administrative or Non-motorized)," or "Closed" to wheeled motorized travel. Currently, wheeled motorized vehicle travel on BLM portions of the JCSE PA is allowed on only those travel routes that were present when the ROD was issued for the *2003 OHV EIS.* That decision provides interim management guidance until such time as a TMP could be completed.

Thus, the purpose and need for this level of travel planning (i.e. TMP and associated EA) is to:

- Address the increased use of motorized routes in the project area, and the resulting impacts to the area's natural and cultural resources.
- Identify appropriate actions to meet or maintain public land health standards in the JCSE PA.
- Provide for clear delineation of, and appropriate use on, designated travel routes through informational kiosks, maps, signing, and local educational forums.
- Designate travel routes within the JCSE TMA by applying current national management strategies and guidance for OHV use on public lands.
- Follow management direction as stated on page 7 of the *2009 Butte RMP:*

> *The purpose of site-specific travel planning is to develop travel plans that meet the needs of public and administrative access, are financially affordable to maintain, and minimize user conflicts and natural resource impacts associated with roads and trails, as per 43 CFR 8342.*
>
> *There is a need to do this because in many portions of the Butte Field Office, travel planning has not ever been conducted in a manner to establish a managed transportation network that meets the criteria within these regulations and fully considers public and administrative needs, user conflicts, and natural resource impacts.*

Decisions to be made

The BLM BFO proposes to establish a travel network, with each route explicitly designated as "Open," "Limited," "Limited (Administrative or Non-motorized)," or "Closed," as required by 43 CFR 8342.1, BLM manual 16266 and Handbook 8342. Once a travel route network is designated, the BLM BFO will decide whether to carry out the implementation actions proposed in this TMP.

Goals and Desired Future Conditions

Goals, or desired future conditions (DFCs), are broad statements that set far-reaching direction for management. Goals for travel planning, and other resources, were fixed in the *2009 Butte RMP* and are incorporated into this TMP by reference. Table 2 (see below) shows the most relevant goals.

Table 2 - Goals and Desired Future Conditions

RMP Decision	Relevant Management Goals from *2009 Butte RMP*	Jefferson SE Travel Management Objective(s)
Goal TM1	Provide a balanced approach to travel management that provides a sustained flow of local economic benefits, minimizes user conflicts, safety concerns, and resource impacts while taking into consideration the unique attributes and values of the various Travel Planning Areas.	Obj. – 1,2
Goal TF1	Maintain facilities, roads, and trails to provide for public and/or administrative use and safety while mitigating impacts to resources.	Obj. – 2, 3
Goal RM1	Provide a diverse array of recreational opportunities while maintaining healthy public land resources.	Obj. – 1, 2
Goal RM3	Manage commercial, competitive, or special events with special recreation permits that eliminate or minimize impacts on resources and conflicts with other users.	Obj. – 1, 2,
Goal WF2	Conserve, enhance, restore, or minimize impacts to areas of important wildlife habitat such as rare or limited seasonal habitats, corridors, and blocks of intact functional habitat across the landscape, areas of low road-density, and foraging areas.	Obj. – 2, 4, 5
	Desired Future Conditions Specific for the Jefferson SE Planning Area, (added for this document).	
SEJ1	Develop and maintain a transportation system to protect recreation and non-recreation access to the public lands within the planning area. Access will be protected, not inhibited. The network would provide the foundation for avoiding unnecessary closures or restrictions stemming from preventable resource instituted damage/disturbance or user conflicts.	Obj. – 1, 2, 3, 4, 5
SEJ2	Where possible, opportunities would be sought to disperse or distribute users to help provide a quality recreational experience. Furthermore, loop-road and trail connections would be established, where appropriate, to enhance public access and enjoyment.	Obj. – 1
SEJ3	Working with cooperating agencies and willing private land owners, BLM would seek to create some form of general access to currently inaccessible public lands within the planning area. Lands without all-encompassing access would be managed as "Limited to Authorized Users" until general right of entry can be provided.	Obj. – 3
SEJ4	Travel management would enhance activities such as hiking, biking, horseback riding, photography, wildlife viewing and hunting, while protecting resources.	Obj. – 1, 2

Management Objectives

Using the goals and DFCs shown on Table 2 (see page 7), the BLM BFO proposes the following objectives for managing travel within the JCSE TMA:

Objective 1: After publication of the decision approving this plan, the majority of visitors to public lands within the JCSE TMA would report having a satisfactory experience using the defined transportation network. This objective would be measured through visitor contacts at recreation sites, such as trailheads and parking areas, through the BLM website, and local community information centers, such as the Butte or Whitehall Chambers of Commerce or Visitor Bureaus.

Objective 2: The majority of visitors in the area should be able to comply with travel rules once BLM has made the information available on the web, and through maps, signs and information kiosks. This would include travel rules for responsible cross-country snowmobile use (between December 2 and May 15th). Five years after publication of the map and information on the web, and after the successful installation of the majority of travel route markers, there would be a reduction in the formation of travel routes, or evidence of cross-country travel by motorized vehicles. To measure unauthorized use, a GPS database of newly found travel routes would be maintained and evaluated for effectiveness in the elimination of new, unauthorized travel routes.

Objective 3: BLM, in conjunction with local groups, private land owners, community planners, and other agencies would develop a prioritized list of locations and methods to be used to ensure access would remain open to federal lands from state, city, county, and local roads. BLM would continue to partner with the Southwest Montana Interagency Access Council and Travel Management Committees (SWMT IACTMC) to evaluate issues with regard to maintaining access to public lands.

Objective 4: Following the completion of the installation of travel route designation markers/signs, the majority of the 24 travel routes eliminated through this TMP would not be conspicuous at intersections, whether through natural restoration or rehabilitation methods. Photo monitoring would be used to measure the effectiveness of management actions to eliminate travel on closed routes.

Objective 5: Over the life of this plan, areas characterized as significantly disturbed by human activity would be reduced in key areas (as identified by BLM staff) next to travel routes. This includes any disturbances created by dispersed camping within 300 feet of authorized travel routes. The intention is to maintain or improve land health as indicated by BLM core indicators of vegetation cover, and bare ground. BLM's Land Health Standards and characteristics associated with these standards are described in the Butte District sections of the *Standards for Range and Guideline for Livestock Grazing Management of Montana, North Dakota and South Dakota* (USDI BLM 1997). To measure route width expansion, a GPS database and photographic monitoring would be maintained and evaluated.

Travel Route Terminology

Transportation Assets

The major action in this TMP is to specify a travel route network that meets the purpose, need and goals, as previously described. BLM defines and categorizes its travel routes into the following three categories of "Transportation Assets": roads, primitive roads, and trails. Table 3 provides asset definitions and a baseline of travel route miles in each category, as inventoried.

Table 3 - Transportation Assets (Existing Travel Route Network)

Inventoried Transport Assets within the Planning Area			
Asset	Definitions	Inventoried Routes	
Road	A route managed and maintained for regular and continuous use by low-clearance vehicles having four or more wheels.	16 13.3	# Routes # Miles
Primitive Road	A route able to be traversed by four-wheel drive or high-clearance vehicles. Primitive roads do not normally meet any BLM road design standards.	115 52.8	# Routes # Miles
Trail	A route managed for human-powered, stock, or OHV forms of transportation or for historical or heritage values. Trails are not generally managed for use by four-wheel drive or high clearance vehicles.	5 1.6	# Routes # Miles
	Total	136 67.6	# Routes # Miles

Designation Terminology

Each individual travel route managed by the BLM BFO would be designated as "Open," "Limited," "Limited (Administrative or Non-Motorized)," or "Closed" to wheeled motorized vehicle travel under this TMP. These designations are based on Code of Federal Regulations 43 CFR8342.1 definitions, and the *2009 Butte RMP*.

Table 4 – Travel Route Designation Terminology

Terms Used in Route Designations		
43 CFR 8342.1	*2009 Butte RMP*	Explanation from *2009 Butte RMP*
Open	Open Yearlong	Open year-round to public and administrative motorized uses.
Limited	Open with Restrictions	Open to public and administrative uses with seasonal and/or vehicle type limitations.
Limited (Administrative or Non-motorized)	Closed Yearlong	Closed to wheeled motorized public access and subject to administrative or permitted uses based on case-specific exceptions (such as for mining claimants with existing claims accessed by existing routes). Routes identified as closed would have a route bed left intact in case they are needed for valid existing rights only, or in the extended future for administrative purposes. Closed routes would be open to non-motorized use.
Closed	Closed and Decommissioned	A route is closed and rehabilitated to eliminate resource impacts (for example, to eliminate erosion or to restore a riparian area if route is located within a riparian area) and is no longer useable for public or administrative uses.

PROPOSED TRAVEL ROUTE DESIGNATIONS (ALTERNATIVE C)

Using the route evaluation process described on page 3, the criteria shown in Appendix B-1, and the information presented in Tables 3 (Transportation Assets) and 4 (Travel Route Designation Terminology), the BLM proposes to formally designate its travel routes (i.e. transportation assets) as "Open," "Limited," "Limited (Administrative or Non-Motorized)," or "Closed." The table below summarizes the proposed travel route network by asset type, as depicted on Map 2 (see page 11). Detailed designation information for each individual travel route can be found at http://www.blm.gov/mt/st/en/fo/butte_field_office.html.blm.gov. A sample route report is located in Appendix B-3.

Table 5 – Proposed Travel Route Designations by Asset (Alternative C)

Proposed Route Designation by Asset					
	Open to all uses	Limited Open with Restrictions to Wheeled Motorized Vehicles	Limited Administrative, Authorized & Non-Motorized uses Closed Yearlong to all other Wheeled Motorized Vehicles	Closed and Decommission	Totals
Roads	9 routes 11.1 miles	0 0	7 routes 2.2 miles	0 0	16 routes 13.3 miles
Primitive Roads	73 routes 37.4 miles	12 routes 4.9 miles	9 routes 7.2 miles	21 routes 3.3 miles	115 routes 52.8 miles
Trails	0 0	2 routes 1.5 miles	0 0	3 routes .1 miles	5 routes 1.6 miles
TOTALS	**82 routes** **48.5 miles**	**14 routes** **6.4 miles**	**16 routes** **9.4 miles**	**24 routes** **3.4 miles**	**136 routes** **67.7 miles**

In addition to the route designations described in table 5 above, the following would apply:

Over Snow Vehicle Use

Between December 2 and May 15, with snow levels permitting, cross-country Over Snow Vehicle (OSV) travel would be allowed in the JCSE PA. However, the BLM recommends that OSV riders drive on designated routes for their safety and to safeguard resources. It is the rider's responsibility to 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 vegetation is taller than the protective snow cover. Ecologically sensitive areas could be closed to snowmobiling if resource damage caused or exacerbated by snowmobile activity is found to be occurring in these areas.

Non-Motorized Use

Travel management is more than management of motorized vehicles. People are allowed to walk or ride horses anywhere on public lands unless an area is closed for safety or specific resource protection (example: a historical site). Mountain biking would be limited to all designated routes in the travel network, except on routes scheduled to be "Decommissioned" or signed otherwise. Cross-country mountain bike use would not be allowed. Non-motorized users should understand that if a route is designated as "Closed and Decommissioned" it would not be maintained and could be rehabilitated, abolishing all physical evidence of the route.

Map 2 – Proposed BLM Travel Route Designations

TRAVEL MANAGEMENT PLAN IMPLEMENTATION

Signing

The travel network sign plan in Appendix B-4 provides for the systematic and uniform development and maintenance of a sign program for the JCSE TMA. Signs would be designed to provide the public with clear and accurate information. The objective is to avoid off-network travel and to prevent user conflict. In order to issue citations, law enforcement staff should be able to prove to a magistrate that there was ample information readily available for the visitor to make the correct decision regarding travel on routes in the JCSE TMA.

Initially, significant signing would be needed to convey route designations to users, including "Route Closure" signs. During the first few years after the plan is implemented, as the public is adjusting to the new travel route system, many signs may be removed or destroyed and would need to be replaced or updated in a timely matter. However, once the adjustment period ends, and rehabilitation (prescribed or natural) of "Closed" travel routes has begun, the size and number of signs would be kept to the minimum number necessary.

A sign inventory and database would be created to facilitate tracking of sign locations and maintenance. Through monitoring and ongoing public input, strategies would be developed to improve the overall effectiveness of the sign plan.

Education

An education and outreach program for this TMP would be developed in collaboration with federal, state and county entities, with established and emerging organizations and programs, and with public participation. To the extent possible, the BLM would seek to create alliances with local and regional groups, such as: OHV dealerships and user groups; Hunters and sports enthusiasts; Hiking and equestrian clubs; the communities of Boulder, Cardwell and Whitehall; Grazing permittees; Montana, Fish, Wildlife & Parks; Jefferson County; Southwest Interagency Travel Management Committee; and the Montana State Historical Preservation Office.

In addition, BLM BFO would utilize seven target messages or themes for this educational effort:

- Tread Lightly (www.treadlightly.org)
- Leave No Trace (www.lnt.org)
- Share the Trail (www.imba.com/resources/risk-management/shared-trails)
- Respect the rights of private land owners and other users of public land
- Prevention of the spread of invasive species
- Wildland fire prevention
- OHV safety

The BLM would use emerging technology and up-to-date communication methods to convey information and to obtain public participation and stewardship for on-the-ground management and evaluation of the TMP. As time and funding permit, the BLM would establish websites and POD-casts that include downloadable items such as maps, land use ethics, rules, historical and cultural information, fire prevention restrictions, and emergency announcements.

Map of the Designated Travel Route Network

BLM staff would assign a navigational identification number to each "Open" or "Limited" travel route in the network. Then, a map depicting the travel routes and their respective numbers would be published. Travel routes and linear disturbances that were identified during the inventory process and "Closed and Decommissioned" by this TMP would generally not be identified on the map.

Travel routes that are designated as "Limited" (Administrative or Non-motorized) would be shown, but typically as non-motorized routes open to hiking, bicycling and horseback riding. A general information campaign would be undertaken to announce the web map, which would include contacting other public mapping sources and agencies to request information updates.

Initially, draft maps printed at the BLM would be provided to groups, agencies or individuals upon request. If funding permits, a new *Southwest Montana Interagency Visitor/Travel Map* may be published, in cooperation with the Montana Interagency Travel Management Committee.

Enforcement

Some of the typical law enforcement concerns related to public use in the JCSE TMA include traffic accidents, Driving Under the Influence (DUI) of alcohol and/or drugs, firearm violations, cross-country wheeled motorized vehicle use, and the creation of new travel routes by visitors.

Law enforcement coverage in the JCSE TMA is currently provided by one law enforcement officer. Enforcement actions typically occur in response to complaints, and patrols are conducted on a periodic basis, depending on other priorities. Other agencies also patrol the area, including: Jefferson County Sheriff's Department, U.S. Forest Service and Montana Fish, Wildlife & Parks officers.

To increase BLM presence, the BLM would hire "Trail Stewards" and volunteers to conduct patrols field office wide, including in the JCSE TMA. These patrols would be focused on visitor services and travel management monitoring. Reports from these types of patrols could focus formal law enforcement efforts within specific TMAs. Increased BLM presence and Trail Stewards would only occur if adequate funding is acquired. Additional funding would be sought through various BLM channels and through partnering to leverage grants or other available funding.

Maintenance

> *Roads and trails will be maintained in accordance with Travel Management Plan guidance and BLM policy. After site-specific travel plan decisions are made, roads included in the transportation system will be assigned maintenance levels, if needed. Roads will be managed in accordance with assigned maintenance levels and in consideration of resource issues.*
>
> *2009 Butte RMP,* page 47, TF- Action 2

Function Classes

Function classes indicate the relative importance of a route's transportation and access purposes. These classes are the basis for design standards and are defined as collector roads, local roads, and resource roads. All of the BLM managed routes in this TMA planning area function as resource roads (and trails). These routes are unpaved, typically single lane or narrower, with low traffic volume and slow traffic speeds.

Maintenance Intensities

Travel route conditions, design standards and guidelines are based on average daily traffic, functional classification and terrain type. The amount of use a given travel route receives largely dictates the physical characteristics required for a route to be passable by that vehicle (or user), and other vehicles with similar or lesser requirements. For example, if a road is passable by a two wheel drive vehicle, then it would generally be assumed that it would be passable by four wheel drive vehicle. Based on resource management needs and functional classifications, each road would be assigned the maintenance intensity level shown on Table 6 below.

Table 6 - Maintenance Intensity (JCSE EA Alternative C)

Maintenance Intensity[2]	Descriptions[3]	Number of routes	Miles
Level 0	Existing routes that would no longer be maintained or declared as routes. Routes identified for removal from the Transportation System entirely.	24	3.28
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.	96	51
Level 3	Routes requiring moderate maintenance due to low volume use (for example, 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 to keep the route in use for the majority of the year.	0	0
Level 5	Routes for high (maximum) maintenance because of year-round needs, high-volume traffic, or significant use. Also may include routes identified through management objectives as requiring high intensities of maintenance or to be maintained open year-round.	16	13.3

Prior maintenance on travel routes in the TMA has been minimal. However, authorized users (mineral materials or mining operations, grazing permits, utilities, etc.) have performed intermittent minor up-keep as needed for their permitted activities.

If the TMP is approved, BLM's route maintenance within the JCSE TMA would be directed towards sustaining a travel route's continued navigability. Every attempt would be made to not substantially change the recreational experience on each travel route. The top priorities would be to protect visitors, reduce hazards and prevent deterioration of resources.

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[2] *Level 2 & 4 routes that are "RESERVED FOR POSSIBLE FUTURE USE" according to BLM Manual MS 9113-Roads are not listed*

[3] *Maintenance level descriptions are quoted from BLM MS-9113- Roads.*

Restoration and Rehabilitation

> *Roads and trails closed year-long that are not needed for specific authorized uses (fire prevention/suppression, mining claims, access to private lands, non-motorized travel, etc.) will be rehabilitated to blend into the surrounding area. Roads subject to special uses under authorized exceptions will be stabilized to prevent unnecessary and undue soil erosion and water quality degradation. A priority list for work will be developed after each travel plan is completed.*
>
> *2009 Butte RMP,* page 47, TF-Action 1

The BLM's strategy for restoring "Closed and Decommissioned," or unauthorized, travel routes would be accomplished as time and funding permits. The travel routes identified in Table 7 (see below) would be allowed to recover naturally, until funding is secured. Appendix B-5 contains a list of travel routes scheduled for decommissioning.

Table 7 - Number of Decommissioned Routes by Asset (Alternative C)

Total Number/Miles Plan's Decommissioned Assets		Number of Decommissioned Routes by Length and Percent of Total Miles			Description of Type of Routes Decommissioned		
		Less than 0.1 mile	0.1> to 0.5 mile	0.5 > to 1 mile	Spurs	Currently Reclaiming/ Non-Existent	Redundant Routes
Road	0 0	0 0%	0 0%	0 0%	0 0&	0 0%	0 0%
Primitive Road	21 3.25	11 1.0%	9 2.6%	1 1.2%	14 3.5%	7 1.5%	8 1.4%
Trail	3 .13	3 .2%	0 0%	0 0%	0 0%	0 0%	3 .2%

Note: A route can be described more than one way. For example: a spur can also be reclaiming.

Travel along open routes should encourage traffic away from "Closed" routes, where possible. Restoration actions may include leaving the first 100 feet from the centerline of an open route unrestored to provide pullout areas or camping opportunities intended to discourage or prevent new ground disturbances elsewhere. Sensitive resources in immediate danger, or those that have been damaged by unauthorized use, would be a high priority for restoration.

The first step in restoration, or decommissioning, would be to visually obliterate obvious routes or tracks. Techniques to accomplish this include hand raking and the breaking up of straight lines by cutting track edges or berms, placing small rocks and mulching with local vegetation or dead plant materials. The aim would be to blend the disturbed area into the landscape. The work is limited to the existing surface disturbance. Minor manipulation of these areas would not require further environmental review. A travel route that has historical significance would not be subject to any surface disruption.

Restoration would typically be limited to that portion of a "Closed" or unauthorized travel route that is within line of sight from an authorized route. Each decommissioned route would be evaluated on a case-by-case basis, and the most appropriate method of restoration would be used based on geography, topography, soils, hydrology, and vegetation.

Substantial restoration actions to "Closed and Decommissioned" routes would take place only after extensive monitoring is completed. Continued signs of unauthorized vehicle use could demonstrate that allowing the route to restore naturally is ineffective. More substantial activities would be subject to staff review to establish whether an EA is needed. These measures would include posting the route with closed signs and/or blocking with barriers to prevent vehicle entry.

Ripping the road surface with a small dozer to break up compacted soil and allow maximum moisture retention may also be appropriate. These actions may draw attention to the route itself, so BLM could provide informative signs on the need and value of resource protection. Weed treatment and control measures would be implemented as needed to promote re-vegetation with native plants to control existing weed sources and to prevent any new weed establishment.

For seriously disturbed areas, a "Closed" travel route could be re-vegetated or seeded where necessary to aid restoration. Only local native seed mixtures would be selected for such sites, based on individual site conditions. Broadcast seeding would generally be completed in the fall. After the seed has been distributed uniformly over the area, the ground would be raked or dragged to cover the seed. After the first year, seeded areas could be fertilized if seedling establishment were sparse.

Techniques such as hydraulic seeding, seed drilling, mulching, water barring, pitting, roughening, contour furrowing, or similar methods might be used as appropriate on a case-by-case basis. A project-specific plan with an accompanying EA may be needed to complete this level of action. Significant increases in vegetative cover would require an adequate period of time, even with a substantial investment in restoration. With resources for travel management implementation limited, and the outcomes of restoration efforts typically so uncertain, these types of restoration efforts should be reserved only for the most serious disturbances.

Plan Implementation Priorities

Past agency experience gives insight into effective implementation actions, as well as the order in which they should best occur. The successful implementation of this TMP should proceed in the order listed in Table 8 (see below). Monitoring, adaptive management and budget limitations could also change priorities and the timeline over the life of this TMP. The timeline starts a month after the Decision Record for this plan. The time frames for these priorities can also be discussed in the form of phases: Phase-I (1-2 years), Phase-II (3-5 years), and Phase-III (5-10 years).

Table 8 – TMP Implementation Priorities

Priority	*Potential Timeline*	*Task*	*Implementation notes*
1.	Year 1	Assign a navigational identification number to each route that is designated open, or open with restrictions.	Update GIS database to "crosswalk" with evaluation and inventory numbers.
2.	Year 1	Publish a map of Jefferson County SE TMA on the Web.	This is the first step in the effort to increase public knowledge of the travel network and plans for its future.
3	Starting in Year 1	Develop a communication plan and initiate an outreach program.	*This would need State Office External Affairs cooperation*
4	Starting in Year 1	Pursue funding for outreach literature, signs and staff needed to implement the route marking effort.	*N/A*
5	Year 1	Establish databases and requirements for collecting monitoring data. Identify initial sites for resource monitoring.	*Clear identification of the information required would result in more effective monitoring and recording of data.*
6	Starting in Year 1	Hire seasonal trail ranger(s) or contract for initial signing of network.	*N/A*
7	Within phase I	Sign the travel route network and inventory restoration needs.	The principal goal is to make the "Open" and "Limited" travel routes more attractive than "Closed" travel routes.
8	Within phase I	Recruit and train volunteers to establish volunteer patrols and help in placing route markers. Set up partnerships with existing local groups and clubs.	*N/A*
9	Phase I	Pursue funding for route and site rehabilitation. Establish restoration priorities using data from inventory and monitoring.	*N/A*
10	*End of phase I*	Monitor compliance with the TMP and travel network. *Publish an annual report on the BLM Butte Field Office Website.*	*The report should include pictures of actions taken.*
11	*Phases II*	*Take actions to restore "Closed and Decommissioned" travel routes that continue to receive vehicle traffic.*	*N/A*
12	Phase II	Develop and publish up-to-date, readily available, and easy-to-understand maps.	To be cost effective, maps may cover an area larger than just Jefferson SE TPA.
13	All Phases of plan.	Monitor and maintain the open route network markers	*N/A*
14	Phase II or III	Install bulletin boards/kiosks where needed.	*Only if sites that require additional visitor information have been identified through monitoring.*
15	*Phase III*	Explore options for completing a Visitor Survey for the TMA.	*Could be completed in conjunction with another TMA, such as Pipestone.*

Standard Operating Procedures

Table 9 (see below) lists the Standard Operating Procedures (SOP) for the administration of the BLM JCSE travel route network. Many of these statements are actions or measures previously listed in the *2009 Butte RMP* or the *2003 Statewide OHV ROD.*

Table 9 – Standard Operating Procedures

1	BLM would open or provide a "Limited" opening of a route when requested where valid rights of way or easements of record were not accurately identified in the route designation process.
2	Easements may be acquired through donation from landowners or interested parties following the procedures set forth in BLM Manual 2100-Acquisition.
3	BLM roads within the travel area would continue to be available for a multitude of motorized vehicle travel (2-wheel, 4-wheel, motorcycles, all-terrain vehicles, and snowmobiles), provided safety concerns remain minimal. Should traffic volumes or user conflicts become prevalent and warrant restrictions, then priority would be given to vehicles legally registered to travel on public highways. 2009 Butte RMP Page 41, TMA-Action 9.
4	State vehicle laws apply to motor vehicle use, where applicable.
5	There are no posted speed limits on BLM roads, primitive roads or trails. The speed on primitive roads would generally be 15 – 25 miles per hour.
6	BLM would generally not develop, endorse or publish road or trail ratings in this TMA, unless adaptive management and/or monitoring identify the need to do so. BLM may describe physical characteristics of a route.
7	No travel variance would be required to conduct essential agency administrative actions on any travel route. Travel variances may be issued on a case-by-case basis for permitted and authorized uses. The process and application for such a variance was established the 2009 Butte RMP's Appendix D titled Travel Management" page 153 and is incorporated in this plan in Appendix B-7.
8	Motorized wheeled cross-country travel for the BLM is limited to official administrative business. Examples of Administrative use include prescribed fire, noxious weed control, re-vegetation, and surveying. Where possible, agency personnel performing administrative functions would place a sign or notice in the area where they are working to identify to the public the function they are authorized to perform..
9	Motorized wheeled cross-country travel for other government entities on official administrative business would require authorization from the Authorized Officer. This authorization would be done through the normal permitting processes and/or memoranda of understanding.
10	Wheeled motorized cross-country travel would be allowed for any military, fire, search and rescue, or law enforcement vehicle used for emergency purposes.
11	Motorized wheeled cross-country travel for lessees and permittees is limited to the administration of a federal lease or permit.
12	Use of motorized or mechanized vehicles off designated travel routes for the purpose of working livestock is prohibited, unless otherwise authorized.
13	Permittees (e.g. for hunting, wood gathering, livestock operators) must comply with TMP route designations. Exceptions may be made by the Authorized Officer through the permit system..
14	Operators engaged in activities under mining law must obtain advanced approval from the Authorized Officer prior to using wheeled motorized vehicles for cross-country travel. The requirement for approval for wheeled cross-country travel applies to activities that are normally considered to be casual use under 43 CFR 3809.5, where a Notice or a Plan of Operations is not required.
15	Vehicular access for Native American Tribal members to sacred areas without a designated primitive road would be authorized on a case-by-case basis.
16	Any alignment changes made through implementation actions (example, moving a route's alignment around a newly identified cultural resource) shall be recorded and kept on file in the BFO and may require an amendment to this plan.
17	Short, site-specific sections of road/trail realignment or reconstruction would continue to be implemented as needed to minimize resource damage and/or provide minor reroutes around private property.

18	In accordance with interagency trail width guidelines, all BLM Designated OHV trails, bridges, and cattle guards would be designed to accommodate vehicles 50 inches in width or less. Vehicles wider than 50 inches would generally be unable to navigate BLM trail.
19	BLM would replace barbed wire gates (and similar closures) with cattle guards and/or easily operated metal gates wherever problems are known to occur.
20	Signs indicating route closures would be utilized initially, but would then be sparsely posted or not used at all after rehabilitation occurs (natural or prescribed).
21	BLM maintains the authority to temporarily, or permanently, partially or completely, suspend any activity based on safety issues or adverse resource impacts.
22	A Special Recreation Permit (SRP) is required for use of public land in connection with commercial, competitive, or organized group activities in accordance with public land regulations. Permits are not required for private, non-commercial recreational use.
23	All SRP activities granted by the BFO would be required to utilize designated travel routes, unless otherwise authorized.
24	Non-competitive motorized events would not be allowed in Jefferson SE TPA. However, competitive motorized events (timed/speed based) proposed on BLM, outside of Pipestone TPA, would be considered, but only if held in conjunction with use of adjacent lands (public or private).
25	Motorized wheeled cross-country travel to a campsite is permissible within 300 feet of a designated travel route. Site selection must be completed by non-motorized means and accessed by the most direct route causing the least damage.
26	Ecologically sensitive areas within 300 feet of roads and trails could be closed to dispersed camping if resource damage is found to be occurring in these areas.
27	Motorized wheeled cross-country travel for big game retrieval is not allowed, unless otherwise authorized.
28	Use of a non-motorized wheeled game carrier off of an open route would be permitted.
29	BLM would cooperate with the MT FWP to adjust seasonal travel restrictions in accordance with big game hunting season extensions. 7.
30	Routes designated for Game Retrieval will be managed to allow retrieval during big game hunting seasons, between the hours of 11:00AM – 3:00Pm. Under this management, hunters who have tagged an animal will be allowed to use a motorized vehicle to assist in the retrieval. Motorized use is restricted to the designated Game Retrieval route **only**; no motorized off-road or off-trail use is allowed during the retrieval effort. Animals will need to be dragged, or otherwise moved by non-motorized means to the Game Retrieval route.
31	Dispersed camping is allowed on BLM lands **within 300 feet of designated travel routes** by the most direct route possible. Site selection must be made by non-motorized means.
32	A power-assisted bicycle is considered a "motorized" vehicle and would be limited to travel routes that are designated as "Open" or "Limited" to wheeled motorized vehicles. A power assisted bicycle would not be allowed on "Limited (Administrative or Non-Motorized)" travel routes.

In addition to the SOPs listed in Table 9 (pages 18-19), travel management mitigation measures may also be utilized, as necessary, and are listed in Appendix B-6 (see pages 58-60).

Adaptive Management

*"*Adaptive management is a tool designed after the scientific research process which requires a measureable objective, monitoring to determine the effectiveness of the management practices in achieving the objective, evaluation to determine if the objective is being reached, and adaptation based on the results*."* [4]

Figure 1 - The Adaptive Management Process.

In this application of the technique the objectives are targets based on best available information. Unless otherwise specified, the time frames in the objectives are discussed in the form of phases: Phase-I (1-2 years), Phase-II (3-5 years), and Phase-III (5-10 years). Sufficient monitoring is planned to determine whether adequate progress is being made towards the objectives. If progress is insufficient to achieve the objectives in a realistic period of time, management actions would be revised.

Adaptive management focuses on changing conditions that could affect the route designations proposed in this plan. Possible changes might respond to the need to create new roads to access private property, mining claims, or public utilities; user-created route proliferation; the listing of additional special status plant and animal species; the discovery of additional cultural or historic resources and the availability of funding. Applying this principle of adaptive management is an essential component of travel planning. Throughout the life of this TMP, the BLM would rely on monitoring data to improve the plan.

Changes to the Travel Route Network

Changes to the travel network should be rare, but may be required. Resource protection or administrative concerns might require the relocation of existing routes. The public might request new routes to improve overall goals of the network, such as creating a travel loop or non-motorized trails. New routes would be proposed through site specific project plans, permits or right-of-way requests. The route evaluation process and environmental analysis, both of which may be done concurrently, must occur prior to implementation or construction of a new route.

Road designs will include at a minimum:

- *Minimizing road and landing locations in Riparian Management Zones;*
- *Minimizing sediment delivery to streams from road surfaces;*
- *Out-sloping roadway surfaces where possible, except in cases where out-sloping would increase sediment delivery to streams or where out-sloping is infeasible or unsafe;*
- *Routing road drainage away from potentially unstable stream channels, fills and hill slopes;*
- *Minimizing disruption of natural hydrologic flow paths; and,*
- *Minimizing side casting of soil or snow.*

2009 Butte RMP, page 47, TF-Action 7

[4] *From a BLM presentation on Adaptive Management, www.blm.gov/pgdata/etc/medialib/blm/wo/Planning_and_Renewable_Resources/presentations.Par.83536.File.pdf/Adaptive_Management_2.pdf*

All new roads, primitive roads, and trails would meet the standards for design, construction, and maintenance found in BLM Handbooks: *H-9113-1 Road Design* (2011) and *H-9115-1 Primitive Roads Design* (2012). Upgrading a road's surface, width, or permanently raising the maintenance intensity level on a specific route are considered to be changes to the network, just like a new route, and therefore trigger the need to undergo the same evaluation process. All changes to the travel network would be included in the Jefferson County SE Travel Network database, and need to be posted on the BLM website as part of the public outreach program.

> *Temporary routes could be constructed where needed and where other routes are not available under approved travel management plans…Temporary routes are not intended to be part of the permanent or designated transportation network system and must be reclaimed when their intended purpose has been fulfilled…*
>
> *2009 Butte RMP, page 40, TMA- Action 11*

> *Roads will be designed and maintained in a manner that provides for water quality protection by controlling placement of fill material, keeping drainage facilities open, installing and maintaining appropriately-sized culverts at stream crossings, and by repairing ruts and failures to reduce erosion and sedimentation of aquatic habitats.*
>
> *2009 Butte RMP, page 47, TF-Action 9*

Private Land Owner Access / Access Needed

Many of the routes in the BLM BFO travel network cross private and state lands. County roads allow access to some travel routes on the BLM administered sections. For the remainder, BLM route designations are not binding on private lands, and simply follow historical use patterns.

> *BLM will actively seek agency and public easement agreements in order to maintain current access for popularly traveled routes, and seek additional site-specific opportunities as needed to gain agency and public access to BLM lands.*
>
> *2009 Butte RMP,* page *41,* TMA-Action *20*

As the travel network is developed, signs would be placed on routes to indicate where land ownership changes. Travelers would be instructed to respect these private holdings. "Open," and "Limited" routes crossing private properties can be closed by these land holders.

> *Where public motorized access is contingent upon the governing consent of adjoining landowner(s), BLM will exercise a reciprocal "All or None" road use policy. This means that as long as the public is allowed access to these roads, no changes in travel management will occur. However, should the adjacent landowner refuse public access, then BLM will reciprocate by closing its roads to their use as well.*
>
> *2009 Butte RMP,* page *41,* TMA- Action 21

If this situation occurs, these routes would have their designations changed to "Limited" (Administrative Use Only). If the private land owner or a permitted user requests motorized access to those travel routes, they would be required to apply for a Travel Variance, as required by the *2009 Butte RMP* (see Appendix B-7).

R.S. 2477 Claims and BLM Administrative Determinations
The BLM does not have the authority to make binding determinations on the validity of Revised Statute (R.S.) 2477 right-of-way claims (see Appendix B-8).

Emergency Closures
In the event of an emergency, immediate actions, such as closure or restrictions or uses of the public lands, must be taken to prevent or reduce the risk to public health or safety, property or important resources. Emergencies are unforeseen events of such severity that they require immediate action to avoid dire consequences. The BLM Handbook H-1790-1, Section 2.3 defines the following actions as typical emergency situations:

- Cleanup of a hazardous material spill;
- Fire suppression activities related to ongoing wildland fires; and
- Emergency stabilization actions following wildland fires or other disasters.

Temporary Closures
43 CFR 8341.2 states, *"Where off-road vehicles 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."*

Monitoring
Both implementation and effectiveness monitoring would be largely conducted by "Trail Stewards" (seasonal travel management staff). An inventory, of travel route conditions and potential monitoring sites would be derived as time and funding permit. This inventory should constitute a baseline data set that would include: photo documentation, GPS points, lists of typical vegetation, estimated plant cover and identification of intersections with closed routes or extended disturbed areas.

Implementation monitoring
Implementation monitoring is the most basic type of monitoring. It simply determines whether management actions have been implemented in the manner prescribed by the TMP. The thresholds or indicators required for this type of monitoring is shown on Table 8 (see page 17). Progress towards plan compliance would be evaluated and reported by staff and posted on the web as time and funding permit.

Effectiveness Monitoring
Effectiveness monitoring helps to determine whether management actions taken in accordance with this TMP were productive and, if so, how effective they were in achieving the objectives. This monitoring can help to quantify OHV user compliance. Effectiveness monitoring would also help to evaluate travel route conditions, public safety and changes in visitor uses (including demands and preferences).

Effectiveness monitoring would include:

- Visitor feedback to monitor whether the Jefferson SE TMA has been clearly mapped and signed for the public.
- Signing effectiveness would be monitored through field visits and considering the amount maintenance required.
- Attention to recreational groups, records of field contacts, written trail register comments, and public phone calls to the BLM BFO would monitor the effectiveness of the travel management in reducing conflict between different types of users.
- Photo-monitoring points would be established to monitor long-term effectiveness of decommissioning routes.
- Illegal off trail/road travel could be measured as a linear disturbance, or as an area impact, depending on the level and type of use that occurred.
- Employ traffic counters to determine the level of use on selected routes.
- Assess conditions of primitive roads and trails. Informal inspection and discovery would be a major part of the condition-monitoring program.
- Assess indicators of potential recreation impact issues. For example the number of new bare soil areas attributable to visitor use, number of campfire pits or additional litter or trash along primitive roads.
- Administer a survey on recreation demand, visitor preferences, uses, satisfaction, and information needs in the TMA, as time and funding permit.

Resource or Validation Monitoring

Resource monitoring would document how implementation of the TMP has influenced natural and cultural resources over time. Documenting the effect management actions have on natural and cultural resources is more difficult than determining whether there is compliance to the plan. Monitoring, as well as management, would be adaptive. Monitoring protocols or techniques would be adjusted as new methods are developed or if it is discovered that current monitoring is not meeting management information needs. Monitoring would be accomplished through protocols such as:

- Establishing an ecological site inventory following the guidelines of the Land Health Standards. These transect sites should be set up by resource specialists during phase one of this plan. On a recurring basis, transects, utilizing the line-intercept method, would be taken from sites identified. Both reference and affected sites would be monitored.
- Core indicators to be monitored should include: percent bare ground, vegetative composition, percent vegetative cover, soil aggregate stability, and percent tracked by OHV (or at least record the presence / absence of OHV tracks). Additional monitoring information that may be collected as part of the core data collection could include vegetation height and non-native invasive species composition.
- Monitor for proliferation of non-native species in specific locations, to be determined by resource staff.
- Survey cultural resource sites identified by the BLM BFO's Cultural Resource Specialist as time and funding permit. Such sites include both publicly known sites near designated routes and reference sites that are not located near travel network assets. BLM may work with authorized universities and cultural contractors to accomplish needed monitoring.

Protection of Special Resources and Travel Route Management
Monitoring the travel route network would include training Trail Stewards and volunteers to recognize special resources and impact indicators. They would be trained to recognize and report sightings of BLM identified sensitive wildlife and plant species. Trail Stewards and volunteers would also monitor any well-known historical sites (such as historic mines).

In relation to Land Health Standards:

> *If an existing road is substantially contributing to Land Health Standards not being met, the road will be considered for redesign, closure, or decommissioning to minimize the adverse impacts.*
>
> *2009 Butte RMP,* page 41*,* TF-Action 6

Analysis consistent with the National Environmental Policy Act (NEPA) requirements would be developed prior to any ground disturbance not discussed in this TMP. Impacts to cultural resources or other resource values that may be discovered would be mitigated or avoided.

> *As roads and trails identified for decommissioning in site-specific travel plans are prioritized, site inventories will be conducted on cultural resources. To provide protection for known cultural resources and those yet to be discovered, sites will be evaluated to determine eligibility for National Register of Historic Places. Ineligible heritage sites will be preserved in place if possible. If adverse effects threaten a site (on roads proposed for closure or open roads), one or more mitigation measures will be employed to lessen or avoid those effects. These may include: Abandon the project; Redesign the project to avoid adverse effect with protective measures such as signing, fencing, reroute, or closure of road/trail; Data recovery and analysis that could require temporary closure of the area; and/or Avoidance by re-routing.*
>
> *2009 Butte RMP,* page 41, TMA-Action 28

Abandoned mines are located along, and at the end of, many of the primitive routes in the JCSE TMA. As monitoring of the travel network occurs, newly identified abandoned mines would be included in the BLM Abandoned Mine Lands (AML) database. Sites would be evaluated as part of the ongoing risk assessment program to assure public and environmental health.

Plan Revision and Amendment

The JCSE TMP would remain in effect until rescinded or amended by a future management action or a revision of the *2009 Butte RMP*. Adaptive management measures may be undertaken through plan maintenance actions and by implementation progress monitoring. Any person, organization or government body may propose that a route designation be changed to another designation (Open, Limited or Closed). Requests to change route designations should be submitted in writing to the BLM BFO Manager. Given that designation of travel routes is a discretionary action, the manager may determine whether or not the proposal has merit and whether or not the proposal constitutes a significant or minor modification. If the application is rejected, a letter would be sent to the applicant indicating the reasons for the refusal. If accepted, the request would be forwarded to the appropriate BLM BFO staff. When accepting a proposal, the authorized officer should consider cost recovery. Only after evaluation of the effect on the total travel network and NEPA analysis has occurred would there be a formal decision to accept or reject a specific request for a route change. Any proposed change in the travel network to this plan would be documented and appended to this plan.

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GLOSSARY

Adaptive Management: A process for continually improving management policies and practices by learning from the outcomes of operational programs and new scientific information. Under adaptive management, plans and activities are treated as working hypotheses rather than final solutions to complex problems.

Allotment: An area of land where one or more livestock operators graze their livestock. Allotments generally consist of BLM lands but may also include other federal managed and private lands. An allotment may include one or more separated pastures. Livestock numbers and periods of use are specified for each allotment.

All-Terrain Vehicle (ATV): A wheeled or tracked vehicle, designed primarily for recreational use or for the transportation of property or equipment exclusively on trails, undeveloped road rights-of-way, marshland, open country, or other unprepared surfaces.

Backcountry: A recreation setting classification characterized by a naturally appearing landscape with human modifications not readily noticeable.

Casual Use: Is defined in various places in 43 CFR and is uniformly based on the principal that the activity will "not ordinarily lead to appreciable disturbance or damage to lands, resources or improvements."

Closed Off-Highway Vehicle Designations: Areas or trails are designated closed if closure to all vehicular use is necessary to protect resources, promote visitor safety, or reduce use conflicts (see 43 CFR 8340.05).

Closed OHV Area: An area designation made in a land-use plan, such as in the 2009 Butte RMP, where off-road vehicle use is prohibited.

Code of Federal Regulations (CFR): The Code of Federal Regulations is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the Federal Government.

Collector Roads: Usually double-lane, graded, drained and surfaced with a 20 to 24 foot travel way. They serve large land areas and are the major access route into development areas.

Cooperating Agency: Assists the lead Federal agency in developing an Environmental Assessment or Environmental Impact Statement. Any Federal, State, or local government with jurisdiction may become a cooperating agency by agreement with the lead agency.

Cross-Country Travel: Travel not on a road, primitive road, or trail.

Cumulative Impact: See "Cumulative Effect."

Decision Record (DR): The BLM document associated with an Environmental Assessment that describes the action to be taken when the analysis supports a finding of no significant impact.

Designation Terminology: These terms have evolved over time and are used differently from document to document.

2009 Butte F.O. RMP	Route Evaluation	Additional explanation
Open Yearlong	Open or Open with Management	The public may use motor vehicles.
Open with Restrictions	Limited or Limited with Management	Limitation may be vehicle type or size, season of use, users with special authorization.
Closed Yearlong	Limited to administrative and authorized users.	Limited to authorized users: Federal, State, local agencies and in some cases local land owner, range permittee, mine claimant, etc. Open to public for non-motorized use.
Decommissioned	Closed	Route is intended to be closed and removed from all use.

Dispersed Recreation: Various kinds of recreation occurring in individual, scattered, and unstructured settings throughout a large area (i.e. not confined to a specific place or developed facilities).

Effects (or Impacts): The biological, physical, social, or economic consequences resulting from a proposed action or its alternatives. Effects may be adverse (detrimental) or beneficial, and cumulative, direct, or indirect.

Effects, Cumulative: The impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions taking place over a period of time.

Effects, Direct: Effects on the environment which occur at the same time and place as the initial cause or action.

Effects, Indirect: Effects also caused by the action, but occurring later or further removed in distance. Environmental Impact: The positive or negative effect of any action upon a given area or source.

Environmental Assessment (EA): An environmental assessment is a tool for determining the "significance" of environmental impacts; it provides a basis for rational decision making.

Evaluation Criteria: These are factors that managers and interdisciplinary teams develop to form judgments about decision making, analysis, and data collection during planning. Evaluation criteria streamline and simplify the resource management planning actions to ensure that the actions are tailored to the issue(s) previously identified and to ensure that unnecessary data collection and analysis are avoided.

Evaluation Number: Identification number for routes assigned during evaluation process. The evaluation number could be a continuation of the inventory number, or changed to completely new number to clarify the proposed network of routes. See also **Inventory Number** or **Navigation Number**.

Executive Order (EO): A presidential policy directive that implements or interprets a federal statute, a constitutional provision, or a treaty. To have the effect of law, executive orders must appear in the Federal Register, the daily publication of federal rules and regulations. The president's power to issue executive orders comes from Congress and the U.S. Constitution. Executive orders differ from presidential proclamations, which are used largely for ceremonial and honorary purposes

Facility Asset Management System (FAMS): The BLM's official database for the management of transportation system assets.

Federal Register: Daily publication which provides a uniform system for making regulations and legal notices issued by the Executive Branch and various departments of the Federal government available to the public.

Federal Land Policy and Management Act (FLPMA): Was passed in 1976 by congress for the purposes of establishing a unified, comprehensive, and systematic approach to managing and preserving public lands.

Field Office: It is the administrative subdivision whose manager has primary responsibility for day-today resource management activities and resource use allocations and is, in most instances, the area for which resource management plans are prepared and maintained.

Finding of No Significant Impact (FONSI): A finding that explains that an action will not have a significant effect on the environment and, therefore, an Environmental Impact Statement will not be required (40 CFR 1508.13).

Four-Wheel Drive Vehicle (4WD): A passenger vehicle or light truck having power available to all wheels.

Game Retrieval Routes: "*Routes designated for Game Retrieval will be managed to allow retrieval during big game hunting seasons, between the hours of 11:00 AM - 3:00 PM. Under this management, hunters who have tagged an animal will be allowed to use a motorized vehicle to assist in the retrieval. Motorized use is restricted to the designated Game Retrieval route* ***only;*** *no motorized off-road or off-trail use is allowed during the retrieval effort.* "(2009, Butte RMP page 39)

Goal(s): Statement(s) of what a plan or action in a plan hopes to accomplish in the long term. Goals state the preferred situation, and usually are not quantifiable and may not have established time frames for achievement.

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.

Impacts (Common Terms):

- *Negligible* impacts: No changes to wildlife resources would occur, or effects on individuals, populations, or habitat would be at or below the level of detection. If detected, the effects would be considered slight.
- *Minor* Impacts: Changes to resources would be measurable, although the changes would be small, short-term (less than seven consecutive days), and local. Mitigation measures would not be necessary.
- *Moderate* Impacts: Changes to wildlife resources would be measurable and would have appreciable consequences, although the effect would be relatively local. Mitigating measures would be necessary, but would most likely be successful
- *Major* Impacts: Changes to wildlife resources would be measurable, have substantial consequences, and be noticed regionally. Mitigating measures would be necessary, and their success would be uncertain.
- *Short-Term Impacts* are those effects that are not permanent or can be changed or remediated back to a prior condition in a short amount of time.
- *Long-Term Impacts* are those permanent or unchangeable effects such as the loss of a resource and other than permanent or unchangeable that cannot be changed or remediated back to a prior condition in a short amount of time.

Implementation Decisions: Decisions that take action to implement land use plan decisions; generally appealable to the Interior Board of Land Appeals under 43 CFR 4.410.

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 are synonymous with "activity" plans.

Indian Tribe: See "Tribe."

Indirect Effect: Effects that are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable see also "Effect."

Indirect Impact: See "Indirect Effect."

Instruction Memorandum (IM): A temporary directive that supplements the Bureau Manual Sections. IMs contain new policy or procedures that must reach BLM employees quickly, interpret existing policies, or provide one-time instructions.

Interior Board of Land Appeals (IBLA): The IBLA is part of the Office of Hearings and Appeals of the Department of the Interior, which by regulation has been designated as an authorized representative to carry out and decide the hearings, appeals, and other review functions on behalf of the Secretary of the Interior.

Inventory numbers: Identification number for linear features assigned in the field or during the inventory process. See also **Evaluation Number** or **Navigation Number**.

Land Management Agency: Any agency or organization that manages lands, many managed as recreation and/or wilderness areas. Examples include federal agencies such as the USDI Bureau of Land Management, USDA Forest Service, and the USDI National Park Service as well as state, county, and local park system agencies: as well as organizations such as The Nature Conservancy.

Land Manager: Any person who makes decisions regarding land use.

Land Use Plan (LUP): A set of decisions that establishes management direction for land within an administrative area, as prescribed under the planning provisions of the Federal Land Policy Management Act of 1976; an assimilation of land use plan-level decisions developed through the planning process outlined in 43 CFR 1600, regardless of the scale at which the decisions were developed.

Land Use Plan Allocations: The identification in a land use plan of the activities and foreseeable development that are allowed, restricted, or excluded for all or part of the planning area, based on desired future conditions.

Land Use Plan Decisions: Establishes desired outcomes and actions needed to achieve them. Decisions are reached by using the planning process in 43 CFR 1600. When these decisions are presented to the public as proposed decisions, they can be protested to the BLM Director. They are not appealable to the IBLA.

Limited Area: As defined in Title 43 Part 8340, means 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 and trails; use on designated roads and trails; and other restrictions.

Limited OHV Designations: The limited designation is used where OHV use must be restricted to meet specific resource management objectives. Examples of limitations include: number or type of vehicles; time or season of use; permitted or licensed use only; use limited to designated roads and trails; or other limitations if restrictions are necessary to meet resource management objectives, including certain competitive or intensive use areas that have special limitations (see 43 CFR 8340.05).

Linear Disturbance: Term utilized to identify man-made linear features that are not part of the BLM's transportation system. Linear disturbances may include engineered (planned) as well as unplanned single and two-track linear features that are not part of the BLM's transportation system.

Maintenance Intensity: provide guidance for appropriate "standards of care" to recognized routes within the BLM.

Management Area: An area selected for management of an emphasized natural resource, and common management objectives.

Mechanized Travel: Moving by means of mechanical devices such as a bicycle; not powered by a motor.

Mining Claim: Any unpatented mining claim, mill site, or tunnel site which is authorized by the U.S. mining laws.

Mining Operations: All functions, work, facilities, and activities in connection with the prospecting, development, extraction, and processing of mineral deposits and all uses reasonably incident thereto including the construction and maintenance of means of access to and across lands subject to 43 CFR 3800 et seq., whether the operations take place on or off the claim.

Mitigation: Measures or procedures which could reduce or avoid adverse impacts and have not been incorporated into the proposed action or an alternative. Mitigation can be applied to reduce or avoid adverse effects to biological, physical, or socioeconomic resources.

Monitoring: Collecting and assessing data to evaluate the effectiveness of planning decisions.

Motorcycle: Motorized vehicles with two tires and with a seat designed to be straddled by the operator.

Motorized Travel: Moving by means of vehicles that are propelled by motors such as cars, trucks, OHVs, motorcycles, and boats.

Motorized Vehicle: Synonymous with off-highway vehicle (OHV). Examples of this type of vehicle include all-terrain vehicles (ATV), Utility Type Vehicle (UTV), Sport Utility Vehicle (SUV), motorcycle, and snowmobiles

Multiple Use: The management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people;… that takes into account the long-term needs of future generations for renewable and non-renewable resources, including recreation, range, timber, minerals, watershed, wildlife, and fish; natural scenic, scientific, and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land … (FLMPA, 42 U.S.C. 1702, Sec. 103 [c]).

National Environmental Policy Act (NEPA): Federal law (established by Congress in 1969), which requires that every Federal agency with public involvement assess the environmental impacts of all federal actions, evaluate if there will be any significant environmental impacts of the proposed project, and disclose the findings to the public.

Native American Tribe: See "Tribe."

Navigation Number: Final identification number assigned to designated road, primitive road, or trail to be used on public maps and route signs or markers. This number is assigned to meet a statewide numbering standard for open routes. See also **Inventory Number** or **Evaluation Number**.

Non-motorized travel: Moving by foot, stock or pack animal, boat, or mechanized vehicle such as a bicycle.

Off-Highway Vehicle (OHV): OHV is synonymous with Off-Road Vehicles (ORV). ORV is defined in 43 CFR 8340.0-5 (a): Off-road vehicle means 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, snowmobiles, and ATVs.

Official Use: Use by an employee, agent, or designated representative of the Federal government or one of its contractors, in the course of his employment, agency, or representation.

OHV Area Designations: Used by federal agencies in the management of OHVs on public lands. This refers to the land use plan decisions that permit, establish conditions, or prohibit OHV activities on specific areas of public lands. All public lands are required to have OHV designations (43 CFR 8342.1). The CFR requires all BLM-managed public lands to be designated as open, limited, or closed to off-road vehicles and provides guidelines for designation. The definitions of open, limited, and closed are provided in 43 CFR 8340.0-5 (f), (g), and (h), respectively.

OHV Recreation: All uses of motorized vehicles on public lands are not considered OHV recreation. Commercial use of motorized vehicles, such as haul trucks and utility company vehicles are not motorized recreation. OHV recreation is more closely associated with the use of specialized two, three and four wheel vehicles, intended for recreation or racing uses, i.e. dirt bikes, quads, go carts, utility terrain vehicles (UTV's or side-by-sides) and specially prepared 4x4 units. This form of motorized use is more correctly categorized as OHV recreation, particularly when the specialized vehicle is used to test ones abilities or equipment or is specifically brought to the area to ride for the pleasure of the ride itself.

Open OHV Designations: Open designations are used for intensive OHV use areas where there are no special restrictions or where there are no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting cross-country travel (see 43 CFR 8340.05).

Over Snow Vehicle (OSV): An over snow vehicle is defined as a motor vehicle that is designed for use over snow that runs on a track or tracks and/or a ski or skis, while in use over snow. An over-snow vehicle does not include machinery used strictly for the grooming of non-motorized trails.

Plan Amendment: The process of considering or making changes in the terms, conditions, and decision of approved plans. Usually only one or two issues are considered that involve only a portion of the planning area.

Recreation Opportunity Spectrum (ROS): The distinguishing recreational qualities of any landscape, objectively defined along a continuum ranging from primitive to urban landscapes, expressed in terms of the nature of the component parts of its physical, social and administrative attributes. These recreational qualities can be both classified and mapped. The Jefferson SE Management Area has recreation settings ranging from rural to semi-primitive.

Recreation Setting Characteristics: See Recreation Opportunity Spectrum

Primitive Road: A linear route managed for use by four-wheel drive or high-clearance vehicles. These routes do not formally meet any BLM road design standards.

Proposed Action: This is the proposition for the BLM to authorize, recommend, or implement an action to which will address a clear purpose and need required in managing public lands. A proposal may be generated internally or externally.

Public: Individuals, including consumer organizations, public land resource users, corporations and other business entities, environmental organizations and other special interest groups, and officials of State, local, and Indian tribal governments affected or interested in public land management decisions.

Public Land: Any land and interest in land owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management.

Recreation, Developed: Outdoor recreation requiring significant capital investment in facilities to handle a concentration of visitors on a relatively small area. Examples are ski areas, resorts, trailheads, and campgrounds.

Recreation, Dispersed: Outdoor recreation activities that occur outside of developed recreation facilities in which visitors are diffused over relatively large areas away from maintained roads. This type of recreation is also referred to as unstructured recreation. Where facilities or developments are provided, they are more for access and protection of the environment than for the comfort or convenience of the people.

Recreation Site, Developed: A site developed primarily to accommodate specific intensive use activities or groupings of activities such as camping, picnicking, boating, swimming, winter sports, etc. These sites include permanent facilities which require continuing management commitment and regular maintenance, such as roads, trails, toilets, and other facilities needed to accommodate recreation use over the long term.

Resource Damage: Significant undue damage or disturbance including erosion or water pollution, creating undue degradation of wildlife or vegetative resources (including the spread of noxious weeds). This definition of resource damage applies to areas designated as open, limited or closed to ORV use. The on-the-ground determination of whether resource damage has occurred is left to the discretion of the authorized officer.

Resource Management Plan (RMP): The BLM considers Resource Management Plans synonymous with land use plans (as defined previously), so the terms may be used interchangeably. Land use plan decisions made in RMPs establish goals and objectives for resource management (such as desired future conditions), the measures needed to achieve these goals and objectives, and parameters for using public lands. Land use planning decisions are usually made on a broad scale and customarily guide subsequent site-specific implementation decisions.

Resource Road: local roads are low-volume, single-lane roads. They normally have a 12 to14 foot travelway with "invisible turnouts," as appropriate, where approaching drivers have a clear view of the section of road between the two turnouts and can pull off to the side to let the approaching driver pass. They are usually used for dry weather, but may be surfaced, drained, and maintained for all-weather use. These roads connect terminal facilities, such as a well site, to collector, local, arterial, or other higher class. They serve low average daily traffic (ADT) and are located on the basis of the specific resource activity need rather than travel efficiency. These roads collect traffic from resource or local roads or terminal facilities and are connected to arterial roads or public highways.

Right-of-Way (ROW): A linear corridor of land held in fee simple title or as an easement over another's land, for use as a public utility (highway, road, railroad, trail, utilities, etc.) for a public purpose. Usually includes a designated amount of land on either side that serves as a buffer for adjacent land uses.

Right of Way: The right of one trail user or vehicle to proceed in a lawful manner in preference to another trail user or vehicle.

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, Primitive Road and Trail Identification: For the purposes of this guidance, road and trail identification refers to the on-the-ground process (including signs, maps, and other means of informing the public about requirements) of implementing the road and trail network selected in the land use plan or implementation plan. Guidance on the identification requirements is in 43 CFR 8342.2 (c).

Routes: Multiple roads, trails, and primitive roads; a group or set of roads, trails, and primitive roads that represents less than 100% of the BLM transportation system. Generically, components of the transportation system are described as "routes."

Scoping: The process by which the BLM solicits internal and external input on the issues and effects that will be addressed, as well as the degree to which those issues and effects will be analyzed in a National Environmental Policy Act document.

Sediment: Solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water. Sediment includes chemical and biochemical precipitates and decomposed organic material such as humus.

Sensitive species: Includes proposed species or candidate species under the Endangered Species Act; state-listed species; and BLM State Director-designated sensitive species (see BLM Manual 6840, Special Status Species Policy).

Settings:
• Physical Setting: The component of setting opportunity determined by the on-the-ground condition, or degree of environmental modification, resulting from human activity.
• Social Setting: The component of setting opportunity determined by the level and types of contacts between individuals or groups which can be expected in a particular area.
• Managerial Setting: The component of setting opportunity which reflects the kind and extent of management services and facilities provided to support recreation use, and the restrictions placed on peoples' actions by the administering agency.

Single Track: Trails wide enough for just one vehicle at a time, usually 18 inches wide.

Significant Impact: The effects of sufficient context and intensity that an environmental impact statement is required. The CEQ regulations at 40 CFR 1508.27(b) include ten considerations for evaluating intensity.

Special Management Area (SMA): SMAs include Wilderness Study Areas, Wild and Scenic Rivers, Research Natural Areas, and Areas of Critical Environmental Concern Areas.

Special Recreation Permit (SRP): A permit issued under established laws and regulations to an individual, organization, or company for occupancy or use of federal lands for some special purpose such as a motorcycle race, outfitter guide, etc.

Special Status Species: Includes proposed species, listed species, and candidate species under the Endangered Species Act; state-listed species; and BLM State Director-designated sensitive species (see BLM Manual 6840, Special Status Species Policy). Definition from USDOI BLM 2005.

Sport Utility Vehicle (SUV): A street legal, high clearance vehicle used primarily on-highway but designed to be capable of off-highway travel.

Standard(s): A statement and/or illustration describing a design recommendation or principle that recommends a preferred development technique for use as a rule or basis of comparison in measuring maximum or ideal requirements, quantity, quality, value, etc.

Stewardship: Taking responsibility for the well-being of land and water resources and doing something to restore or protect that well-being. It usually involves cooperation among people with different interests and sharing of decision-making. It is generally voluntary. It is oriented towards assessment, protection, and rehabilitation of trails and roads as well as sustainable use of resources.

Sustainable (Sustainability): Use of natural resources in a way that allows for long term use while minimizing impacts to resources and need for continuing maintenance.

Trail: Linear routes managed for human-powered, stock, or OHV forms of transportation or for historical or heritage values. Trails are not generally managed for use by four-wheel drive or high-clearance vehicles.

Trail Design: Designing and layout of trails requires special training, knowledge, experience, and skill. When designing trails, many different factors are taken into account including hydrology, topography, soils, flora, fauna, management objectives, user expectations and characteristics, and trail design standards. The designer will utilize data collected from area site analysis, environmental assessments, public meetings, and area trail and management plans.

Trailhead: An access point to a trail or trail system often accompanied by various public facilities, such as hitching posts for horses, a horse or OHV unloading dock or chute, parking areas, toilets, water, directional and informational signs, and a trail use register. Designed and managed for those embarking on an overnight or long-distance trip, whereas a staging area caters to trail day use.

Transportation System: Represents the sum of the BLM's recognized inventory of linear features (roads, primitive roads, and trails) formally recognized, designated, and approved as part of the BLM's transportation system. Once approved, this travel management plan and environmental assessment will establish the La Posa TMA transportation system.

Travel Management Area (TMA): TMAs are polygons or delineated areas where travel management (either motorized or non-motorized) needs particular focus. These areas may be designated as open, closed, or limited to motorized use and will typically have an identified or designated network of roads, trails, ways, and other routes that provide for public access and travel across the planning area. All designated travel routes within TPAs should have a clearly identified need and purpose as well as clearly defined activity types, modes of travel, and seasons or times for allowable access or other limitations.

Travel Network (TN): The network of roads, primitive roads, and trails (motorized and non-motorized) that are selected (recognized, designated, or authorized) for use through the comprehensive travel and transportation planning process.

Travel Management Plan (TMP): The document that describes the process and decisions related to the selection and management of the Transportation Network.

Tribe: Any Indian group in the conterminous United States that the Secretary of the Interior recognizes as possessing Tribal status.

Utility Type (or Terrain) Vehicle (UTV): Any recreational motor vehicle other than an ATV, motorbike or snowmobile designed for and capable of travel over designated unpaved roads, traveling on four (4) or more low-pressure tires of twenty (20) psi or less, maximum width less than seventy-four (74) inches, maximum weight less than two thousand (2,000) pounds, or having a wheelbase of ninety-four (94) inches or less. Utility type vehicle does not include golf carts, vehicles specially designed to carry a disabled person, implements of husband.

Visual Resource Management Classes: Categories assigned to public lands based on scenic quality, sensitivity level, and distance zones. There are four classes. Each class has an objective which prescribes the amount of change allowed in the characteristic landscape

Wilderness Area: Uninhabited and undeveloped federal land to which Congress has granted special status and protection under authority of the Wilderness Act of 1964. This allocation allows foot and horse traffic only; no mountain bikes, OHV use, hang gliders, or other "machines."

APPENDIX B-1 ROUTE EVALUATION CRITERIA

CAPE

Jurisdictional Access
BLM adjacent FO DO or SO
FS adjacent Ranger District
County lands or parks
City lands or parks
Private lands
State lands or parks
FWP lands

Agency Facilities
Monitoring sites

Lease Facilities
Communications site
ROW – power line
ROW - gas pipeline
ROW - road
ROW - power
Timber/woodland product sales area
ROW - telephone/communications

Mineral Facilities
Mine active
Mine in-active
Mining claim
Oil/gas lease
AML site - environmental
AML site - physical safety
AML site - reclaimed physical safety
AML site - reclaimed environmental
Locatable - mineral production
Minerals exploration
Mine monitoring well
Adit/mine shaft

Range Facilities
Allotment/pasture fences
Exclosure fence
Pipeline
Developed water
Gate
Cattle guard
Active allotment
Tank/trough
Monitoring study areas
Non-functioning reservoirs
Spring source
Water storage tanks

Recreation Facilities
Campground developed
Parking area undeveloped
Day-use area
Staging area
Trailhead undeveloped
Vista
Recreational shooting site undeveloped

Resources

VRM
Class I
Class II
Class III
Class IV

Recreational Setting Characteristics
Back Country (Semi-Primitive, Non-Motorized)
Middle Country (Semi-Primitive, Motorized)
Front Country (Roaded Natural-Appearing)
Roaded-Modified

Cultural
Eligible cultural resource (*critical A, B, or C)*
Cultural resource (*not eligible*)
Historic site
Historic district
Eligible cultural resource (*critical D)*
No survey

Special Status Animals
Northern goshawk habitat
Bald eagle nest
Bat roost or colony
Bald eagle winter roost
Greater sage-grouse winter habitat
Bald eagle winter habitat
Burrowing owl habitat
Ferruginous hawk habitat
Canada lynx habitat
Grey wolf habitat
Black-tailed prairie dog
Other BLM sensitive species
Other MT sensitive species
Wolverine

Managed Species
Pronghorn
Mule deer (Year round habitat)
Wild turkey roost
Fisheries
Waterfowl
Big game critical water source
Peregrine falcon nest
Big game winter range

Water Resources
Lake/reservoir
Perennial
Ephemeral
Intermittent
Spring
Well
Riparian

Resource Issues
Dumping/littering
Route proliferation
Noxious weeds
Mine hazard
Invasive vegetation
Public safety issue

Misc. Resources
Erosive soils (*moderate potentia*l)
Cave
Hydric soil/wetland

Public Use

Mode of Transportation
ATV
Motorcycle
Stock 4WD
Modified 4WD
UTV
Bicycle
Foot
Horse
Snowmobile
2WD

Activities
Hunting
Hiking
Birding
Cultural/historical exploration
Horse-back riding
Fishing
Geocaching
Bicycling
Rock hounding
Sight seeing
Photography
Wildlife watching
Spiritual visitor
Vehicle exploration
Hill climbing
Backpacking
Wood cutting
Antler shed hunting
Camping dispersed

APPENDIX B-2 EXECUTIVE ORDER 11644

In 1972, President Nixon signed Executive Order 11644, which requires all public lands to be designated as "open", "closed" or "limited". This applied largely to areas and specific routes in areas designated as "limited". Areas designated as "closed" or "open" do not require the designation of specific routes and trails. The following criteria are to be applied to "limited" areas and were excerpted from EO 11644.

1. Areas and trails shall be located to minimize damage to soil, watershed, vegetation, or other resources of the public lands.
2. Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats.
3. Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.
4. Areas and trails shall not be located in officially designated Wilderness Areas or Primitive Areas. Areas and trails shall be located in areas of the National Park system, Natural Areas, or National Wildlife Refuges and Game Ranges only if the respective agency head determines that off-road vehicle use in such locations will not adversely affect their natural, aesthetic, or scenic values.

This Executive Order was codified into Title 43 CFR 8340 – Off Road Vehicles. Thus it became BLM policy and was implemented throughout those lands administered by BLM nation-wide.

All BLM-managed public lands require motorized vehicle use designations, both areas and trails in accordance with Title 43 CFR 8340 – Off Road Vehicles (derived from E.O 11644). The designation categories (as described in Title 43 CFR 8340.0-5 Definitions) include:

- <u>Open</u> – "…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…" (i.e. cross country travel is allowed)
- <u>Limited</u> – "…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 and trails; use on designated roads and trails; and other restrictions."
- <u>Closed</u> – "…an area where off-road vehicle use 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".

APPENDIX B-3 SAMPLE ROUTE REPORT

Individual route designation reports are provided on-line at http://www.blm.gov/mt/st/en/fo/butte_field_office.html.blm.gov. These are public reports and there may be certain sensitive information left out, such as location of cultural resources.

The following 4 pages provide a sample of a route report. It is organized to provide an administrative record of the discussion about the route during the route evaluation session. The header of each page indicates the evaluation route number. It should be noted that the number placed on published maps and used on route signs may not be the same. The report is formatted in three major sections: general background, evaluation information and designation alternatives considered.

The first section of the route report shows the date of the evaluation of the route, the contract facilitator and the BLM staff specialists involved in the discussion about the route. The second section provides physical information about the route, such as length, width, use, ownership, origin (if known), and additional information applicable to the route

The evaluation information is divided into three colored boxes. The first is information about commercial, administrative, other property owners' access and economics (CAPE) (Yellow). The general issues questions for CAPE are answered and a listing of facilities and access is provided. There are three types of access identified:

- **Primary** – the main access
- **Alternate** – at secondary or back door access
- **Link** – route necessary for the primary access to be used.

The second box is Public Uses (Blue). The general issues questions are answered followed by a listing of facilities, modes of transportation and activities for the route. As in CAPE, the facilities list the access by**: Primary, Alternate** and **Link**. Mode of transportation and activity are indicated by:

- **Primary** – main mode or activity on the route
- **Secondary** – other common uses and modes
- **Infreq** – (Infrequent) uncommon uses or modes of transportation.

The final evaluation box is Special Resource Concerns (Green). The general issues questions are answered followed by the resource or concerns. These are grouped into general categories, such as Biome, Special Status Animals, Managed Species, Resource Issues, etc. Here the route is characterized as being:

- **In** – route is mostly or completely within the resource or area of concern
- **Leads To** – route provides access to the resource or concern
- **Crosses** – the route crosses but only has a small intersection with the resource or area of concern
- **Prox** – (Proximate to) the route is near the resource or area of concern as indicated by the **Dist** (Proximate Distance)

Finally, the route report provides a listing of the four alternatives discussed for the route during the evaluation session. Alt A (no action) simply states the current management of the route and the area designation (no color). The action alternatives (Alt B, Alt C & Alt D) are color coded to Open (Green), Limited (Orange) and Closed (Pink). For these alternatives, the designation is clearly spelled out, along with the statutory reference and a rationale for the alternative. There may also be other information included from memos. For limited alternatives, there would also be the specific limitations of the use of the routes. For alternative with management identified (both Open & Limited), there would be specific management actions identified, such as maintenance, monitoring or mitigation. For Closed alternatives, information about how the route would be decommissioned is provided. Also, if the route is redundant to another route, it is specified.

Evaluation Date: 12/04/2012

Facilitator:	Nate Holland	ARS
Evaluators:	Brad Colin	Outdoor Recreation Planner (Travel Management Lead)
	Michael O'Brien	Forester (ID Team Lead)
	Vickie Anderson	Range Technician
	Scot Franklin	Wildlife Biologist
	Bradlee Matthews	GIS Specialist
	John Sandford	Natural Resource Specialist
	Erik Broeder	Rangeland Management Specialist
	Lacy Decker	Weeds Specialist
	Carrie Kiely	Cultural Resources Specialist
	Roger Olsen	Rangeland Management Specialist (SS Plants)
	Dave Williams	Geologist
	Kelly Acree	Realty Specialist

TMA:	Jefferson County SE		
Management Zones:	Entire		
Length: 0.2 miles	**Width:** Dual Track	**Class:** Primitive Roads	**Use Level:** Low
Route Types	☒ Spur		
Surface & Maint.			
Origin	☒ Mining		
Jurisdictions:	☒ BLM		

Additional Information None.

Citizen Comments and Proposals

Author	Designation	Comment or Proposal
None.		

Route Evaluation Information

Commercial, Administrative, Property and Economics (CAPE)
This route provides access to jurisdictions, including BLM and a variety of facilities listed below. Primary access is the main route into a jurisdiction or facility. Alternate access, while leading directly to a jurisdiction or facility, it is not the main access and therefore may not be as important as a primary. Link access does not lead directly to a jurisdiction or facility, but would be required to access a primary access.

General Issues

Does this route: **YES**

- ☐ either wholly or in part, have a right-of-way grant or is it simply an officially-recognized route with a record of management by another government agency?
- ☒ provide commercial, private property, or administrative access (e.g. via permit, ingress/egress rights or management responsibility)?
- ☐ provide a principal means of connectivity within a Travel Management Area or sub-region?
- ☐ exist as part of an officially recognized as part of an Agency planning document and is subject to maintenance?
- ☐ provide an important linkage between Travel Management Areas or planning sub-regions?

Facilities & Access	Specifically	Primary	Alternate	Link	Memo
Range Facilities	Active Allotment	☒	☐	☐	
Mineral Facilities	Mining Claim	☒	☐	☐	
Mineral Facilities	Minerals Exploration	☒	☐	☐	

Public Uses
This route provides access to recreational facilities listed below. The types of access are defined as in the Commercial, Administrative, Property and Economics section above. This route also is used for a variety of public uses, both motorized and non-motorized. Primary uses are the main uses on the route by the public. Secondary uses, while common are not the main use on the route. Infrequent uses are uses that are rare on this route, but have been observed.

General Issues

Does this route contribute to recreational opportunities, route network connectivity, public safety, reduction of conflicts between recreation users and/or such users and urban interface areas, or other public multi-use access opportunities enumerated in agency Organic laws? **YES**

Facilities	Description	Primary	Alternate	Link	Memo
None					

Public Uses	Description	Primary	Secondary	Infreq
Modes of Transportation	By Horse	☐	☒	☐
Modes of Transportation	By Foot	☐	☒	☐
Modes of Transportation	ATV	☒	☐	☐
Modes of Transportation	Motorcycle	☐	☒	☐
Modes of Transportation	Stock 4 Wheel Drive	☒	☐	☐
Modes of Transportation	UTV	☒	☐	☐
Public Uses Activities	Wildlife Watching	☐	☐	☒
Public Uses Activities	Vehicle Exploring	☒	☐	☐
Public Uses Activities	Antler shed hunting	☐	☒	☐
Public Uses Activities	Equestrian	☐	☒	☐
Public Uses Activities	Hiking	☐	☒	☐
Public Uses Activities	Hunting	☒	☐	☐

Special Resource Concerns

This route is in, leads to, crossed or is proximate to natural and cultural resources and resource concerns listed below.

General Issues

Might the continued use of this route potentially impact **YES**

- ☒ State or Federal special status species or their habitat?
- ☒ cultural or any other specially-protected resources or objects identified by Agency planning documents, plan amendments?
- ☐ any special area designations (e.g. National Monuments
- ☒ any other resources of concern

Can the anticipated potential impacts to the identified resources be avoided, minimized (reduced to acceptable levels), or be mitigated ? **YES**

Resource/Concern	Specifically	In	LeadsTo	Crosses	Prox	Dist	Memo
Biome	Shrubland	☒	☐	☐	☐		
Biome	Weeds	☒	☐	☐	☐		
Biome	Dry Foothills/Woodlands	☒	☐	☐	☐		
Biome	Grassland	☒	☐	☐	☐		
Special Status Animals	Grey wolf habitat	☒	☐	☐	☐	1/2 mile	
Special Status Animals	Wolverine	☐	☒	☐	☐	1/2 mile	
Special Status Animals	Other BLM sensitive species (there are many)	☐	☒	☐	☐		
Special Status Animals	Other MT species of concern (there are many)	☐	☒	☐	☐		
Special Status Animals	Ferruginous hawk habitat	☐	☒	☐	☐	1/2 mile	
Managed Species	Big Game Winter Range	☐	☒	☐	☐	1/2 mile	
Managed Species	Mule deer year-round	☒	☐	☐	☐	1/2 mile	
Managed Species	Pronghorn	☐	☒	☐	☐	1/2 mile	
Managed Species	Big game crucial water source	☒	☐	☐	☐	1/4 mile	
VRM	VRM Class IV - Major Modification	☒					
RSC	Front Country (Roaded Natural)	☒					
Resource Issues	Noxious Weeds	☒	☐	☐	☐	1/4 Mile	

Alternatives

Alt A	Current Management, No Action Alternative **Area Designation:** Limited **Route Management:** Open
Alt B	**Designation:** CLOSED **Closure Method:** Site barrier with natural materials, Sign Closed **Statutory:** 43 CFR 8342.1a Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability. 43 CFR 8342.1c Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors. Can the commercial, private-property, recreation or other public uses of this route be adequately met by another route(s) that minimizes impacts to the resources identified as part of this evaluation or that minimizes cumulative effects on various other resources? **NO** **Rationale:** This route is currently reclaiming. Closing this route would contribute to retaining or restoring vegetation and soil cover, minimizing the potential for soil erosion. Closing this route would directly enhance use of a wildlife movement corridor area by reducing fragmentation, enhance non-motorized recreation opportunities, and reduce public safety concerns. Closing this route would eliminate public motorized use, thus reducing the potential for harassment of wildlife. Closing this route would reduce overall impact of vehicle use and route footprint in the area. Closing this route would reduce overall impact of illegal dumping and OHV use on soils and vegetation.
Alt C	**Designation:** LIMITED W/ MANAGEMENT The following time or seasonal closure applies: Closed to motorized use. The closure applies to the following time constraints: From Dec 1To May 30. This closure is in place because of Mule Deer seasonal range. Exception to the closure for motorized use by administration, permitees, or owners. Adaptive Management Monitoring Monitoring of the status and/or integrity of the potentially impacted sensitive resources or resource issues identified as they relate to various factors (e g climate cycles, exotic species introduction, visitor use levels[type, intensity, and season of use]) **Statutory:** 43 CFR 8342.1a Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability. 43 CFR 8342.1b Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention would be given to protect endangered or threatened species and their habitats. 43 CFR 8342.1c Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors. **Rationale:** Limiting motorized access reduces traffic volume in the area thus reducing the potential for harassment of wildlife. Designation would minimize harassment of wildlife by eliminating motorized public use during mule deer winter use time.
Memo(s)	This primitive road provides administrative access. This primitive road provides permitee access. This primitive road provides commercial access. This primitive road provides non-BLM land access.
Alt D	**Designation:** OPEN **Statutory:** 43 CFR 8342.1a Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability. 43 CFR 8342.1c Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors. **Rationale:** This is generally the best location of this long-established route and relocation of the route would create greater impacts than managing the existing alignment. This route provides general access for a variety of users with minimal effects to documented resources.
Memo(s)	This primitive road provides administrative access. This primitive road provides permitee access. This primitive road provides commercial access. This primitive road provides public recreational access.

APPENDIX B-4 SIGN PLAN

Travel management signage is an important way of communicating with public land users. Signing of travel and transportation networks is necessary for adequate management of public lands. Directional and informational signs, and placement of these signs, are critical for the safety and enjoyment of the lands, for compliance of rules and regulations, and protection of resources. Proper signing can improve the visitor's experience by providing the necessary information to ensure users are aware of regulations, safety, and uses. Road and trail users want to know what modes of travel are allowed or not allowed on the route they would like to use.

Sign plans are the primary document in the BLM signage efforts and are a required component of a TMP. As written in the BLM Sign Guidebook (2004), "a sign plan provides for the systematic and uniform development and maintenance of a sign system for a given area." A sign plan is necessary to ensure that signs placed in an area are consistent with land use and other planning documents; that they are designed to be consistent with all applicable laws, regulations, and policies; and that all signs adhere to a consistent theme. Signing is a key element to managing and implementing comprehensive travel and transportation plans on-the-ground.

Presently, very little signing is found throughout the JCSE TMA. Under this TMP, various types of signs and markers would be installed according to current BLM policy and guidance for recreation and travel management signing. Signs would be placed along roads, primitive roads and trails, and would include: Area and public land identification; Entry kiosks and informational kiosks; Bulletin boards; Route numbers and the designation status of a route; and, Area map boards.

Signing would be kept to the minimum necessary for visitor management and assistance and as a tool for resource protection, regulatory and informational purposes. Initially, all routes would be signed at intersections, then, at minimum every one mile beyond that point. Other points, which may be confusing to visitors, would also be signed. If necessary, signing for shooting area buffers and closures would be placed at reasonable intervals to ensure that users understand where closures exist.

Signing would be designed to provide the public with clear and correct information to avoid off-network travel and to prevent user conflicts. In order to issue citations, law enforcement staff must be able to prove to a magistrate there was ample information readily available for the visitor to do the right thing. Through monitoring and ongoing public group input, strategies would be developed to constantly improve the effectiveness of signing. Maintenance procedures and schedules would be developed for signs and markers, including anticipated replacement needs. A sign inventory and database would be created to facilitate tracking of sign location and maintenance. It is expected that during the first few years following implementation of the TMP, many signs will be removed or destroyed, and would be replaced or updated with a new communication or engineering technique.

Portal/Entry Signs

Large wooden portal signs as depicted in Figures 2 (see right) would be installed at the beginning of a popularly used area, route or entrance point. If the JCSE TMP is approved, these signs would be utilized. Over Snow Vehicle use would also be displayed, where applicable.

Figure 2 – Portal/Entry Signs

Designated Route Markers

Each travel route may have up to three identifying numbers. The first number was assigned during the field inventory. Then, during the route evaluation process these numbers were often modified or changed to clarify segments into transportation assets (i.e. roads, primitive roads and trails). These evaluation numbers are used in the route reports and on the maps associated with this TMP. A third and final navigational (or route ID) number would be assigned for marking the routes on the ground and in future published maps. All three identifying numbers would be maintained in the office database, to allow historical tracking of the route from the inventory stage through the implementation stage.

Starting in the southwest corner of the TMA, a consistent numeric system would be applied to the route network. All route identifiers within the TMA would have a 4-digit number, starting with the number 1000. Long distance routes, touring loops or routes to specific destinations may have a route name or symbol (example: 1000 Bull Mountain Trail). Local input would be sought when naming loops and trails. The numbering system would be flexible, and numbers may not always follow in numeric order. Routes that travel between field offices or planning areas would use the navigation number of the area with the earliest designation date.

The majority of primitive roads and trails would be marked with fiberglass markers. These markers would usually be placed on metal u-channel posts with tamper proof fasteners.

Open and Limited Travel Routes

Markers for travel routes that are "Open" and/or "Limited" to wheeled motorized vehicle travel would follow the basic layout depicted in Figure 3 (see below left). Starting from the top, each marker post would contain an arrow, route number, symbols of allowed uses (Open to) and non-allowed uses (Closed to), and the BLM logo. Markers may also have a decal with GPS locations marked at strategic locations. Markers for travel routes where wheeled motorized vehicle travel is allowed, but "Limited" (with various restrictions) would also use the sign depicted in Figure 3 (see below left) and/or Figure 4 (see below right).

Figure 3
Route Designation Sign

Figure 4
Route Restriction Signs

Limited (Administrative or Non-Motorized) Travel Routes
Markers for travel routes where wheeled motorized vehicle travel is "Limited" to "Administrative or Non-Motorized" use only, would use the sign depicted in Figure 5 (see right).

Closed Travel Routes
Markers for travel routes that are "Closed" to all forms of wheeled motorized vehicle travel (including administrative use) would also use the sign depicted in Figure 5 (see right).

Figure 5 – Route Closure Sign

Decommissioned Travel Routes
Markers for travel routes that are "Closed" to all forms of wheeled motorized vehicle travel and are scheduled to be "Decommissioned," would also use the sign depicted in Figure 5. Once a route has been decommissioned, or has recovered naturally, these signs would be removed so as not to attract attention to the fact that a travel route once existed in that location.

Additional Sign Examples

In addition to portal/entry and designated route marker, the signs depicted in Figure 6 (see below) may be used.

Figure 6 – Additional Travel Management Signs

Proposed Sign Locations

Route markers would be placed, at minimum, at each major intersection, and as needed and noted in the database. At each site, care would be taken to visually insure that the message is generally positive (were possible), simple and easy to read.

In order to limit the overall number of markers at each intersection, two routes may be identified on one post with arrow symbols. When adding a route name or where more than one or two international symbols are needed to convey a restriction or use, BLM may develop specific decals, which clearly identify the needed message or trail name. If a volunteer group adopts a route, they may be allowed to develop a decal to place on the markers. Trail names or "Trail Adopters" may be identified and labeled on the post above the route number. Not all route markers need both route name and numeric route identifier, such that the type of information conveyed could be alternated from route marker to route marker.

Maintenance and Monitoring of Travel Management Signs

Generally, maintenance of travel management markers would be completed according to the BLM's Sign Guidebook (Chapter 5).
http://www.blm.gov/pgdata/etc/medialib/blm/wy/signs/docs.Par.61916.File.dat/guidebook.pdf.

An inventory would be incorporated into this Sign Plan and maintained as time and funding permit. Current markers and signs should be inventoried as soon as possible after of the acceptance of the TMP. The database would include the following information:

- Location/ GPS
- Date installed
  - ✓ On larger signs installation dates should be placed on back of the sign
- Date inventoried
- Name of person conducting installation/inventory
- All language on the sign
- Sign layout
  - ✓ height
  - ✓ length
  - ✓ color
  - ✓ shape (Truncated, rectangle, square, marker)
- Lettering
  - ✓ Size
  - ✓ color
  - ✓ font
- Sign and post materials
- What is the condition of the sign: Good, Fair; Needs Repair or Replacement
- Number of times sign has been "replaced"(via ongoing count)

All photos of signs should be linked to the GPS location and maintained with the database in subfolders by year. All visitors should be encouraged to report missing or damaged signs. Volunteer efforts should be developed to help install, monitor and replace route markers and signs. Cost of replacement signs should be a line item in annual budget projections. These costs should be identified though the database.

APPENDIX B-5 LIST OF DECOMISSIONED ROUTES

	Type of Closure		
Route Number	**Alt B**	**Alt C – Proposed Action**	**Alt D**
J1006	Site barrier with natural materials	N/A	N/A
J1007	Site barrier with natural materials	N/A	N/A
J1008	Site barrier with natural materials	N/A	N/A
J1009	Site barrier with natural materials, Fence or barrier to natural barrier, Site barrier with natural materials, Sign Closed	Fence or barrier to natural barrier, Natural Rehab, Sign Closed	Fence or barrier to natural barrier, Natural Rehab, Sign Closed
J1011	Site barrier with natural materials	Site barrier with natural materials, Sign Closed	Site barrier with natural materials, Sign Closed
J1013	Site barrier with natural materials	N/A	N/A
J1015	Site barrier with natural materials	Sign Closed	
J1016	Site barrier with natural materials	Natural Rehab	Natural Rehab
J1018	Site barrier with natural materials, Sign Closed	Site barrier with natural materials, Sign Closed	Site barrier with natural materials, Sign Closed
J1019	Site barrier with natural materials	N/A	N/A
J1023	Sign Closed, Site barrier with natural materials	Site barrier with natural materials, Sign Closed	Site barrier with natural materials, Sign Closed
J1026	Sign Closed, Site barrier with natural materials	Sign Closed, Site barrier with natural materials	N/A
J1027	Site barrier with natural materials, Sign Closed	Site barrier with natural materials, Sign Closed	N/A
J1028	Site barrier with natural materials, Sign Closed	N/A	N/A
J1029	Site barrier with natural materials, Sign Closed	Site barrier with natural materials, Sign Closed	Site barrier with natural materials, Sign Closed
J1030	Site barrier with natural materials, Sign Closed	N/A	N/A
J1031	Site barrier with natural materials, Sign Closed	N/A	N/A
J1032	Site barrier with natural materials, Sign Closed	N/A	N/A
J1033	Site barrier with natural materials, Sign Closed	Site barrier with natural materials	Site barrier with natural materials
J1039	Site barrier with natural materials	N/A	N/A
J1040	Site barrier with natural materials	N/A	N/A
J1041	Site barrier with natural materials	Sign Closed	N/A
J1042	Site barrier with natural materials	N/A	N/A
J1043	Site barrier with natural materials	N/A	N/A

	Type of Closure		
Route Number	**Alt B**	**Alt C – Proposed Action**	**Alt D**
J1044	Site barrier with natural materials	Sign Closed	
J1047	Sign Closed, Site barrier with natural materials	N/A	N/A
J1049	Sign Closed	N/A	N/A
J1050	Sign Closed	Sign Closed	N/A
J1051	Sign Closed	Sign Closed	N/A
J1053	Site barrier with natural materials	N/A	N/A
J1054	Site barrier with natural materials	N/A	N/A
J1055	Sign Closed, Natural Rehab	Sign Closed, Natural Rehab	Sign Closed, Natural Rehab
J1056	Sign Closed, Natural Rehab	N/A	N/A
J1057	Sign Closed, Natural Rehab	N/A	N/A
J1060	Sign Closed	N/A	N/A
J1062	Site barrier with natural materials	N/A	N/A
J1063	Site barrier with natural materials	N/A	N/A
J1064	Site barrier with natural materials	N/A	N/A
J1065	Site barrier with natural materials	Sign Closed	Sign Closed
J1066	Site barrier with natural materials	N/A	N/A
J1067	Site barrier with natural materials	N/A	N/A
J1068	Site barrier with natural materials	N/A	N/A
J1069	Site barrier with natural materials	N/A	N/A
J1070	Site barrier with natural materials	N/A	N/A
J1071	Site barrier with natural materials	N/A	N/A
J1072	Site barrier with natural materials	Sign Closed, Site barrier with natural materials	Sign Closed, Site barrier with natural materials
J1073	Site barrier with natural materials	Sign Closed, Site barrier with natural materials	Sign Closed, Site barrier with natural materials
J1074	Site barrier with natural materials	N/A	N/A
J1078	Natural Rehab	Natural Rehab	Natural Rehab
J1079	Natural Rehab	N/A	N/A
J1080	Natural Rehab	Natural Rehab	Natural Rehab
J1083	Sign Closed, Site barrier with natural materials	N/A	N/A
J1084	Sign Closed, Site barrier with natural materials	N/A	N/A
J1091	Site barrier with natural materials	N/A	N/A
J1092	Site barrier with natural materials	N/A	N/A
J1096	Site barrier with natural materials	N/A	N/A
J1097	Site barrier with natural materials	N/A	N/A
J1098	Site barrier with natural materials	N/A	N/A

	Type of Closure		
Route Number	**Alt B**	**Alt C – Proposed Action**	**Alt D**
J1099	Site barrier with natural materials	N/A	N/A
J1100	Site barrier with natural materials	N/A	N/A
J1101	Site barrier with natural materials	N/A	N/A
J1105	Site barrier with natural materials	N/A	N/A
J1106	Site barrier with natural materials	Site barrier with natural materials	N/A
J1107	Site barrier with natural materials	Site barrier with natural materials	N/A
J1109	Sign Closed, Natural Rehab	N/A	N/A
J1110	Sign Closed, Natural Rehab	N/A	N/A
J1112	Sign Closed, Natural Rehab,	N/A	N/A
J1127	Site barrier with natural materials, Sign Closed	N/A	N/A
J1128	Site barrier with natural materials, Sign Closed	N/A	N/A
J1130	Site barrier with natural materials, Sign Closed	Site barrier with natural materials, Sign Closed	N/A
J1131	Site barrier with natural materials, Sign Closed	N/A	N/A
J1132	Site barrier with natural materials, Sign Closed	N/A	N/A
J1135	Sign Closed	Sign Closed	Sign Closed
J1140	Site barrier with natural materials	N/A	N/A
J1141	Site barrier with natural materials	N/A	N/A
J1142	Site barrier with natural materials	N/A	N/A
J1143	Site barrier with natural materials	N/A	N/A
J1144	Site barrier with natural materials	N/A	N/A
J1145	Site barrier with natural materials	N/A	N/A
J1147	Site barrier with natural materials	N/A	N/A

Appendix B-6 TRAVEL MANAGEMENT MITIGATION

Through adaptive management monitoring, problems would be identified with specific routes and management actions employed. Listed below are examples of possible actions listed by the nature of the conflict with designated routes.

Typical mitigation measures are specified best practices that respond to identified conflicts.

- Typical mitigation is listed in order of possible implementation
- Not all measures may be used and possible actions are not limited by these lists.
- Mitigation actions taken should be triggered as a result of monitoring and reaching identified thresholds.
- Monitoring should be done before, during, and after mitigation measures are implemented to identify trends.

<u>The physical location of a route is degrading riparian condition.</u>

1. Relocate the route to avoid the area.
2. Harden or raise the route above water level if route is necessary and unable to be relocated.
3. Close the route if no suitable mitigation is possible and make a plan for reclamation.

<u>Human use associated with a route is degrading riparian condition.</u>

1. Place information signs to request positive behavior (i.e. use only when dry etc.).
2. Harden and/or raise the route above water level or place barriers to keep vehicle and people on routes.
3. Relocate the route to allow riparian condition to improve.
4. Close the route, if no suitable mitigation is possible and make a plan for reclamation.

<u>Human use associated with a route is degrading desired plant communities.</u>

1. Place signs to encourage vehicles and people to stay on routes.
2. Conduct public outreach regarding noxious weeds and conserving vegetation.
3. Fence the area or place barriers to manage people.
4. Develop a program to improve desired plant community.
5. Close the route and make a plan for reclamation.

<u>Human use associated with a route is degrading water quality or causing unnatural erosion rates.</u>

1. Review the situation to determine the source of degradation and monitor to determine severity.
2. Place water control measures on the route.
3. Take reasonable measure to further harden/stabilize the route.
4. Relocate the route.
5. Close the route, if no suitable mitigation is possible.

<u>Human use associated with a route is determined to degrade a wildlife habitat (T&E, Special Status and Managed Species).</u>

1. Educate route users through signs and other information facilities.
2. Place limitations of use on the route (time/season of use, type of use, number of users).
3. Review management plans for the species and follow recommendations.

4. Design mitigation plans to address:
    - Temporary conditions
    - Seasonal conditions
    - Year round conditions
5. Develop specific mitigation measures based on the site, if species management plan is insufficient.
6. Acquire replacement habitat lands (T&E and Sensitive species).
7. Initiate consultation with Fish and Wildlife Service (T&E species).
8. Review recovery plan, implement mitigations as defined in plan (T&E species).
9. Replace habitat to offset problems caused by human use, some methods could be:
    - Augment food/water sources.
    - Place barriers along route to protect specific habitat features.
    - Relocate or expand reproduction sites to be away from the route.
10. Relocate the route.
11. Close route if no suitable mitigation is possible, make a plan for reclamation.

<u>Speed differential causes conflict between recreationists and/or local residents.</u>

1. Place signs and kiosks to raise awareness of lawful uses of the area.
2. Monitor situation on the ground and request law enforcement support as necessary.
3. Conduct public outreach in an attempt change behavior.
4. Review terrain and improve sight distances, if possible.
5. Redesign traffic flow by separating uses or limit by type or time of use.

<u>Sound level causes conflict between recreationists and/or local residents.</u>

1. Place signs and kiosks to raise awareness of sound issues.
2. Monitor situation on the ground and request law enforcement support as necessary.
3. Conduct public outreach in an attempt change behavior.
4. Implement a "Quiet Time" use restrictions.
5. Re-route traffic to minimize conflict.
6. Place sound reducing vegetative barriers, if applicable.
7. Close route, if no suitable mitigation is possible.

<u>A route causes unacceptable changes to the desired Recreation Opportunity Spectrum(ROS) setting (ex. unplanned OHV play areas, large party sites, dump sites, resource theft).</u>

1. Investigate the cause and implement signage and law enforcement as necessary.
2. Design mitigation plans to address:
    a. Short term conditions
        - Implement new signing and public outreach to explain desired setting.
        - Implement temporary use restrictions (ex. No overnight camping).
        - Issue emergency closure order, address conditions during closure.
    b. Long term conditions
        - Implement signing and mapping protocols for this area.
        - If no suitable mitigation is possible, amend RMP to close the area.
3. Close areas near the route contributing to the unacceptable changes such as unplanned OHV play areas, large party sites, dumping sites, resource theft etc.

A proposed route is out of compliance with the Visual Resource Management (VRM) classification of the area.

1. Evaluate the potential for and implement a method to make the route less noticeable such as landscaping.
2. Re-alignment of the route.
3. If no suitable mitigation is possible, construction would not be allowed.

A route causes unacceptable impacts to cultural or archeological resources.

1. Place barriers along the route to keep vehicles from accessing a site.
2. Stabilize the resource, including fencing if needed.
3. Interpret the resource to gain public support for protection.
4. Work with Site Stewards program for monitoring, increase law enforcement presence.
5. Re-align the route to avoid further disturbance of the site.
6. Conduct data recovery of the site.
7. Close the route if no mitigation is possible, make a plan for reclamation.

Human use on a route causes unacceptable impacts to a wilderness study area (ex. vehicle trespass)

1. Improve signage along WSA boundary.
2. Install short sections of temporary fence in problem areas.
3. Use volunteers and law enforcement to improve compliance with non-impairment of wilderness qualities.
4. Place time of use limits on the route to encourage lawful use (i.e. daytime use only).
5. Close the route, if no mitigation is possible.

Continued legal vehicle use of routes limited to administrative use attracts non-permitted vehicle use.

1. Limit the amount or season of authorized use of the route.
2. Additional signing the route as limited to administrative vehicle use and public non-motorized use.
3. Fence and gate the route ate the intersection with open route.

Cross country use of over snow vehicles (OSV) impacting resources.

1. At portal locations sign and/or provide educational materials on kiosks to encourage the proper use of OSV's.
2. Close the area to cross country OSV use.

Vandalism of range or wildlife improvements that is due to use of routes.

1. Sign or provide education to the visiting public about the protection of range and wildlife facilities.
2. Close the area around range and wildlife facilities to camping.
3. Change the designation of the route to limited to administrative use.

The use of route contributes to the spread of invasive weed species.

1. Increase the weed treatment program on the route.
2. Limit the season of use on the route to prevent the spread of seeds.
3. Limit the route to administrative use.

APPENDIX B-7
TRAVEL VARIANCE PROCESS & APPLICATION

Travel plan variances are requests by the public, commercial interests, interagency personnel, or BLM personnel to *temporarily* use motorized vehicles on closed roads, seasonally restricted roads, and cross country (off road) use. The following process has been developed to address requests for motorized travel **not already authorized** by a prior decision based on analysis in an existing EIS, EA, or the provisions of a permit, lease, memorandum of understanding, or right of way. It is also intended to provide additional oversight for uses already generally authorized under the 2003 Statewide OHV ROD and Instruction Memorandum #MT-2001-004 regarding administrative uses.

Variance requests that cannot be approved due to issues raised during review would be subject to the NEPA process, or Documentation of NEPA adequacy (DNA). A DNA is documentation of whether or not there is existing NEPA documentation to cover the proposal. If the variance request cannot pass this "test", additional NEPA documentation is required.

The process is initiated by the program lead requesting the variance, or who has received a request from the public. After completing the basic information on the variance form, the flow chart should be circulated among the respective specialists for consultation and overall review.

Example requests for variances include (but are not limited to):

- Access to private property (patented mine claim, mining claim location and assessment work, seasonal cabin)
- Casual use mineral exploration (refer to 43 CFR 3809.5)
- Permit lease administration (firewood collection, recreation)
- Agency administrative work
- Contract work or contract administration
- Other permit leases

NOTE: This TMP, and the associated EA, would serve as the official travel variance for BLM staff to access any of the travel routes within the JCSE TMA, regardless of the designation, for administrative purposes. No formal Travel Variance would be required in these cases. All other requests would be subject to the formal process, described in this Appendix (B-7).

Appeals

This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4 and the enclosed Form 1842-1. If an appeal is taken, your notice of appeal must be filed in this office (at the above address) within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition (request) pursuant to regulation 43 CFR 8342 for a stay (suspension) of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Flowchart

(Please document your responses, as needed, in the space next to the question. Use "N/A" for issues and concerns not applicable to the request).

Does the request provide reasonable use of public lands? **No-----No Variance**

Must be Yes to continue

l

Yes

l

Are there reasonable, alternative routes available? **Yes----- No Variance**

Must be No to continue

l

No

l

Is the activity in a WSA? (exceptions – Grandfathered rights, valid existing rights, use of an existing way) **Yes-----No Variance**

Must be No to continue

l

No

l

Is the road safe to use during the requested time period? **No-----No Variance**

Must be Yes to continue

l

Yes

l

Can the activity be postponed until the road or area is open to motorized use? **Yes ----- No Variance**

Must be No to continue

l

No

l

Can resource impacts be sufficiently mitigated? (winter range, spring calving habitat, Threatened and Endangered species habitat, sensitive species habitat, sensitive soils, soils susceptible to erosion, water quality, spread of noxious weeds, etc.) **No -- No Variance**

Must be Yes to continue

l

Yes

l

Can social conflicts (as analyzed) be sufficiently mitigated? **No ----- No Variance**

Must be Yes to continue

l

Yes

Yes – Variance may be approved by Authorized Officer (refer to Variance Request Form for signature)

Respective Program Reviewers:

Program Lead	Signature	Date
CULTURAL		
FIRE/FUELS		
FORESTRY		
GEOLOGY		
HAZMAT/AML		
RANGE		
REALTY		
RECREATION/WILDERNESS/VRM		
RIPARIAN		
SOIL/WATER/AIR		
T&E SPECIES		
TRAVEL MANAGEMENT		
WEEDS		
WILDLIFE		

Butte Field Office
106 North Parkmont, Butte, Montana, 59701
Telephone 406-533-7600

AUTHORIZATION FOR MOTORIZED USE OF ROAD, TRAIL, OR AREA WITH TRAVEL RESTRICTIONS

When approved by the authorized officer, this permit authorizes:
Name: _____
Address:_____
(City, State) (Zip)

Telephone Number (s): _____ (List additional authorized users on back of form)

To use the following road (s), trails, or area with travel restrictions (indicate entry locations and travel areas):
_____

In order to conduct the following operations:
_____

Dates/Times of Use: _____

Number and Type(s) of Vehicles: _____

Standard Stipulations

- Copy of variance to be kept with authorized vehicle (s) and displayed in window.
- Variance restricted to authorized (listed) individuals only
- Permittee shall notify BLM of any changes under this authorization
- Post sign or notice (on gate or beginning of restricted road) stating reason for use. Close/Lock gates when entering and leaving closure area
- Vehicle use limited to ingress and egress only, using the authorized route, and minimum number of vehicles and trips.
- No off road travel allowed, unless specifically authorized under this variance.
- Avoid wet areas, travel only when ground is dry to prevent ruts and resulting erosion
- Wash vehicles prior to use on BLM lands to prevent introduction of weeds
- *During fire operations* - May use ATVs and engines on any existing road or trail that accesses treatment area. Off road use restricted for fire holding, mop up, and any related suppression needs. Off road vehicle use should be avoided during the general rifle hunting season. No new trails are to be created
- *During hunting season* - Vehicles shall not be used for hunting purposes on BLM lands. Use limited to ingress/egress only after dark or between the hours of 11 AM to 3 PM (with the exception of emergencies).

I (we) acknowledge that I (we) am (are) required to comply with any conditions or stipulations of the authorized officer when the permit is issued:

_____ (Applicant signature/date)

Butte Field Office Manager Action

Special Stipulations (if any):

_____ Variance Approved

This application is hereby approved subject to the Standard stipulations and Special stipulations (if any) listed above:

_____(signature/date)

_____ Variance Denied

This application has been denied for the following reasons: See attached letter.

Appendix B-8 BLM Administrative Determinations

R.S. 2477 Rights-of-Way
Section 8 of the Mining Act of 1866 provided: "and be it further enacted, that the right-of-way for the construction of highways over public lands, not reserved for public uses, is hereby granted." The statute was self-enacting; rights being established by "construction" of a "highway" on unreserved public lands, without any form of acknowledgement or action by the Federal government. This section of the statute was later re-codified as Revised Statute 2477. R.S. 2477 was repealed by FLPMA on October 21, 1976, with a savings provision for rights established prior.

The BLM does not have the authority to make binding determinations on the validity of R.S. 2477 right-of-way claims. The BLM may, however, make informal, non-binding, administrative determinations for its own land use planning and management purposes. Such determinations must be based in the particular laws of each state in which a claimed right-of-way is situated. In Utah, applicable State code provided for the acceptance of a right-of-way pursuant to R.S. 2477 across public lands not reserved for public purposes when a right-of-way had been used by the public for a continuous 10 year period.
As of February 2009, the BLM has been directed not to process or review any claims under R.S. 2477 pending further review and direction from the Secretary of the Interior.

BLM Administrative Determinations on R.S. 2477 Rights-of-Way
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APPENDIX B-9 RECREATION OPPORTUNITY SPECTRUM CLASSES[5]

Defining recreation opportunities is used as a tool to help recreation managers create and maintain the appropriate recreation experiences that suit various types of land and visitors. The ROS continuum characterizes recreation opportunities in terms of setting, activity, and experience. The spectrum contains seven classes as described below: primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural, roaded modified, rural, and urban.

ROS Class	Class Descriptions
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 non-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 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 other area users is 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 non-motorized 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 heavily modified (roads or recreation facilities). 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.
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.

Note: the JCSE TMA area does not include lands under the *Primitive or Urban* classes.

[5] DOI, BLM, Appendix E, Approved Butte Resource Management Plan, 2009 page 159