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Park, Gallatin, Broadwater
Travel Management Plan and Environmental Assessment

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Table of Contents

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CHAPTER 1: PURPOSE AND NEED FOR ACTION **6**
1.1 Introduction 6
1.2 Background 6
1.3 Purpose and Need for Action 9
1.3.1 Regulation and Policy Adherence 9
1.3.2 Specific Purpose/Need Components 9
1.3.3 Goals and Management Objectives 9
1.4 Decisions to be made 10
1.5 Conformance with *2009 Butte RMP* 10
1.6 Relationship to Statutes, Regulations, and Other Plans 11
1.7 Issues 11
1.7.1 Issue Identification Process 11
1.7.2 Issues Identified for Analysis 12
1.7.3 Resource Concerns Eliminated from Detailed Analysis 14

CHAPTER 2: DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES **16**
2.1 Introduction 16
2.2 Development of Alternatives 16
2.2.1 Goals of Alternatives 16
2.2.2 Travel Route Inventory 17
2.2.3 Travel Route Evaluation Process 17
2.2.4 Travel Route Terminology 19
2.3 Proposals Considered During the Planning Process 21
2.3.1 Trail Development Proposal from the Gallatin Valley Bicycle Club 21
2.4 Description of Alternatives 24
2.4.1 Features Common to All Alternatives (Including the "No Action" Alternative) 24
2.4.2 Description of Alternative A (No Action/Continuation of Current Management) 24
2.4.3 Features Common to Action Alternatives B, C, and D 25
2.4.4 Description of Alternative B 27
2.4.5 Description of Alternative C 28
2.4.6 Description of Alternative D 29
2.5 Cumulative Actions for All Alternatives 30
2.5.1. Introduction 30
2.5.2 Past and Present Management Actions 30
2.5.3 Reasonably Foreseeable Future Actions 31
2.6 Preferred Alternative Identification 31
2.6.1 Overview 31
2.7 Summary of Alternatives 31

CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES 51
3.1 Introduction 51
3.2 Travel and Transportation 51
3.3 Recreation 54
3.4 Human Health and Public Safety 59
3.5 Noxious Weeds and Invasive Plant Species 60
3.6 Wildlife/Special Status Species 62
3.7 Cultural Resources 75
3.8 Soil and Water 77
3.9 Other Resource Issues - Dumping and Littering 80
3.10 Cumulative Impacts 81

CHAPTER 4: IMPLEMENATION 83
4.1 Introduction 83
4.2 Publication of a Route Network Map 83
4.3 Sign Plan Implementation 83
4.3.1 Introduction 83
4.3.2 Scope of Signing 84
4.3.3 Portal/Entry Signs 85
4.3.4 Designated Route Markers 85
4.3.5 Proposed Sign Locations 87
4.3.6 Maintenance and Monitoring of Travel Management Signs 87
4.4 Education 88
4.5 Enforcement 89
4.6 Maintenance 89
4.6.1. Introduction 89
4.6.2 Maintenance Intensities 90
4.6.3 Function Classes 90
4.7 Restoration and Rehabilitation 91
4.7.1 Introduction 91
4.7.2 General Restoration Techniques 91
4.7.3 Substantial Restoration 92
4.8 Adaptive Management 92
4.8.1 Introduction 92
4.8.2 Defining Adaptive Management and its Use in the TMA 93
4.8.3 Changes to the Travel Route Network 94
4.8.4 Private Landowner Access and Access Needed 95
4.8.5 R.S. 2477 Claims and BLM Administrative Determinations 966
4.8.6 Emergency Closures 96
4.8.7 Temporary Closures 96
4.9 Monitoring 97
4.9.1 Introduction 97
4.9.2 Implementation Monitoring 97
4.9.3 Effectiveness Monitoring 97
4.9.4 Resource or Validation Monitoring 98
4.9.5 Protection of Special Resources and Travel Route Management 99
4.10 Mitigation 99

4.11 Plan Revision and Amendment 102
4.12 Implementation Priorities 103
4.13 Standard Operating Procedures 104

CHAPTER 5: CONSULTATION AND COORDINATION 106
5.1 Scoping Process 106

5.2 List of Preparers 107

CHAPTER 6: ACRONYMS, GLOSSARY, AND WORKS CITED/BIBLIOGRAPHY 108
6.1 Acronyms 108
6.2 Glossary 108
6.3 Works Cited/Bibliography 119

APPENDIX 1: SAMPLE ROUTE REPORT 124

APPENDIX 2: RECREATION OPPORTUNITY SPECTRUM CLASSES 131

APPENDIX 3: EXECUTIVE ORDER 11644 132

APPENDIX 4: TRAVEL VARIANCE PROCESS AND APPLICATION 133

APPENDIX 5: CRITERIA FOR THE PLACEMENT OF NATURAL SURFACE TRAILS 136

TABLES

Table 1. Park, Gallatin, Broadwater PA Acreages by Major Landowner Categories 6
Table 2. Relevant Travel Management Goals from the *2009 Butte RMP* 10
Table 3. Route Evaluation Criteria 18
Table 4. Transportation Assets (Existing Travel Route Network) 19
Table 5. Travel Route Designation Terminology 20
Table 6. Proposed Route Designations by Route Class (Alternative A) 25
Table 7. Proposed Route Designations by Route Class (Alternative B) 27
Table 8. Proposed Route Designations by Route Class (Alternative C) 28
Table 9. Proposed Route Designations by Route Class (Alternative D) 29
Table 10. Summary and Comparison of Alternatives 33
Table 11. Route Designation by Recreation Opportunity Spectrum (ROS) 57
Table 12. Endangered Species Act Listed Species 65
Table 13. BLM Listed Sensitive Species. 66
Table 14. Big Game Security Habitat Acreage by Alternative 72
Table 15. 303(d) listed streams within the TMA that are within 300 feet of routes..... 77
Table 16 Soil map unit characteristics for soils occurring in the area of the proposed bike trail system..78
Table 17 Summary of routes within 300 feet of 303(d) listed river or streams..... 78
Table 18. Maintenance Intensity Levels Under Alternative C (Proposed Action) 90
Table 19. TMP/EA Implementation Priorities 103
Table 20. Standard Operating Procedures 104
Table 21. BLM Route Designation Terms 109
Table 22. Recreation Opportunity Spectrum Classes 131

FIGURES

Figure 1. A Road meanders along a hill in the TMA. 7
Figure 2. A primitive road crossing BLM in the PGB PA. 7
Figure 3. Number of Routes by Alternative and Designation 32
Figure 4. Miles by Alternative and Designation 33
Figure 5. Recreation Activities by Percentage of Miles and Routes 55
Figure 6. Mileage of Routes with Identified Weed Issues 61
Figure 7. Overall Route Designations per Alternative 69
Figure 8. Route Miles Open in Winter Range per Alternative 70
Figure 9. Number of Routes Open in Winter Range per Alternative 70
Figure 10. Miles of Routes Open in Special Status Species Habitat in the TMA 71
Figure 11. Number of Routes Open In Special Status Species Habitats 71
Figure 12. Wooden portal sign 85
Figure 13. Over Snow Vehicle limitation sign 85
Figure 14. Route designation, restriction, and closure signs 86
Figure 15. Additional travel management signs 86
Figure 16. Park, Gallatin, Broadwater TMA route that receives regular maintenance 89
Figure 17. Adaptive management cycle 93

MAPS

Map 1. Park, Gallatin, Broadwater TMA 8
Map 2. Proposed Copper City Trail System and Shooting Areas 21
Map 3. TMA Index of Alternative Maps 334
Map 4. Area 1 (Toston) 35
Map 5. Area 2 (Horseshoe Hills) 36
Map 6. Area 3 (Wall Mountain) 37
Map 7. Area 4 (Sixteenmile) 38
Map 8. Area 5 (Buffalo Hump) 39
Map 9. Area 6 (East of Livingston) 40
Map 10. Area 7 (Livingston) 41
Map 11. Area 8 (Gallatin/Park County Line) 42
Map 12. Area 9 (Suce Creek) 43
Map 13. Area 10 (West of Highway 89) 44
Map 14. Area 11 (Chico) 45
Map 15. Area 12 (Carbella) 46
Map 16. Area 13 (Gallatin/Madison County Line Area 14 (Jefferson River) 47
Map 17. Area 15 (Copper City) 48
Map 18. Area 16 (Trident) 49
Map 19. Copper City Trails Alternatives 50
Map 20. Big Game Winter Range 63
Map 21. Wall Mountain Elk Calving Area 64

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CHAPTER 1: PURPOSE AND NEED FOR ACTION

1.1 Introduction

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of a Travel Management Plan (TMP) for designating and managing a travel route network for the BLM-administered public lands (BLM lands) within the Park, Gallatin, and Broadwater (PGB) Planning Area (PA). This EA is a site-specific analysis of the potential impacts that could result on the natural and physical environment from the implementation of the proposed TMP (Proposed Action) or any of the alternatives to that action.

The TMP/EA identifies travel networks that consist of roads, primitive roads, and trails. It discusses how the route network would be used and maintained, and provides detailed information about the proposed travel management actions that would be carried out on BLM lands within the PGB Travel Management Area (TMA). The EA contains four travel management alternatives. Alternative A is the "No Action" alternative, also called "Current Management." Alternatives B, C, and D consist of three different travel networks with various levels of use. Alternative C is the BLM's Proposed Action.

1.2 Background

The PGB PA is located in Park, Gallatin and Broadwater Counties in Southwest Montana (Map 1). The BLM lands within the PA are widely scattered throughout these three counties. The entire PA contains approximately 3.8 million total acres of land with multiple jurisdictions. Table 1 illustrates the major land ownership. The BLM Butte Field Office manages approximately 91 miles of existing travel routes within the PA as depicted on Maps 4-18. As a result of scoping, the BLM received a proposal from the public asking that it consider designating a non-motorized single track trail system for mountain biking and hiking with multiple trail segments, in the Copper City area. The BLM is considering this trail system under the action alternatives.

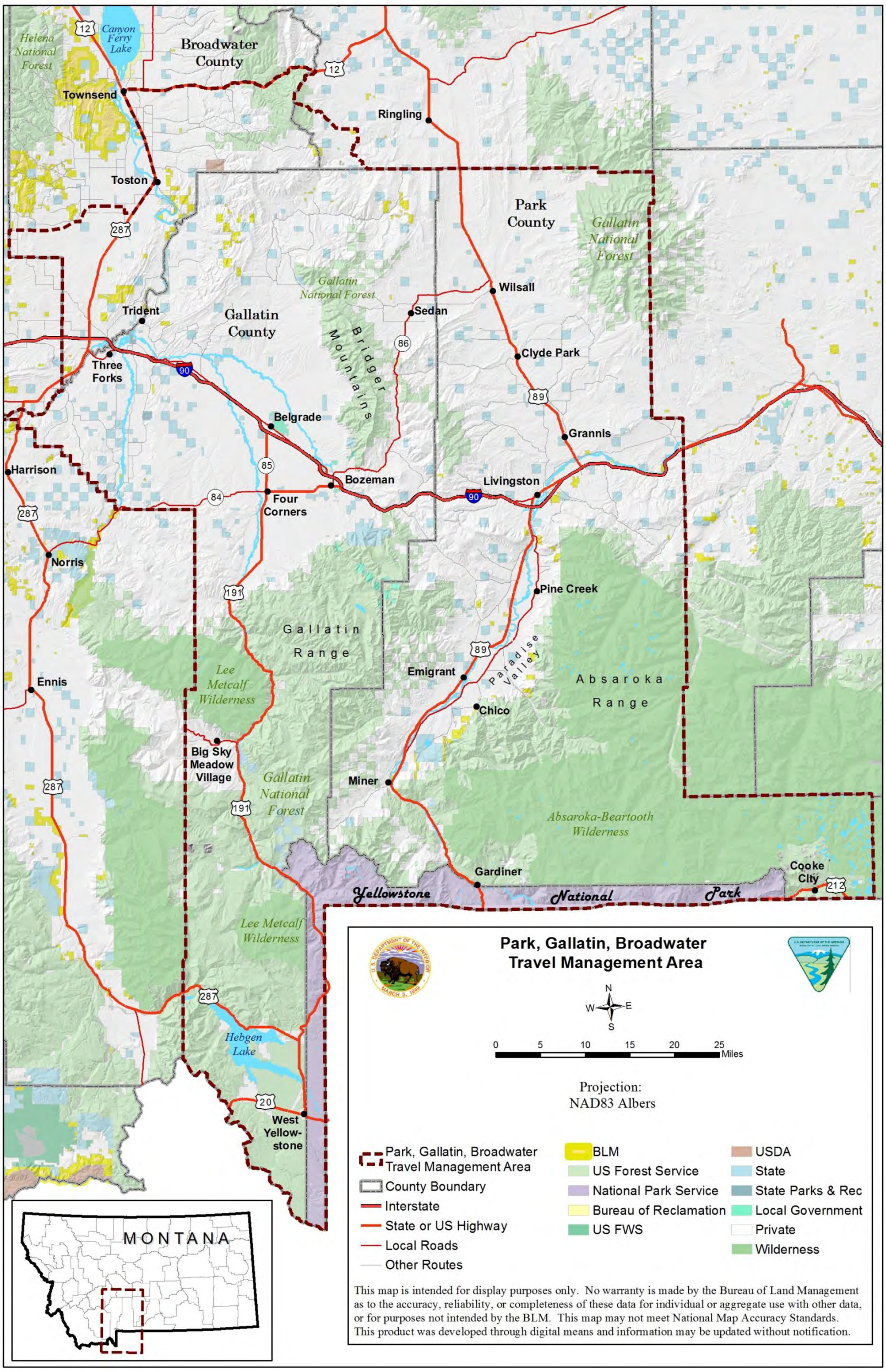
Table 1. Park, Gallatin, Broadwater PA Acreages by Major Landowner Categories

Jurisdiction	BLM	USFS	Other Agency/State/Local Government	Private Lands	Total
Number of Acres	26,100 (<1%)	1.6 million (42%)	265,000 7%	1.9 million 50%	3.8 million

Figure 1. A Road meanders through the PGB TMA.

Figure 2. A primitive road crossing BLM in the PGB PA.

Map 1. Park, Gallatin, Broadwater TMA



1.3 Purpose and Need for Action

1.3.1 Regulation and Policy Adherence

The BLM Travel and Transportation Management Handbook H-8342-1 provides direction to identify, evaluate, and select specific routes available for motorized use within areas with a "Limited" designation. Within these areas, each individual travel route must be designated as "Open," "Limited," or "Closed" to Off-Highway Vehicles (OHVs) (see Glossary definition). Currently, OHV travel in the TMA is only allowed on travel routes that existed when the Record of Decision (ROD) was issued for the *2003 OHV EIS for MT, ND, and SD*. That ROD provides temporary guidance for travel management on BLM lands until site-specific TMPs can be completed. Once the TMP is finalized, it will replace the temporary guidance found in the *2003 OHV EIS for MT, ND, and SD*. Over Snow Vehicle (OSV) designations will also be made in this TMP.

1.3.2 Specific Purpose/Need Components

The specific purpose and need for preparing a TMP in the PGB Planning Area are to:

- Address the increased use of motorized routes in the TMA and the resulting impacts to the Area's natural and cultural resources.
- Identify travel-related management actions to meet or maintain Land Health Standards (see glossary for definition) in the TMA.
- Provide for clear delineation, and appropriate use, of designated travel routes through informational kiosks, maps, signing, and local educational forums.
- Designate travel routes within the TMA by applying current national management strategies and guidance for OHV use on public lands.
- Follow the *2009 Butte RMP's* travel management direction:

> "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" (BLM 2009b, 7).
>
> "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" (BLM 2009b, 7).

1.3.3 Goals and Management Objectives

Goals and management objectives are broad statements that set far-reaching direction for management. Goals and objectives for travel management planning and other resources were established in the *2009 Butte RMP, Table 1-5, Description of Planning Issues/Management Concerns, their Desired Future Conditions/Visions, and Management Goals*. Those that are relevant to travel management planning and the Park, Gallatin, Broadwater Travel Management Plan (PGB TMP) are shown in Table 2.

Table 2. Relevant Travel Management Goals from the *2009 Butte RMP*

Issue or Management Concern	Description of Management Goal
Travel Management and Access	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.
	Maintain facilities, roads, and trails to provide for public and/or administrative use and safety while mitigating impacts to resources.
Recreation	Provide a diverse array of recreational opportunities while maintaining healthy public land resources.
	Manage commercial, competitive, or special events with special recreation permits that eliminate or minimize impacts on resources and conflicts with other users.
Wildlife, Wildlife Habitat, Special Status and Priority Plant and Animal Species	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.

1.4 Decisions to be made

At the conclusion of the process, the BLM must decide whether to designate the analyzed routes as "Open," "Limited,"[1] "Limited (Administrative or Non-motorized)," or "Closed" to OHVs. Routes designated as "Open" could be subject to additional management measures (i.e. mitigation), if monitoring deems necessary.

1.5 Conformance with *2009 Butte RMP*

The *2009 Butte RMP* provides overarching guidance for this TMP/EA. The RMP requires that "future site-specific travel planning" must designate individual roads, primitive roads, and trails as "Open," "Limited," "Limited (Administrative or Non-motorized)," or "Closed" to OHVs. This TMP/EA conforms to the *2009 Butte RMP* because it provides such designations. All action alternatives would be in conformance with the Butte RMP.

[1] In the analysis performed for this TMP/EA, the "Limited" category involves various forms of Limited designations, including those based on vehicle type or season. No route received a designation that was merely labeled "Limited." Type of limitations is specified.

1.6 Relationship to Statutes, Regulations, and Other Plans

Federal agencies are directed to manage motorized vehicle use on public lands by President Nixon's 1972 Executive Order 11644 (see Appendix 3) 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 be designated in land use plans as either "Open", "Limited", or "Closed" to OHV use. The Park, Gallatin, Broadwater TMA was given a "Limited Area" designation in the *Record of Decision: Off-Highway Vehicle Environmental Impact Statement and Proposed Plan Amendment for Montana, North Dakota and South Dakota* (*2003 OHV EIS for MT, ND, and SD*) (BLM 2003) and in the *2009 Butte RMP*.

Additionally, statutes, regulations, and policies documented in the *2009 Butte RMP* (BLM 2009b, pages 10-13) apply to this TMP/EA. The following regulations, policies, and planning documents provide specific guidance for proposed travel management actions. All documents can be found online and are listed in Chapter 6, Section 6.3 Works Cited/Bibliography.

- 43 CFR 8340: Off-Road Vehicles, Subparts 8340-8342.3 (GPO 2014a)
- 43 CFR 9268: Recreation Programs (GPO 2014c)
- *Manual 1626: Travel and Transportation* (BLM 2011d)
- *Handbook H-8342-1: Travel and Transportation* (BLM 2012c)
- *Record of Decision: Off-Highway Vehicle Environmental Impact Statement and Proposed Plan Amendment for Montana, North Dakota and South Dakota* (BLM 2003)
- *National Mountain Bicycling Strategic Action Plan* (BLM 2002)
- *National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands* (BLM 2001a)
- *Recreation 2000: A Strategic Plan* (BLM 1988)

1.7 Issues

1.7.1 Issue Identification Process

Over the past two years, the BLM staff conducted informal conversations about travel management with individuals, community groups, neighboring landowners, and federal, state, and local agencies. These informal discussions contributed to the initial identification of travel management issues and concerns. Scoping letters were also sent to local tribes, but no written responses were received.

In a letter dated January 9, 2015, the BLM initiated formal public scoping, requesting input on the management of various resources, including access and travel planning, in the Park, Gallatin, Broadwater PA. A press release was sent to local media and the scoping letter was sent to BLM's mailing list (people and organizations that have requested BLM notification regarding future projects). It was also posted on the BLM website at:

http://www.blm.gov/style/medialib/blm/mt/field_offices/butte.Par.19466.File.dat/Scoping%20Letter_Park-Gallatin-Boadwater%20South_1_5_15.pdf

The scoping comment period closed on February 16, 2015. During scoping the BLM received a total of six written responses, however not all responses were specific to travel planning since the scoping invitation letter provided an opportunity to identify issues with any resource or resource use in the Planning Area. The comments and the issues identified during scoping are detailed below and have helped shape the development of the Proposed Action and alternatives to the Proposed Action for this TMP/EA.

1.7.2 Issues Identified for Analysis

The following is a comprehensive list of the comments, issues, and concerns that were identified through external and internal scoping. From this initial list, a list of primary issues was developed and used to formulate the Proposed Action and alternatives to the Proposed Action.

1.7.2.1 General Issues from External and Internal Scoping:

External scoping identified the following issues and concerns:

- Desire for new routes (both non-motorized and motorized)
- Noxious weed control
- Access deficiencies to public lands
- Maintain or provide access to state lands
- Improve road maintenance, including design features for proper drainage (culverts, water bars)
- Access to timber and forest products, including firewood cutting
- Consider impacts to Loggerhead Shrikes and Merlins in the Copper City area
- Consider impacts to Big Game Winter Range
- Cumulative impacts (social, economic, etc.) of motorized closures

Internal BLM scoping identified the following issues and resource concerns:

- Recreation
    - How would the proposed travel network or its alternatives affect motorized and non-motorized 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 proposed travel management action or its alternatives affect non-motorized use on public lands?
    - Over Snow Vehicle (OSV) Use
    - How could the Copper City Mountain Bike trail system proposal be developed in order to minimize impacts on soil, vegetation, and wildlife resources?
- Rangeland management
    - How would the proposed action or the alternatives affect current Open route 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?
- Forestry, Fuels and Fire Management
    - How would the proposed action or the alternatives affect personal and commercial use of timber resources?
    - Which routes are primary access routes for fire suppression/fire management?

- Human health and public safety
    - Would the development of the proposed Copper City mountain non-motorized mountain bike trail system result in a public safety issue with the area being a popular recreational shooting site?
- Noxious weeds
    - Under each of the alternatives, how might vehicle traffic on Open roads and trails affect the transport and control of noxious weeds?
    - How might Decommissioned routes affect the ability of the BLM to carry out weed control operations?
- Wildlife (including special status species)
    - How might implementation of the proposed travel route network (or its alternatives) result in landscape fragmentation and habitat loss?
    - How would the proposed travel route network (or its alternatives) work toward meeting RMP direction for reducing road density and disturbance in big game winter range?
    - How would the proposed travel network (or its alternatives) impact elk calving range?
    - How would the proposed travel network (or its alternatives) impact sensitive and special status species habitats, such as grizzly bear recovery zones, lynx or wolverine habitat?
    - How would the proposed travel network (or its alternatives) impact the quality of big game security habitat?
- Mineral materials and mining
    - What would be the effect of the proposed action or its alternatives on access to minerals for exploration, delineation, and development?
    - How would repeated access by miners with travel variances on roads Limited to authorized users influence the other visitors?
- Cultural resources
    - How would the proposed route network and the alternatives affect the protection of historic districts, historic sites, and other cultural resources?
- Soil and water quality
    - Would the proposed travel network or its alternatives affect riparian areas, aquatic resources or soil erosion potential?
- Visual Resource Management and Recreational Opportunity Spectrum
    - Route designations need to satisfy VRM objectives?
    - Do the route designations comply with ROS settings and corresponding objectives?
- Lands and Realty
    - Would the proposed travel network or its alternatives affect motorized access associated with Rights of Way or other authorized or permitted uses?
    - Would the proposed action or its alternatives affect private land, state land or other agency lands access?
- Dumping and Littering
    - Would the proposed travel network or its alternatives affect littering/dumping issues commonly associated with routes near urban areas or leading to abandoned use areas like gravel pits, buildings, etc.?

1.7.2.2 Primary Issues Used to Develop the Proposed Action and Alternatives

From the comprehensive list of issues identified in the scoping process the following key issues emerged and were used in development of the Proposed Action and alternatives to the Proposed Action:

- Which routes should be designated for OHV motorized use, which routes should be Closed to motorized use, and which routes should be designated for non-motorized use in order to protect the TMP area's documented resources while providing for a variety of resource uses, minimizing user conflicts, providing for user safety, and avoiding unacceptable user concentration on some Open routes?
- How will access be provided or maintained for administrative and authorized users, as well as legal ingress and egress to private, state and other lands?

1.7.3 Resource Concerns Eliminated from Detailed Analysis

Rangeland Management
Comprehensive travel management planning and alternative development considers potential adverse effects to all types of authorized users of the public lands, including livestock grazing operations, while attempting to create a route network that does not inhibit such operations. Furthermore, livestock grazing permits include terms and conditions that allow livestock operators to access livestock and facilities when needed to administer the grazing permit. In comprehensive travel and transportation planning, the BLM identifies all the transportation needs and works to designate a route network that allows for adequate means to administer permits and perform other administrative duties while considering public recreation needs and natural resource protection. During development of this EA, it was determined this TMP would have negligible impacts on rangeland management regarding concerns listed in section 1.7.2.1 above.

Forestry, Fuels and Fire Management
Scoping comments related to Forestry, Fuels and Fire Management did not rise to issue level and will not be included in the detailed analysis in chapter 3.

Other agencies, such as the USFS, provide woodland products on a much larger scale within the TMA, to the point that if BLM lands restricted this access, it would have a negligible effect on firewood cutting activities in the Planning area.

Fire suppression and management activities include authorization to use existing roads and travel cross country when needed. Any "Open" or "Limited" routes would be available for these administrative duties and Closed routes that remain navigable could be used for fire suppression activities. In some cases, Decommissioned routes might require reopening (maintenance or reconstruction), with applicable NEPA, to meet fire management needs. Other fire management activities, such as fuels projects or thinning efforts, could be designed to use existing Open and Limited routes. If a Closed and Decommissioned route is determined to be necessary in the successful design and implementation of a fuels reduction project, a travel variance may be granted by the authorized officer.

Noxious Weeds
During EA development, the scoping comment, "How might Decommissioned routes affect the ability of the BLM to carry out weed control operations?" was eliminated from further analysis, as no information or data indicated that this should be elevated to an issue level meriting analysis. If specific infestations were identified that required motorized access for repeated treatment, further analysis would have been completed. Smaller infestations that may be identified on Closed routes could be addressed through non-motorized spraying methods (back pack sprayer); if the need for motorized travel to treat an infestation arises, a "travel variance" can be issued by the authorized officer.

Mineral Materials and Mining
It was determined during EA development that scoping comments related to mineral material development and mining activities on BLM lands in the TMA, were not issues and therefore should not be analyzed in detail. Proposed route networks, in all alternatives, would have negligible impacts on mineral material development and mining activities on BLM lands.

Visual Resource Management
Designation of routes in this TMA would have no impact on visual resources. The majority of travel routes in this TMA are located on lands designated as VRM Class IV, which allows for major modifications to landscapes. No new routes are proposed on lands designated or proposed as VRM Class I or II, which seek to preserve or to retain existing visual character.

Lands and Realty
Though it was raised as a resource concern in scoping, lands and realty access needs were determined as not warranting analysis in the EA. Generally, the BLM will not designate routes in such a way that adversely affects a Right of Way holder's ability to conduct authorized activities. The ROW grant typically allows the ROW holder to access the permitted facilities, whether by existing route or cross-country along the ROW. Additionally, during the route evaluation process it was determined that no proposed route designations in any alternative would interfere with ROWs.

CHAPTER 2: DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Introduction

This chapter presents a range of reasonable alternatives to address the relevant travel and transportation planning issues identified during internal and external scoping for the PGB Land Health Assessment and Travel Management Plan. It also compares and contrasts the impacts to the human environment identified for each alternative. Alternatives differ primarily by how routes are designated (Open/Limited/Closed) and management actions associated with those designations. Alternatives include the current management or no action (Alternative A), emphasizing route closures/non-motorized opportunity and natural resource protection (Alternative B), and emphasizing motorized access and keeping routes Open (Alternative D). The BLM's Proposed Action for travel management in the TMA is Alternative C, which provides a balanced approach in the middle of the alternative range.

2.2 Development of Alternatives

2.2.1 Goals of Alternatives

Alternatives were formulated as part of the BLM's efforts to develop, designate, and maintain a transportation network that addresses the issues identified during scoping in a manner that provides recreational, commercial, administrative, and jurisdictional access to public lands while minimizing impacts to the following resources or resource uses:

- Travel and transportation access
- Recreation
- Rangeland management
- Forestry and Fire Management
- Human Health and Public Safety
- Noxious weeds
- Wildlife (including special status species)
- Minerals materials and mining
- Cultural Resource Management
- Soil and water
- Visual Resource Management and Recreational Opportunity Spectrum
- Lands & Realty (ROWs, Permitted and Authorized Uses)
- Other issues (including illegal dumping/littering concentration sites

In determining travel management actions, the BLM's guiding principle of multiple use was taken into consideration in order to provide a balanced range of alternatives. The Federal Land Policy and Management Act (FLPMA) defines "multiple use" as:

> ". . . 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; . . . a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and non-renewable

resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output" (BLM 2001b, 2).

2.2.2 Travel Route Inventory

Performing an inventory of existing routes in the PGB TMA was an important early step in the alternative development process. In 2012, the BLM contracted with Advanced Resource Solutions, Inc. (ARS) to complete a comprehensive travel route inventory. ARS created maps from existing maps and the most current aerial photography/satellite imagery to help their field crews conduct the route inventory. They also gathered information on any additional routes observed in the field that had not been previously identified. The ARS crews inventoried routes using global positioning system (GPS) devices and took photos along each route. Maps 4-18 provide an overview of the BLM travel route network in the TMA as inventoried by ARS.

2.2.3 Travel Route Evaluation Process

Following the route inventory process, ARS worked with the BLM to develop route evaluation criteria and evaluate each travel route and the resources or resource uses associated with them. During this process, an Interdisciplinary (ID) team of BLM staff specialists and an ARS facilitator carefully and systematically discussed and examined factors related to the TMA and each individual travel route contained within it. The evaluation team considered how travel route designations fit within the entire travel network managed by the BLM and adjacent or nearby transportation systems (e.g., those managed by the USFS, State of Montana, Broadwater County, Park and Gallatin Counties, and local agencies).

As a result of the route evaluation process, a database was created that includes statutory-driven criteria and issues that may affect resources and the use of travel routes within the TMA. The database incorporates issues discussed in Travel Management Appendix D of the *Approved Butte Resource Management Plan* (*2009 Butte RMP*) (BLM 2009b) as well as public concerns.

Table 3 contains the actual criteria used during the evaluation process. Criteria for the route evaluation database created for the PGB TMA fall under three general categories:

- Commercial, administrative, private property, and economic issues (CAPE)
- Special resource concerns
- Public uses

Four options (Alternatives A, B, C, and D) for a comprehensive travel route network (that protects public access and natural resources) were considered and refined through the BLM/ARS evaluation process. BLM staff reviewed the issues identified during scoping, along with the travel needs for the TMA, which resulted in the development of three action alternatives (B, C, and D). Alternative A is the "No Action" alternative in which current management would continue.

Table 3. Route Evaluation Criteria

CAPE

Jurisdictional Access
BLM adjacent FO, DO, or SO
USFS adjacent Ranger District
County lands or parks
City lands or parks
Private lands
State lands or parks
MT Fish, Wildlife & Parks lands

Agency Facilities
Monitoring sites

Lease Facilities
Communications site
ROW - power line
ROW - gas pipeline
ROW - road
ROW - power
ROW - telephone/communications
Timber/woodland product sales area

Mineral Facilities
Mine active
Mine inactive
Mining claim
Oil/gas lease
AML site - environmental
AML site - physical safety
AML site - reclaimed physical safety
AML site - reclaimed environmental
Minerals exploration
Mine monitoring well
Adit/mine shaft
Leasable – Oil and Gas, phosphate etc.

Range Facilities
Allotment/pasture fences
Exclosure fence
Pipeline
Developed water
Gate
Cattle guard
Active allotment
Tank/trough
Monitoring study areas
Spring source
Corral
Dam/Reservoir
Ranch HQ / Building
Windmill/Well

Recreation Facilities
Campground developed
Parking area undeveloped
Day-use area
Staging area
Trailhead undeveloped
Vista
Interpretive Site
Shooting Site (Undeveloped)
Technical Vehicle Site / Trail

Resources

VRM
Class I
Class II
Class III
Class IV

Cultural
Eligible cultural (*category A, B, or C*)
Cultural resource (*not eligible*)
Historic site
Historic district
Eligible cultural (*category D*)
No survey
Listed Nat'l Register Site
Native American Uses
Petroglyph or Pictograph Site
Historic Road
Traditional Cultural Property

Special Status Animals
Northern goshawk habitat
Bald eagle nests
Burrowing owl nests
Greater sage-grouse brood rearing habitat
Ferruginous hawk nests
Bat roosts or maternity colonies
Bald eagle winter roosts
Greater sage-grouse winter habitat
Greater sage-grouse occupied habitat
Bald eagle winter habitat
Burrowing owl habitat
Ferruginous hawk habitat
Grizzly bear recovery zone
Canada lynx habitat
Grey wolf habitat
Westslope cutthroat trout
Yellowstone cutthroat trout
Arctic grayling
Black-tailed prairie dog
Boreal (western) toad
Other BLM sensitive species (there are many)
Other MT species of concern (there are many)
Sprague's pipit
Wolverine

Managed Species
Pronghorn
Elk winter habitat
Mule deer year-round
Wild turkey roost
Fisheries (sport & native)
Golden eagle nest
Waterfowl
Big game crucial water source
Peregrine falcon nest
Moose crucial winter range
White-tailed deer winter habitat
Big Game Winter Range
Big Game Security Habitat
Elk Calving Area
Big Game Summer Habitat

Public Uses

Mode of Transportation
ATV
Motorcycle
Stock 4WD
Modified 4WD
UTV
Bicycle
Foot
Horse
Snowmobile
2WD

Activities
Hunting
Hiking
Birding
Cultural/historical exploration
Horseback riding
Fishing
Geocaching
Bicycling
Rock hounding
Sightseeing
Photography
Wildlife watching
Spiritual visitor
Vehicle exploration
Hill climbing
Backpacking
Wood cutting
Antler shed hunting
Dispersed camping

Criterion Acronym Definitions
AML = abandoned mine land
DO = District Office
FO = Field Office
SO = State Office
ROW = right-of-way
UTV = utility type vehicle
VRM = visual resource mgt.

Resources Cont'd

Water Resources
Lake/reservoir
Perennial
Ephemeral
Intermittent
Spring
Well
Riparian
Canal/Diversion
Wash

2.2.4 Travel Route Terminology

To better understand the alternatives for the TMA, and how they were developed, it helps to understand the route terminology covering both transportation assets and route designations. The main action in travel planning is to designate a travel route network that meets the purpose, need, goals, and objectives that were described in Chapter 1. The BLM defines and categorizes its travel routes into three categories of transportation assets: roads, primitive roads, and trails. Table 4 provides definitions for these assets along with the travel route quantities and miles that were inventoried for each category.

Table 4. Transportation Assets (Existing Travel Route Network)

Inventoried Transport Assets within the Planning Area		
Asset/Route Class	Definitions	Inventoried Routes
Road	A route managed and maintained for regular and continuous use by low clearance vehicles having four or more wheels.	13 Routes 8.87 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.	174 Routes 81.72 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.	1 Route 0.14 Miles
	Totals	188 Routes 90.73 Miles

Each individual travel route would be designated as "Open," "Limited," "Limited (Administrative or Non-Motorized)," or "Closed" to OHVs.[2] These designations are based on the Code of Federal Regulations 43 CFR 8342.1 definitions and the *2009 Butte RMP*.

Table 5 lists the 43 CFR 8342.1 designation terms and what they mean in the *2009 Butte RMP*. Because this TMP/EA is tiered from the *2009 Butte RMP*, the RMP designation explanations in Table 5 also apply to the PGB TMA. All Limited and Closed routes would still be Open to non-motorized use.

[2] For analysis purposes, the term "Open" lumps together routes designated as "Open" and those designated as "Open w/ Management." Both terms are used in official route report designations. Routes listed in this plan as some form of "Limited" or "Limited (Administrative or Non-Motorized)" are designated as "Limited w/ Management" in the Park, Gallatin, and Broadwater route reports. Analysis in this TMP/EA sometimes addresses specific types of limitations. There are variations of the "Limited" designation. For example, some routes may be limited by season, use type, or specified users. Routes designated as "Open w/ Management" or "Limited w/ Management" would receive additional adaptive management, maintenance, mitigation, or monitoring compared to routes that do not have "w/ Management" included in their designation.

Table 5. Travel Route Designation Terminology

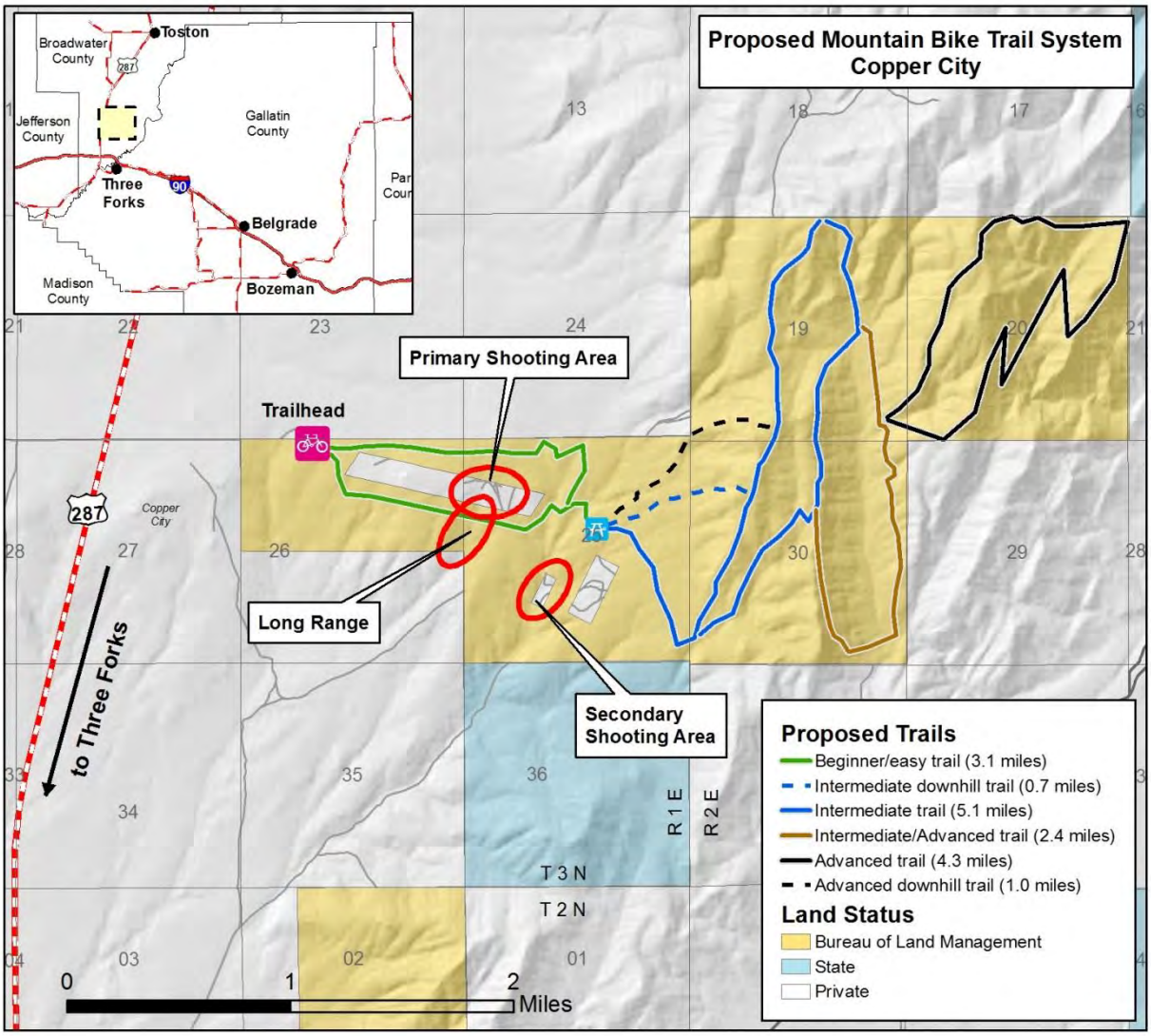
Terms Used in Route Designations		
43 CFR 8342.1	*Butte RMP*	Explanation from *Butte RMP*
Open	Open Yearlong	Open year-round to public and administrative uses.
Limited	Open with Restrictions	Open to public and administrative uses with seasonal and/or vehicle type limitations.
Limited (Administrative or Non-motorized)	Closed Yearlong	Closed to OHV 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 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 reclaimed to eliminate resource impacts (e.g., 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.

2.3 Proposals Considered During the Planning Process

2.3.1 Trail Development Proposal from the Gallatin Valley Bicycle Club

The Gallatin Valley Bicycle Club's *Dirt Concern* mountain bike branch, has proposed the BLM development of a non-motorized trail system in the Copper City area of the TMA, approximately five miles north-east of Three Forks, Montana. The club's proposal, shown below, and accompanying slide presentation is viewable on the club's website.

Map 2. Proposed Copper City Trail System



The Dirt Concern proposes that BLM establish a network of six "stacked loop" trails (Map 2) totaling approximately 17 miles in length. These trails would include riding opportunities for beginner, intermediate, advanced and expert level riders, with loops becoming progressively more challenging the further you travel from the trailhead. The proposal includes making about one-half of the trails accessible to adaptive bikers (paraplegic riders who pedal with their hands; three-wheeled bikes requiring a slightly wider track than a typical single track mountain bike trail). The Dirt Concern also cites a general lack of beginner level trails in the region, stating that the lower elevation/mild terrain near the proposed trailhead of this trail system would be beneficial to children, families and beginner level riders.

The Dirt Concern cites a regional need for non-motorized trail systems that are available in the winter, when most regional trails are snowed in, and thus un-ridable. The Copper City area has a generally dry climate, with only a few months of consistent snow cover in an average winter. Furthermore, when there is snow cover, mountain biking (particularly with fat tire bikes) would be permitted, while many non-motorized trail systems in the region do not permit bicycle use over snow in the winter. In addition to the need for the trail system, the Copper City area is minutes away from food and lodging, offering a destination experience for mountain bike enthusiasts that is absent from the region.

The Dirt Concern proposes to generate funding for trail construction and maintenance through grants and other fundraisers, involving other state, national and international cycling clubs.

The BLM has chosen to analyze the impacts of this proposed trail system and determine if the proposal is suitable, meeting the management objectives for the PGB TMA and PA.

Rationale for carrying the proposal forward in this Travel Management Plan includes:

- The proposal contributes to achieving RMP and Travel Management Objectives
- Location: the Copper City area is near food and lodging, which would be valuable in the success of an extensive, specialized trail system as proposed
- Resources: the Copper City area does not have an abundance of sensitive habitats or wildlife species that would be adversely impacted
- Concentration of Use: the Copper City area currently has a high route density and is popular to cyclists and other recreationists
- The Dirt Concern identified a legitimate need for the proposed trail system to match recreation needs and preferences absent in the region, in comparison with similar recreation "markets" in across the West.

The construction of the full proposal, approximately 17 miles of single track trail (24" width), (slightly wider 30") on about eight miles of trail to accommodate adaptive riders, would result in approximately five acres of surface disturbance in an area of about 2500 acres of BLM, resulting in approximately 0.2% surface disturbance on the BLM parcel. This disturbance would include the development of a parking and staging area of approximately one-half acre. The current BLM route network in the Copper City area consists of 21 routes with approximately 18.5 miles. The routes average approximately eight feet in width, with a total surface disturbance calculated at approximately 18 acres. This disturbance accounts for 0.7% of the total acreage of the Copper City BLM surface area.

The trail system would be constructed with hand tools in many areas and utilize mechanized trail building tools (mini-excavators) where hand tools would not be feasible. The Dirt Concern has proposed developing an agreement with the BLM to take responsibility for construction and maintenance of the trail system, complying with BLM design and construction guidelines and Best Management Practices to ensure the trails are sustainable and the development does not cause undue adverse impact to the human environment.

Potential impacts from the implementation of this proposal are described in applicable sections of Chapter 3 and are based on the following assumptions:

- The trail system would meet BLM single track non-motorized trail guidelines regarding width, surfacing, safety and drainage measures.
- The trail system, though constructed through a partnership, would be a public trail part of the BLM travel management system.
- The trail system would be designed, constructed and maintained to minimize impacts to wildlife resources in the project area (i.e., seasonal restrictions may apply to construction and use).
- The trail system would be designed, constructed and maintained to minimize damage to the natural environment (soil, water and vegetative resources in particular).
- Educational and Interpretive signing would be located appropriately to establish trail rules/guidelines and promote safety and prevent user conflicts.
- A monitoring plan would be developed to ensure trail maintenance is meeting standards and potential environmental impacts are not exceeding established thresholds.

2.4 Description of Alternatives

2.4.1 Features Common to All Alternatives (Including the "No Action" Alternative)

Each travel management alternative differs, but some features are common to all alternatives.

For each alternative, in accordance with the *Record of Decision: Off-Highway Vehicle Environmental Impact Statement and Proposed Plan Amendment for Montana, North Dakota and South Dakota* (*2003 OHV EIS for MT, ND, and SD*) (BLM 2003), under the "Limited Area" designation (which applies to the TMA), all cross-country OHV travel is prohibited with the following exceptions:

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

In addition to sharing the same prohibitions and exceptions regarding cross-country motorized travel, all alternatives share other features. For example, for each alternative, opportunities would be sought to disperse or distribute users to help provide quality recreational experiences. As part of the use dispersion goal, easement agreements would be pursued as needed to gain agency and public access to BLM lands. Moreover, the BLM would continue to participate with the Southwest Montana Interagency Travel Management Committee to maintain map and sign consistency and seasonal restrictions.

2.4.2 Description of Alternative A (No Action/Continuation of Current Management)

According to the *2009 Butte RMP*, the PGB PA has a "Limited Area" designation. Under Alternative A, OHV travel on routes within the PA would continue to be managed under the "Limited Area" designation, which is described in the *2003 OHV EIS for MT, ND, and SD* as "an area restricted at certain times, in certain areas, and/or to certain vehicular use" (2003, 1). In the case of the PGB TMA, the "Limited Area" designation means that motorized travel (not including OSVs) is restricted to existing inventoried routes.

Under Alternative A, all existing travel routes in the TMA would continue to be managed as "Open Yearlong" to wheeled motorized use. This designation means the routes would be Open all year to public and administrative motorized uses. Throughout this document, the "Open Yearlong" designation is often simply referred to as "Open."

The BLM commissioned a 2012 inventory of routes on the BLM public lands in the TMA. This inventory resulted in the documentation of 188 travel routes totaling 90.73 miles. Under Alternative A, routes would be designated as shown in Table 6. In response to any new cross-country use or created roads and trails, the BLM would close/rehabilitate any ground disturbances associated with these unauthorized uses and pursue law enforcement actions as appropriate.

Table 6. Proposed Route Designations by Route Class (Alternative A)

	Proposed Route Designations by Route Class (Alternative A)					
	Open to all uses	Limited by season or vehicle type	Limited to Non-Motorized	Limited administrative	Closed & Decommissioned	Totals
Roads	13 routes 8.87 miles	0 routes 0 miles	0 routes 0 miles	0 routes 0 miles	0 routes 0 miles	13 routes 8.87 miles
Primitive Roads	174 routes 81.72 miles	0 routes 0 miles	0 routes 0 miles	0 routes 0 miles	0 routes 0 miles	174 routes 81.72 miles
Trails	1 routes 0.14 miles	0 route 0 miles	0 routes 0 miles (Proposed)	0 routes 0 miles	0 routes 0 miles	1 route 0.14 miles
TOTAL	**188 routes 90.73 miles**	**0 routes 0 miles**	**0 routes 0 miles**	**0 routes 0 miles**	**0 routes 0 miles**	**188 routes 90.73 miles**

Over Snow Vehicle Use

The 2003 OHV EIS did not address Over Snow Vehicle (OSV) use. The *2009 Butte RMP ROD* stated that "snowmobile use will be subject to restrictions outlined in specific travel plans." Therefore, since there are currently no specific restrictions in effect for OSVs on BLM lands in the PA, unrestricted cross-country OSV use would remain in effect under Alternative A.

2.4.3 Features Common to Action Alternatives B, C, and D

Although some travel management elements are common to every alternative, there are some that only apply to the action alternatives B, C, and D. Below are elements common to Alternatives B, C, and D.

Route Designations
All wheeled motorized travel would be Limited to designated roads, primitive roads, and trails. No cross-country wheeled motorized vehicle travel would be allowed, unless otherwise managed (exceptions are listed above in Section 2.4.1).

Administrative Access
This "Limited (Administrative or Non-motorized)" designation would limit wheeled motorized access to BLM administrative and authorized uses only. BLM employees and authorized users (e.g., 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.

Access to BLM Lands and Routes across Private Property
Where public motorized access is contingent upon the governing consent of adjoining private landowner(s), the BLM would exercise a reciprocal "All or None" route 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 an adjacent landowner refuse public access, the BLM would reciprocate by closing its travel routes to use by the landowner. This would occur without amending the TMP/EA.

Water Developments
No new routes would be authorized as a result of new water developments. If new water developments and subsequent access routes to these developments are proposed in the future, a site-specific analysis would be completed. 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 their term grazing permit/lease.

Non-Motorized Use
Travel management is more than management of motorized vehicles. People are allowed to walk or ride horses anywhere in the TMA, unless an area is Closed for safety concerns or specific resource protection (e.g., sensitive species habitat). Under the Action Alternatives, mountain biking would be Limited to all designated Open or Limited routes in the travel network, unless a route is signed to prohibit bicycling. Mountain biking would not be allowed on routes scheduled to be Closed. Cross-country mountain bike use would not be allowed. Non-motorized users should know that if a route is designated as "Closed and Decommissioned," it would not be maintained and could be reclaimed, with an objective to remove all physical evidence of the route.

2.4.4 Description of Alternative B

Alternative B emphasizes higher levels of non-motorized use and a higher degree of resource protection than Alternatives C or D. Travel routes designated as Closed (Decommissioned) [3] would not be considered essential for OHV travel for agency personnel or the public. Under Alternative B, routes would be designated as shown in Table 7 and on maps 4-18. Alternative B attempts to protect sensitive resource values by reducing the amount of motorized travel to the greatest extent in the TMA. Under this alternative, the proposed mountain bike trail system at Copper City would not be constructed.

Table 7. Proposed Route Designations by Route Class (Alternative B)

	Proposed Route Designations by Route Class (Alternative B)					
	Open to all uses	Limited by season or vehicle type	Limited to Non-Motorized	Limited administrative	Closed & Decommissioned	Totals
Roads	11 routes 8.13 miles	0 routes 0 miles	0 routes 0 miles	1 routes 0.3 miles	1 routes 0.44 miles	13 routes 8.87 miles
Primitive Roads	28 routes 12.58 miles	3 routes 3.44 miles	0 routes 0 miles	46 routes 29.76 miles	98 routes 37.68 miles	174 routes* 81.72 miles
Trails	0 routes 0 miles	0 route 0 miles	0 routes 0 miles	0 routes 0 miles	1 routes 0.14 miles	1 route 0.14 miles
TOTAL	**39 routes 20.71 miles**	**3 routes 3.44 miles**	**0 routes 0 miles**	**47 routes 30.06 miles**	**100 routes 38.26 miles**	**188 routes 90.73 miles**

*There is a 1.74-mile route that occurs as Limited to Admin and Limited Seasonally, therefore is counted twice; the total does not reflect the double count.

<u>Over Snow Vehicle Use</u>
OSV use would not be allowed within wildlife winter range and big game security habitat (see map 20). Exceptions to this designation are listed in Section 2.4.1.

[3] In the context of route designation, the terms "Closed" and "Decommissioned" mean essentially the same thing: A route is closed and reclaimed to eliminate resource impacts and is no longer useable for public or administrative uses.

2.4.5 Description of Alternative C

Alternative C is the BLM's Proposed Action (Table 8). It emphasizes moderate levels of motorized access, resource protection, and restoration. See Maps 4-19 for an illustration the proposed travel route network under Alternative C.

Alternative C, the Proposed Action, includes implementing the Copper City mountain bike trail system proposal. This proposal, as described in section 2.3.1, would result in approximately 17 miles of trails Open to mountain bikers and hikers only, a parking area and trailhead, in the "Copper City Area". To accommodate "adaptive riders", approximately one-half of the trails would average 30 inches in width, slightly wider than a typical mountain bike trail (18-24 inches). This new construction would result in approximately eight total acres of surface disturbance, only 0.2% of the "Copper City" area of approximately 2,500 acres.

Table 8. Proposed Route Designations by Route Class (Alternative C)

	Proposed Route Designations by Route Class (Alternative C)					
	Open to all uses	Limited by season or vehicle type	Limited to Non-Motorized	Limited administrative	Closed & Decommissioned	Totals
Roads	11 routes 8.13 miles	1 routes 0.44 miles	0 routes 0 miles	1 routes 0.3 miles	0 routes 0 miles	13 routes 8.87 miles
Primitive Roads	71 routes 42.06 miles	21 routes 11.32 miles	0 routes 0 miles	39 routes 15.65 miles	44 routes 14.43 miles	174 routes 81.72 miles
Trails	0 routes 0 miles	1 route 0.14 miles 50" or Less	**6 routes 16.59 miles (Proposed)	0 routes 0 miles	0 routes 0 miles	7 route 16.73 miles
TOTAL	**82 routes 50.19 miles**	**23 routes 11.9 miles**	**6 routes 16.59 miles**	**40 routes 15.95 miles**	**44 routes 14.43 miles**	**194 routes 107.32 miles***

* There is a 1.74-mile route that occurs as Limited to Admin and Seasonally, and therefore is counted twice; the total does not reflect the double count.
**The "Limited to Non-Motorized" column in Table 8 refers to mountain biking and hiking use only. Other forms of non-motorized recreation would not be allowed on the proposed mountain bike trail system due to safety concerns.

<u>Over Snow Vehicle Use</u>
OSV use would be allowed only on travel routes designated as "Open" to OHVs, but only during the period between December 2 and May 15 each year. No cross-country OSV travel would be allowed. Exceptions to these designations are listed in section 2.4.1.

2.4.6 Description of Alternative D

Alternative D emphasizes access to public lands and a full range of recreational opportunities and experiences (especially for motorized use) while still reducing or mitigating travel impacts to resources and resource uses. Under Alternative D, routes would be designated as shown in Table 9. See Maps 4-19 for an illustration of the proposed travel route network under Alternative D. Under this Alternative, approximately 13.5 miles of trails Open to mountain bikers and hikers only, a parking area, and a trailhead would be constructed in the "Copper City Area". To accommodate "adaptive riders", some of the trails would average 30 inches in width, slightly wider than a typical mountain bike trail (18-24 inches).

Table 9. Proposed Route Designations by Route Class (Alternative D)

	Proposed Route Designations by Route Class (Alternative D)					
	Open to all uses	Limited by season or vehicle type	Limited to Non-Motorized	Limited administrative	Closed & Decommissioned	Totals
Roads	12 routes 8.57 miles	0 routes 0 miles	0 routes 0 miles	1 routes 0.3 miles	0 routes 0 miles	13 routes 8.87 miles
Primitive Roads	146 routes 73.75 miles	0 routes 0 miles	0 routes 0 miles	11 routes 2.4 miles	17 routes 5.57 miles	174 routes 81.72 miles
Trails	0 routes 0 miles	1 route 0.14 miles 50" or Less	*5 routes 13.49 miles (Proposed)	0 routes 0 miles	0 routes 0 miles	6 route 13.63 miles
TOTAL	**158 routes 82.32 miles**	**1 routes 0.14 miles**	**5 routes 13.49 miles**	**12 routes 2.7 miles**	**17 routes 5.57 miles**	**193 routes 104.22 miles**

***The "Limited to Non-Motorized" column in Table 9 refers to mountain biking and hiking use only. Other forms of non-motorized recreation would not be allowed on the proposed mountain bike trail system due to safety concerns.

<u>Over Snow Vehicle Use</u>
Between December 2 and May 15, with adequate snow levels permitting, unrestricted cross-country OSV travel would be allowed throughout the BLM managed portions of the PA.

2.5 Cumulative Actions for All Alternatives

2.5.1. Introduction

This section describes the cumulative actions which may result in cumulative impacts. Cumulative impacts are the incremental effect or impact of a management action when taken together with other past, present, or reasonably foreseeable future actions. In the context of travel management planning the cumulative impacts would be the incremental impact of travel management actions when added to the impacts of numerous other past, present, or foreseeable actions (e.g., vegetation treatments, water projects, timber sales, nearby residential development, other agency travel management planning, etc.).

2.5.2 Past and Present Management Actions

The USFS, Gallatin National Forest, completed a Travel Management Plan for the Absaroka/Beartooth West area in 2015. This area is adjacent to BLM lands in the south-eastern portion of the TMA and one route was identified in the evaluation process as providing access to a Forest Service route; this route was designated Open to match the designation on the USFS route.

The USFS also permits firewood cutting, Christmas tree cutting, and various other personal timber product use activities in much of the 1.4 million acres of jurisdiction within the Planning area. In addition, the USFS manages extensive motorized and non-motorized trail systems and permits recreational events and commercial outfitting and tourism activities.

A portion of the Planning Area is managed by Yellowstone National Park, where recreational/tourism uses are extensive with travel management being a key activity; both non-motorized and motorized uses are closely managed within Yellowstone's jurisdictions; commercial recreation and vending permits are also granted within these lands.

Difficult to identify and quantify, are the actions taking place over the 1.5 million acres of privately owned lands in the Planning Area. Many private landowners manage their lands to accommodate public access for hunting, with some officially enrolled in the Montana Fish, Wildlife and Parks Block Management System. Others simply manage their own access plans. These actions include allowing public users to access and use private lands or public lands that are not legally accessible.

Residential and commercial development is also occurring on private lands throughout the planning area. This development can result in additional route creation and loss of vegetation which can affect wintering wildlife.

Additional guidance for past and present management actions in the TMA can be found in the *2009 Butte RMP*. Past travel management actions have been very minimal. Before 2012, no route inventory had been completed for the TMA, with route management dictated as "Open to Existing Routes" in designated "Limited Areas". The entire TMA is designated as a "Limited Area" for OHV management.

2.5.3 Reasonably Foreseeable Future Actions

The primary action foreseen to occur on BLM lands in the TMA are permitted livestock grazing operations. These actions are directly related to travel management as activities include motorized road use to manage livestock grazing on BLM public lands. Small scale actions, associated with mining, mineral development and timber product harvest and fuels reduction projects may occur as applications are submitted and projects are developed. Travel management plans and various other road designations will occur across public and private lands throughout the planning area.

Future actions could also include any of the actions described in the present management actions above.

2.6 Preferred Alternative Identification

2.6.1 Overview

Alternative C (Maps 4-19 in Section 2.7) is the BLM's Proposed Action and Preferred Alternative. The *identification* of the Preferred Alternative is not a decision but is intended to inform the public regarding the alternative that, at this time, the BLM believes best fulfills its statutory mission while satisfying the Butte RMP management goals, objectives and desired future conditions. The Preferred Alternative may change in response to public comment, new information, or based upon revised impact analysis as the environmental review process continues. Upon completion of environmental analysis and a potential Finding of No Significant Impact (FONSI), a Preferred Alternative would be selected in a decision document (Decision Record).

2.7 Summary of Alternatives

Alternatives can be summarized by looking at the types and quantities of designations that apply to various routes. Tables six through nine display route designations by route class for each alternative. Additionally, Maps 4-19 on pages 34-50 illustrate the alternatives. Figures 3 and 4, and Table 10, depict summaries of this information. Closed routes would typically be decommissioned by natural rehabilitation, but site specific conditions may determine additional mitigation measures to ensure the routes remain physically Closed. Figure 3 displays the number of routes, by route class, limit type and alternative. Figure 4 displays the number of route miles, by route class, limit type and alternative. Table 10 clearly displays the numbers used to create the bar graphs in Figures 3 and 4.

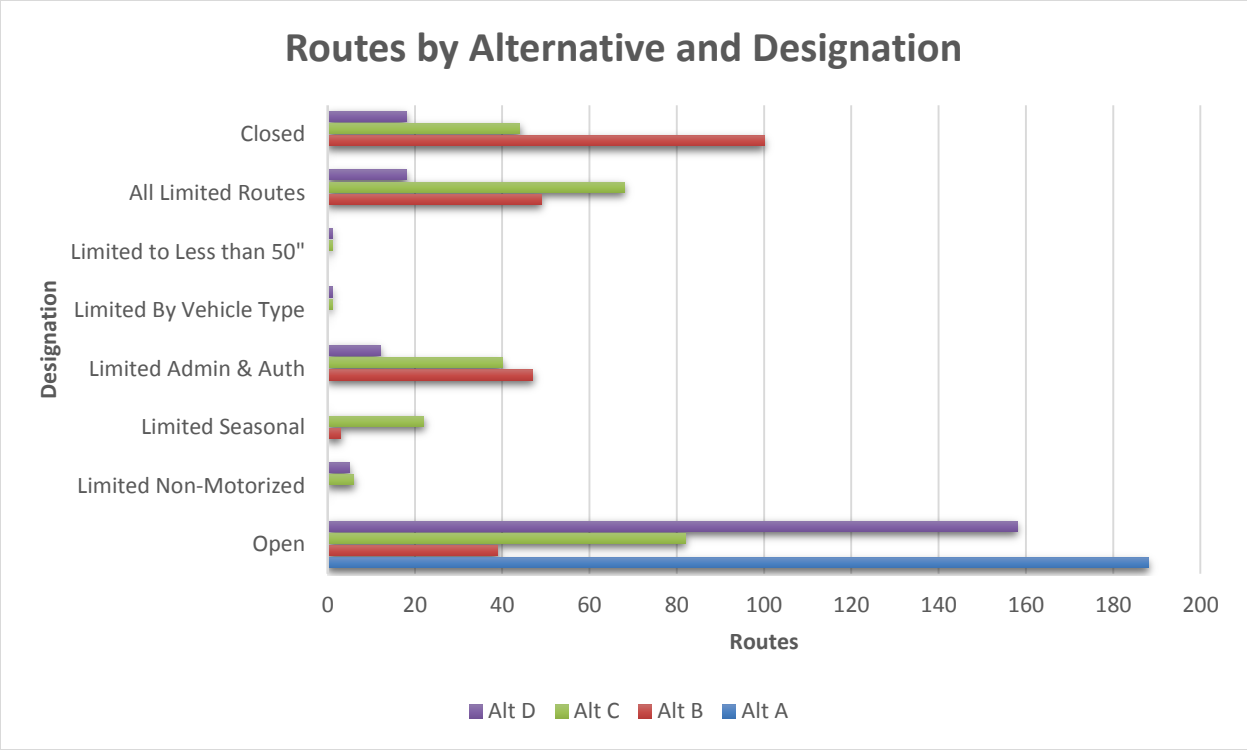
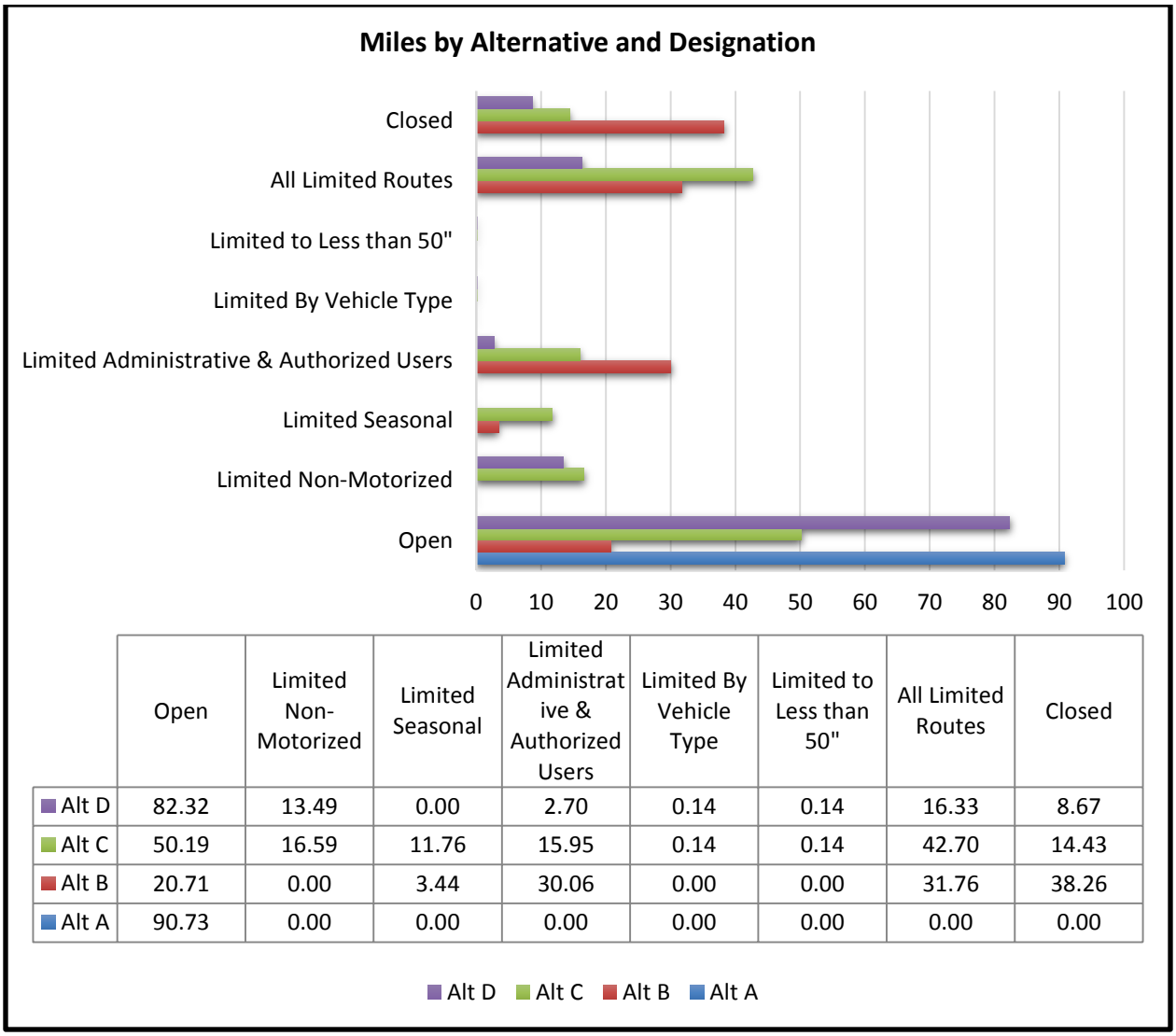


Figure 3. Number of Routes by Alternative and Designation



	Open	Limited Non-Motorized	Limited Seasonal	Limited Administrative & Authorized Users	Limited By Vehicle Type	Limited to Less than 50"	All Limited Routes	Closed
Alt D	82.32	13.49	0.00	2.70	0.14	0.14	16.33	8.67
Alt C	50.19	16.59	11.76	15.95	0.14	0.14	42.70	14.43
Alt B	20.71	0.00	3.44	30.06	0.00	0.00	31.76	38.26
Alt A	90.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00

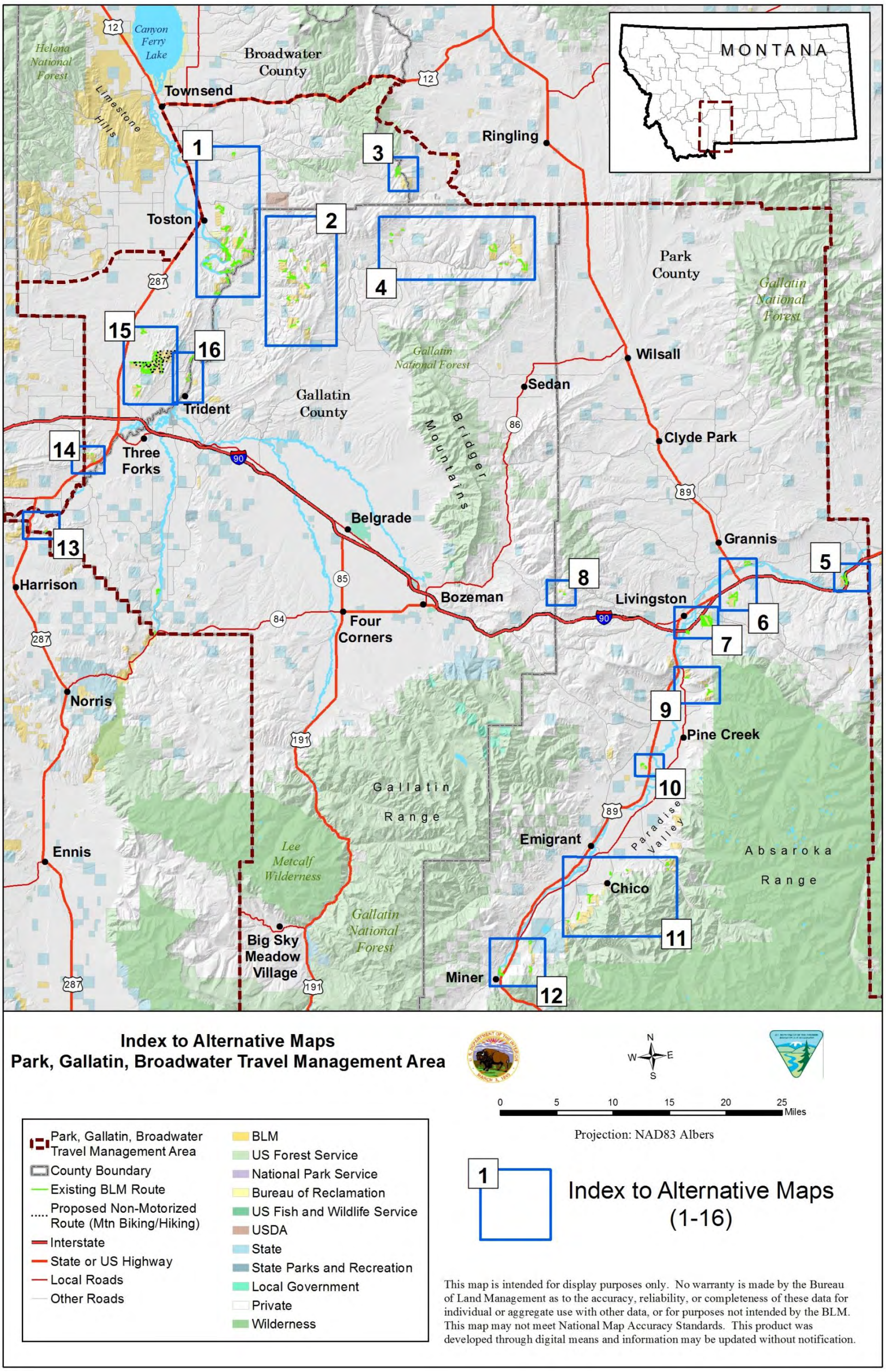
Figure 4. Miles by Alternative and Designation

Table 10. Summary and Comparison of Alternatives

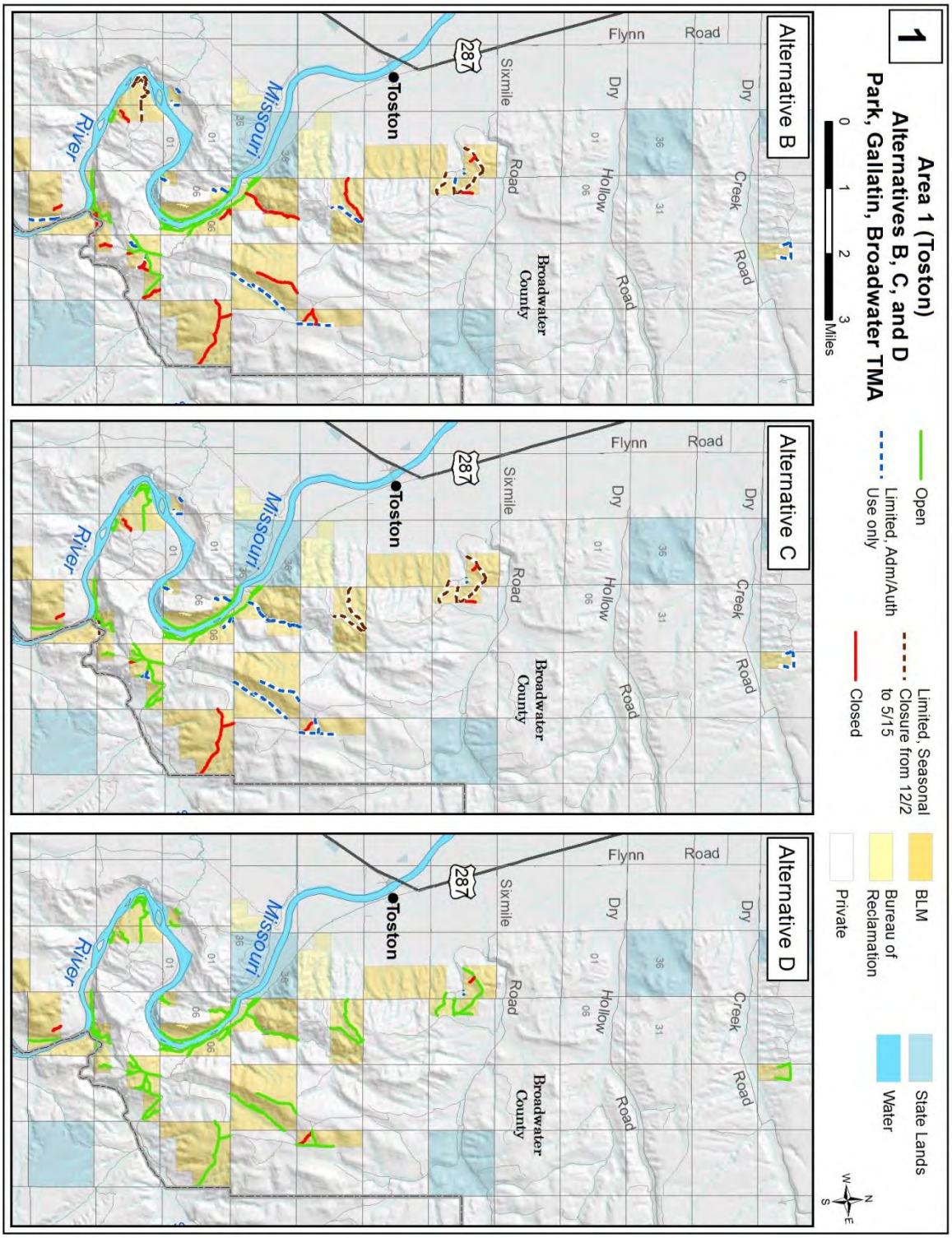
Travel Management	Alternative A	Alternative B	Alternative C	Alternative D
Number of Routes by Alternative	188 Open 0 Limited Season 0 Limited Admin 0 Limited NM 0 Limited <50” 0 Closed	39 Open 3 Limited Season 47 Limited Admin 0 Limited NM 0 Limited <50” 100 Closed	82 Open 22 Limited Season 40 Limited Admin 6 Limited NM 1 Limited <50” 44 Closed	158 Open 0 Limited Season 12 Limited Admin 5 Limited NM 1 Limited <50” 18 Closed
Miles of Routes by Alternative	90.7 Open 0 Limited Season 0 Limited Admin 0 Limited NM 0 Limited <50” 0 Closed	20.7 Open 3.4 Limited Season 30.1 Limited Admin 0 Limited NM 0 Limited <50” 38.3 Closed	50.2 Open 11.8 Limited Season 16.0 Limited Admin 16.6 Limited NM 0.14 Limited <50” 14.4 Closed	82.3 Open 0 Limited Season 2.7 Limited Admin 13.5 Limited NM 0.14 Limited <50” 8.7 Closed

* There is a 1.74-mile route that occurs as Limited to Admin and Seasonally and therefore is counted twice; the total does not reflect the double count.

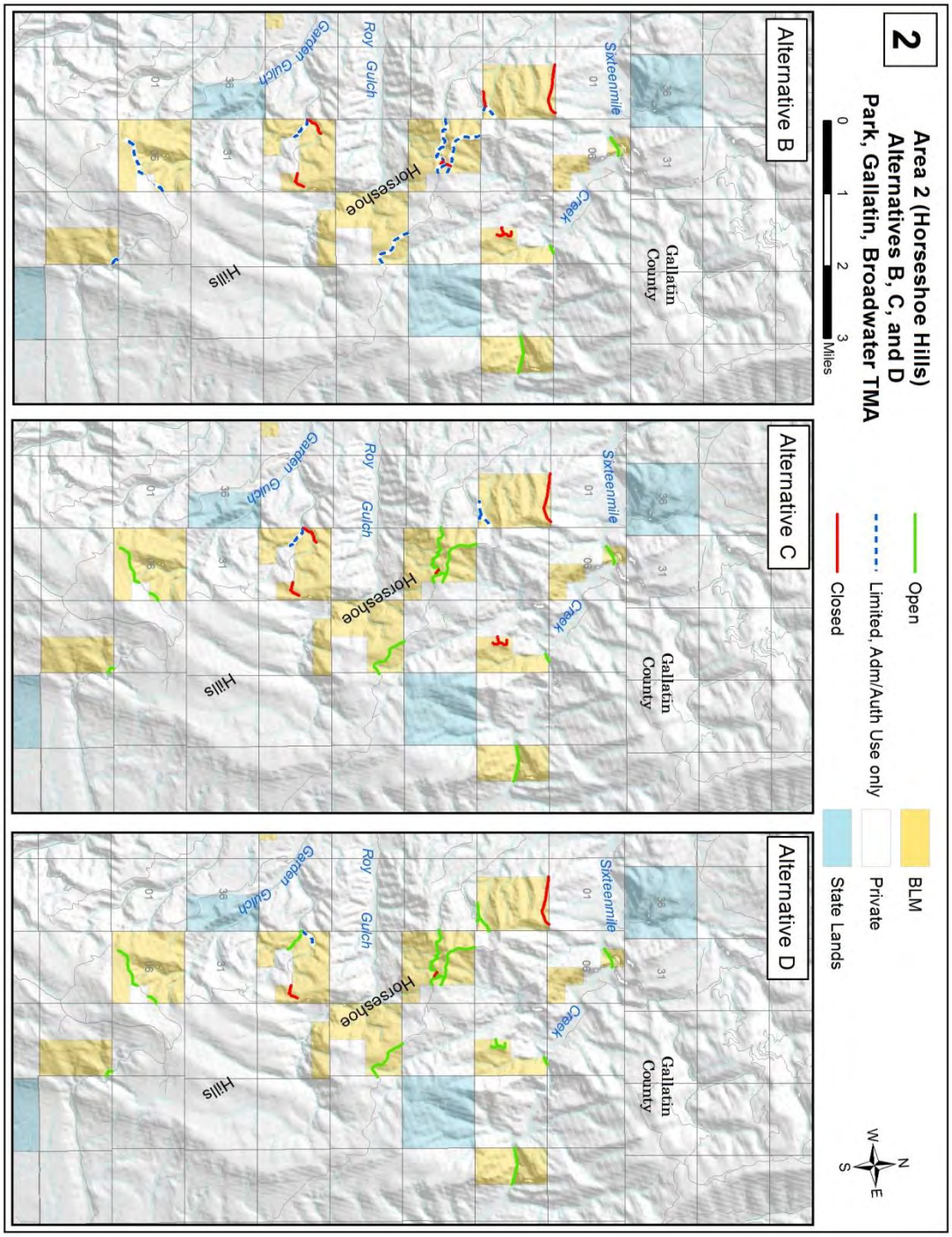
Map 3. TMA Index of Alternative Maps



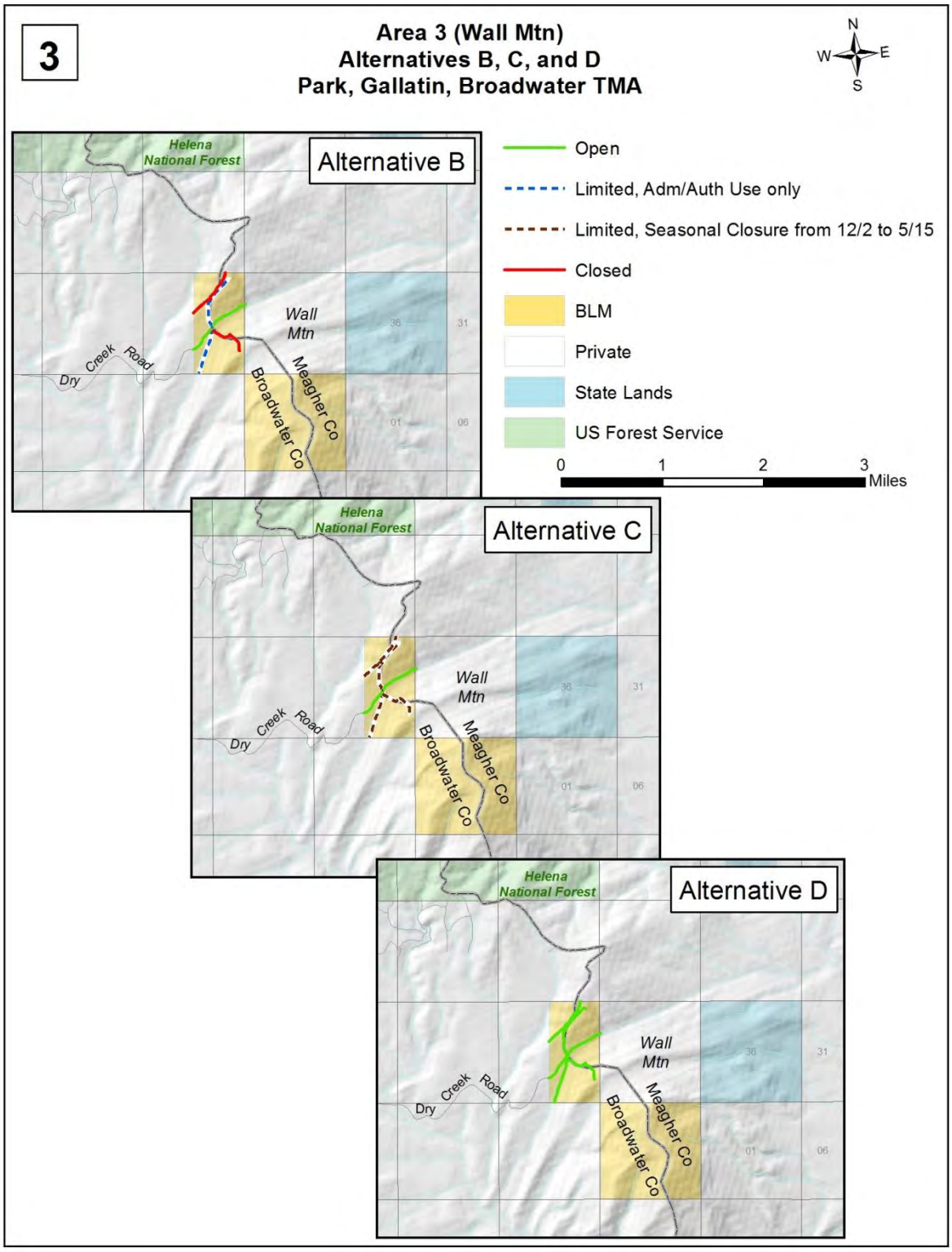
Map 4. Area 1 (Toston)



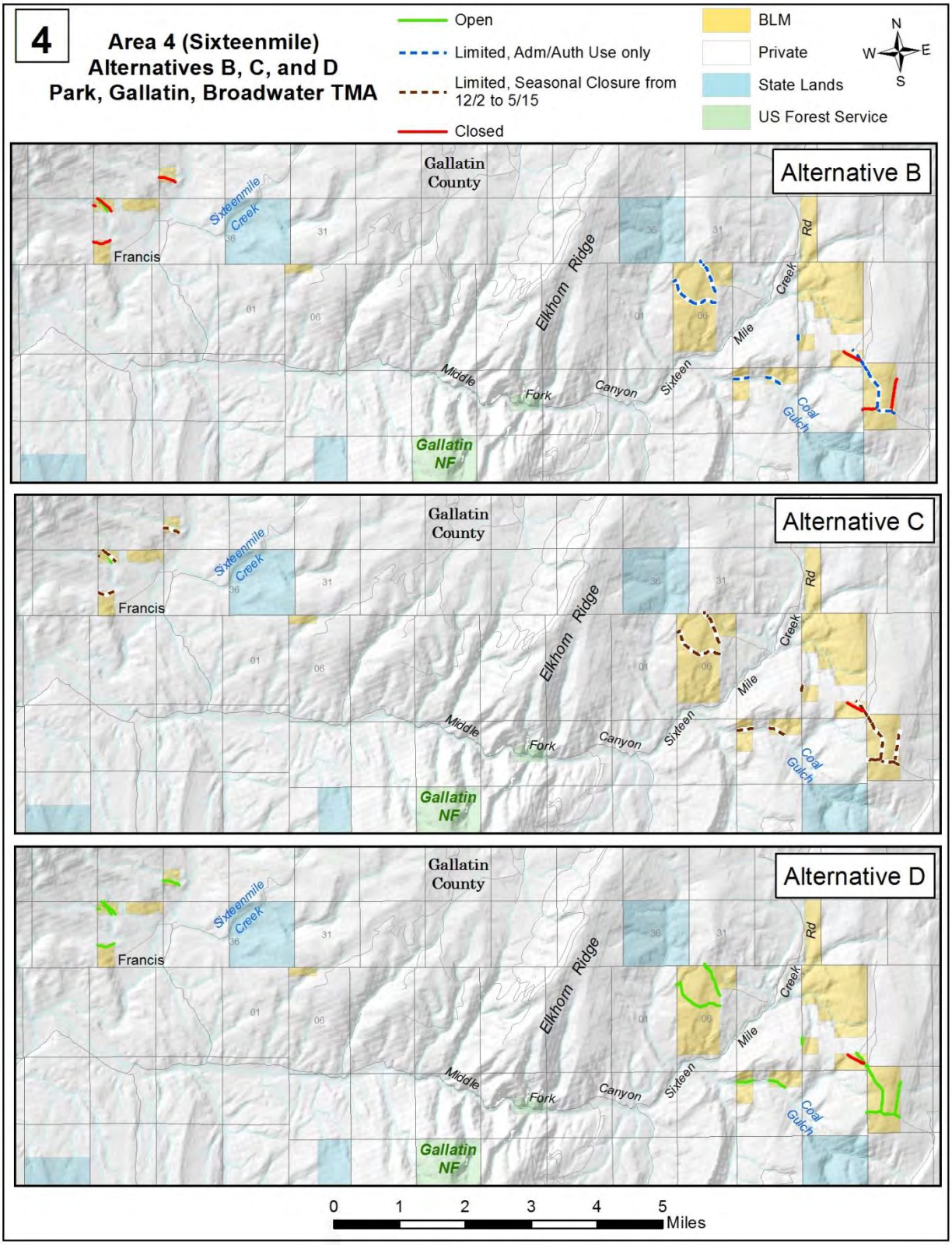
Map 5. Area 2 (Horseshoe Hills)



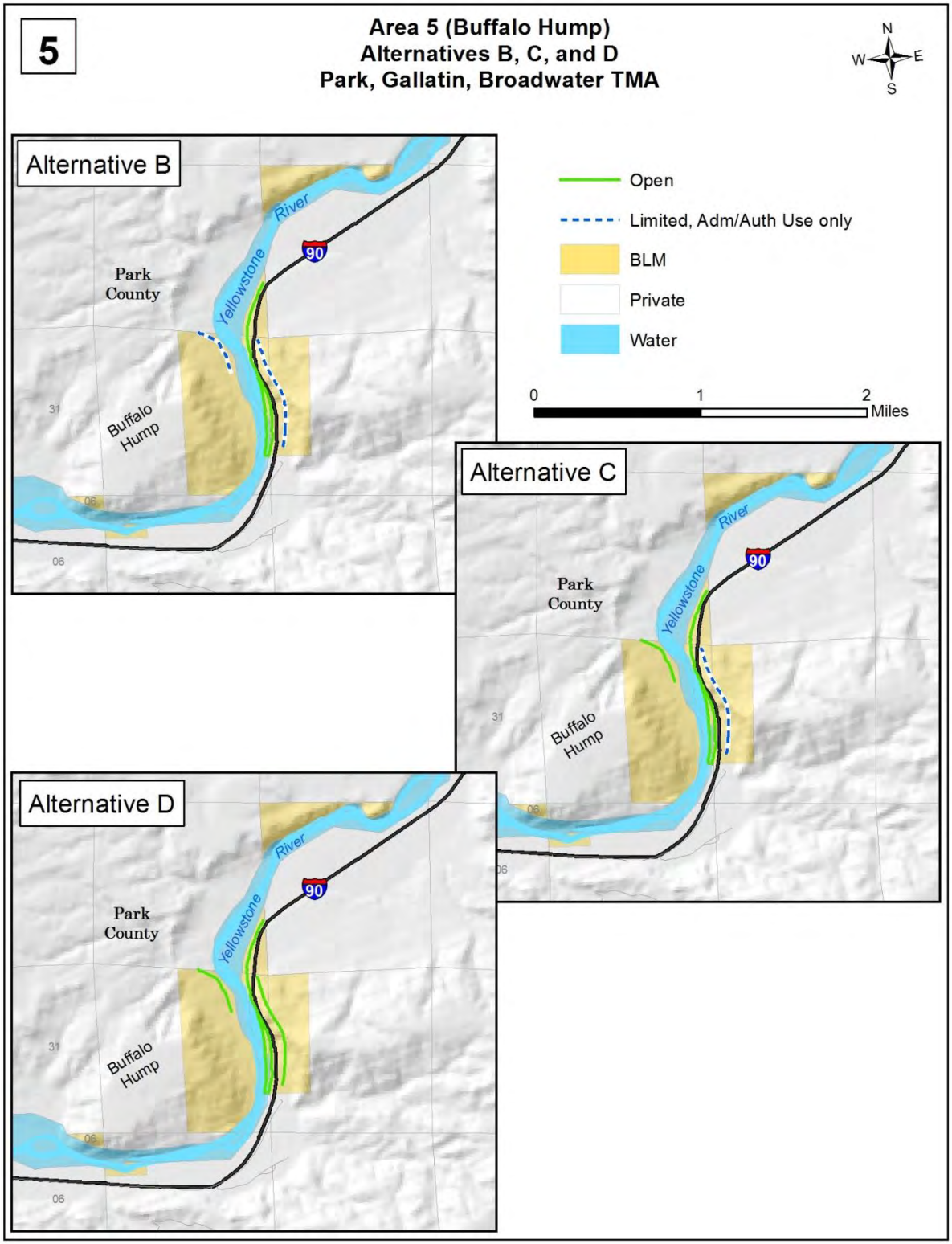
Map 6. Area 3 (Wall Mountain)



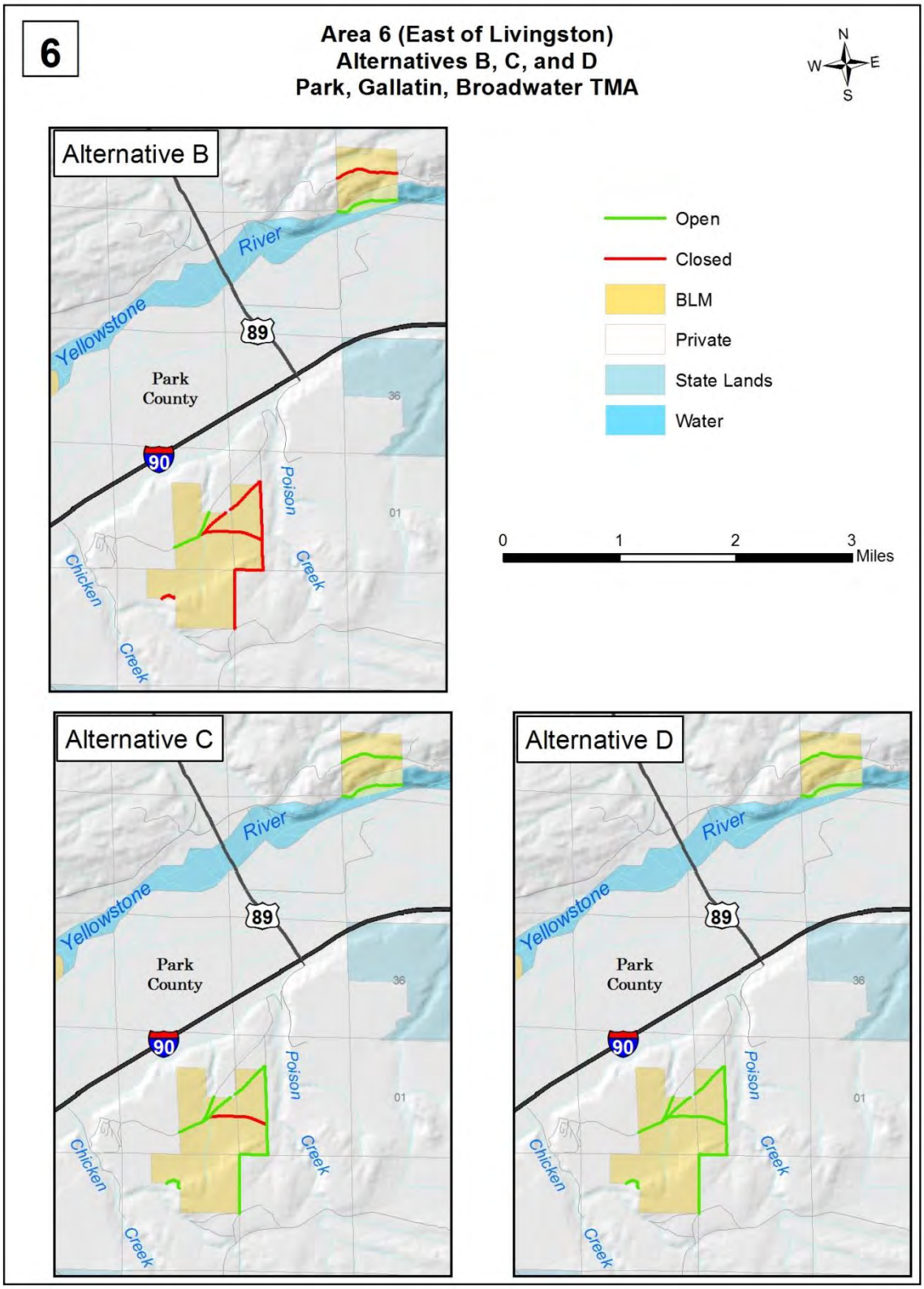
Map 7. Area 4 (Sixteenmile)



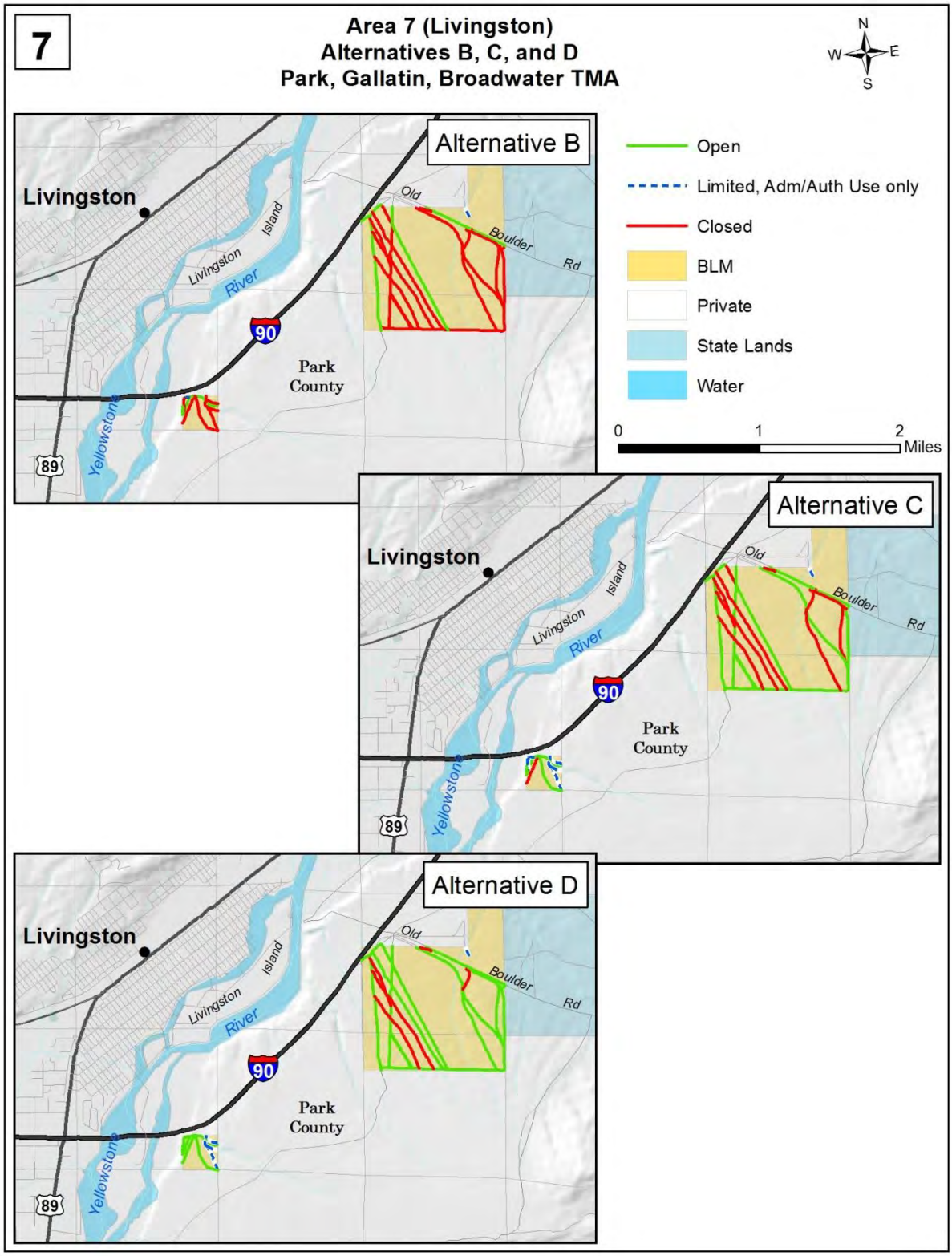
Map 8. Area 5 (Buffalo Hump)



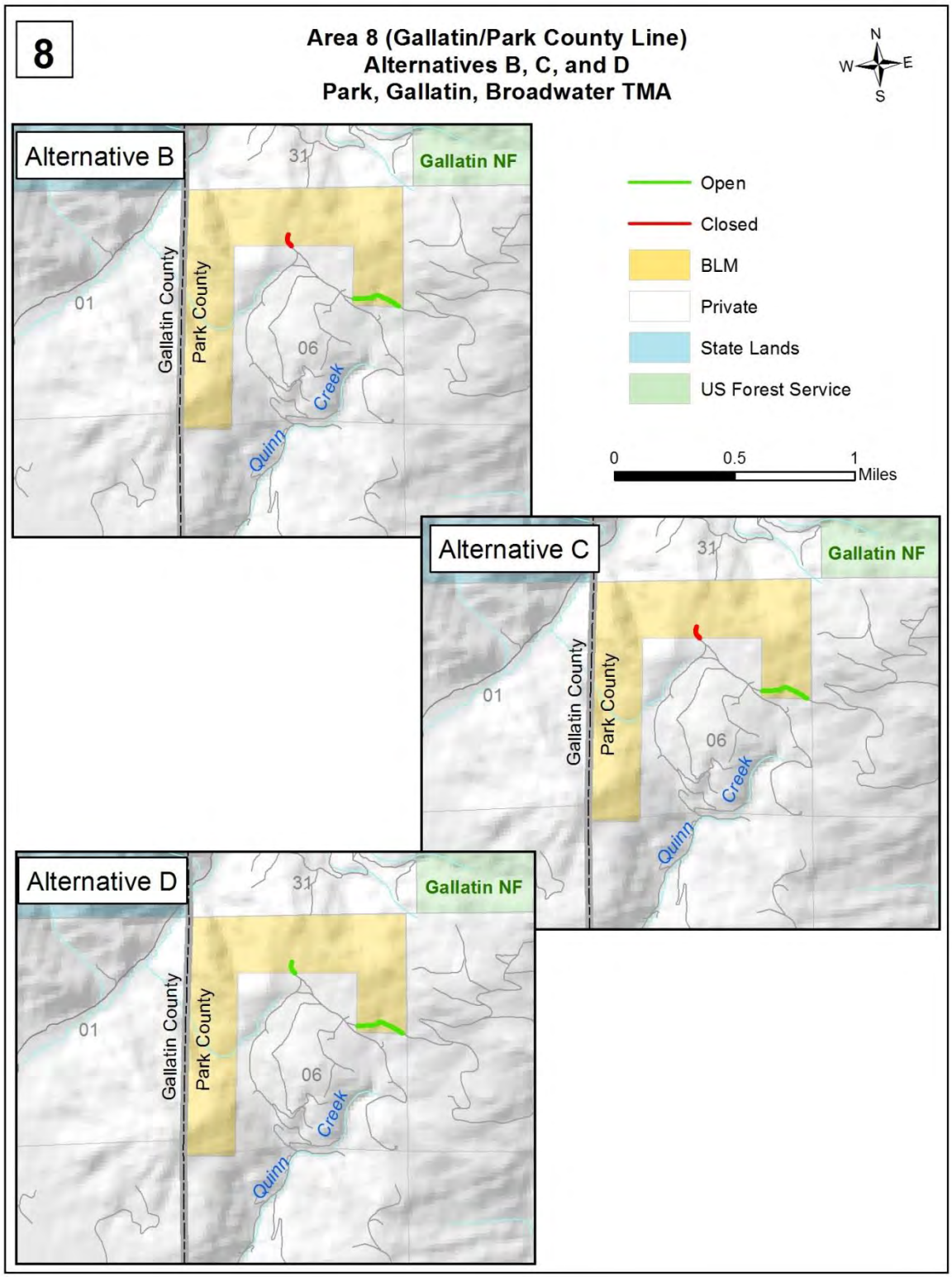
Map 9. Area 6 (East of Livingston)



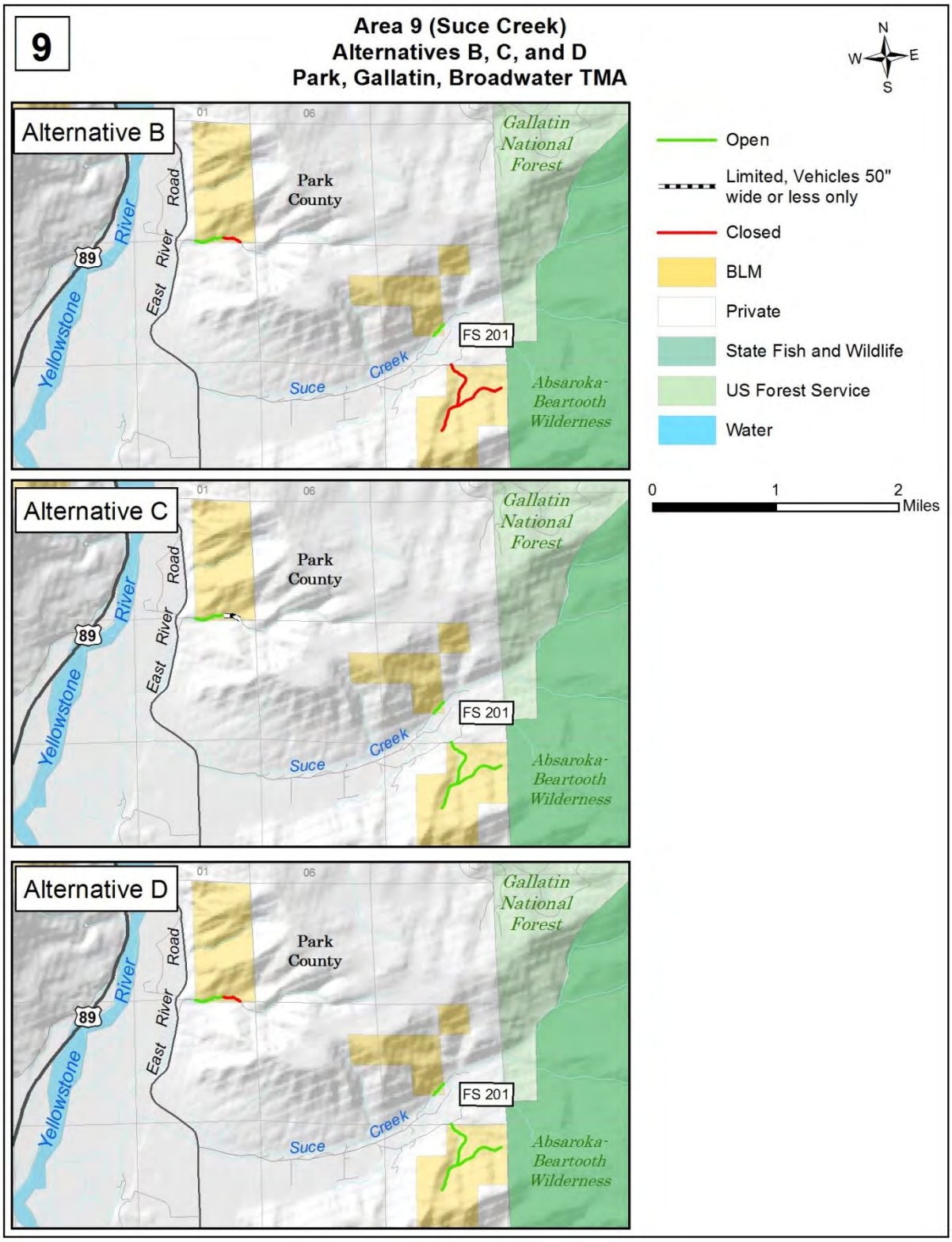
Map 10. Area 7 (Livingston)



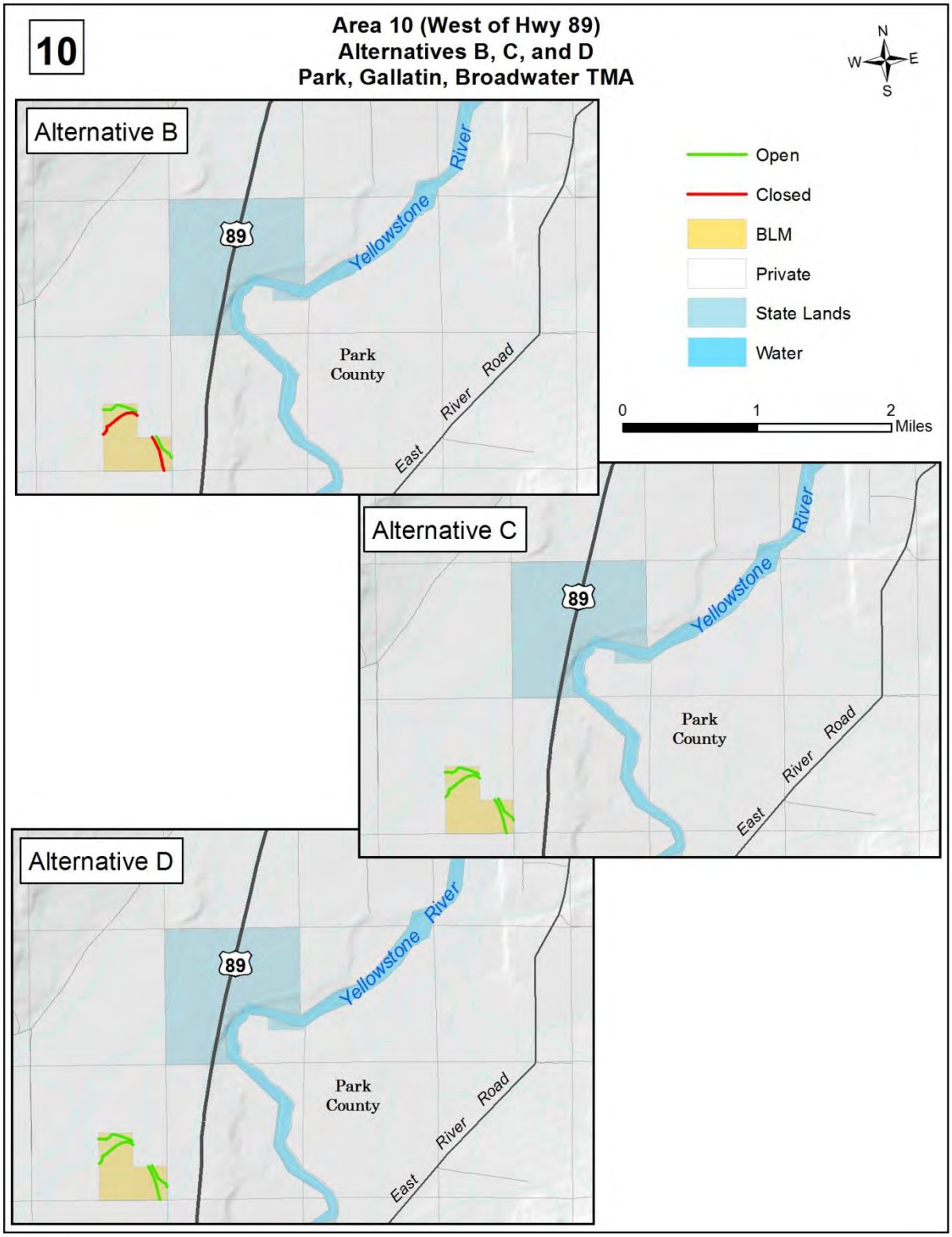
Map 11. Area 8 (Gallatin/Park County Line)



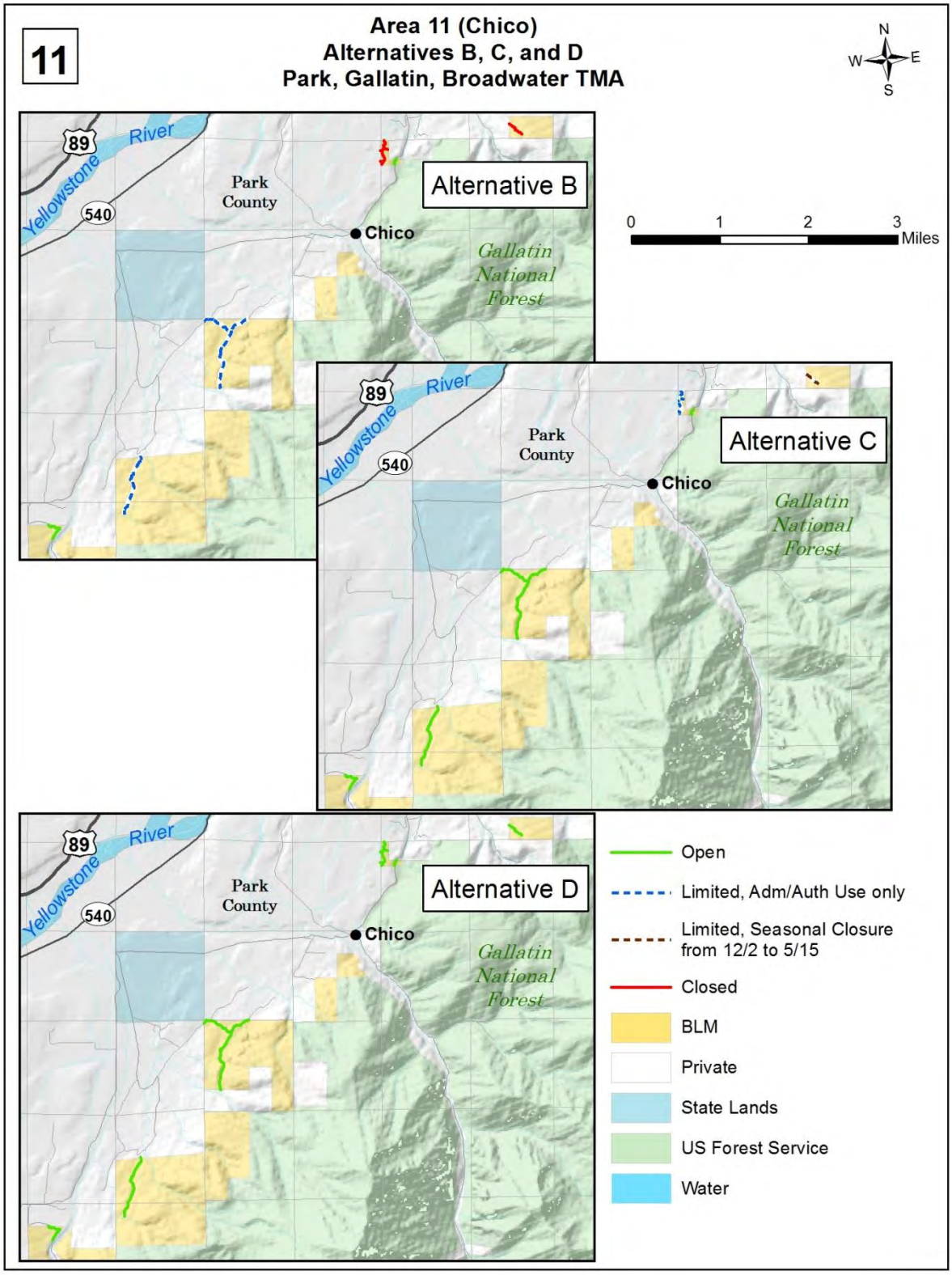
Map 12. Area 9 (Suce Creek)



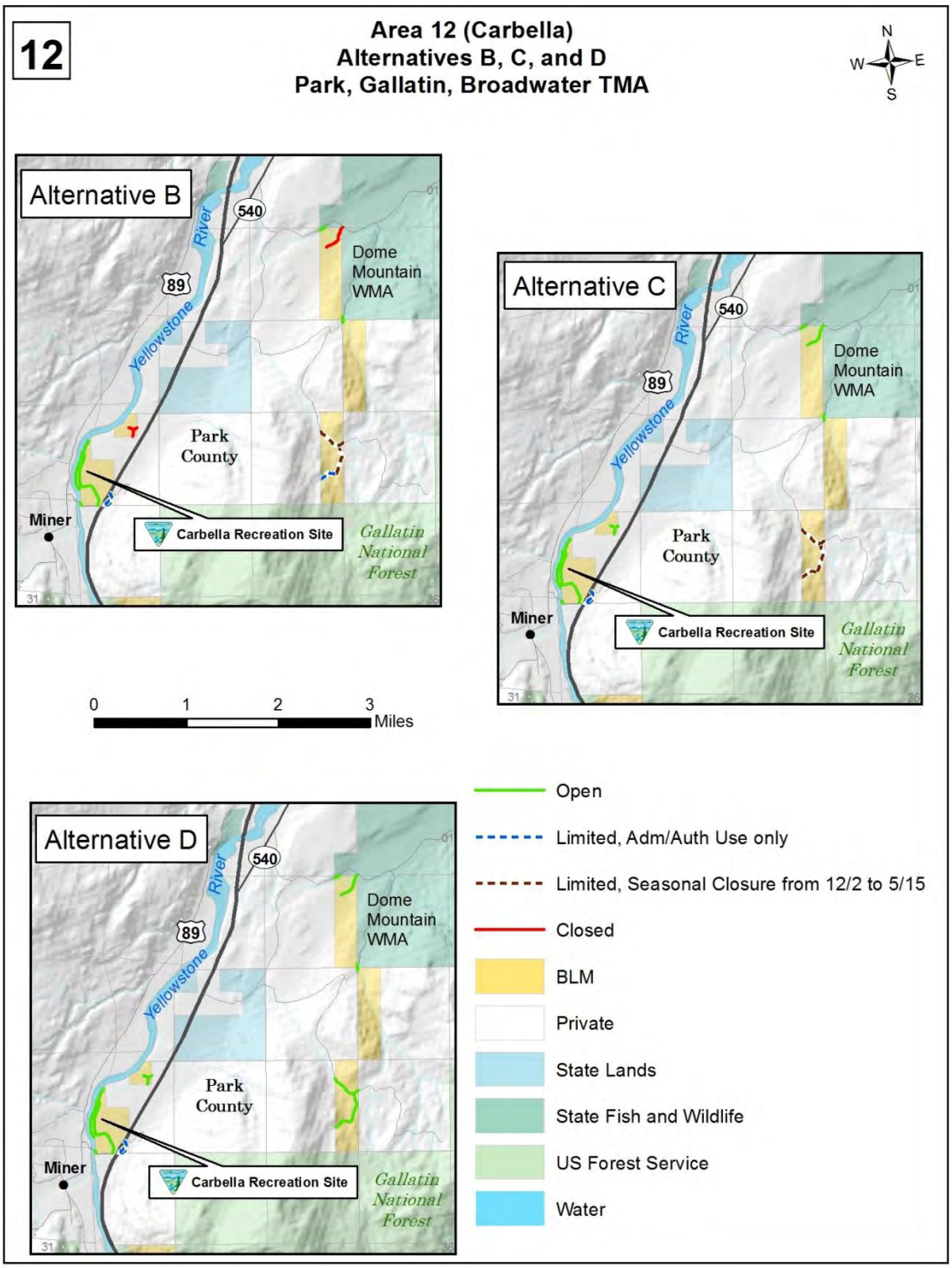
Map 13. Area 10 (West of Highway 89)



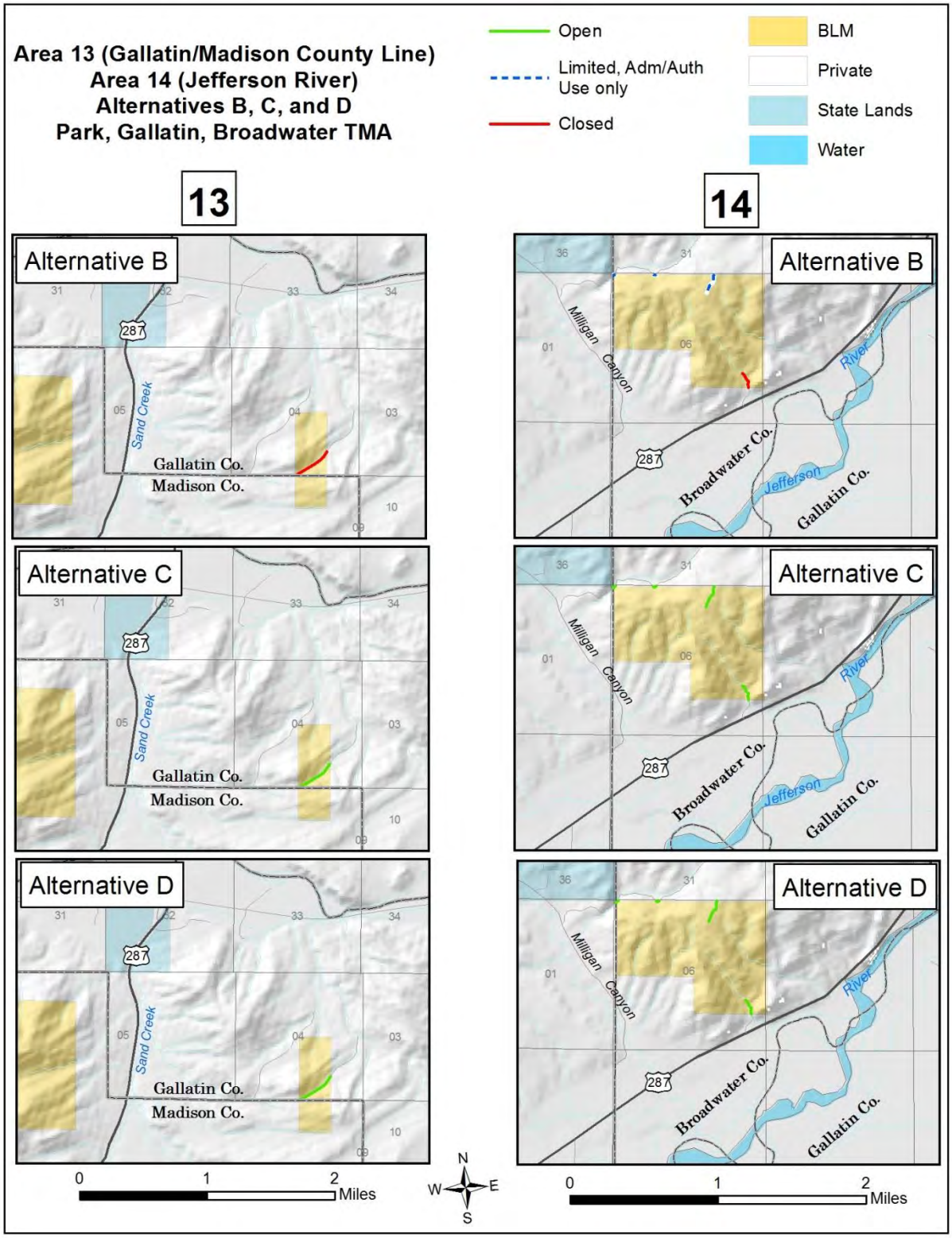
Map 14. Area 11 (Chico)



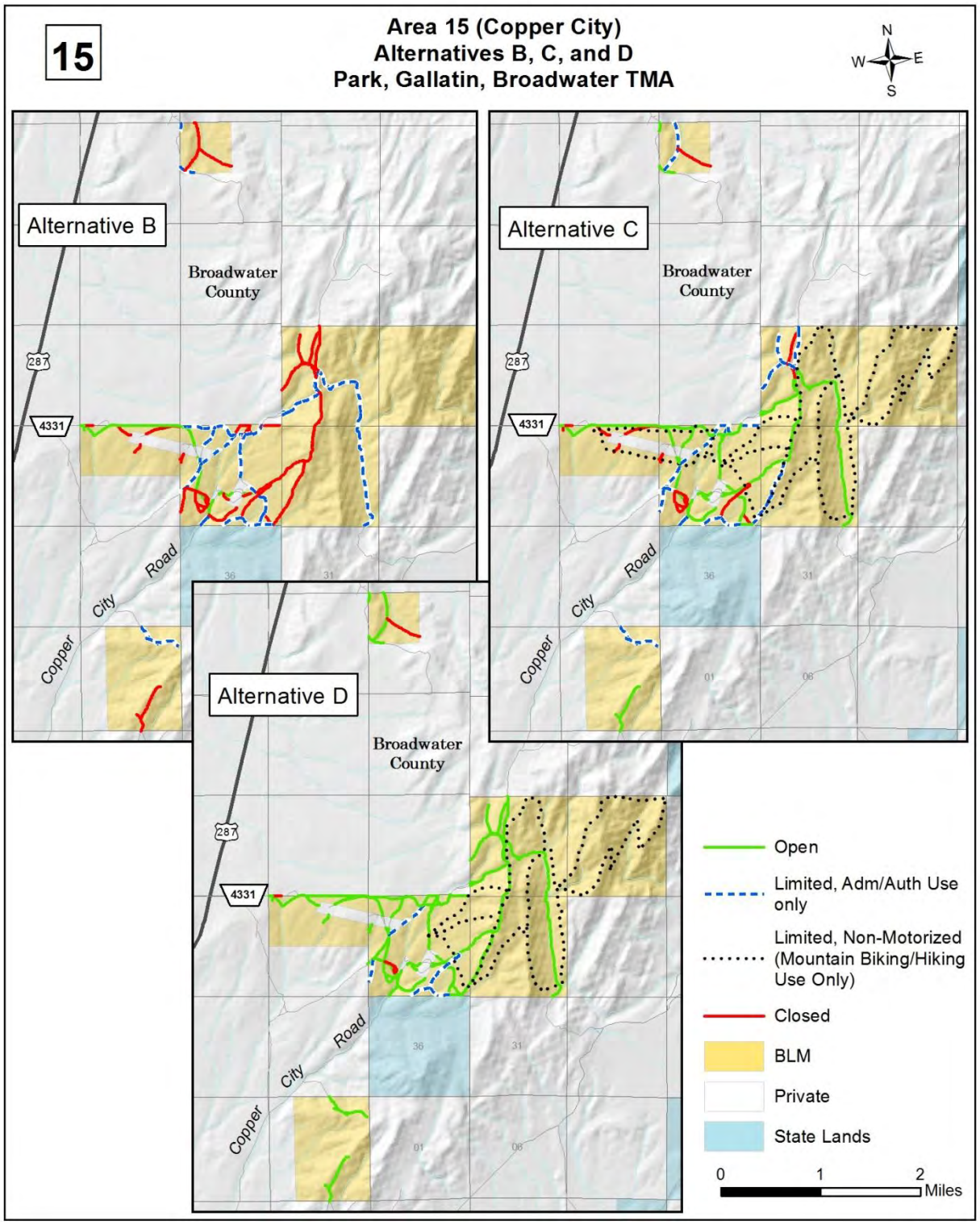
Map 15. Area 12 (Carbella)



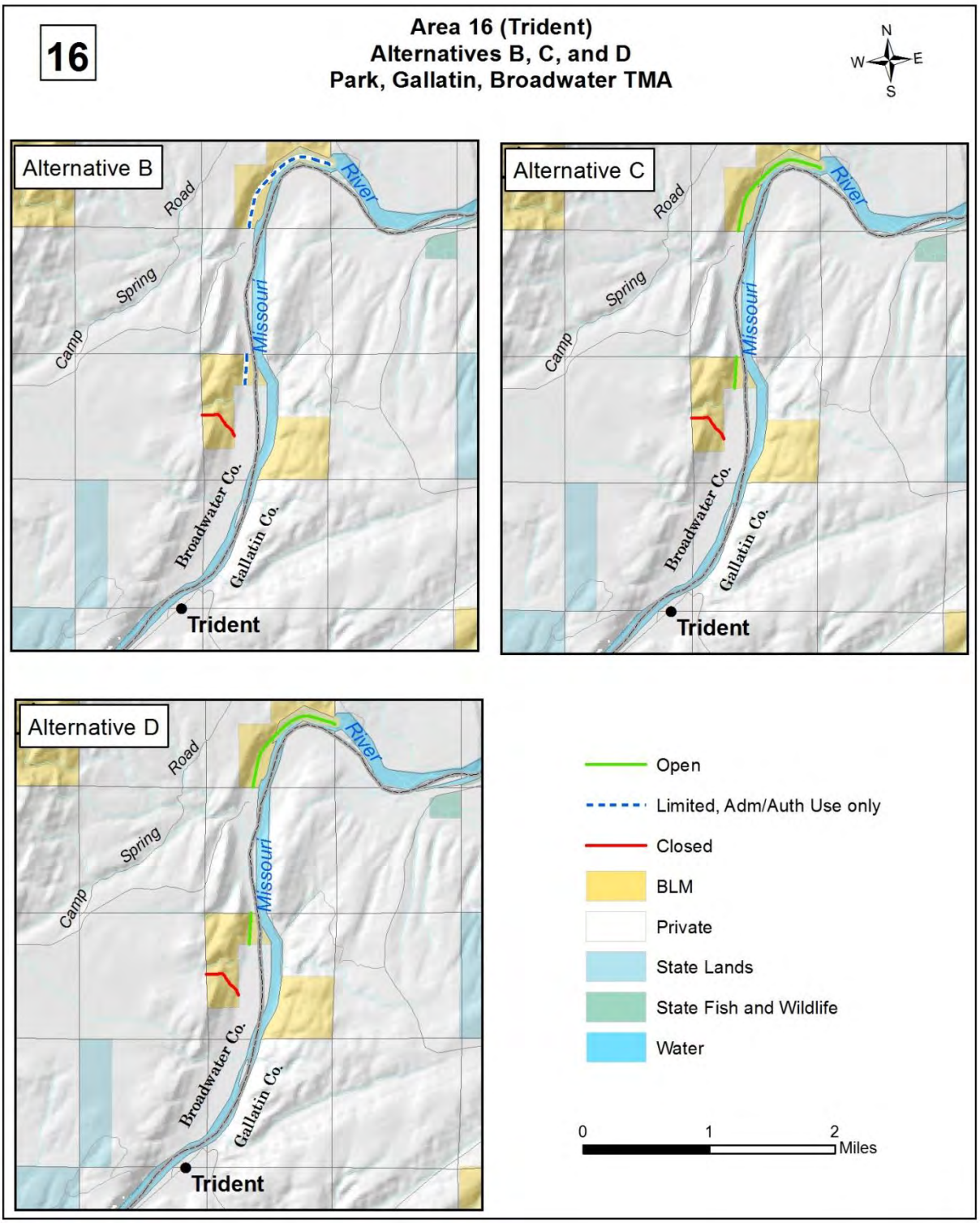
Map 16. Area 13 (Gallatin/Madison County Line) Area 14 (Jefferson River)



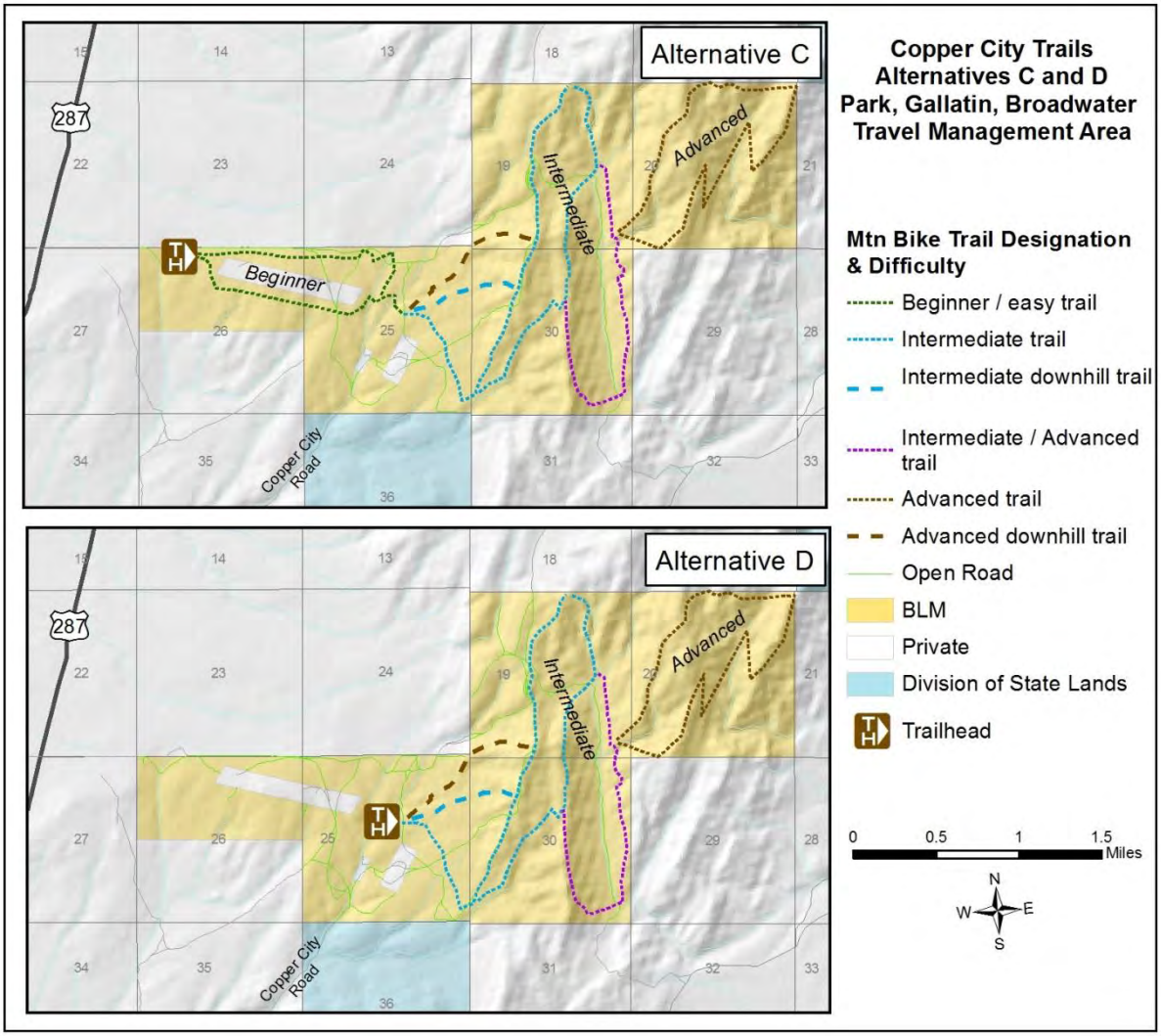
Map 17. Area 15 (Copper City)



Map 18. Area 16 (Trident)



Map 19. Copper City Trails Alternatives



CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

Activities associated with travel management may have both beneficial and adverse consequences to the environment. In this analysis, the terms "effects" and "impacts" are used interchangeably. The analysis will determine whether possible impacts directly or indirectly affect resources or resource uses. Additionally, BLM analysis of impacts will qualify impacts as negligible, minor, moderate, major, short-term, or long-term. Definitions of these impact classifications are in the glossary under "Impacts (Common Terms)."

To focus the analysis, under each resource category, "affected environment" issues are stated as questions. Additionally, descriptions of affected environments are provided to give the reader context before the environmental impacts analysis is presented.

3.2 Travel and Transportation

Description of Affected Environment
The TMA currently contains about 82 miles of "primitive roads", which are its most common route type. Primitive roads are routes that are generally used by four-wheel drive or high clearance vehicles. Primitive roads do not normally meet any BLM road design standards. The TMA also contains about nine miles of routes classified as "roads", which are routes managed and maintained for regular and continuous use by low clearance vehicles having four or more wheels. Only 0.14 miles of "trail" have been inventoried in the TMA. Trails are routes managed for human-powered, livestock-based, 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.

While all routes are Open to both motorized and non-motorized travel, four-wheel drive vehicles (trucks, SUVs) and ATV/UTVs make up the majority of motorized use in the TMA. Such vehicles are used to access sites primarily for hunting and antler shed hunting on foot (as identified during route evaluation). In addition to accessing sites, pickups and ATV/UTVs are used actively for hunting. Additionally, routes in the TMA may be used by BLM and other authorized users (e.g., permittees or ROW holders) to maintain facilities and manage resources, such as wildlife and vegetation. It is presumed that public motorized use and other forms of outdoor recreation are expected to continue to increase as human population increases.

There are currently 117 travel routes accessing private lands that are Open to motorized use, 14 routes that access state lands, and one route that provides access to a Forest Service road and connectivity to the associated Forest Service Road network.

Environmental Impacts
Differences in travel management alternatives can affect the range of experiences users get from the existing route network. For a comparison of the four alternative travel networks, see Section 2.7.

<u>Alternative A</u>
Under Alternative A (No Action), OHV travel would continue to be Limited to the existing route network. The current inventory describes all existing travel routes in the network and helps the BLM determine whether new routes have been illegally created. Without an existing route

inventory, the public may continue to create new travel routes. This existing situation would have detrimental environmental impacts because it would fail to manage or control route proliferation produced by illegal cross-country travel, resulting various direct and indirect impacts to natural resources and resource uses. Both non-motorized and motorized travel would be hindered by a lack of a clearly defined travel network.

Road maintenance intensity levels[4] can determine degrees of environmental impact. For Alternative A, 175 routes have Level 1 maintenance intensity, which means minimal maintenance is required, and roads may be impassible for extended periods of time. In Alternative A, 13 routes have Level 5 maintenance intensity, which means they require high maintenance because of year-round needs or significant use. This designation would have a minimal impact on travel in the TMA due to the conditions being normal for the area and fitting in with current use levels and types.

All of the 117 travel routes accessing private and state lands that are currently Open to motorized use would remain Open to that use, as would the one route that provides connectivity to the Forest Service road network.

Impacts Common to Alternatives B, C, & D

All three of the action alternatives (B, C, and D) would involve posting signs throughout the travel network. The action alternatives would also include monitoring, signing, and minor route maintenance to ensure that vehicle travel stays on designated routes. These measures would help limit route proliferation and would provide a well-defined travel network that would benefit all users.

Under all of the Action Alternatives, the single route that accesses the Forest Service road that provides connectivity would remain Open maintaining access to the Forest Service road network.

Alternative B

Alternative B has a major long-term impact to transportation access because it closes and decommissions 53% of the existing routes and 42% of the mileage. Under Alternative B, 100 routes would be Closed and no longer maintained and 33 routes would have a maintenance intensity of Level 1 and remain accessible to public motorized travel. Under Alternative B, an additional 47 routes have maintenance intensity Level 1, but are Limited to administrative and permitted use only (no public motorized travel). Compared to Alternative A, which has 175 routes with Level 1 maintenance intensity, there would be a major reduction in the range of travel opportunities. Alternative B has the highest reduction in travel opportunities on Level 1 maintained routes of any of the alternatives (53% decrease from Alternative A).

There are 13 routes (8.87 miles) with Level 5 maintenance intensity on BLM lands within the TMA. Under Alternative B, one of these routes (0.44 miles) is Closed, therefore slightly reducing the opportunities for users of these types of routes.

Alternative B designates approximately 34% of existing miles in the network as "Limited (Administrative and Non-Motorized Only)." This designation provides the OHV access needed by BLM, permittees, and other authorized users. It also creates travel routes for non-motorized users, including mountain bikers.

Of the 117 routes accessing private lands that are currently Open in Alternative A, 30 would remain Open under Alternative B, 32 would be designated as 'Limited', and 55 would be Closed

[4] See Table 17 in Section 4.6.2 for definitions of maintenance intensity levels.

and Decommissioned (these are routes that were noted by the BLM IDT as 'alternate access routes'). Five of the 14 routes that access state lands would be Closed and Decommissioned under Alternative B.

Alternative C

Alternative C closes approximately 23% of the routes and 16% of the network's mileage, resulting in a moderate long-term impact to transportation access. Alternative C has 87 routes with Level 1 intensity accessible to public motorized travel (another 40 that are Limited to administrative and authorized motorized use), so it would also reduce travel opportunities but not as much as Alternative B. Overall, Alternative C has a moderate effect on travel opportunities over Level 1 maintained roads, with a 19% reduction from Alternative A.

In Alternative C one Level 5 route is Limited to administrative use (0.3 miles) and the rest remain Open to public OHV travel, therefore users of Level 5 routes would experience a negligible impact with regard to their travel opportunities.

Alternative C designates 17.6%, as "Limited (Administrative and Non-Motorized Only)." Alternative C also designates six "trails" totaling approximately 17 miles for non-motorized use; these trails would be constructed as part of the Copper City trail proposal.

Of the 117 routes accessing private lands that are currently Open in Alternative A, 58 would remain Open under Alternative C, 41 would be designated as 'Limited', and 18 would be Closed and Decommissioned (these are routes that were noted by the BLM IDT as 'alternate access routes'). Three of the 14 routes accessing state lands would be Closed and Decommissioned under Alternative C. This would be a minimal impact to users seeking motorized access to state lands.

Alternative D

Alternative D closes nine percent of the routes and six percent of the mileage, resulting in a minor impact to transportation access in the TMA. Closing and decommissioning routes would affect the travel network's effectiveness and some users' range of experiences. For example, route closures would benefit non-motorized users and some hunting or hiking experiences. Alternative D designates three percent of the miles in the travel network as "Limited (Administrative and Non-Motorized Only)."

Under Alternative D, there are 152 routes with Level 1 maintenance intensity Open to public motorized use, and 11 that are Limited to administrative and authorized motorized use.

Like Alternative C, one Level 5 route is Limited to administrative use (0.3 miles) and the rest remain Open to public OHV travel, therefore users of Level 5 routes would experience a negligible impact with regard to their travel opportunities.

Alternative D designates five "trails" totaling approximately 14 miles for non-motorized use; these trails would be constructed as part of the Copper City trail proposal.

Of the 117 routes accessing private lands that are currently Open in Alternative A, 102 would remain Open under Alternative D, 9 would be designated as 'Limited', and 6 would be Closed and Decommissioned. None of the 14 routes accessing state lands would be Closed under Alternative D.

3.3 Recreation

Description of Affected Environment

The PGB PA includes isolated parcels of BLM land (a total of approximately 26,100 acres) that are widely separated. BLM parcels range in size from half an acre to 2,771 acres, with most recreation being day-use as opposed to extended stays. General recreation uses on BLM lands in this TMA are associated with hunting and antler shed hunting. The TMA's public land ownership is dominated by the USFS (1.6 million acres) and several other jurisdictions (state, NPS, and state WMAs; 256,000 acres). Private lands compose approximately 53% (1.9 million acres) of the TMA. Generally, BLM, private, and state lands occupy the lower elevations of the TMA while the USFS and NPS lands make up the higher elevation, timbered habitats. These differences are noteworthy, as they provide recreationists the opportunity to experience settings that are generally limited to private lands in the PA, as most of the lower elevation land is private.

To gain a better understanding of the kinds of opportunities recreationists can expect on routes crossing BLM land in the PA, it helps to use a classification scheme called the Recreation Opportunity Spectrum (ROS). The ROS was developed in the 1970s by the USFS (PSTPTC 2011). According to the USFS, the "ROS allows accurate stratification and definition for classes of outdoor recreation environments; it can be applied to all lands, regardless of ownership or jurisdiction" (USFS 1996, 9).

The list below shows ROS classifications used for the TMA. It indicates the acres of BLM lands in each classification in the TMA and how many routes occur within each classification.

- Semi-Primitive Non-Motorized (3,099 Acres / 5 routes)
- Semi-Primitive Motorized (2,039 Acres / 15 routes)
- Roaded Natural (17,205 Acres / 117 routes)
- Rural (3,011 Acres / 53)

Appendix 2 contains a detailed description of these ROS categories. The majority of the TMA's routes occur on lands classified as "Roaded Natural." According to the *2009 Butte RMP*, "Roaded Natural" areas include the characteristics below:

- Mostly equal opportunities to affiliate with other groups or be isolated from sights and sounds of man
- Generally natural landscapes 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.
- Opportunities for both motorized and non-motorized activities

The dispersed and isolated character, along with the relatively small size of most BLM parcels in the TMA has made it difficult to document and manage for public, recreational uses. Where relatively "large" parcels of contiguous BLM public land exist, along with established, legal, public access, recreational uses are well documented.

The information regarding recreation use on BLM administered lands in the TMA comes from the BLM IDT members' visits to the parcels.

During route evaluation, inventoried routes were linked with various recreation activities by the BLM ID Team. These activities are shown in Figure 5 (below) along with the percentage of number of routes and percentage of miles with which they are associated. Hunting, hiking, antler shed hunting, vehicle exploring and sightseeing are the top five forms of recreation in the TMA. Equestrian, mountain biking, wildlife watching, recreational shooting and fishing are also noted as popular recreation activities on BLM lands in the TMA.

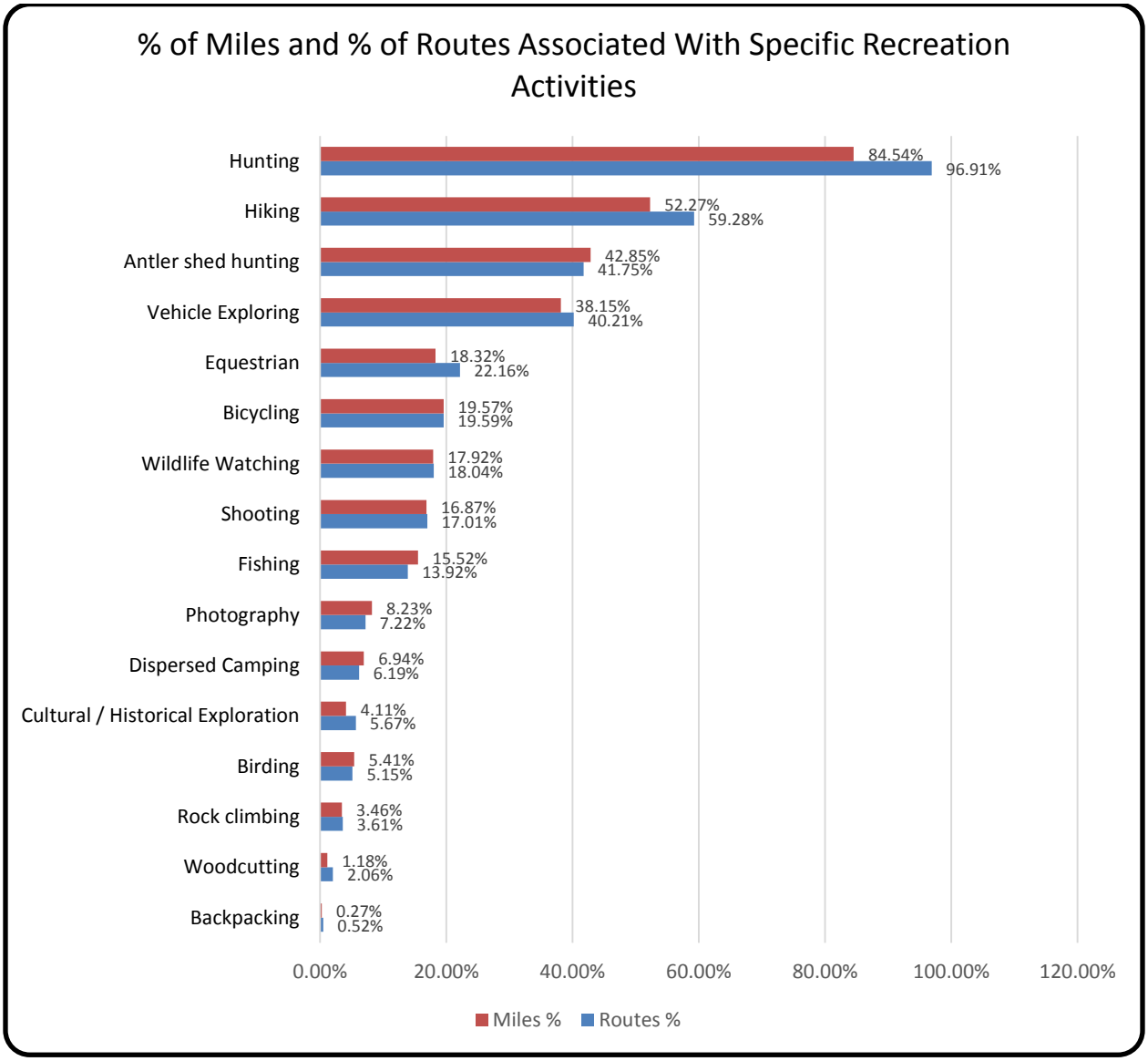


Figure 5. Recreation Activities by Percentage of Miles and Routes

This TMA does not currently have non-motorized trail systems on BLM public lands. A relatively high density route system exists in the Copper City area on the largest contiguous tract of BLM land in the TMA (approximately 2,500 acres). Mountain bikers using this area have recognized the potential for a single track non-motorized trail system to be constructed and have submitted a proposal for BLM to develop the trail system. The proposal is described in section 2.3.1.

Environmental Impacts

Alternatives A, B, C, & D

Designating a route as Open, Limited, or Closed can have both beneficial and detrimental impacts to any given recreational activity associated with that route. Certain activities are negatively impacted by route closures (including routes Limited to administrative or other authorized motorized uses), while other activities may experience beneficial impacts from that same designation; the individual user determines these impacts coupled with the activity type. For example, a route designated as Closed would reduce some user's opportunities (motorized sightseeing, vehicle exploring or "road hunting"), while benefiting other user's opportunities (hikers, "foot hunters", horseback riders). It is with this in mind the BLM works to develop a travel network that addresses the needs of a wide range of recreational users.

Alternative A

Current management (Alternative A) would designate all 188 existing routes (90.73 miles) as "Open" to public OHV use. This alternative would have negative impacts to recreationists seeking non-motorized experiences or opportunities for solitude. In addition, many hunters and wildlife watchers seek non-motorized opportunities due to the decreased level of disturbance to wildlife as compared to motorized use. Alternative A does not provide for implementation of monitoring, mitigation or maintenance plans identified in other alternatives during the route evaluation process to address issues with route proliferation, erosion, wildlife disturbance, weed control, and other resource issues. These issues are generally associated with negative experiences by many users.

Impacts Common to Alternatives B, C, & D

All three action alternatives would create a clear and defined travel route network that would include travel route signing, mitigation, monitoring, and provide for more manageable law enforcement (as described in Chapter 4) efforts to reduce or limit route proliferation. Alternatives B, C and D would also close and decommission routes that have the highest potential to impact resources, contributing to positive recreational outcomes (e.g., opportunities, experiences, and benefits) while maintaining various levels of access.

Alternative B

Alternative B closes and restricts the highest number of travel routes available for OHV access (100 of 188 routes), which improves recreational outcomes for non-motorized users, but creates negative outcomes for motorized users. Alternative B closes many routes on BLM parcels without established, legal, public access (those accessed from other public roads), which would have less detrimental effects on recreationists than routes with legal, public access. Alternative B does not allow for the development of any non-motorized single track trails as described in the Proposals section, 2.3.1. By not developing the single track trail system, Alternative B would not address the mountain bike community's identified need for a multi-skill level trail system.

Alternative C

Alternative C closes 44 routes and limits motorized use on 40 routes to administrative or other authorized uses for 30.38 miles. This results in an overall 33% closure to public OHV use. Conversely, Alternative C designates approximately 67% of the existing routes as Open, maintaining access to BLM public lands for hunters, hikers, explorers and other recreationists. By eliminating public OHV use on nearly 30 miles of road, this alternative also enhances non-motorized opportunities in the TMA.

Alternative C also allows for the development of the Copper City single track mountain bike trail system, as described previously in section 2.3.1., with the trailhead located near the main entrance to the Copper City area managed by the BLM. The addition of this trail system (Open to mountain biking and hiking only due to safety concerns) would substantially increase the mountain biking and other non-motorized use opportunities in the TMA.

Alternative D

Alternative D closes the fewest routes of any action alternative (17 of 188 routes). Though Alternative D is similar to Alternative A, it still provides a clear and defined travel route network, unlike Alternative A. Alternative D closes and decommissions 17 routes and limits 12 routes to administrative or authorized motorized use, effectively eliminating OHV travel on 29 of 188 routes in the TMA (8.27 miles). Alternative D creates some negative outcomes for non-motorized users but some positive outcomes for motorized users. In addition, Alternative D allows for the construction of five single track non-motorized trails (13.5 miles) as described in section 2.3.1. Development of this trail system (Open to mountain biking and hiking only due to safety concerns) would increase non-motorized recreational opportunities, adding approximately 13.5 miles of single track trail to the TMA as compared to Alternatives A and B.

Changes to Access in Recreation Opportunity Spectrum by Alternative

As previously stated, public lands within the PGB TMA are identified with specific ROS classes. Therefore, the Proposed Action, or its alternatives, could alter the types of recreational experiences available to the public by determining where they happen. Table 11 (below) displays how alternative route designations would impact levels of access in ROS classes.

Table 11. Route Designation by Recreation Opportunity Spectrum (ROS)

Table numbers represent the fact that several routes are in more than one ROS setting.

ROS Classes	Designation	Alt A		Alt B		Alt C		Alt D	
		Routes	Miles	Routes	Miles	Routes	Miles	Routes	Miles
Rural	Closed	0	0.0	29	12.0	13	5.1	6	2.2
	Limited	0	0.0	10	3.92	17	6.4	7	.87
	Open	53	26.1	14	10.2	23	14.8	40	23.1
Roaded Natural	Closed	0	0.0	63	23.4	30	8.8	11	6.0
	Limited	0	0.0	34	24.8	45	34.6	10	15.3
	Open	117	61.5	20	13.2	48	34.6	102	56.8
Semi-Primitive Motorized	Closed	0	0.0	6	2.1	0	0.0	0	0.0
	Limited	0	0.0	2	.89	5	1.6	1	.14
	Open	15	4.0	7	.99	10	2.4	14	3.9
Semi-Primitive Non-Mot	Closed	0	0.0	2	.64	1	.55	1	.55
	Limited	0	0.0	3	2.1	1	.09	0	0.0
	Open	5	2.7	0	0.0	3	2.1	4	2.2

In Backcountry/Semi-Primitive Non-motorized settings, there are five routes inventoried as existing routes in Alternative A. BLM lands in this ROS classification have very low route densities, with only 2.7 miles of route in the entire TMA. The relatively low number of routes and miles result in a minor indirect impact to recreational uses with the implementation of any of the action alternatives.

For lands classified as "Semi-Primitive Motorized," again route designation does not have a notable impact on recreation users' access and opportunities. In Alternatives C and D, zero routes are Closed and Decommissioned, and six roads with 2.1 miles are Closed in Alternative

B. Impacts from closing six roads in alternative B would be moderately beneficial to public users seeking increased non-motorized opportunities, while having an adverse impact on users preferring motorized recreation opportunities.

Areas in the TMA classified as Roaded Natural and Rural would be most affected by the implementation of any of the action alternatives. Both of these areas are characterized by a more motorized public use opportunity. Alternative B closes or limits 97 of 117 routes in Roaded Natural areas and 39 of 53 routes in Rural areas. Alternative C closes or limits 75 of 123 routes in Roaded Natural areas and 30 of 53 routes in Rural areas. Alternative D closes or limits 21 of 123 routes in Roaded Natural areas and 13 of 53 in Rural areas. These closures or limits would directly reduce motorized recreation opportunities in Roaded Natural and Rural areas. Under Alternative B approximately 80% of the routes in these areas would be Closed to OHV use, resulting in a major impact to motorized recreation user opportunities. Conversely, in Alternative D motorized users would experience a minor impact as approximately 20% of routes in these areas would be Closed. Alternative C limits or closes approximately 59% of the routes in Roaded Natural and Rural ROS settings, providing a balanced mix of motorized and non-motorized recreational opportunities, an overall moderate impact to motorized uses (which are representative of most activities in these ROS settings).

In summary, while the closing and decommissioning of routes would increase opportunities for primitive recreation, it would also decrease opportunities for mechanized recreation. Levels of impacts, as described above, change with each alternative. A given impact on motorized users from any of the action alternatives will typically have an inverse impact on non-motorized users, and vice versa. The primary recreational activity associated with routes in the PGB TMA is hunting; while some hunters will park at public land access points and hunt on foot, many hunters will also drive routes watching for game animals from their vehicle.

Alternative B reduces motorized recreational activities more than other alternatives, but increases non-motorized, primitive recreation opportunities more than other alternatives. Alternative D allows for more motorized recreational use opportunities while potentially having adverse impacts on non-motorized recreational users' experiences. Alternative C provides a moderate increase in non-motorized recreation opportunities and a moderate decrease in motorized opportunities.

Alternatives C (the Proposed Action) and D do not eliminate public access to BLM lands. Routes that are designated Closed in Alternative C and D are spurs into public lands or routes that are not currently accessible to the public. Therefore, where routes are Closed, primitive forms of recreation associated with hunting, shed hunting, wildlife watching, hiking, bicycling, horseback riding, etc. would be enhanced. Under these alternatives, the mountain bike trail system (Open to mountain biking and hiking only due to safety concerns) would be developed with varying scales. Not allowing other non-motorized trail users (such as equestrian users) would not negatively impact overall access to the area since equestrian users are allowed to ride anywhere in the TMA unless specifically Closed for safety or resource concerns.

Additionally, Alternatives A and B do not provide single track, non-motorized hiking or biking opportunities in a concentrated and developed recreation site setting; Alternative C and D allow for the development of approximately 13 and 17 miles of single track, non-motorized trail respectfully, a major increase of this travel route class and recreational use opportunities from current management (zero miles of non-motorized trail in Alternative A).

3.4 Human Health and Public Safety

Description of the Affected Environment

During the route evaluation process six routes were characterized as having a potential public safety issue. In the Copper City area, approximately 5 miles NE of Three Forks, MT, a high density, relatively high use area is popular with recreational shooters. The area where shooting is most popular is on the SW corner of the BLM tract of land and is associated with six routes.

Recreational shooting is legal on BLM lands unless otherwise restricted. It is not legal to shoot across roads. There have not been any documented injuries associated with recreational shooting in this area. One small section of the area has been identified as a location where people shoot at long ranges across at least one road.

Environmental Impacts

Alternative A
Under Alternative A, all six routes would remain Open, maintaining the current level of potential risk of injury to users.

Alternative B
Under Alternative B, public safety risk would be substantially decreased as compared to Alternative A as five of the six routes with the identified safety issue would be Closed or Limited to administrative and permitted use, effectively eliminating public motorized use from the area identified with the safety hazard.

Alternative C
Like Alternative B, five of the six routes with this public safety issue would be Closed: however, one trail that would be constructed as part of the non-motorized single track trail proposal (see section 2.3.1) would cross through the area identified with high levels of shooting use. This Open route would increase the public safety risk associated with the high use recreational shooting area (see Map 2). Due to the speed associated with mountain biking use (especially downhill use), this trail system would only be Open to mountain biking and hiking uses. Equestrian users may not have adequate time to react to an on-coming mountain biker. Hikers would be required to yield to mountain bikers on the trail system.

Alternative D
Alternative D would have a similar impact on public safety to that of Alternative A, as all routes would be Open except for one that is Limited to administrative and permitted uses. Due to the speed associated with mountain biking use (especially downhill use), this trail system would only be Open to mountain biking and hiking uses. Equestrian users may not have adequate time to react to an on-coming mountain biker. Hikers would be required to yield to mountain bikers on the trail system.

Mitigation Measures
Under alternatives C and D, non-motorized trail development will increase cyclists, hikers and equestrian users in a popular shooting area on public and private lands in the Copper City area. To promote safety of all users informational kiosks and signing will be used to inform both shooters and trail users of the potential safety issue. Kiosks, signs and maps will clearly exhibit the trail system, urging shooters to place targets in a manner that ensures a safe backstop to reduce the potential for cross-trail or road shooting or ricochets.

3.5 Noxious Weeds and Invasive Plant Species

Description of Affected Environment

During route evaluation, 136 of 194 routes comprising approximately 70 of the 107 miles in the TMA were identified as having issues associated with the spread of noxious weeds and 38 of the 107 route miles were identified as having issues associated with the spread of cheat grass (invasive plant species); meaning that 70 miles had noxious weeds in the right-of-way and 38 miles had cheatgrass in the right-of-way. These routes were documented as having these issues by natural resource specialists, biologists and range managers during route evaluation sessions that were familiar with current weed infestations and treatment sites in the TMA. The most prevalent noxious weed found throughout the TMA is spotted knapweed (*Centaurea maculosa*) which is a biennial, or a short lived perennial, that occurs in all 56 counties in Montana (Montana's Noxious Weed Management Plan, 2008). Cheatgrass (*Bromus tectorum*) is a Priority 3 regulated plant in the state of Montana. Priority 3 species are *not* state listed noxious weeds, they are considered regulated plants. These regulated plants have the potential to have significant negative impacts. The plant may not be intentionally spread or sold other than as a contaminant in agricultural products. Cheatgrass tends to establish on heavily grazed rangelands, where winter wheat is grown, along roadsides and other disturbed areas. Dalmatian toadflax, which is found in abundance in Broadwater County along roadways, was not found along Park County BLM rights-of-ways. Motorized vehicle use is a known vector for weed seed spread, as seeds are carried with vehicles from a weed source into areas without weeds. BLM custodial range allotments (small BLM acres managed with large acres of private grazing allotments) had much fewer weeds along rights-of-ways because of the lack of disturbance and active private landowners' weed control efforts.

Environmental Impacts

Reducing vehicle traffic by closing or limiting routes would decrease the potential for the spread of noxious weeds. These plants are highly adaptable, and thrive in disturbed soils or areas of vegetative disturbance. Methods used to close or decommission routes have an influence on noxious weeds for the short term, but long term provides a more stable vegetation bed than the cut and fill slopes which are actively eroding, especially where built across steep terrain. So while a re-contoured road has immediate risk of infestation in the long term, it is both more stable and less likely to attract vehicle traffic than a road left to revegetate on its own in steeper terrain. Invasive weeds could infest Closed routes' disturbed areas before native species take hold. Monitoring and mitigation would be essential for minimizing noxious weed impacts, regardless of the alternative chosen.

Alternative B closes approximately 42% of the total existing network mileage and limits 33% to administrative and non-motorized uses. In Alternative C, 13% are Closed and 30% Limited to administrative and non-motorized uses. In Alternative D, eight percent of existing total network miles are Closed and 15% are limited to administrative and non-motorized uses. Figure 4 (page 26) illustrates the miles of route Open, closed or Limited in the TMA.

Closing or limiting motorized travel on more miles of existing routes coupled with route closures where weed infestations are identified (Figure 6 below) would slow the spread of weeds and yield a beneficial long-term impact on the fight against weeds. Given this statement, Alternative B, which closes 100 routes (38.26 miles) and limits 49 routes (33.2 miles), would have the highest, moderate to major potential to reduce the impacts of weed spread and infestation.

Alternative C, which closes 44 routes (14.43 miles) and limits 62 routes (27.71 miles) would have a moderate effect on reducing the potential for the spread of weed seed on BLM roads in the TMA, but would introduce 6 new non-motorized routes (16.59 miles). Alternative D, which closes 17 routes (5.57 miles) and limits 12 routes (2.7 miles) and also introduces 5 new non-motorized routes (13.49 miles), would have a minimal effect in reducing the impacts routes and motorized vehicle travel have on weed infestation potential.

Conversely, the closure of routes could also have a minor impact by limiting the BLM in its ability to carry out weed infestation identification and control measures. With this in mind, Alternative B would have the most potential to affect weed control efforts in the TMA by reducing access to potential infestation sites; however, the overall impact would be minor, as it is less likely infestations will occur if public motorized traffic is eliminated from a route.

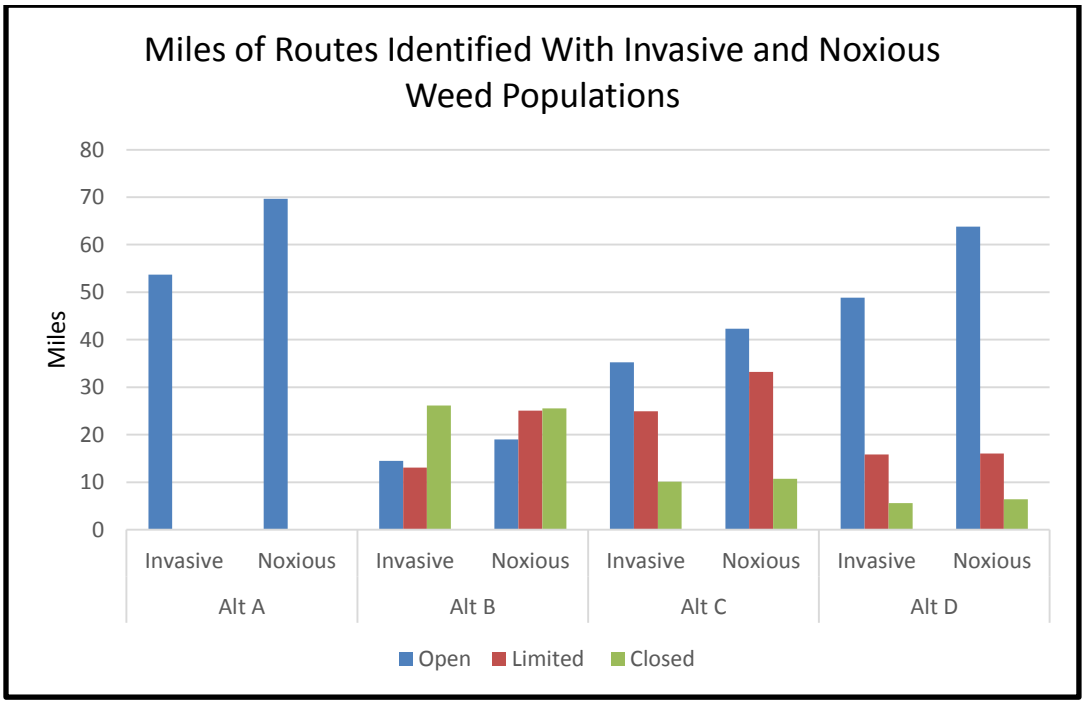


Figure 6. Mileage of Routes with Identified Weed Issues

3.6 Wildlife/Special Status Species

Description of Affected Environment

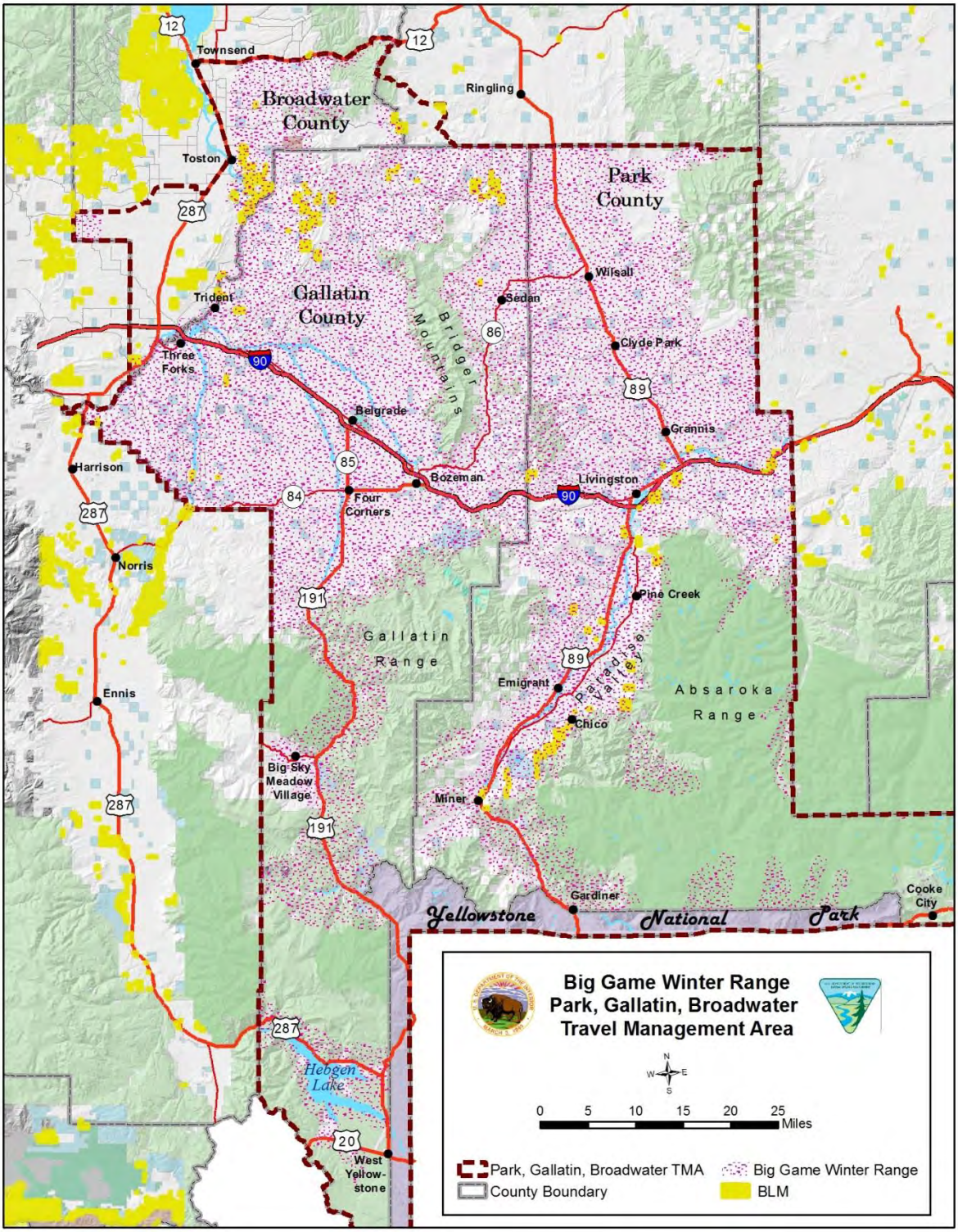
Introduction

Wildlife in the Park, Gallatin, and Broadwater TMA is typical of southwestern Montana assemblages. Basic life history and habitat requirement information on all species mentioned in this document can be found in the Montana Field Guide (http://fieldguide.mt.gov/), and numerous other sources. Species location information is largely obtained from Montana Fish, Wildlife, and Parks GIS layers and Montana Natural Heritage Program information provided to BLM.

Mammals

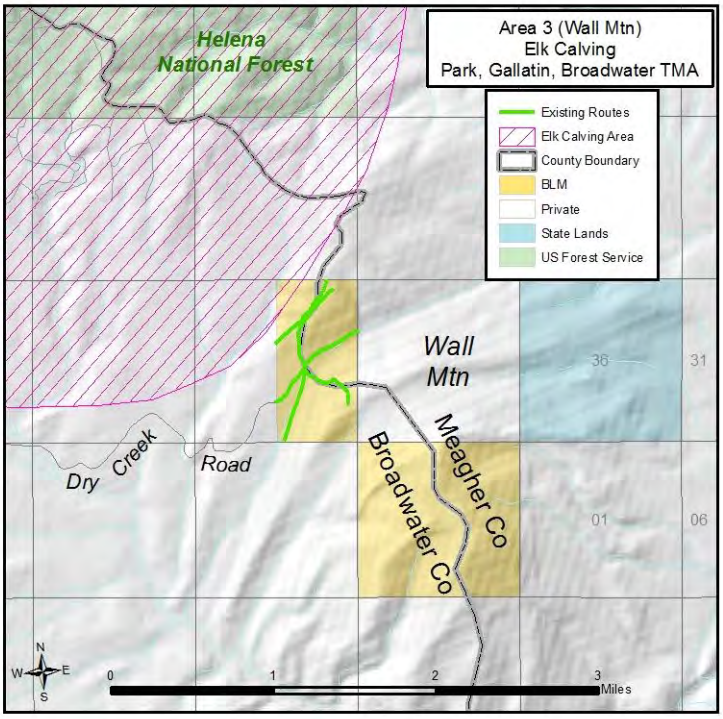
BLM administered public lands in the Park, Gallatin, Broadwater TMA contain important big game habitats, including big game winter range, calving areas and security habitat for elk and mule deer. Of the 26,100 acres of BLM lands in the TMA, approximately 20,225 (85%) of them are designated winter range for big game species. Of the 188 existing routes totaling 91 miles in the TMA, 131 (67 miles) are in or crossing big game winter range (Map 20). Seventy routes (36 miles) are in or crossing designated elk winter range and 143 routes (69 miles) are in or crossing mule deer year round habitat (which includes valuable winter range). Currently, the density of Open routes in big game winter range in the TMA is 2.03 mi. /sq. mi. (70.66 miles of Open road in 34.8 square miles of big game winter range).

Map 20. Big Game Winter Range



Elk calving habitat is designated on 22,500 (<1%) in the TMA, with two routes identified as proximate to (within ¼ mile) this habitat type (Map 21 below). Big game security habitat currently comprises approximately 3,470 acres (13%) of BLM administered lands in the TMA. Security habitat, as defined by Hillis et. al. (1991) must be a nonlinear block of hiding cover ≥ 250 acres in size and ≥ ½ mile from any Open road.

Map 21. Wall Mountain Elk Calving Area



Less wide-ranging big game species include white-tailed deer, which mostly occur in and near riparian corridors. Six routes totaling 3.64 miles were identified as being in or crossing white-tailed deer habitat. Pronghorn antelope winter range includes grassland/shrub land habitats throughout the TMA; with 41 routes totaling approximately 18 miles on BLM administered lands in the TMA.

Predators in the PA include gray wolves, mountain lions, bobcats, coyotes, black bears, and badgers. Grizzly bear and Canada lynx, classified as Threatened under the Endangered Species Act, may occur in portions of the TMA with designated recovery zones for each. Figures 10 and 11 illustrate the route designations per alternative in special status species habitats. Numerous small mammals are present in the area as well, including shrew species, many rodent species, and several bat species.

Birds

Many species of migratory and non-migratory birds are found in the PA. Species commonly seen in the lower elevation grassy habitats include the horned lark, vesper sparrow, and western meadowlark. Examples of species associated with mature closed-canopied forested areas include golden-crowned kinglet, brown creeper, pine grosbeak, northern goshawk, boreal owl, hermit thrush, and Townsend's warbler. Many birds are more general in habitat preferences and may be found in shrub and coniferous habitats including the American robin, chipping sparrow, dark-eyed junco, mountain chickadee, pine siskin, Clark's nutcracker, and quite a few others. Raptors recorded in the area include bald eagle, kestrel, ferruginous hawk, red-tailed hawk, and northern harrier.

Reptiles and Amphibians

Reptiles that could occur in the project area include the gopher snake, terrestrial and common garter snakes, eastern racer, rubber boa, and prairie rattlesnake. Amphibians that could occur in the project area are the Columbia spotted frog, western toad, and plains spadefoot. Other reptiles and amphibians are unlikely to occupy the area.

Fish

The TMA includes two major rivers, the Missouri and the Yellowstone. These rivers and their tributaries, on or near BLM lands in the TMA, support a number of fish species including BLM sensitive species (Yellowstone cutthroat trout and westslope cutthroat trout), as well as many native non-game species (suckers, minnows, mountain whitefish) and non-native game fish (brown trout, rainbow trout, and brook trout).

During route evaluation 25 routes were identified as "proximate to" Yellowstone cutthroat trout bearing waters and six routes "proximate to" westslope cutthroat trout bearing waters. In addition, 53 routes were found associated with perennial streams; one route "crossing", potentially having direct effects to water quality and aquatic wildlife habitat and 52 routes "proximate to" this resource, potentially having indirect effects to water quality and aquatic wildlife resources.

ESA Listed Species

Two species listed under the Endangered Species Act have the potential to occur in the TMA (Table 12). Canada Lynx habitat is limited to forested habitats adjacent to higher mountain environments, like those found in the SE corner of the TMA. The same general area in the SE corner of the TMA is considered "grizzly bear recovery zone". Grizzly bears are rare visitors to BLM lands in the TMA.

Table 12. Endangered Species Act Listed Species

Endangered Species Act Listed Species with Potential to Occur in the TMA.		
Species	**Status**	**Notes**
Canada Lynx	Threatened	Nine routes totaling 2.77 miles were identified as "in" Lynx habitat.
Grizzly bear	Threatened	Eighteen routes totaling 7.46 miles were identified as "in" the Grizzly bear recovery zone.

Sensitive Species

Species designated "sensitive" by the BLM may occur in the area (see Table 13). Species requiring special management consideration to promote their conservation and reduce the likelihood of future Endangered Species Act listings are designated "sensitive" by BLM State Directors.

Table 13. BLM Listed Sensitive Species.

BLM-listed Sensitive Species with Potential to Occur in the PA.		
Species	**Documented in TMA or PA?**	**Notes**
Fringed myotis	TMA & PA	Roosts in caves, mines and rock crevices.
Townsend's big-eared bat	TMA & PA	Prefers caves and abandoned mines for roosting. Known to overwinter in one gated abandoned mine in the area.
Long-eared myotis	no	Undocumented in the area but could occur. Associated with forested stands with old-growth characteristics.
Long-legged myotis	no	Uses tree bark or caves for summer roost sites. Could occur in the area. Occurs in aspen and mixed conifer forests.
Gray wolf	TMA and PA	Wolves now occur throughout western Montana. Wolves are not uncommon in portions of the TMA, particularly in Park County.
Wolverine	TMA and PA	May rarely occur in the TMA. Wolverines prefer higher elevations, are wide-ranging and unlikely to be significantly affected by any travel alternative. The majority of habitat suitable for wolverines in the PA occurs on USFS lands. Thirty-two routes totaling 14 miles were identified as "in" Wolverine habitat in the TMA.
American Bittern	no	Prefers large freshwater wetlands with tall emergent vegetation
Bald eagle	TMA and PA	Eighteen routes totaling approximately 12 miles were identified as being "in" bald eagle winter habitat within the TMA.
Black-backed woodpecker	PA only	Unlikely to occur in TMA. Prefers recently burned forests.
Bobolink	PA only	Prefers tall and mixed prairie grass.
Brewer's sparrow	no	Prefers sagebrush habitat.
Burrowing Owl	TMA and PA	Two routes totaling 0.26 miles were identified as "in" burrowing owl habitat.
Common Tern	no	Migrant that nests on sparsely vegetated islands in large bodies of water
Ferruginous hawk	TMA and PA	Five routes totaling 5.61 miles were identified as "in" Ferruginous hawk habitat.
Flammulated owl	PA only	Nests in cavities excavated by woodpeckers. Occurs in mature forest habitat.
Golden eagle	PA only	Not documented in the TMA but is likely to occur. Hunts over open country.
Great gray owl	no	Has not been documented but could occur in the area. Prefers dense forest and has large home range.
Long-billed curlew	PA only	Prefers grassland habitat.
McCown's longspur	no	Prefers short grass habitat.

Mountain plover	no	Usually associated with prairie dog towns. There are no prairie dog towns in the TMA.
Peregrine falcon	TMA & PA	Has been documented as occurring on TMA but unlikely to nest on BLM land. Nests on cliffs.
Sage sparrow	no	Could occur but the area is at the northern end of the range of this species.
Sage thrasher	no	Prefers sagebrush habitats.
Swainson's hawk	no	Has not been documented but is likely to occur. Hunts primarily in agricultural land and grasslands.
Three-toed woodpecker	no	Could occur in the area. Nests in cavities, often near water.
Milksnake	no	Area is on the western edge of species' range; preferred grassland habitat is present.
Plains spadefoot toad	no	Could occur in riparian areas with soft or gravelly soils.
Western toad	no	Likely to occur in or near riparian areas.
Westslope cutthroat trout	TMA & PA	Six routes totaling 1.97 miles were identified as being "proximate to" streams having westslope cutthroat trout populations.
Yellowstone cutthroat trout	TMA & PA	Twenty-five routes totaling approximately eight miles were identified as "proximate to" Yellowstone cutthroat trout habitat.

Environmental Impacts

In general, roads have negative impacts on wildlife and ecosystems. The U.S. public road system ecologically affects an estimated one-fifth of the country's land area (Trombulak and Frissell 2000; Forman 2000). Road impacts on wildlife and ecosystems include:[5]

- 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
- Increased use of areas by humans

High speed, high traffic, and wide roads (e.g., interstate highways) have more impacts on wildlife and ecosystems than low speed, low traffic, and narrow roads. Highways can impact wildlife that occurs up to a half mile or more from the actual roadway. Alternatives in this TMP/EA only address roads on BLM lands, and these roads are generally low-speed, low use, gravel or two-track dirt roads. Major factors in road impacts 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 itself. During route evaluation, 93% of the existing routes were identified as dual track, light use routes. This route type and use level is indicative of vehicle use potentially occurring weekly as opposed to daily. In many cases, routes are not used by motorized vehicles for many weeks at a time, particularly in the winter and spring. This level of use results in minimal effects to wildlife resources, as just the presence of a dual track, primitive

[5] List items taken from Trombulak and Frissell 2000 *and* Forman 2000

route does not disturb most wildlife; hunting season is the general exception, as traffic can be high during this time.

Elk are one of the most studied species where road effects are concerned, and elk are an important species in the PA. Road avoidance is characteristic of large animals such as elk. 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 (USFS 2001). In addition to mortality from vehicle collisions, the direct impacts of roads and associated traffic on elk include (USFS 2005a):[6]

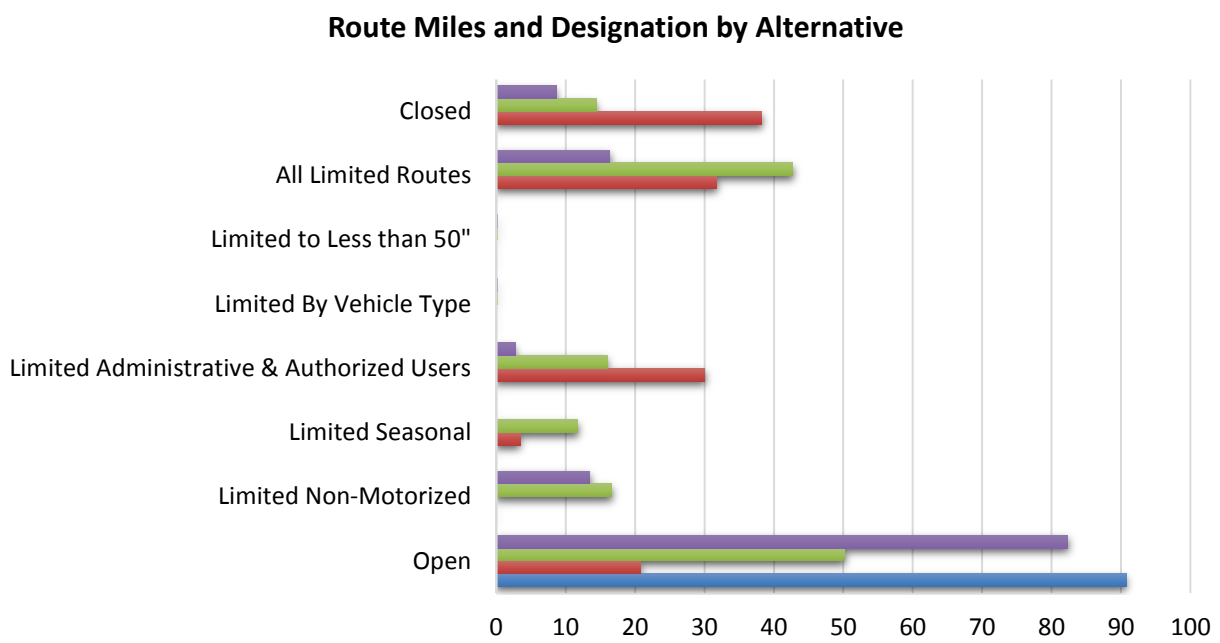
- Avoidance of areas near Open roads
- Vulnerability to mortality from legal and illegal hunter harvest increases as Open road density increases.
- Higher levels of stress and increased movement rates in areas of higher road density, especially important during winter and on elk winter range.

Road Densities in Big Game Winter Range

One objective in the *2009 Butte RMP* is to work toward reducing Open road densities in big game winter and calving ranges where they currently exceed one mile per square mile (1 mi./square mi.) (*2009 Butte RMP* Goals WF2, WF4, WF5, SE4). Elk and mule deer winter range cover the majority of BLM land in the PA (22,289 of the 26,100 acres) with 143 of 188 routes (76%) and 70 of 91 miles (77%) of the existing route network being on big game winter range for an overall route density of 2.03 miles of route per square mile of winter range on BLM land. Winter can put wildlife in a vulnerable state of health and the added stress of avoiding disturbance caused by motorized routes can reduce wildlife's viability through the season. Closing routes to motorized public use directly benefits wildlife on winter range by reducing the disturbance caused by motorized travel and indirectly by reducing the potential spread of invasive plant species to this important habitat.

Impacts to wildlife resources directly correspond to the miles of routes "Open" and the route's use level, as disturbance to wildlife associated with vehicle traffic is the main impact identified with travel management to wildlife resources. Figure 7 illustrates routes Open across all habitats in the TMA, effectively showing the reduction of effects from motorized travel and reduction in the potential for general wildlife habitat fragmentation and disturbance to animals resulting from each alternative (less Open in B, more in D, moderate in C).

[6] List items taken from USFS 2005a



	Open	Limited Non-Motorized	Limited Seasonal	Limited Administrative & Authorized Users	Limited By Vehicle Type	Limited to Less than 50"	All Limited Routes	Closed
Alt D	82.32	13.49	0.00	2.70	0.14	0.14	16.33	8.67
Alt C	50.19	16.59	11.76	15.95	0.14	0.14	42.70	14.43
Alt B	20.71	0.00	3.44	30.06	0.00	0.00	31.76	38.26
Alt A	90.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Alt D Alt C Alt B Alt A

Figure 7. Overall Route Designations per Alternative

Alternative A

Under Alternative A, current management would continue and existing impacts would continue to occur. The 188 routes totaling approximately 91 miles would remain Open (Figure 7 above) for public motorized use, resulting in disturbance of big game on winter range and special status species habitats. Figures 8 and 9 show miles of routes Open and numbers of routes Open in important big game winter ranges per alternative. Overall route density (1.66 mi/sq. mi.) and potential for habitat fragmentation would not decrease and would potentially increase. Route density, specifically in big game winter range is 2.15 mi./sq. mi. under current management. Under Alternative A, this density would remain unchanged, resulting in a failure to meet objectives in the 2009 RMP revision (to reduce route density in winter range where it exceeds 1 mi/sq. mi.). Under Alternative A, with all routes remaining Open, big game security would also remain unchanged and the two routes associated with elk calving areas would remain Open, allowing for potential disruption and habitat displacement during this sensitive time.

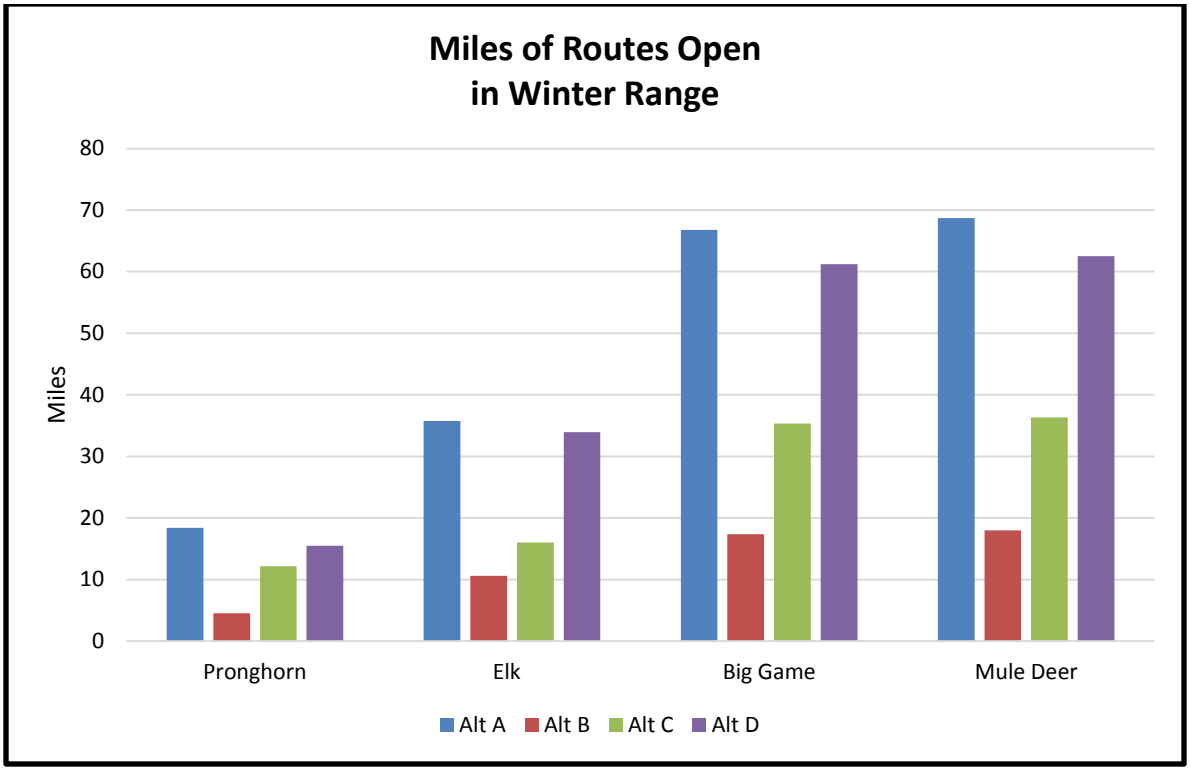


Figure 8. Route Miles Open in Winter Range per Alternative

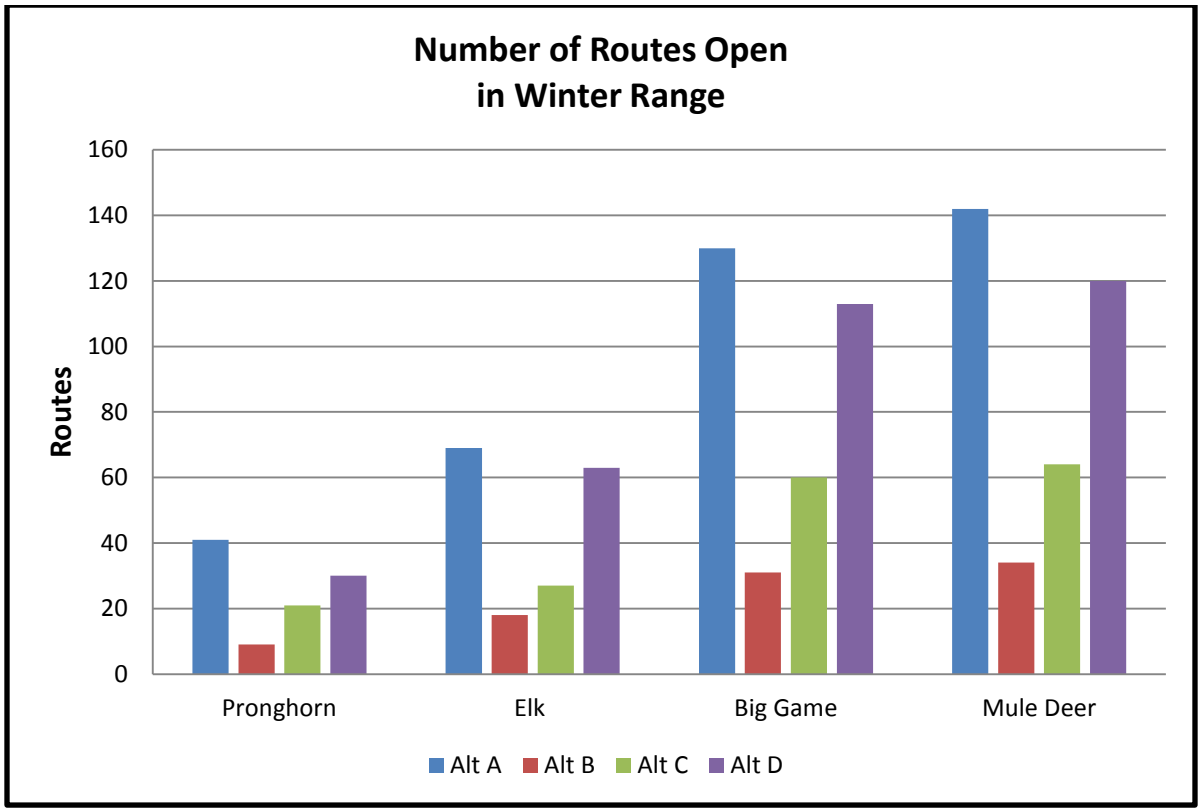


Figure 9. Number of Routes Open in Winter Range per Alternative

Impacts to sensitive and special status species from disturbance and displacement associated with Open routes would remain constant under Alternative A, and potentially increase over time. Figures 10 and 11 depict the miles of route and number of routes Open in grizzly bear and Canada lynx habitat within the TMA, showing that Alternative A would result in the most Open miles of route in those habitats.

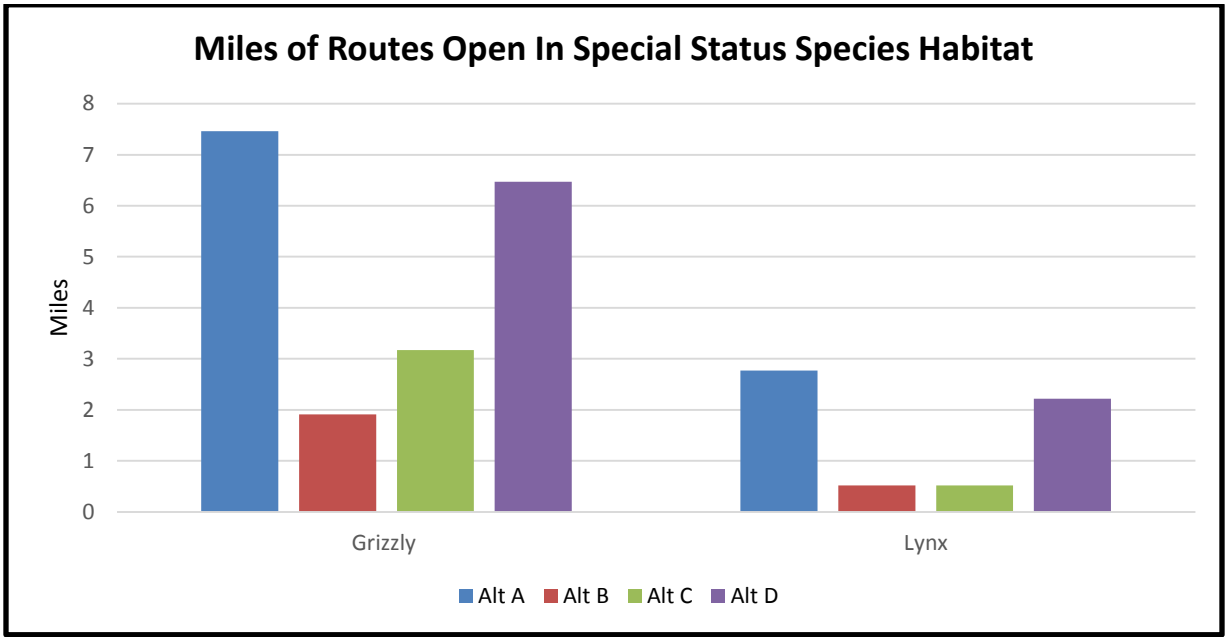


Figure 10. Miles of Routes Open in Special Status Species Habitat in the TMA

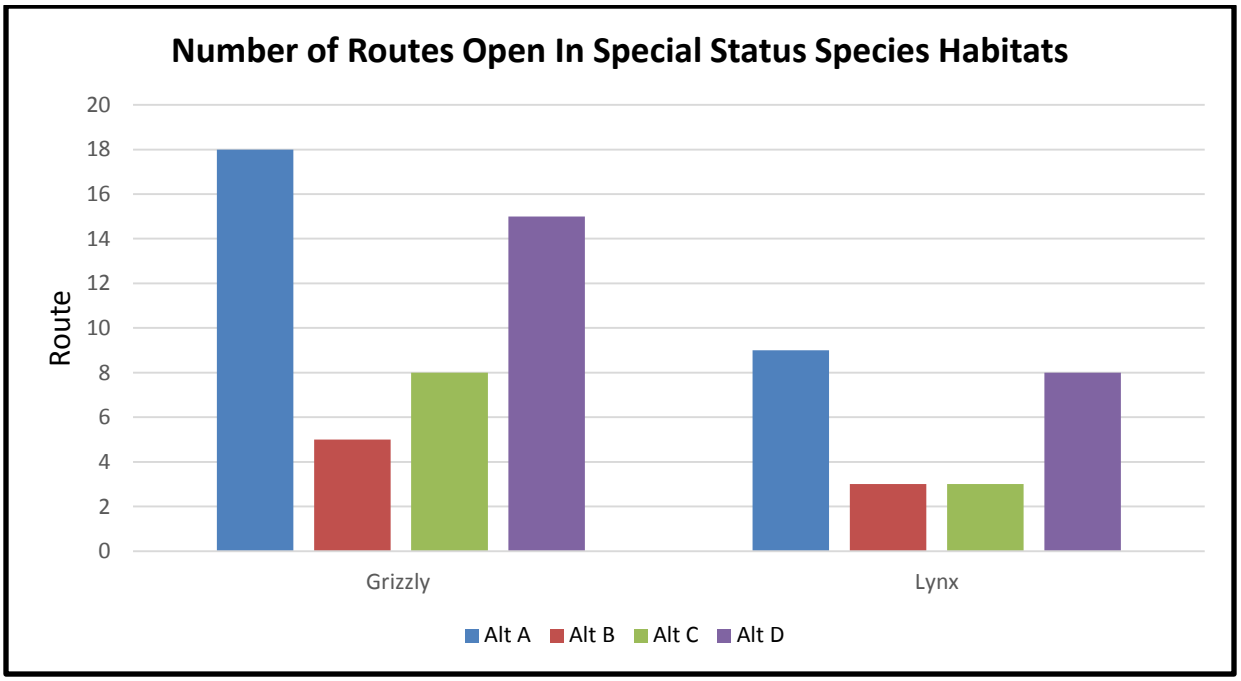


Figure 11. Number of Routes Open in Special Status Species Habitats

Under Alternative A, existing impacts to aquatic wildlife resources from routes proximate to streams and waterbodies would remain constant. Non-point pollution into waterbodies, such as sediment or chemicals from water run-off on routes, can have detrimental impacts to aquatic wildlife resources. There have been no issues identified during inventory or route evaluation that indicated the current route system is having impacts on aquatic wildlife habitat.

Alternative B

Under Alternative B, there would be a major reduction in Open routes and miles of routes; 39 routes totaling 20.71 miles would remain open for public motorized use, a reduction of 79% of routes and 77% of Open route miles. This would result in a direct reduction of disturbance of big game on winter range and special status species habitats. Overall route density (0.38 mi/sq. mi.) would be reduced by 77%, resulting in a beneficial impact (reduction of habitat fragmentation). Route density, specifically in big game winter range would be .54 mi./sq. mi. under Alternative B, a reduction of 74.9%, complying with the route density objectives in the 2009 RMP revision and reducing impacts to big game on winter range.

The effects of Alternative B on big game security habitat would also be beneficial; closing routes to public motorized use would result in 14,876 acres (28 parcels) of big game security habitat (Table 14), an increase over Alternative A by a factor of four. Impacts to sensitive and special status species from disturbance and displacement associated with Open routes would be reduced, as shown in Figure 10 and 11. Alternative B would result in the least miles of Open routes in all habitats, having the most beneficial impact to wildlife resources as compared to the other alternatives. Under this Alternative, the two routes proximate to elk calving areas would be Closed to public motorized use, eliminating the potential disturbance and habitat avoidance that could result during calving season. Additionally, the closure to OSVs would have beneficial effects to wildlife resources by reducing disturbance during the critical winter period when big game is stressed from cold weather and sparse food supplies.

Table 14. Big Game Security Habitat Acreage by Alternative

Big Game Security by Alternative				
	Total Acres	**Number of Parcels**	**Smallest Parcel**	**Largest Parcel**
Alt A	3,470	10	255 Acres	585 Acres
Alt B	14,876	28	255 Acres	1,844 Acres
Alt C	8,959	20	255 Acres	1,099 Acres
Alt D	4,449	12	255 Acres	659 Acres

Under Alternative B, the potential for Open routes to contribute pollution (sediment/chemical) into waterbodies that may affect aquatic wildlife, is reduced; 50% less routes will be Open that are proximate to perennial streams and 61% less routes will be Open that are within ½ mile of Yellowstone Cutthroat trout and westslope cutthroat trout populations. Routes that are not Open for motorized vehicle use will re-vegetate and stabilize over time, reducing erosion and sediment input to nearby waterbodies.

Alternative C

Alternative C would considerably reduce Open routes; effectively reducing the potential for adverse impacts to wildlife resources associated with routes available to public motorized use.
Under Alternative C, 82 routes totaling 50.19 miles would remain Open for public motorized use, a reduction of 56% of routes and 45% of route miles compared to current management. This would result in a direct reduction of disturbance of big game on winter range and special status species habitats. Overall route density (0.92 mi/sq. mi.) would be reduced by 45%, a beneficial impact on (reduction of) habitat fragmentation. Route density, specifically in big game winter range, would be 1.18 mi. /sq. mi. under Alternative C, a reduction of X45.3% complying with objectives in the 2009 RMP revision to reduce route density and reducing impacts to big game on winter range to a major degree on BLM lands in the TMA.

The effects of Alternative C on big game security habitat would also be beneficial, with an increase in security habitat of 158%; closing routes to public motorized use resulted in 8,959 acres (20 separate parcels) of big game security habitat. Under this Alternative, the two routes proximate to elk calving areas would be Closed to public motorized use between December 2 and May 15, reducing the potential disturbance and habitat avoidance that could result early in the calving season. Impacts to sensitive and special status species from disturbance and displacement associated with Open routes would be reduced, as shown in Figure 10 and 11, as compared to Alternative A.

Overall implementation of Alternative C, the Proposed Action, would reduce adverse impacts to wildlife resources more than Alternatives A and D, and increase impacts to wildlife resources more as compared to Alternative B. With OSV use being limited to travel routes designated as "Open", but only during the period between December 2 and May 15 each year (no cross-country travel), disruptive activities associated with motorized vehicle use on winter range would be reduced as compared to Alternatives A and D as displayed in Figures 8 and 9.

Under Alternative C, the potential for Open routes to contribute pollution (sediment/chemical) into waterbodies that may affect aquatic wildlife, is reduced; 31% less routes will be open that are proximate to perennial streams and 39% less routes will be Open that are within ½ mile of Yellowstone Cutthroat trout and westslope cutthroat trout populations. Routes that are not Open for motorized vehicle use will re-vegetate and stabilize over time, reducing erosion and sediment input to nearby waterbodies.

Alternative D

Under Alternative D there would be a slight reduction in Open routes and Open route miles; 158 routes totaling 82.32 miles would remain Open for public motorized use, a reduction of 16% of routes and 9% of route miles as compared to Alternative A. This would result in a reduction in disturbance of big game on winter range and special status species habitats. Overall route density (1.5 mi/sq. mi.) would be reduced by 10%, having a slight beneficial impact on (reduction of) habitat fragmentation. Route density, specifically in big game winter range would be 1.97 mi./sq. mi. under Alternative D, a reduction of 8.4%, complying with route density reduction objectives in the 2009 RMP revision, and reducing impacts to big game on winter range.

The effects of Alternative D on big game security habitat would be minor, with an increase in security habitat of 28%; closing routes to public motorized use resulted in 4,449 acres (12 parcels) of big game security habitat. Under this Alternative the two routes associated with elk calving areas would remain Open, allowing for potential disruption and habitat displacement during this sensitive time Impacts to sensitive and special status species from disturbance and displacement associated with Open routes would be reduced to a minor degree, as shown in Figure 10 and 11, from Alternative A. Implementation of Alternative D would result in the least potential to reduce adverse impacts to wildlife resources as compared to Alternatives B and C). With cross-country OSV travel allowed December 2 and May 15, Alternative D would result in no reduction in adverse impacts to wildlife resources from disturbance associated with this type of travel. The potential for big game to be disturbed and stressed on winter range would continue as in Alternative A.

Under Alternative D, the potential for Open routes to contribute pollution (sediment/chemical) into waterbodies that may affect aquatic wildlife, is reduced; 6% less routes will be Open that are proximate to perennial streams and 16% less routes will be Open that are within ½ mile of Yellowstone Cutthroat trout and westslope cutthroat trout populations. Routes that are not Open for motorized vehicle use will re-vegetate and stabilize over time, reducing erosion and sediment input to nearby waterbodies.

Overall, Planning Area wide, only minor impacts to wildlife resources, including BLM listed sensitive species, big game winter range and special status species are anticipated to occur under any alternative due to the low route density and low speed and low traffic volume associated with the routes.

Under Alternatives C and D, the addition of 14 and 17 miles of single-track non-motorized trails in the Copper City area would have negligible effects on wildlife resources. Copper City is currently a high use level recreation area with the primary uses being mountain biking, ATV/UTV riding, equestrian and target shooting. The addition of the trails would increase human activity in the area (terminology for describing potential increase) to a minor degree, having a minor effect on wildlife resources as related to human disturbance. The trail system would alter approximately five acres of habitat; a direct, long term impact resulting in a 0.2% increase in surface disturbance raising the total disturbance in the area from 0.7% to 0.9% of the BLM surface. This would be a minor reduction in available habitat, resulting in minimal to negligible impacts to wildlife resources.

3.7 Cultural Resources

Description of Affected Environment
During the route evaluation process, cultural resources were identified as associated with routes in the PGB TMA. In total, 72 routes were identified with cultural sites, including two "listed national register sites". Other types of cultural resources identified were historic sites, prehistoric sites and surveyed eligible sites of different categories. Cultural and historic sites or areas are not displayed on maps or in the TMA route reports because of the sensitivity of the information. Furthermore, each route was identified as being "in", "crossing", "proximate to" or "leading to" a site; "in" and "crossing" potentially having a higher level of impact than those routes "proximate to" or "leading to".

Of the 72 routes identified with cultural resources during evaluation, 38 were "1/4 mile proximate to" or "leading to" sites and 34 were "in" or "crossing" sites. Effects to cultural resources have more potential to be adverse the closer the route/public motorized use is to the site. Impact analysis assumes potential direct and adverse impacts from routes "in" or "crossing" cultural sites and indirect adverse impacts from routes "proximate to" or "leading to" sites; the public isn't directly exposed to the site when "proximate to" or "leading to" are used.

Environmental Impacts
Mitigating travel route's adverse impacts on cultural resources begins with evaluating sites for their potential for listing in the National Register of Historic Places. Sites that are found not eligible for listing do not need further consideration. Sites that are determined to be eligible are most easily protected by moving or closing routes. However, relocation/closure situations 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 noninvasive form of mitigation may be needed.

Direct impacts include physical displacement of cultural resources by traffic over routes and/or from routine maintenance activities (grading or surfacing). Primitive roads or trails may also have indirect potential to affect cultural resources when they lead to or are proximate to cultural properties. Intensity and long-term impacts depend on the potential for actual disturbance of resources. Indirect impacts come about from activities associated with motorized recreation, and not the use of the vehicles themselves. Numbers of Open routes "in", "crossing", "leading to" or "proximate to" individual sites, in each alternative, indicate the extent of impacts each alternative could have on cultural resources. Additionally, number of Open routes and miles of Open routes identified as having "no archaeological survey" indicate the extent of potential impacts on currently unidentified cultural resources.

<u>Alternative A</u>
Under Alternative A, the sites and numbers of routes/miles as indicated in the affected environment above describe the potential impacts to cultural resources. Current management would leave existing routes as Open regardless of their proximity or effect to cultural resources. Sensitive cultural resources such as those on the listed national register would remain susceptible to direct impacts associated with Open travel routes and indirect impacts from uses associated with those routes. This alternative would also allow motorized public use on all routes (116) (51.51 miles) identified with "no archaeological survey", leaving any unknown cultural resources susceptible to adverse impacts associated with Open routes and the public use of those routes.

Alternative B

Alternative B would provide the most cultural resource protection by closing the most routes to public motorized use. This alternative designates one of the two routes associated with a listed national register as closed, reducing the potential impact to these sites by 50%. Under Alternative B, 19 of 34 routes (56%) with the potential to directly impact cultural resources would be Closed to public motorized use and 36 of 38 (95%) with the potential to indirectly impact cultural resources would be Closed to public motorized use. Also, 93 routes covering 43.6 miles (85%) indicated with "no archaeological survey" would be Closed to public motorized use, resulting in a major reduction of potential effects to unknown cultural resources.

Alternative C

Alternative C (the Proposed Action) would protect cultural resources in a moderate to major extent as compared to current management, less than Alternative B and more than Alternative D. This alternative designates one of the two routes associated with a listed national register as Closed, the same amount as other action alternatives. Under Alternative C, 14 of 34 (41%) routes with the potential to directly impact cultural resources would be Closed to public motorized use and 26 of 38 (68%) with the potential to indirectly impact cultural resources would be Closed to public motorized use. Also, 67 routes covering 24.94 miles (48%) indicated with "no archaeological survey" would be Closed to public motorized use, resulting in a moderate reduction of potential effects to unknown cultural resources.

Alternative D

Alternative D would not protect cultural resources as well as the other action alternatives (B and C), but would protect cultural resources slightly more as compared to Alternative A. This alternative designates one of the two routes associated with a listed national register as Closed, the same amount as other action alternatives. Under Alternative D, no routes with the potential to directly impact cultural resources would be Closed to public motorized use and seven of 38 (18%) with the potential to indirectly impact cultural resources would be Closed to public motorized use. Also, 20 routes covering 5.4 miles (10%) indicated with "no archaeological survey" would be Closed to public motorized use, resulting in a moderate reduction of potential effects to unknown cultural resources.

Overall, Alternative B would immediately protect cultural resources from impacts associated with Open routes by closing and decommissioning routes or limiting routes to administrative use more than other alternatives.

Alternative C, the Proposed Action, would have a moderate beneficial impact with regard to protecting cultural resources compared to Alternative A.

Alternative D would have the least beneficial impacts of the action alternatives, yet would still protect cultural resources to a minor degree as compared to Alternative A.

3.8 Soil and Water

Issues for Analysis

- ✓ Contribution of sediment from routes into 303d listed water bodies
- ✓ Potential erosion from proposed mountain bike trail construction and use

Description of Affected Environment

303(d) Listed Water Bodies

TMA water bodies listed as impaired under Section 303(d) of the Clean Water Act (CWA) were assessed to determine if routes crossed or occurred within 300 feet of these water bodies. The 303(d) impairment of interest for this assessment is sedimentation/siltation.

Six rivers or streams that have been listed under Section 303(d) by the Montana Department of Environmental Quality (MTDEQ) occur within 300 feet or BLM routes within the TMA for a total of approximately 5.20 miles. No routes crossed 303(d) listed streams. Table 15 summarizes the approximate length of routes within 300 feet of 303(d) listed waters.

Table 15: Summary of 303(d) listed streams within the TMA that are within 300 feet of routes (MTDEQ 2014).

Water Body Name	Source of Impairment	Miles of Routes	% of Total Water Body
Madison River – Ennis Dam to mouth (Missouri River)	Dam construction, abandoned mine lands, dam or impoundment, agriculture	0.05	0.12%
Dry Creek – headwaters to mouth (East Gallatin River	Unspecified unpaved road or trail, channelization, grazing in riparian or shoreline zone	0.50	2.49%
Missouri River – headwaters to Toston Dam	Irrigated crop production, non-irrigated crop production, grazing in riparian or shoreline zone	0.53	2.41%
Missouri River – Toston Dam to Canyon Ferry Reservoir	Abandoned mine lands, agriculture	1.06	4.69%
Sixteenmile Creek – Lost Creek to mouth (Missouri River)	Grazing in riparian or shoreline zones	2.88	5.81%
Six Mile Creek – Absaroka-Beartooth Wilderness boundary to National Forest Boundary	Loss of riparian habitat, placer mining	0.18	7.09%

Soils Affected by Proposed Bike Trail System

Within the TMA, soils on which future bike trails area proposed were identified as an issue. Due to the nature of the activities (i.e. trail construction and trail use) the erosion hazard for roads and trails has been used to determine potential susceptibility of the proposed trails to erosion. The Natural Resource and Conservation Service (NRCS) erosion hazard rating provides a categorical descriptor to predict future erosion. A slight rating indicates that erosion is unlikely. A moderate rating indicates that roads or trails may require maintenance and simple erosion control measures. A severe rating indicates that roads or trails may require frequent maintenance and engineered design or costly erosion-control methods may be needed to limit significant erosion. Table 16 summarizes the characteristics of the soils in the area of the proposed bike trail system.

Table 16: Soil map unit characteristics - soils in proposed bike trail system area (NRCS 2015).

Map Unit Name	Road/Trail Erosion Hazard Rating	Rating Reason
Amesha loam, 4-9% slopes	Moderate	Slope/erodibility
Musselshell gravelly loam, 5-9% slopes	Moderate	Slope/erodibility
Musselshell-Crago cobbly loams, 8-20% slopes	Moderate	Slope/erodibility
Rencot channery loam, 15-35% slopes	Severe	Slope/erodibility
Rootel channery loam, 3-9% slopes	Moderate	Slope/erodibility
Tropal-Rock outcrop comples, 15-60% slopes	Severe	Slope/erodibility

Environmental Impacts

303(d) Listed Water Bodies

Roads adjacent to rivers/streams have the potential to contribute sediment to these water bodies as a result of use or erosion. Rivers or streams listed under Section 303(d) of the CWA were determined to be of primary concern because these water bodies have already been determined to be impaired. BLM routes within the TMA were not identified to be a primary contributor to the impairment of these rivers and streams. However, Dry Creek has been identified to be impaired by sedimentation/siltation due to unspecified unpaved roads or trails. Designating routes as Open or Limited (seasonal closure) will maintain the potential for additional sediment to enter these waterways as a result of use. Designating routes as Limited (authorized use only) or Closed would limit or eliminate the potential for sediment to enter impaired waters. Table 17 summarizes the miles of routes within

Table 17: Summary of miles of routes (% of total water body) designated as Open or Limited (seasonal closure) within 300 feet of 303(d) listed river or streams by Alternative.

Water Body Name	Alternative A	Alternative B	Alternative C	Alternative D
Madison River – Ennis Dam to mouth (Missouri River)	0.05 (0.12%)	0.05 (0.12%)	0.05 (0.12%)	0.05 (0.12%)
Dry Creek – headwaters to mouth (East Gallatin River)	0.50 (2.49%)	0.00 (0.00%)	0.50 (2.49%)	0.50 (2.49%)
Missouri River – headwaters to Toston Dam	0.53 (2.41%)	0.30 (1.37%)	0.51 (2.32%)	0.53 (2.41%)
Missouri River – Toston Dam to Canyon Ferry Reservoir	1.06 (4.69%)	1.06 (4.69%)	1.06 (4.69%)	1.06 (4.69%)
Sixteenmile Creek – Lost Creek to mouth (Missouri River)	2.88 (5.81%)	2.09 (4.21%)	2.66 (5.36%)	2.88 (5.81%)
Six Mile Creek – Absaroka-Beartooth Wilderness boundary to National Forest Boundary	0.18 (7.09%)	0.18 (7.09%)	0.18 (7.09%)	0.18 (7.09%)
Total	**5.20**	**3.68**	**4.96**	**5.20**

Under Alternatives A and D there would be no change to the miles of routes within 300 feet of 303(d) listed rivers or streams. There would continue to be the potential for sediment to enter these waterways due to route use.

Alternative B would reduce the miles of routes within 300 feet of 303(d) listed rivers/streams by 1.52 miles. The reduction in route mileage along Dry Creek would presumably have the most beneficial impact because this sedimentation/siltation of this stream has been attributed to unspecified unpaved roads. However BLM routes within 300 feet of Dry Creek only account for 2.49% of the entire stream length. This reduction of route mileage would not be expected to lead to recovery of Dry Creek.

Alternative C would reduce the miles of routes within 300 feet of 303(d) listed rivers/streams by 0.24 miles. The miles of routes designated as Closed or Limited (authorized use only) would not occur along Dry Creek where unspecified unpaved roads have been identified as contributing to the sedimentation/siltation impairment of the stream.

Soils Impacted by Proposed Mountain Bike Trail System

Under Alternatives C and D the construction of a bike trail system would be authorized. The soils on which the bike trail system would be constructed have been rated by the NRCS as having a moderate or severe potential for erosion when used as roads or trails. Design and installation methods of the bike trail system would need to be carefully considered in order to ensure long-term stability of the trails. Erosion control measures would need to be included, where appropriate, and regular maintenance would need to be conducted. Without careful design, erosion control measures, and consistent maintenance moderate to severe erosion may occur.

Under Alternative C 3.65 miles of bike trails would be constructed on soils rated by the NRCS as having a moderate erosion hazard from roads and trails. A total of 12.92 miles of bike trails would be constructed on soils rated as having a severe erosion hazard from roads and trails. Under Alternative D 1.47 miles would be constructed on soils rated as moderate erosion hazard and 12.00 miles would be constructed on soils rated as severe erosion hazard. No bike trail system would be constructed under Alternatives A or B; no disturbances of soils associated with construction of this trail system would occur.

3.9 Other Resource Issues - Dumping and Littering

Description of the Affected Environment
During the route evaluation process, 15 of the 188 existing routes, or eight percent, were identified as having dumping and littering problems. Dumping and littering is centered in high public use areas near population centers, as well as near gravel pits that have been dormant or abandoned.

Environmental Impacts
Impacts from dumping and littering are generally related to the cost of cleanup, the potential safety hazard that may result from toxic or hazardous materials being dumped on public lands, and the degradation of the aesthetic values associated with recreation experiences on public lands. By closing routes to public, motorized travel access to sites used for illegal dumping is denied and the resulting issue is eliminated from that route. However, people seeking to dump garbage illegally would potentially seek out an alternative route, or possibly use the Closed route to conduct the illegal activity. With that said, the most effective way to reduce illegal dumping on BLM public lands is to restrict motorized use to the sites where it consistently occurs.

Alternative B
Under Alternative B, 10 of the 15 routes identified as having dumping/littering issues are Closed or Limited to authorized users only, reducing access to the existing sites by 66%, resulting in a considerable reduction in dumping and littering as compared to current management

Alternative C
Alternative C, the Proposed Action, closes or limits public motorized use on seven of the fifteen routes identified with this issue, a 47% reduction from current management. It is likely that a commensurate decrease in dumping and littering would occur.

Alternative D
Alternative D closes or limits public use on three of the fifteen routes, reducing access to sites with this issue by 20%. This alternative closes or limits public motorized use less than other action alternatives and consequently dumping and littering would be slightly reduced overall as compared to Alternative A.

In summary, Alternative B would provide a slight benefit to reducing dumping and littering on BLM public lands with Alternative D being the least beneficial and Alternative C falling in the middle, effectively eliminating the identified issue by 47% and on potential Open routes by 57%.

3.10 Cumulative Impacts

The Proposed Action, designation of routes on BLM lands in the TMA, when added to other actions and activities throughout the planning area as described in section 2.5, will result in cumulative impacts; however overall these incremental impacts as described below will be minor.

In all alternatives, the one route identified as access to a forest service route, has been designated Open. The forest service route was also designated Open in their travel management plan. The route designations match up and provide recreational and administrative access to forest service lands The BLM Open route designation is a beneficial incremental impact to the uses occurring on the USFS lands. The unlimited, public use of this route, providing access to the forest service route system, would contribute slightly to the disturbance of wildlife, in some cases on winter range and during sensitive time periods.

Throughout the Planning Area livestock grazing is a primary use of public and private lands. The act of designating routes Open or Closed can make livestock operations more efficient or more difficult and time consuming. The designation of routes on BLM lands in the TMA, coupled with other private and public land route designations could have a minor adverse impact on livestock operations by increasing travel time when livestock operators must follow designated Open routes to access various parts of their permit area.

Personal timber product use is a viable activity throughout the Planning Area, with the majority of this activity taking place on Forest Service and private lands. In some cases, restricting public motorized access to BLM lands (designated Limited or Closed routes) could concentrate more use on adjacent public and private lands, resulting in additional disturbance to wildlife in these areas, increased surface disturbance and vegetation loss from motorized use and route proliferation.

Much of the BLM land in the Planning Area is not available to the general public without special permission through private lands. Closing or limiting routes to authorized users on these inaccessible BLM parcels would have an overall minor, adverse incremental impact on recreational and other users; these users would likely shift their activities to adjacent lands, public and private, resulting in some loss of recreational experience quality and/or potential increases in trespass issues or user conflicts.

In Alternatives C and D, the development of the Copper City trail system would add to non-motorized opportunities and experiences, particularly for mountain bikers, having a beneficial impact on mountain biking activities in the Planning Area. This trail system could alleviate existing concentrated mountain bike use in other sections of the Planning Area, distributing mountain bikers into a new region specifically designed and located for that use. Alternative B would have some adverse incremental impacts on the mountain biking community and non-motorized trail use opportunities by not developing the trail system and not distributing mountain biking use to new regions of the Planning Area. The surface disturbance and increased use of the Copper City area by mountain bikers and other non-motorized trail users may lead to some erosion, soil loss and decreased productivity, which incrementally adds to the surface disturbing activities already occurring within the Planning Area. This incremental impact would be very minor given the scale of the entire Planning Area.

Outfitters and guides are permitted on much of the public lands within the TMA and have agreements with private landowners adjacent to and surrounding public lands in many cases. Designating routes Open, Limited, or Closed can have adverse and beneficial impacts on the commercial uses permitted to outfitters and guides; when routes are Closed or Limited, it can improve hunting for users willing to hike into areas without motorized use. However, many hunters also appreciate the opportunity to drive routes with motorized vehicles. Therefore, on one hand, Alternatives B and C Limited or Closed designations on BLM lands would incrementally add to more non-motorized opportunities and enhanced user experience where the adjacent lands have routes similarly restricted to non-motorized uses. On the other hand, for those users who primarily like to drive or use ATVs in conjunction with their hunting activities, Alternative's B and C would result in an incremental decrease in driving opportunities and the quality of their user experience. Alternative D would have an incremental adverse impact on non-motorized hunter opportunities and experiences while providing an incremental improvement in opportunities for hunters favoring more motorized access as compared to Alternative A.

The development of private lands into residential, agricultural or commercial use increases surface disturbance, reduces quantity and quality of wildlife habitat, and can have detrimental impacts to water quality, soil conditions and vegetative communities. The designation of routes as Closed allows for rehabilitation of surface disturbances; therefore, in all Action Alternatives, the TMP will result in an incremental reduction in the disturbance to soils, wildlife, vegetation and water resources as compared to Alternative A Planning Area-wide.

CHAPTER 4: IMPLEMENATION

4.1 Introduction

Implementation of this TMP would involve a variety of actions:

- Publication of a route network map
- Sign plan implementation
- Education
- Enforcement
- Maintenance
- Restoration/rehabilitation
- Adaptive management and monitoring
- Mitigation
- Plan revision and amendment

This chapter discusses these actions and also provides detail on the implementation priorities and standard operating procedures.

4.2 Publication of a Route Network Map

As part of implementing this TMP, BLM would assign a navigational identification number to each Open or Limited travel route in the TMA's network. The BLM already assigned preliminary numbers to routes as part of the inventory and evaluation processes. However, numbers and designations will likely change before the Park, Gallatin, Broadwater route network is finalized.

After assigning numbers, the BLM would publish a map online that depicts travel routes and their respective number labels. Travel routes that are designated as "Limited (Administrative or Non-motorized)" would be shown on the final map but typically as non-motorized routes Open to hiking, bicycling, and horseback riding. A general information campaign would be undertaken to announce the online map. Part of this campaign would include contacting public mapping sources and agencies to request information updates that could improve the map.

Initially, draft maps printed by 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.

4.3 Sign Plan Implementation

4.3.1 Introduction

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. Route users want to know what modes of travel are allowed or not allowed on routes they would like to use. So, directional and informational signs (and the placement of these signs) are

critical for the safety and enjoyment of public lands, for compliance with rules and regulations, and for protection of resources. Proper signing can improve visitors' experiences by providing the necessary information to ensure visitors are aware of regulations, safety, and uses.
Sign plans are the primary documents in BLM signage efforts and are required components of TMP/EAs. This section of Chapter 4 (Section 4.3) serves as this TMP/EA's sign plan. According to the *BLM Sign Guidebook*, "a sign plan provides for the systematic and uniform development and maintenance of a sign system for a given area" (BLM 2004, 8). A sign plan is necessary to ensure that signs placed in an area are consistent with all applicable laws, regulations, and policies, including land use/planning documents. Sign plans are also created so signs will adhere to consistent themes. Signing is a key element for implementing comprehensive travel and transportation plans on the ground.

4.3.2 Scope of Signing

Presently, very little signing is found throughout the Park, Gallatin, Broadwater TMA. Under this TMP/EA, various types of signs and markers would be installed according to the current BLM policies and guidance for recreation and travel management signing. Signs would be placed along roads, primitive roads, and a trail. A variety of signs would be placed in the TMA, including:

- Area and public land identification signs
- Entry kiosks and informational kiosks
- Bulletin boards
- Signs for routes' identification numbers and designation statuses
- Area map boards

Signing would be kept to the minimum necessary for visitor management and assistance. Signing would also be used as a tool for resource protection and regulatory and informational purposes. Initially, all routes would be signed at intersections. Then, at a minimum, signs would be placed every one mile beyond intersections. Signing would also occur at other points where following a primitive road or trail might be difficult or confusing to visitors. 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 in an effort to prevent off-network travel and user conflicts. To issue citations to rule-breaking visitors, law enforcement staff must be able to prove to a magistrate that there was ample information readily available for visitors to do the right thing. Through monitoring and ongoing public group input, strategies would be developed to constantly improve signing effectiveness. Maintenance procedures and schedules would be developed for signs and markers. Such procedure and schedules would include anticipated replacement needs. A sign inventory and database would be created to facilitate tracking of sign locations and sign maintenance. It is expected that during the first few years following implementation of this TMP/EA, many signs will be removed or destroyed and would be replaced or updated with a new communication or engineering technique.

4.3.3 Portal/Entry Signs

Large wooden portal signs (see Figure 12 below) would be installed at the beginning of popularly used areas, routes, or entrance points. If this TMP is approved, these signs would be utilized. Over Snow Vehicle use would also be displayed where applicable (see Figure 13).

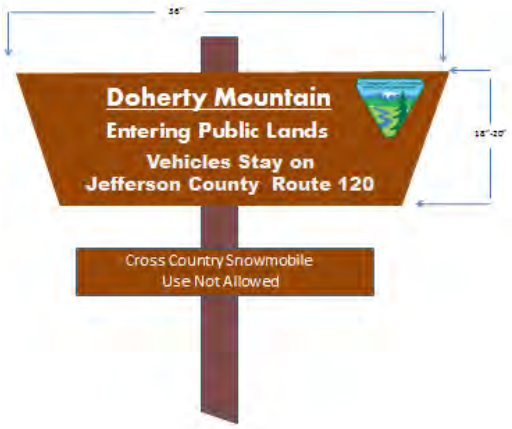


Figure 12. Wooden portal sign

Figure 13. Over Snow Vehicle limitation sign

4.3.4 Designated Route Markers

Each travel route may have up to three identifying numbers. The first number is assigned during field inventory. During the route evaluation process, field inventory numbers are often modified or changed to clarify segments into transportation assets (e.g., roads, primitive roads, and trails). These evaluation numbers are used in the route reports and on the alternative maps in this TMP/EA. A third and final navigational (or route ID) number is eventually assigned for marking routes on the ground and in future published maps. All three identifying numbers are maintained in the office database to allow historical tracking of routes from the inventory stage through the implementation stage.

A consistent numeric system would be applied to the route network. All route identifiers within the TMA would have a four-digit number, starting with the number 1000. Long distance routes, touring loops, or routes to specific destinations may have a route name or symbol in addition to a number (e.g., 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 that was assigned in the jurisdiction or area that had 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.

<u>Open and Limited Travel Routes</u>
Markers for travel routes that are Open and/or Limited to OHV travel would follow the basic layout depicted at the far left of Figure 14. Starting from the top, each marker post would contain an arrow, route number, symbols of allowed uses (Open to) and prohibited uses (Closed to), and the BLM logo. Markers may also have a decal with GPS coordinates marked at strategic locations. Markers for travel routes where OHV vehicle travel is allowed but Limited (with various restrictions) would use the signs depicted in the first two images on the left side of Figure 14.

Figure 14. Route designation, restriction, and closure signs

Limited (Administrative or Non-Motorized) Travel Routes

Markers for travel routes where OHV travel is Limited to administrative or non-motorized use only would use the third sign from the left in Figure 14.

Closed and Decommissioned Travel Routes

Markers for travel routes that are Closed to all forms of OHV travel (including administrative use) would also use the third sign from the left in Figure 14. Markers for travel routes that are Closed to all forms of OHV travel and are scheduled to be decommissioned would also use third sign from the left in Figure 14. 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 a particular location.

Additional Sign Examples

In addition to portal/entry signs, designated route marker signs, and closure/limitation signs, the signs depicted in Figure 15 may be used. Moreover, the sign at the far right of Figure 15 might be placed at the beginning of a Closed route that is only Open to motorized use for the purposes of retrieving downed game animals.

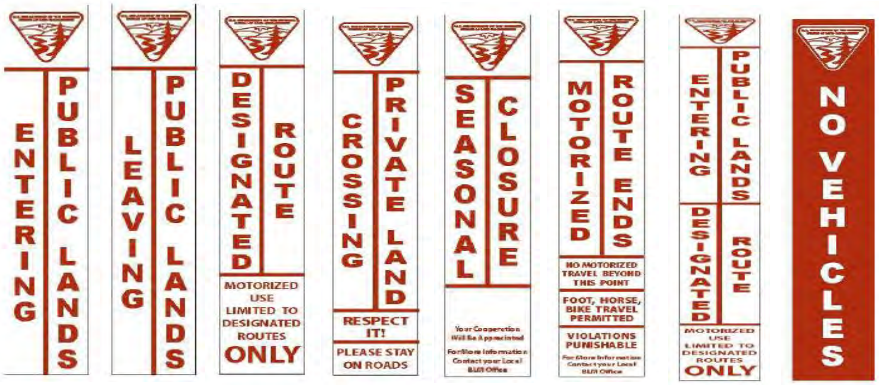


Figure 15. Additional travel management signs

4.3.5 Proposed Sign Locations

Route markers would be placed (at a minimum) at each major intersection and as needed and noted in the BLM's sign database. At each sign placement site, care would be taken to visually ensure that the message conveyed by a particular sign is generally positive (where possible), simple, and easy to read.

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, the BLM may develop unique decals that clearly identify needed messages or trail names. If a volunteer group adopts a route, they may be allowed to develop a decal to place on the route's markers. On sign marker posts, trail names or "Trail Adopters" may be identified and labeled above route numbers. Not all route markers need to include a route name and numeric route identifier. Thus, some marker information could be used interchangeably on different markers. One route can have more than one identifier (e.g., name vs. number), and all route markers on a particular route will not be exactly the same.

4.3.6 Maintenance and Monitoring of Travel Management Signs

Generally, maintenance of travel management markers would be completed according to Chapter 5 of the BLM's Sign Guidebook, which can be found at:
http://www.blm.gov/pgdata/etc/medialib/blm/wy/signs/docs.Par.61916.File.dat/guidebook.pdf.
A sign inventory (stored in a database) 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 acceptance of this TMP/EA. The database of sign inventory details would include the following information for each sign:

- Location/GPS coordinates
- Installation date
    - On larger signs, installation dates should be written on the back of signs.
- Inventory date
- Name of individual(s) who conducted 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
- Sign condition (good, fair, needs repair or replacement)
- Number of times sign has been replaced (via ongoing count)
- Photos of signs

All photos of signs should be linked to their GPS locations and maintained in the sign inventory database in subfolders labeled 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 through the sign inventory database.

4.4 Education

An education and outreach program would be developed in collaboration with federal, state, and county entities and with established and emerging organizations and programs. The education/outreach program would also be developed with public participation. To the extent possible, the BLM would seek to create alliances with local and regional groups and entities such as:

- OHV dealerships and user groups
- Hunters and sports enthusiasts
- Hiking and equestrian clubs
- Communities Three Forks, Bozeman, Livingston and Townsend
- Grazing permittees
- Montana Fish, Wildlife and Parks
- Broadwater County
- Park County
- Gallatin County
- Southwest Montana Interagency Travel Management Committee
- Montana State Historical Preservation Office

Additionally, the BLM would utilize seven target messages/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 landowners and other users of public land
- Prevent the spread of invasive species
- Prevent wildland fires
- Ensure OHV safety

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

4.5 Enforcement

Some of the typical law enforcement concerns related to public use in the Park, Gallatin, Broadwater TMA include traffic accidents, driving under the influence (DUI) of alcohol and/or drugs, firearm violations, cross-country OHV use, and the creation of new travel routes by visitors.

Law enforcement coverage in the TMA is provided by BLM law enforcement. 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 the Broadwater, Park and Gallatin County Sheriff's Departments, the USFS, and Montana Fish, Wildlife and Parks.

To increase BLM presence, the BLM may hire Trail Stewards and recruit volunteers to conduct patrols through Butte Field Office jurisdictions, including in the Park, Gallatin, Broadwater TMA. These patrols would be focused on visitor services and travel management monitoring. Reports from these patrols could focus formal law enforcement efforts within specific TMAs. Increased BLM presence and use of 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.

4.6 Maintenance

4.6.1. Introduction

The maintenance guidelines laid out in the *2009 Butte RMP* would be applied to the Park, Gallatin, Broadwater TMA. According to the RMP:

> 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. (BLM 2009b, 47)

Figure 16. Park, Gallatin, Broadwater TMA route that receives regular maintenance

4.6.2 Maintenance Intensities

The conditions and use levels of routes can determine what maintenance intensities they receive. Travel route conditions, design standards, and guidelines are based on average daily traffic, functional classifications, and terrain type. Physical characteristics of routes help determine what types of use routes receive, and types of route use indicate what vehicles are capable of traveling on particular routes. For example, if a road is passable by a two-wheel drive vehicle it should also be passable by four-wheel drive vehicles. Based on resource management needs and functional classifications, designated routes in the Proposed Action would be assigned maintenance intensity levels from the list shown in Table 15 on the next page. The table's maintenance level descriptions are quoted from the *BLM Roads Manual* (BLM 2011b). No routes with Level 4 maintenance intensity exist in the TMA.

Table 18. Maintenance Intensity Levels Under Alternative C (Proposed Action)

Maintenance Intensity	Descriptions of Routes Under Each Intensity Level	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.	44	14.43
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.	137	84.02
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.	13	8.87

4.6.3 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 (see the glossary for definitions). All but one of the BLM-managed routes in the TMA function as resource roads. These routes are unpaved, typically single lane or narrower, and have low traffic volume and slow traffic speeds. The only route in the TMA that is not a resource road is a trail Limited to non-motorized use.

4.7 Restoration and Rehabilitation

4.7.1 Introduction

The *2009 Butte RMP* provides details on which roads in the jurisdiction of the Butte Field Office would receive restoration/rehabilitation designation or treatment. The RMP guidelines below would be used for management efforts in the Park, Gallatin, Broadwater TMA:

> "Roads and trails Closed yearlong 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" (BLM 2009b, 41).

The BLM's strategy for restoring Closed/Decommissioned or unauthorized travel routes would be accomplished as time and funding permit. Until funding is secured, the travel routes identified for closure under Alternative C (the Proposed Action) in would be allowed to naturally recover. Table 8 in Section 2.6 features statistics on routes that would be Closed/Decommissioned under the Proposed Action.

4.7.2 General Restoration Techniques

Where possible, travel along Open routes should encourage traffic to be concentrated away from Closed routes. 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 cutting track edges or berms to break up straight lines. Additional techniques include placing small rocks on routes and mulching routes with local vegetation or dead plant materials. The aim would be to blend the disturbed area into the landscape. The work would be limited to existing surface disturbance. Minor manipulation of these areas would not require further environmental review. A travel route that has historical significance (e.g., an old wagon trail) 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.

4.7.3 Substantial Restoration

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

Ripping, or subsoiling, 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 the BLM could provide information signs articulating the need for 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. These mixtures would be based on individual site conditions. Broadcast seeding would generally be completed in the spring or 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 is 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. Even with a substantial investment in restoration, significant increases in vegetative cover would require an adequate period of time and may not happen quickly. With resources for travel management implementation limited and the outcomes of restoration efforts typically uncertain, these types of restoration efforts should be reserved for only the most serious disturbances.

4.8 Adaptive Management

4.8.1 Introduction

Adaptive management would be an important part of implementing this TMP/EA. This section first discusses what adaptive management is and how it may be used in the TMA. Then various factors related to adaptive management are discussed. These factors include:

- Changes to the travel route network
- Private landowner access and access needed
- R.S. 2477 claims and BLM administrative determinations
- Emergency closures
- Temporary closures

4.8.2 Defining Adaptive Management and its Use in the TMA

According to the BLM, adaptive management is "a tool designed after the scientific research process. . . . [It] 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" (BLM 2014).

In the application of the technique described above, the objectives are targets based on best available information. In this TMP/EA, such objectives are the priority tasks listed in Section 4.1. Unless otherwise specified, timeframes for objectives are discussed in the form of phases: Phase I (1-2 years), Phase II (3-5 years), and Phase III (5-10 years).

For the Park, Gallatin, Broadwater TMA, sufficient monitoring is planned to determine whether adequate progress is being made toward achieving objectives. If progress is insufficient to achieve objectives in a realistic time period, management actions would be revised. Figure 17 (below) shows the cycle of adaptive management.

In adaptive management, problems are assessed, designs are formulated to address problems, and then designs are implemented. During/after implementation, monitoring occurs, data gathered during monitoring are evaluated, and management is adjusted based on new findings. However, new problems could arise or new approaches might be tried after management is adjusted, which would start the cycle over again.

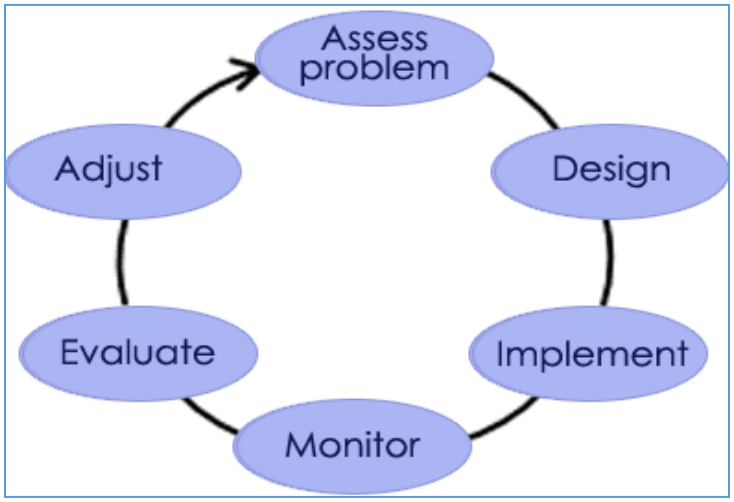


Figure 17. Adaptive management cycle

Adaptive management focuses on changing conditions that could affect the route designations proposed in this plan. Through adaptive management, the BLM might change its travel management practices to respond to a variety of factors that could come up in the TMA. Some examples of factors that might alter management are listed below:

- Need to create new roads to access private property, mining claims, or public utilities
- User-created route proliferation
- Listing of additional special status plant and animal species
- Discovery of additional cultural or historical resources
- Availability of funding

Applying the process of adaptive management is an essential component of travel planning. Throughout the life of this TMP/EA, the BLM would use adaptive management and rely on monitoring data to improve this plan.

4.8.3 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 the overall goals of the network (e.g., 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 the implementation or construction of a new route. If a new road is going to be constructed, its design must follow specific guidelines. According to page 47 of the *2009 Butte RMP* (BLM 2009b), at a minimum, road designs will include:

- 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
- Minimizing side casting of soil or snow

All new roads, primitive roads, and trails in the TMA would meet the standards for design, construction, and maintenance found in the BLM's *Roads Design Handbook* (2011a) and *Primitive Roads Design Handbook* (2012a).

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 adding a new route would be a change to the travel network. Therefore, such changes would trigger the need to undergo the same evaluation process that occurs when new routes are added. All changes to the network would be included in the Park, Gallatin, Broadwater travel network database and would need to be posted on the BLM website as part of the TMA's travel network public outreach program.

Temporary routes and maintenance may be key parts of travel management in the TMA. In the *2009 Butte RMP*, the BLM elaborates on travel network changes related to temporary routes and maintenance:

> 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. (BLM 2009b, 40)

> 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. (BLM 2009b, 48)

4.8.4 Private Landowner Access and Access Needed

Many routes in the Butte Field Office's travel network cross private and state lands. County roads allow access to some travel routes on BLM-administered sections of land. BLM route designations are not binding on private lands. The BLM is not designating existing routes over private or state property. Route designations only apply to route segments that are on BLM lands. If a route crosses private land (but continues onto BLM land), that does not mean the public has a right to pass over private lands to access public lands. Routes that continue from BLM land onto private land simply follow historical use patterns once they are on private land.

According to the *2009 Butte RMP*:

> "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" (BLM 2009b, 41).

As the travel network is developed, signs would be placed on routes to indicate where land ownership changes. Travelers would be instructed to respect private holdings. Open and Limited routes that happen to cross private property before entering BLM lands can be closed by the owners of such private property. However, the *2009 Butte RMP* indicates that blocking public access to BLM land may not be in a landowner's best interest:

> "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" (BLM 2009b, 41).

If this situation occurs, these routes would have their designations changed to "Limited (Administrative Use Only)." If the private landowner 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 5 for information on the variance acquisition process).

4.8.5 R.S. 2477 Claims and BLM Administrative Determinations

Section 8 of the Mining Act of 1866 states: "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 such that its rights would be 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 mining statute was later re-codified as Revised Statute 2477 (abbreviated as R.S. 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. However, the BLM may make informal, non-binding administrative determinations for its own land use planning and management purposes. Such determinations must be based on the particular laws of each state in which a claimed right-of-way is situated

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.

4.8.6 Emergency Closures

In the event of an emergency, immediate actions (e.g., closures or public land use restrictions) must be taken to prevent or reduce risks 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. Section 2.3 of the *BLM National Environmental Policy Act Handbook* (BLM 2008a) defines the following actions as typical emergency situations:

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

4.8.7 Temporary Closures

43 CFR 8341.2 provides guidance applicable to BLM lands on a nationwide scale. This guidance will be used in management of the Park, Gallatin, Broadwater travel route network. According to 43 CFR 8341.2:

> ". . . where the authorized officer determines that 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 authorized officer shall immediately close the areas affected to the type(s) of vehicle causing the adverse effect until the adverse effects are eliminated and measures implemented to prevent recurrence" (GPO 2014a).

4.9 Monitoring

4.9.1 Introduction

Monitoring can be a key component of successful adaptive management. In the TMA, 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 created as time and funding permit. This inventory should constitute a baseline dataset that would include:

- Photo documentation
- GPS points
- Lists of typical vegetation
- Estimated plant cover
- Identification of where Open/Limited routes intersect with Closed routes
- Extended disturbed areas

These data could be used as a baseline against which future monitoring data could be compared in efforts to detect changes and implement more effective management.

4.9.2 Implementation Monitoring

Implementation monitoring is the most basic type of monitoring. It simply determines whether management actions have been implemented in the manners prescribed by applicable planning documents. The thresholds or indicators required for this type of monitoring in the TMA are included in the task list in Table 17 in Section 4.12. Progress toward plan compliance would be evaluated and reported by staff and posted online as time and funding permit.

4.9.3 Effectiveness Monitoring

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

- Acquire visitor feedback to monitor whether the Park, Gallatin, Broadwater TMA has been clearly mapped and signed for the public.
- Signing effectiveness would be monitored through field visits and consideration of amounts of maintenance required.
- Attention to recreational groups, records of field contacts, written trail register comments, and public phone calls to the Butte Field Office would be part of monitoring the effectiveness of travel management in reducing conflict between different types of users.
- Photo-monitoring points would be established to monitor long-term effectiveness of closing/decommissioning routes.

- Illegal off-trail and off-road travel could be measured as linear disturbances or as area impacts, depending on the level and type of use that occurred.
- Traffic counters would be employed to determine levels of use on selected routes.
- Primitive road and trail conditions would be assessed. Informal inspection and discovery would be a major part of the condition monitoring program.
- Assess indicators of potential recreation impact issues (e.g., number of new bare soil areas attributable to visitor use, number of campfire pits, additional litter or trash along primitive roads, etc.).
- As time and funding permit, administer a survey on recreation demand and visitor preferences, uses, satisfaction, and information needs in the TMA.

4.9.4 Resource or Validation Monitoring

Resource monitoring would document how implementation of a travel plan 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 travel management actions comply with this TMP/EA. Resource 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. Resource monitoring would be accomplished through protocols that include the following elements:

- Monitoring should involve establishment of an ecological site inventory following the guidelines of the Land Health Standards (see the glossary for a definition). Ecological site inventories would include transect sites. Transects are strips of ground along which specialists make ecological measurements. Transect sites should be set up by resource specialists during Phase I of this plan. On a recurring basis, transects utilizing the line-intercept method would be taken from identified sites. Both reference sites and affected sites would be monitored.
- Core indicators to be monitored should include:
    - Percentage of bare ground
    - Vegetative composition
    - Percentage of vegetative cover
    - Soil aggregate stability
    - Percentage of terrain with OHV tracks (or at least record the presence/absence of OHV tracks)
- Additional monitoring information that may be collected as part of core data collection could include vegetation height and non-native invasive species compositions.
- Monitoring should address proliferation of non-native species in specific locations (to be determined by resource staff).
- As time and funding permit, cultural resource sites identified by the Butte Field Office's Cultural Resource Specialist would be surveyed. Such sites would include both publicly known sites near designated routes and reference sites that are not located near travel network assets. The BLM may work with authorized universities and cultural contractors to accomplish needed monitoring.

4.9.5 Protection of Special Resources and Travel Route Management

Monitoring the Park, Gallatin, Broadwater travel route network would include training Trail Stewards and volunteers to recognize special resources and impact indicators. Stewards and volunteers 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 (e.g., historic mines).

In relation to Land Health Standards, the *2009 Butte RMP* states: "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" (BLM 2009b, 47).

Analysis consistent with National Environmental Policy Act (NEPA) requirements would be developed prior to any ground disturbance not discussed in this TMP/EA. Impacts to cultural resources or other resource values that may be discovered would be mitigated or avoided. According to the *2009 Butte RMP*:

> "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 [the] 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" (BLM 2009b, 41-42).

4.10 Mitigation

Problems (with specific routes and management actions) would be identified through adaptive management monitoring. After identifying problems, appropriate mitigation measures would be employed. Typical mitigation measures are specified best practices that respond to identified conflicts. Not all measures listed in this section may be used, and possible actions are not limited by the lists presented here. Mitigation actions taken should be triggered as a result of monitoring and reaching identified thresholds. Monitoring to identify trends should be done before, during, and after mitigation measure implementation.

Below are examples of possible route management mitigation actions that could address potential problems. Actions are listed under particular conflict scenarios (underlined) that involve designated routes. Under these scenarios, actions are listed numerically in order of possible implementation.

The physical location of a route is degrading riparian condition.

1. Relocate the route to avoid riparian areas.
2. Harden or raise the route above water level if route is necessary and cannot be relocated.
3. Close the route if no suitable mitigation is possible, and make a plan for reclamation.

Human use associated with a route is degrading riparian condition.

1. Place information signs to request positive behavior (e.g., "Use only when dry," etc.).
2. Harden and/or raise the route above water level or place barriers to keep vehicles 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.

Human use associated with a route is degrading desired plant communities.

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 communities.
5. Close the route, and make a plan for reclamation.

Human use associated with a route is degrading water quality or causing unnatural erosion rates.

1. Review the situation to determine source of degradation; monitor to determine severity.
2. Place water control measures on the route.
3. Take reasonable measures to further harden/stabilize the route.
4. Relocate the route.
5. Close the route if no suitable mitigation is possible.

Human use associated with a route is determined to degrade a wildlife habitat (e.g., habitat of managed or special status species, including threatened and endangered [T&E] species).

1. Educate route users through signs and other information facilities.
2. Place use limitations on the route (time/season of use, type of use, number of users).
3. Review management plans for 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 plans are insufficient.
6. Acquire replacement habitat lands (for T&E and sensitive species).
7. Initiate consultation with the U.S. Fish and Wildlife Service (in the case of T&E species).
8. Review recovery plans and implement mitigations as defined in the plans (T&E species).
9. Replace/enhance habitat to offset problems caused by human use; methods could be to:
    - Augment food/water sources.
    - Place barriers along the 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, and make a plan for reclamation.

Different travel speeds by users cause conflict between recreationists and/or local residents.

1. Place signs and kiosks to raise awareness of need for lawful use in 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 traffic by type or time of use.

Sound levels cause conflict between recreationists and/or local residents.

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 "Quiet Time" use restrictions.
5. Reroute traffic to minimize conflict.
6. Place sound-reducing vegetative barriers (if applicable).
7. Close route if no suitable mitigation is possible.

A route causes unacceptable changes to the desired Recreation Opportunity Spectrum (ROS) setting (e.g., unplanned OHV play areas, large party sites, dump sites, resource theft, etc.).

1. Investigate the cause and implement signage and law enforcement as necessary.
2. Design mitigation plans to address:
    - Short-term conditions
        - Implement new signing and public outreach to explain desired settings.
        - Implement temporary use restrictions (e.g., no overnight camping).
        - Issue emergency closure order and address conditions during closure.
    - Long-term conditions
        - Implement signing and mapping protocols for the area.
        - If no suitable mitigation is possible, amend resource management plan (RMP) to close the area.
3. Close areas near the route contributing to unacceptable changes.

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 (e.g., landscaping)
2. Realign the route.
3. If no suitable mitigation is possible, construction of the proposed route would not be allowed.

A route causes unacceptable impacts to cultural or archaeological 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 and increase law enforcement presence.
5. Realign 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.

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 routes.
2. Add additional signing to the routes indicating they are Limited to administrative vehicle use and public non-motorized use.
3. Fence and gate the routes at their intersections with Open routes.

Cross-country use of over snow vehicles (OSVs) is impacting resources.

1. At portal locations, sign and/or provide educational materials on kiosks to encourage the proper use of OSVs.
2. Close the area to cross-country OSV use.

Vandalism (due to use of routes) of range or wildlife improvements.

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. Designate the route as Limited to administrative use.

The use of a 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.

4.11 Plan Revision and Amendment

This TMP/EA 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 of progress monitoring. Any person, organization, or government body may propose that a route designation be changed to another designation (e.g., closing an Open road or vice versa). Requests to change route designations should be submitted in writing to the Butte Field Office Manager. In the context of this TMP/EA, that Manager is considered an Authorized Officer. The Authorized Officer has the authority to make final decisions on route changes.

Given that designation of travel routes is a discretionary action, the Manager may determine whether or not proposals have merit and whether or not they constitute significant or minor modifications. If an application for proposing a route designation change is rejected, a letter (stating reasons for refusal) would be sent to the applicant. If accepted, the request would be forwarded to appropriate Butte Field Office staff members. When accepting a proposal, the Authorized Officer should consider cost recovery. A formal decision to accept or reject a specific request for a route change would only be issued after the occurrence of NEPA analysis and evaluation of a proposal's effect on the total travel network. Any proposed change to the travel network in this plan would be documented and appended to this plan.

4.12 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/EA should proceed in the order listed in Table 16 (below). Table 16 features a timeline based on prioritization hierarchies. However, monitoring, adaptive management, and budget limitations could change priorities and the timeline over the life of this TMP/EA. The timeline in Table 16 starts a month after the time at which the Decision Record for this plan would be issued. The timeframes for these priorities can be discussed in the form of phases: Phase I (1-2 years), Phase II (3-5 years), and Phase III (5-10 years).

Table 19. TMP/EA 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 online map of Park, Gallatin, Broadwater TMA.	*This is the first step in the effort to increase public knowledge of the travel network and plans for its future.*
3	Starting in Year1	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/EA and travel network. Publish an annual report on the Butte Field Office website.	*The report should include pictures of actions taken.*
11	Phase 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 the Park, Gallatin, Broadwater TMA.*
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 install 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.	*N/A*

4.13 Standard Operating Procedures

Table 17 (below) lists the Standard Operating Procedures (SOPs) for the BLM's administration of the Park, Gallatin, Broadwater travel route network. Many of these statements are actions or measures previously listed in the *2009 Butte RMP* or the *Record of Decision: Off-Highway Vehicle Environmental Impact Statement and Proposed Plan Amendment for Montana, North Dakota and South Dakota* (BLM 2003).

Table 20. Standard Operating Procedures

1	The 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 the *BLM Acquisition Handbook* (BLM 2002b).
3	"BLM roads within the travel area will 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 will be given to vehicles legally registered to travel on public highways" (BLM 2009b, 41).
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	The 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. However, the 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 variances was established in the *2009 Butte RMP's* Appendix D titled "Travel Management" (page 153) and is incorporated in this plan in Appendix 5.
8	Motorized cross-country travel for the BLM is Limited to official administrative business. Examples of administrative use include management related to 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 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	Motorized cross-country travel would be allowed for any military, fire, search and rescue, or law enforcement vehicle used for emergency purposes.
11	Motorized 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., those taking part in hunting, wood gathering, and livestock operations) must comply with TMP/EA 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 motorized vehicles for cross-country travel. The requirement for approval for motorized 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 (e.g., moving a route's alignment around a newly identified cultural resource) shall be recorded and kept on file in the Butte Field Office 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 trails.
19	The 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 (natural or prescribed) occurs.
21	The BLM maintains the authority to temporarily, permanently, partially, or completely suspend any activity based on safety issues or adverse resource impacts.
22	In accordance with public land regulations, a Special Recreation Permit (SRP) is required for use of public land in connection with commercial, competitive, or organized group activities. Permits are not required for private, non-commercial recreational use.
23	All SRP activities granted by the Butte Field Office would be required to utilize designated travel routes, unless otherwise authorized.
24	Motorized 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 sites must be accessed by the most direct route that causes the least damage.
25	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.
26	Motorized cross-country travel for big game retrieval is not allowed, unless otherwise authorized.
27	Use of a non-motorized game carrier off of an Open route would be permitted.
28	The BLM would cooperate with Montana Fish, Wildlife and Parks to adjust seasonal travel restrictions in accordance with big game hunting season extensions.
29	"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. Animals will need to be dragged, or otherwise moved by non-motorized means to the Game Retrieval route" (BLM 2009b, 39).
30	A power-assisted bicycle is considered a "motorized" vehicle and would be Limited to travel routes that are designated as Open or Limited to motorized vehicles. A power-assisted bicycle would not be allowed on "Limited (Administrative or Non-Motorized)" travel routes.

CHAPTER 5: CONSULTATION AND COORDINATION

5.1 Scoping Process

The BLM used the scoping process to solicit meaningful participation in the development of the Park, Gallatin, Broadwater TMP/EA. In the scoping process, the BLM solicits internal (BLM staff) and external (public) input on issues and impacts related to both its proposed actions and potential alternatives to its proposed actions. This TMP/EA is the product of public and agency scoping input accumulated over the past two years. Butte Field Office staff has had informal conversations on issues and opportunities related to travel management. These conversations occurred with individuals, community groups, neighboring landowners, and federal, state, and local agencies. Such discussions contributed to the development of this TMP/EA. Scoping letters were also sent to local tribes, but no written responses were received.

A government-to-government consultation meeting to discuss this EA with the Crow Tribal Historic Preservation Officer (THPO) was conducted in September, 2015 at Crow Agency, MT. As a result of this meeting, a request for a field visit was made by the Crow THPO. In December 2015, the Assistant Butte Field Manager and Archeologist met with representatives and staff of the Crow Tribal Historic Preservation Office. Comments expressed at these meetings indicated agreement with the preferred alternative.

Comments expressed at these meetings indicated agreement with the preferred alternative.
In a letter dated January 9, 2015, the BLM formally requested public input on the management of various resources in the Park, Gallatin, Broadwater PA. The notice was sent to local media and the BLM's mailing list (twenty-nine people and organizations that have requested notification regarding future projects). It was also posted on the BLM website at:

http://www.blm.gov/style/medialib/blm/mt/field_offices/butte.Par.19466.File.dat/Scoping%20Letter_Park-Gallatin-Boadwater%20South_1_5_15.pdf

The scoping comment period closed on February 16, 2015. During the comment period, the Butte Field Office received six written responses.

5.2 List of Preparers

The following lists of individuals show the interdisciplinary (ID) team that contributed to the compilation of this document. BLM specialists and the company Advanced Resource Solutions, Inc. (ARS) prepared this TMP/EA together.

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CHAPTER 6: ACRONYMS, GLOSSARY, AND WORKS CITED/BIBLIOGRAPHY

6.1 Acronyms

ARS	Advanced Resource Solutions, Inc.
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CTVA	Capital Trail Vehicle Association
DR	Decision Record
EA	Environmental Assessment
EIS	Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act
FONSI	Finding of No Significant Impact
ID	Interdisciplinary
MMBA	Montana Mountain Bike Alliance
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
OHV	Off-Highway Vehicle
PA	Planning Area
RMP	Resource Management Plan
ROS	Recreation Opportunity Spectrum
T&E	Threatened and Endangered
TMA	Travel Management Area
TMP	Travel Management Plan
USFS	U.S. Forest Service

6.2 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.

Adit: A near horizontal passage (driven from the surface) by which a mine may be entered, ventilated, and dewatered.

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 lands 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 landscape with a natural appearance and an absence of readily noticeable human modifications.

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

Closed Off-Highway Vehicle Designations: Are applied to areas or routes 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 an Authorized Officer. These designations may be used if they are necessary to protect resources, promote visitor safety, or reduce use conflicts.

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: Roads that are 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 routes into development areas.

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

Cumulative Impacts: See "Effects, Cumulative."

Decision Record (DR): The BLM document associated with an Environmental Assessment that describes an action to be taken when analysis supports a Finding of No Significant Impact (FONSI).

Designation Terminology: BLM route designation terms (table 18 below) have evolved over time and are used differently from document to document. The table below includes terms used in the *2009 Butte RMP* and equivalent terms used during the route evaluation process that was undertaken for the Park, Gallatin, Broadwater TMA.

Table 21. BLM Route Designation Terms

2009 Butte 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 based on vehicle type, size, season of use, or users with special authorization.
Closed Yearlong	"Limited to administrative and authorized users"	Limited to authorized users. These users can include federal, state, and local agencies, and (in some cases) local landowners, range permittees, mine claimants, etc. These routes are Open to public for non-motorized use.
Decommissioned	"Closed"	Route is intended to be closed and removed from all use.

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

Effects, Cumulative: Impacts on the environment resulting from an action's incremental impact when added to other past, present, or reasonably foreseeable future actions that take place over a period of time, regardless of what agency (federal or non-federal) or person undertakes such actions.

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

Effects, Indirect: Effects caused by an action but occurring later or further removed in distance from where/when an action took place.

Environmental Impact: The positive or negative effect of any action upon a given area or source.

Environmental Assessment (EA): A tool for determining the "significance" of environmental impacts; it provides a basis for rational decision-making. See Appendix 4 for the criteria used to determine significance.

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

Evaluation Number: Identification number assigned to routes; it is assigned during the evaluation process. The evaluation number could be a continuation of the inventory number or changed to a completely new number to clarify a proposed network of routes.

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.

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): Act passed in 1976 by Congress for the purposes of establishing a unified, comprehensive, and systematic approach to managing and preserving public lands; provided the BLM with important guidelines.

Field Office: The administrative subdivision that is (in most instances) the area for which resource management plans are prepared and maintained. Field Office managers have primary responsibility for day-to-day resource management activities and resource use allocations in their areas.

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" (BLM 2009b, 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 timeframes 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.

Hydric Soils: Soils that are sufficiently wet in their upper parts to develop anaerobic (oxygen-free) conditions during the growing season. Presence of hydric soils is the defining characteristic of riparian areas.

Impacts (Common Terms):

- *Negligible Impacts*: No changes to 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 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 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*: 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*: Permanent or unchangeable effects (e.g., the loss of a resource) 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."

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 hearings, appeals, and other review functions on behalf of the Secretary of the Interior.

Inventory Numbers: Identification numbers for linear features that can constitute routes; assigned during the inventory process, which may take place in the field.

Land Health Standards: "Statements of physical and biological condition or degree of function required for healthy sustainable rangelands. Achieving or making significant progress towards these functions and conditions is required of all uses of public rangelands as stated in 43 Code of Federal Regulations 4180.1. Baseline, monitoring and trend data, when available, should be utilized to assess compliance with standards" (BLM 2009b, 105).

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 and 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 Decisions: Establish desired outcomes and actions needed to achieve land use plan objectives. 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 Interior Board of Land Appeals.

Limited Area: As defined in Title 43, Part 8340, a "Limited Area" is 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 categories:

- Vehicle quantity
- Vehicle type
- Time or season of vehicle use
- Permitted or licensed use only
- Use on existing roads and trails
- Use on designated roads and trails
- Other restrictions

Linear Disturbance: Man-made linear feature that is 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.

Local Roads: Normally serve a smaller area than collector roads and connect to collector roads or public road systems. Local roads receive lower volumes, carry fewer traffic types, and generally serve fewer users. User cost, comfort, and travel time are secondary to construction and maintenance cost considerations. Low volume local roads in mountainous terrain (where operating speed is reduced by effort of terrain) may be single lane roads with turnouts.

Maintenance Intensity: Designation (ranging from Level 0 to Level 5) that provides guidance for appropriate maintenance "standards of care" to be applied to recognized routes within the BLM.

Management Area: An area managed for 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 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, including those to biological, physical, or socioeconomic resources.

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

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

Motorized Travel: Moving by means of vehicles that are propelled by motors (e.g., cars, trucks, OHVs, motorcycles, boats, etc.).

Motorized Vehicle: Can be synonymous with off-highway vehicle (OHV). Examples of this type of vehicle include all-terrain vehicles (ATVs), Utility Type Vehicles (UTVs), Sport Utility Vehicles (SUVs), motorcycles, and Over Snow Vehicles (OSV), including snowmobiles.

Multiple Use: Major BLM guiding principle defined in FLPMA. It is "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. . ." (BLM 2001b, 2).

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

Native American Tribe: See "Tribe."

Navigation Number: Final identification number (assigned to a 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.

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

Off-Highway Vehicle (OHV): OHVs are synonymous with Off-Road Vehicles (ORVs). "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, four-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. Such use occurs in the course of an individual's employment, actions, or representation.

Over Snow Vehicle (OSV): An Over Snow Vehicle is defined as a motor vehicle that is designed for use over snow and 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 to the terms, conditions, or decisions of approved plans. With amendments, usually only one or two issues (that involve only a portion of a planning area) are considered.

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 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 by or interested in public land management decisions.

Public Land: Any land and interest in land owned by the United States. Most public lands referenced in this document are administered by the Secretary of the Interior through the Bureau of Land Management.

Recreation Opportunity Spectrum (ROS): The distinguishing recreational qualities of any landscape. The ROS is objectively defined along a continuum ranging from primitive to urban landscapes and is expressed in terms of the nature of the component parts of its physical, social, and administrative attributes. These recreational qualities can be classified and mapped. See Appendix 2 for ROS class descriptions.

Resource Damage: Significant undue damage or disturbance (including erosion or water pollution) that creates 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 off-road vehicle 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 (e.g., 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 Roads: Are usually roads that provide point access and connect to local or collector roads. They carry very low volume and accommodate only one or two types of uses. Use restrictions are applied to prevent conflicts between users needing the road and users attracted to the road. The location and design of these roads are governed by environmental compatibility and an effort to minimize BLM costs (with minimal consideration for user cost, comfort, or travel time).

Right-of-Way (ROW): A linear corridor of land held in fee simple title or as an easement over another's land. A ROW is held for use as a public utility (highway, road, railroad, trail, utilities, etc.) for a public purpose. ROWs usually include designated amounts of land on either side that serve as buffers 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 a road and trail network selected in a 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*) (BLM 2008d).

Settings:

- *Physical Setting*: Determined by the on-the-ground condition (or degree of environmental modification) of an area resulting from human activity.
- *Social Setting*: Determined by the level and types of contacts between individuals or groups which can be expected in a particular area.
- *Managerial Setting*: Reflects the kind and extent of management services and facilities provided to support recreation use in an area. It also reflects restrictions placed on people's actions by an administering agency.

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

Significant Impact: Involves effects with sufficient context and intensity to require an environmental impact statement. The CEQ regulations at 40 CFR 1508.27(b) include ten considerations for evaluating impact intensity. Criteria for determining significance can be found in Appendix 4.

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 (e.g., a motorcycle race, outfitter guide activities, 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*) (BLM 2008d).

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

Standard: Statement and/or illustration describing a design recommendation or principle. In travel planning, standards include preferred development techniques that can be used as rules or bases of comparison in measuring maximum or ideal requirements, quantities, qualities, values, etc.

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

Sustainable (Sustainability): Utilization of natural resources in a way that allows for long-term use while minimizing impacts to resources and minimizing the 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.

Trailhead: An access point to a trail or trail system. Trailheads are often accompanied by various public facilities (e.g., hitching posts for horses, a horse or OHV unloading dock or chute, parking areas, toilets, water, directional and informational signs, a trail use register, etc.). Trailheads are designed and managed for those embarking on overnight or long-distance trips 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.

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 TMAs 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. Other limitations may also apply to designated travel routes in TMAs.

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

Travel Management Plan (TMP): Document that describes the processes and decisions related to the selection and management of a 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) that is designed for and capable of travel over designated unpaved roads and can be described. A vehicle is a UTV if the following apply:

- Travels on four or more low-pressure tires of 20 psi or less
- Has maximum width less than 74 inches or has a wheelbase of 94 inches or less
- Has maximum weight less than 2,000 pounds

UTVs do not include golf carts or vehicles specially designed to carry a disabled person.

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APPENDIX 1: SAMPLE ROUTE REPORT

Introduction
Individual route designation reports are provided online at:
http://www.blm.gov/mt/st/en/fo/butte_field_office.html.blm.gov.

The online reports are public reports, so they may not include certain sensitive information (e.g., cultural resource locations). Pages later in this appendix feature a sample route report for the Park, Gallatin, Broadwater TMA. This report and all others for the TMA follow the report format of Advanced Resource Solutions, Inc. Route reports for the TMA are organized to provide an administrative record of discussions (about particular routes) that happened during route evaluation.[7] The header of each page of a route's report displays the number that was used to identify the route during evaluation (e.g., MR1001, MR1002, etc.). The number placed on published maps and used on route signs may not be the same. Route reports include three major sections: "General Background," "Evaluation Information," and "Designation Alternatives."

General Background
The first part of the "General Background" section of a route report shows the route's evaluation session date (e.g., 12/10/2013), the name of the session's contracted facilitator (in this case, a recreation planner working for Advanced Resource Solutions, Inc.), and the BLM staff specialists (biologists, archaeologists, etc.) involved in discussion about a particular route. The second part of the "General Background" section provides physical information about the route such as length, width, use, jurisdictions over which it passes, and origin (if known). Other information may also be included along with citizen comments and proposals (if any). In the "Citizen Comments and Proposals" subsection, "Author" refers who made a proposal, and "Designation" refers to what designation a citizen proposed. If there are no citizen comments or proposals, "None" will be included in the subsection to apply to all headings in it.

Evaluation Information
Introduction
Evaluation information in a route report is divided into three colored boxes that address the topics of CAPE (yellow), public uses (blue), and special resource concerns (green).

CAPE
The first part of the "Evaluation Information" section focuses on CAPE issues. "CAPE" is an acronym that represents the umbrella topic of commercial, administrative, and property owner access—*and* economics. In the CAPE part of the report, the general issue questions for CAPE are answered, and a listing of facilities and access is provided. There are three types of access identified:

- Primary = main access
- Alternate = secondary or backdoor access
- Link = route necessary for use of the primary access

[7] Section 2.2.3 provides more information on the route evaluation process.

Public Uses

The second part of the "Evaluation Information" section focuses on public uses. General public use issue questions are answered. Then a list is provided for a route's facilities, modes of transportation, and activities. As in CAPE, facility access is listed using the categories of: "Primary," "Alternate," and "Link." Mode of transportation and activity are indicated by:

- Primary = Main mode or activity on the route
- Secondary = Other common modes and activities
- Infreq = Infrequent (uncommon modes or activities)

Special Resource Concerns

The third part of the "Evaluation Information" section focuses on special resource concerns. General issue questions for special resource concerns are answered. Then resources and concerns are identified. These are grouped into general categories such as:

- Biome
- Special status animals
- Managed species
- Resource issues
- Etc.

In the "Special Resource Concerns" box, routes are characterized as:

- In = Route is mostly or completely within the resource or area of concern
- Leads To = Route provides access to the resource or area of concern
- Crosses = 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

Designation Alternatives

The end of a route report provides a listing of the four alternatives discussed for a route during an evaluation session. Alternative A (No Action) simply states the current management of a route and its area designation (no color). The action alternatives (Alternatives B, C, and D) are color-coded to "Open w/ Management" or "Open" (Green), "Limited w/ Management" (Orange), and "Closed" (Pink). The "w/ Management" portion of Limited and Open designation labels is only found in the route reports, but it is not used in designation labels found earlier in this document. Footnote 2 in Section 2.2.4 further discusses this issue.

For Limited designations, "w/ Management" basically indicates that there are types of limitations, and that there will be adaptive management or other specific mitigation, maintenance, and/or monitoring that was identified during evaluation. For the Open designations, "w/ Management" refers to adaptive management or other specific mitigation, maintenance, and/or monitoring that was identified during evaluation.

In the "Designation Alternatives" box, a designation is clearly spelled out along with a statutory reference and a rationale for the alternative. Information from memos may also be included. Limited alternatives include specific limitations regarding route use. For alternatives (both Open and Limited) with management identified, there would be specific management actions identified such as maintenance, monitoring, or mitigation. For Closed alternatives, information is provided about how routes would be Closed/Decommissioned. Also, if a route is redundant to another route, that is specified.

Actual Sample Route Report
PGB1054

Facilitator(s):	Ernie McKenzie	**Initial Evaluation Date:**	12/1/2015

Initial Evaluators:	**Brenda Geesey**, GIS Specialist	**Brad Colin**, Outdoor Recreation Planner
	Michael O Brien, Forester (ID Team Lead)	**Greg Campbell**, Fuels Specialist
	Lacy Decker, Range Technician (Weeds)	**Vickie Anderson**, Range Technician
	Roger Olsen, Rangeland Management Specialist (SS Plants)	**Dave Williams**, Geologist
	Mike Wyatt, Lands and Realty	**Casey Trang**, Civil Engineer
	Jason Brooks, Wildlife Biologist	**Joan Gabelman**, Geologist
	Brandy Janzen, Soil Scientist	**Brandon Anderson**, Civil Engineer
		Carolyn Kiely, Archeologist

TMA:	Park Gallatin Broadwater		
Management Zones:	Entire		
Length: 0.62 miles	**Width:** Dual Track	**Class:** Primitive Roads	**Use Level:** Low
Route Types	☒ Connector		
Surface & Maint.			
Origin			
Jurisdictions:	☒ BLM		

Additional Information None.

Citizen Comments and Proposals

Author	Designation	Comment or Proposal
None.		

General Evaluation Questions

Does this route: ☐ 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 part of an Agency planning document and is subject to maintenance? ☐ provide an important linkage between Travel Management Areas or planning sub-regions?	**YES**
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**
Might the continued use of this route potentially impact ☒ 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	**YES**
Can the anticipated potential impacts to the identified resources be avoided, minimized (reduced to acceptable levels), or be mitigated?	**YES**
Can the commercial, private property, recreation or 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**

Evaluation Information

Commercial, Administrative, Property and Economics

Route Management Objective(s) identify the purpose and need of the route:
This route provides important access to the following facilities and/or jurisdictions shown below for the purpose of carrying out administrative and/or authorized operations or for property access where applicable.

Facilities & Access	Specifically	Primary	Alternate	Link	Memo
Jurisdictional Access	Private Lands	☒	☐	☐	
Agency Facilities	Monitoring Site	☒	☐	☐	
Range Facilities	Active Allotment	☒	☐	☐	
Range Facilities	Allotment/Pasture Fences	☒	☐	☐	
Range Facilities	Gate	☒	☐	☐	
Range Facilities	Developed Water	☒	☐	☐	
Range Facilities	Tank/Trough	☒	☐	☐	
Range Facilities	Spring Source	☒	☐	☐	

('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.)

Public Uses

Route Management Objective(s) identify the purpose and need of the route:
This route provides public access by the following travel modes to the following facilities for the purposes of engaging in the listed recreation activities.

Facilities	Description	Primary	Alternate Link	Memo
None				

Travel Modes	Description	Primary	Secondary	Infreq
Modes of Transportation	Stock 4 Wheel Drive	☒	☐	☐
Modes of Transportation	2WD vehicle	☐	☒	☐
Modes of Transportation	ATV	☐	☒	☐
Modes of Transportation	UTV	☐	☒	☐
Modes of Transportation	Motorcycle	☐	☐	☒
Modes of Transportation	By Foot	☐	☐	☒
Activities				
Public Uses Activities	Hunting	☒	☐	☐
Public Uses Activities	Antler shed hunting	☒	☐	☐
Public Uses Activities	Hiking	☒	☐	☐
Public Uses Activities	Wildlife Watching	☒	☐	☐
Public Uses Activities	Equestrian	☐	☒	☐

('Primary access' 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.)

Special Resource Concerns

Resources Evaluated:
This route is in, leads to, crosses or is proximate to the natural and/or cultural resources and resource concerns listed below.

Resource/Concern	Specifically	In	LeadsTo	Crosses	Prox	Dist	Memo
Biome	Dry Foothills/Woodlands	☒	☐	☐	☐		
Special Status Animals	Wolverine	☒	☐	☐	☐	1/2 mile	
Special Status Animals	Grizzly bear recovery zone	☒	☐	☐	☐		
Managed Species	Mule deer year-round	☒	☐	☐	☐	1/2 mile	
Managed Species	Big Game Winter Range	☒	☐	☐	☐	1/2 mile	
Managed Species	Elk winter habitat	☒	☐	☐	☐	1/2 mile	
Managed Species	Moose crucial winter range	☒	☐	☐	☐	400 feet	
VRM	VRM Class II - Retain existing character	☒					
RSC	Back Country (Semi-Primitive, Non-motorized)	☒					
Water Resources	Spring	☐	☒	☐	☐	150 yards	
Misc. Resources	Erosive Soil - High potential	☒	☐	☐	☐		
Resource Issues	Noxious Weeds	☒	☐	☐	☐	1/4 Mile	hounds tongue

Note: *Specific sensitive resources, such as cultural or paleontological resources or Threaten or Endangered Species that may potentially be affected by this route are not listed in this report for their protection. These resources will be analyzed in the NEPA process included in the planning process of route designation.*

Potential Alternative Route Designations

Alternative A

Current Management, No Action Alternative
Area Designation: Limited
Route Management: Open

Alternative B

Designation: LIMITED — Limited to Admin. Users, Auth. Users.
This route may be used by these:

Administrative Users: All Federal, State and Local agencies may use this route by all motorized modes, year round.

Authorized Users: Ranch allottee, private land owner may use this route by all motorized modes

Non-motorized Public: The public may use this route by all non-motorized modes, year round.

OHV Public: The public may use this route by non-motorized modes, year round.

Specific Designation Criteria Addressed:
-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 will be given to protect endangered or threatened species and their habitats.

How Designation Addresses Criteria Above: This route provides commercial/administrative access with minimal effects to documented resources. Limiting motorized access reduces traffic volume in the area thus reducing the potential for harassment of wildlife.

Designation Criteria Considered But Not Relevant to Route Issues:
-43 CFR 8342.1c
-43 CFR 8342.1d

Alternative C

Designation: OPEN W/

MANAGEMENT
This route may be used by these:

Administrative Users: All Federal, State and Local agencies may use this route by all motorized modes, year round.

Authorized Users: Ranch allottee, private land owner may use this route by all motorized modes, year round.

Non-motorized Public: The public may use this route by all non-motorized modes, year round.

OHV Public: The public may use this route by all motorized modes, year round.

Specific Designation Criteria Addressed:
-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 will be given to protect endangered or threatened species and their habitats.

How Designation Addresses Criteria Above: This route provides recreational and commercial/administrative access with minimal effects to documented resources. This route provides the best access to range improvements and private lands.

Designation Criteria Considered But Not Relevant to Route Issues:
-43 CFR 8342.1c
-43 CFR 8342.1d

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]).

Alternative D

Designation: OPEN
This route may be used by these:

Administrative Users:	All Federal, State and Local agencies may use this route by all motorized modes, year round.
Authorized Users:	No Authorized Users were identified.
Non-motorized Public:	The public may use this route by all non-motorized modes, year round.
OHV Public:	The public may use this route by all motorized modes, year round.

Specific Designation Criteria Addressed:
-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 will be given to protect endangered or threatened species and their habitats.

How Designation Addresses Criteria Above: This route provides recreational opportunities and commercial/administrative access with minimal effects to documented resources. This route provides the best access to range improvement studies and private lands.

Designation Criteria Considered But Not Relevant to Route Issues:
-43 CFR 8342.1c
-43 CFR 8342.1d

Memo(s)

APPENDIX 2: RECREATION OPPORTUNITY SPECTRUM CLASSES

Defining recreation opportunities helps recreation managers create and maintain appropriate recreation experiences to suit various types of land and visitors. The Recreation Opportunity Spectrum (ROS) continuum characterizes recreation opportunities in terms of setting, activity, and experience. The spectrum contains seven classes described in the table below, which was adapted from page 159 of the *2009 Butte RMP* (BLM 2009b). Note: BLM land in the Park, Gallatin, Broadwater TMA does not include lands under the "Primitive," "Roaded Modified," or "Urban" classes.

Table 22. Recreation Opportunity Spectrum Classes

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 is 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-appearing 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.

APPENDIX 3: EXECUTIVE ORDER 11644

In 1972, President Nixon signed Executive Order 11644 (National Archives 2014), 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 Executive Order 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 (GPO 2014a). Thus, it became BLM policy and was implemented at a nationwide scale throughout BLM-administered lands.

All BLM-managed public lands require motorized vehicle use designations. Both areas and routes require such designations in accordance with Title 43 CFR 8340 – Off Road Vehicles (derived from Executive Order 11644). The designation categories (excerpted from Title 43 CFR 8340.0-5 definitions) include:

Open Area
Area where all types of vehicle use is permitted at all times, anywhere in the area subject to the operating regulations and vehicle standards set forth in subparts 8341 and 8342 of this title.

Limited Area
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.

Closed Area
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 4: TRAVEL VARIANCE PROCESS AND APPLICATION

Travel plan variances are requests by the public, commercial interests, or interagency personnel, (see "NOTE" below) to *temporarily* use motorized vehicles in a cross-country (off-road) manner and on Closed roads and seasonally restricted roads. 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 environmental impact statement, environmental assessment, 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 *Record of Decision: Off-Highway Vehicle Environmental Impact Statement and Proposed Plan Amendment for Montana, North Dakota and South Dakota* (BLM 2003) and Instruction Memorandum #MT-2001-004 (BLM 2000) regarding administrative uses.

Variance requests that cannot be approved due to issues raised during review would be subject to the National Environmental Policy Act (NEPA) process or Documentation of NEPA adequacy (DNA). A DNA is documentation of whether or not there is existing NEPA documentation to cover a variance request. If a request cannot pass this test, additional NEPA documentation would be required, and the NEPA process would need to be started.

The NEPA process is initiated by the BLM program lead who is requesting a variance after receiving an external request from the public, the BLM, or a cooperating agency. The public can make variance requests by using the variance request form found on pages 156-158 of Appendix D of the *2009 Butte RMP* and on the later pages of this appendix. After basic information on the variance form is complete, a flowchart would be circulated among respective BLM specialists for consultation and overall review. This flowchart can be found on page 154 of Appendix D of the *2009 Butte RMP* and on the next page of this appendix. A list of BLM specialist reviewers follows the flowchart.

Examples of requests for variances include (but are not limited to):

- Access to private property (patented mine claim, mining claim location and assessment work, seasonal cabin, etc.)
- Casual use mineral exploration (refer to 43 CFR 3809.5) (GPO 2014b)
- Permit lease administration (firewood collection, recreation, etc.)
- Agency administrative work
- Contract work or contract administration
- Other permit leases

NOTE: This TMP/EA would serve as the official travel variance for BLM staff to access any of the travel routes within the Park, Gallatin, Broadwater TMA (regardless of their 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.

Variance Request Assessment 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
|
Yes
|
Are there reasonable alternative routes available? **Yes-----No Variance**
Must be No to continue
|
No
|
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
|
No
|
Is the road safe to use during the requested time period? **No-----No Variance**
Must be Yes to continue
|
Yes
|
Can the activity be postponed until the road or area is Open to motorized use? **Yes-----No Variance**
Must be No to continue
|
No
|
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
|
Yes
|
Can social conflicts (as analyzed) be sufficiently mitigated? **No-----No Variance**
Must be Yes to continue

Yes – Variance may be approved by Authorized Officer (see 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		

Variance Request Form

USDI BUREAU OF LAND MANAGEMENT Authorization No._____
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 numbers 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 _____ Variance Approved (**Special Stipulations if any):**

This application is hereby approved subject to the Standard stipulations/Special stipulations (if any) listed above:

_____
(signature/date)

_____ Variance Denied This application has been denied for the following reasons: See attached letter.

APPENDIX 5: CRITERIA FOR THE PLACEMENT OF NATURAL SURFACE TRAILS

The following criteria are used to determine suitable locations and design features for new trails. This document utilizes terminology from the *Recommended Standardized Trail Terminology for Use in Colorado* (COTI 2005), which was assembled using various trail building manuals and guidance documents as listed in the references section.

These criteria are to be followed as guidelines, not standards. Not all of the criteria can be met on every segment of every trail. Their purpose is to help create sustainable, low maintenance trails that provide quality recreation experiences on the basis of predetermined trail management objectives (TMOs). Specialty trails requiring higher maintenance may be allowed in appropriate locations. Know and understand trail management objectives. TMO's provide the framework for what the trail will look like, who will be using the trail, and how the trail will be managed. Different TMO's may allow different applications of the criteria below.

1. Create loops and avoid dead end trails. All trails should begin and end at a trailhead or another trail. A well-planned stacked loop trail system offers a variety of trail options. Easier, shorter loops are arranged close to the trailhead, with longer, more challenging loops extending further beyond the trailhead. Occasionally, destination trails to a point of interest will require an out-and-back trail, but only if they cannot be reasonably incorporated into a loop.

2. Identify control points and use them to guide trail design and layout. Control points are specific places or features that influence where the trail goes. Basic control points include the beginning and end of the trail, property boundaries, intersections, drainage crossings, locations for turns, and other trails.
    a. Positive control points are places where you want users to visit, including scenic overlooks, historic sites, waterfalls, rock outcroppings, lakes, rivers and other natural features or points of interest. If the trail does not incorporate these features, users will likely create unsustainable social trails to get to them.
    b. Negative control points are places you want users to avoid, such as low-lying wet areas, flat ground, extremely steep cross slopes or cliffs, unstable soils, environmentally sensitive areas, sensitive archaeological sites, safety hazards, and private property.
    c. Knowing these control points provides a design framework. Try to connect the positive control points while avoiding the negative control points.

3. Use cross slope and avoid flat ground whenever possible. The trail tread should generally run perpendicular to the cross slope and should utilize frequent grade reversals. This is the best way to keep water off the trail. Use curvilinear design principles to create a trail that follows the natural contours of the topography, sheds water, blends with the surrounding terrain, and provides fun recreation opportunities.

4. The following grade guidelines will help determine appropriate tread locations.
    a. The Half Rule: "A trail's grade shouldn't exceed half the grade of the hillside or side slope (cross slope) that the trail traverses. If the grade does exceed half the side slope, it's considered a fall-line trail. Water will flow down a fall-line trail rather than run across it. For example, if you're building across a hillside with a (cross slope) of 20 percent, the trail-tread grade should not exceed 10 percent" (IMBA 2004). Steeper cross slopes allow more flexibility for sustainable tread grades while flat or low angle cross slopes can be problematic. There is an upper limit to this rule. Sustaining a 24 percent tread grade, even on a 50 percent cross slope is unlikely. Additionally, trail segments may break this rule on durable tread surfaces such as solid rock.
    b. The Ten Percent Average Guideline: The average trail grade over the length of the trail should be 10 percent or less for greatest sustainability. Short sections of the trail may exceed this, but the overall grade should remain at 10 percent or less.
    c. Maximum Sustainable Grade: This is the upper grade limit for those short trail segments that push the limits of the previous two guidelines. It is determined by a site-specific analysis that is based on TMO's, environmental conditions, and observations of existing trails – what's working, and what's not?
    d. Grade Reversals: Frequent changes in the direction of tread grade (gentle up and down undulations) will ensure that water is forced off the trail at frequent intervals.

5. Locate trails in stable soils. Avoid clays, deep loam and soils that do not drain rapidly. Consider season of use and type of use. The capabilities of motorized vehicles to function in wet/muddy conditions make it imperative to avoid unstable or poorly drained soils. Trails that are less likely to be used when wet may be located in less-desirable soils if necessary. In western Colorado's arid environment, the best soil conditions for trails are those with high rock content.

6. Drainage crossings are key control points and should be selected carefully. Consider both the trail's impact on the drainage (erosion and sedimentation), and the drainage's impact on the trail (changing tread surface, water channeling onto trail). The trail should descend into and climb out of the drainage to prevent water from flowing down the trail. Avoid long or steep entries into drainages. Design grade reversals into the trail on each side of the approach to minimize water and sediment entering from the trail. Look for drainage crossings on rock.

7. Dry washes can be excellent travel ways. They are well defined, contain noise, and are periodically resurfaced by flowing water. As long as the wash does not support riparian vegetation and has no major safety problems, like water falls, they are well suited to be part of a recreational trail system.

8. Avoid switchbacks. Switchbacks are difficult, time-consuming, and expensive to construct, and require regular maintenance. Users often cut them, causing avoidable

impacts. Utilizing curvilinear design principles eliminates the need for most switchbacks. Climbing turns are easier to construct and maintain and utilize natural terrain features (benches, knolls, rock outcrops) to change the direction of a trail.

9. Avoid ridge tops. Ridge tops are often primary transportation corridors for wildlife, and were often used by Native Americans as travel routes. Noise from ridge top trails is broadcast over a wide area. Locate trails on side hills, off ridge tops, using ridges and watersheds as natural sound barriers to isolate noise.

10. Use vegetation and other natural features to conceal the trail and absorb noise. This can be difficult in an arid environment. Try to minimize the visual impact of the trail by following natural transitions in vegetation or soil type. A trail near the base of a side slope or on rimrock is usually less visible than a mid-slope trail. Denser vegetation will hide a trail, lessen noise transmission, and can dissipate the energy of falling raindrops on the bare soil of the trail tread.

11. Carefully design intersections to avoid safety problems. When locating a bicycle or motorized vehicle trail be aware of sighting distance and sight lines. Collisions can be avoided if riders can see each other. Avoid four way intersections. Offsetting the cross traffic helps reduce speeds and reduces the risk of collisions.

References

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Off Highway Vehicle Trail and Road Grading Equipment, Vachowski, Maier, USDA Forest Service Missoula 9 Technology and development Center 1998 Doc# 7E72A49

Mountain Bike Trails: Techniques for design, construction and Maintenance, McCoy Stoner, USDA Forest Service, Missoula Technology and Development Center

Recommended Standardized Trail Terminology for Use in Colorado, Colorado Outdoor Training Initiative (COTI). 2005

Tractor Techniques for Trailbed restoration, Hamilton, USDA Forest Service 1994 Trails 2000, Lockwood USDA Forest Service 1994

Trail Construction and Maintenance Handbook, Hesselbarth, Vachowski, USDA Forest Service (4E42A25-Trail Notebook) 2004

Trail Solutions, IMBA's Guide to Building Sweet Singletrack, International Mountain Bicycling Association (IMBA) 2004.

USDA Forest Service Travel Management Handbook, FS 2309.18