

**UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

**TMA 1: HIAWATHA, SAND WASH, & BEARS EARS  
TRAVEL PLANNING AREAS**

**FINAL  
TRAVEL MANAGEMENT PLAN  
ENVIRONMENTAL ASSESSMENT**

DOI-BLM-CO-N010-2016-0015-EA

April 2022

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Abstract:

The following environmental assessment was published as a draft with a 30-day comment period beginning July 10, 2017. The final EA was published in November 2018. In April 2022 the LSFO reviewed the EA and edited it to update it according to the latest information. The appendices released in November 2018 are unchanged – please refer to appendices posted in November 2018 as they have not been re-published.

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# 1 Introduction & Background

## 1.1 Introduction

The Bureau of Land Management (BLM) Little Snake Field Office (LSFO) Travel Management Area 1 (TMA 1) Travel Management Plan (TMP) is the product of extensive public and agency input. The intent of the plan is to establish a comprehensive travel network, meeting both current and future access needs to the public lands in this area, and to minimize conflict among users of the travel network. These conflicts are identified in this document. The plan identifies a system of roads, primitive roads and trails, as well as the terms for their use and maintenance. Additionally, it outlines facilities to be developed in support of recreation through creation of a limited number of new routes and closure of other routes. The travel network identified in this TMP is comprised of both motorized and non-motorized trails.

This Environmental Assessment (EA) provides analysis of the proposed action and additional alternatives considered during the travel management planning process.

## 1.2 Background

Federal agencies are directed to manage motorized vehicle use on public lands through Executive Orders 11644 and 11989, which have been incorporated into the Code of Federal Regulations (CFR), under 43 CFR 8342.1. The *Little Snake Proposed Resource Management Plan and Final Environmental Impact Statement* (Proposed RMP/Final EIS) (BLM 2010), *Little Snake Record of Decision and Approved Resource Management Plan* (Approved RMP) (BLM 2011d), and *Record of Decision and Approved Resource Management Plan Amendment for the Rocky Mountain Region, Including the Greater Sage-Grouse Sub-Regions of Lewistown, North Dakota, Northwest Colorado, Wyoming, and the Approved Resource Management Plans for Billings, Buffalo, Cody, HiLine, Miles City, Pompeys Pillar National Monument, South Dakota, Worland* (ARMPA) (BLM 2015e) provide management guidance for the 331,429 acres of the BLM land located within TMA 1 (Table 1.2-1, Appendix B). This guidance must be considered in any travel management planning decisions.

## 1.3 Analysis Area

The LSFO TMA 1 is located in the northwest region of the field office boundary, bordered by County Road 10N to the west, the Wyoming state line to the north, County Road 75 to the east, and Highway 318 to the south (Figure 1.3-1, Appendix C). The area is located in Moffat County, Colorado and comprised of primarily BLM land ownership with a few State and private parcels. Unique sites within the planning area include one area of critical environmental concern (Irish Canyon ACEC), a special recreation management area (South Sand Wash SRMA), lands managed for their wilderness characteristics (e.g., Vermillion Basin Protective Management Area), and a wild horse herd management area (Sand Wash HMA). Additionally, the Hiawatha and Powder Wash Oil and Gas Fields occur within the northwestern and eastern portion of the analysis area, respectively.

Resources of interest include soil, vegetation, riparian areas and wetlands, fish and wildlife habitat, special status species, wild horses, fire, cultural and paleontological resources, special management designations, livestock grazing, recreation, lands and realty, transportation and access, energy and minerals, lands inventoried for wilderness characteristics, and social and economic conditions.

Figure 1.3-1 in Appendix C displays a general overview of the LSFO TMA 1. Figure 1.3-2 in Appendix C provides context for the location of TMA 1 within the LSFO.

The South Sand Wash SRMA, Zone 2, is within the TMA 1 analysis area. Based on the management decisions in the Approved RMP, this area will be managed as limited to designated roads and trails for off-highway vehicle (OHV) use (BLM 2011d).

## 1.4 Land Use Plan Conformance

Land use plans and planning decisions are the basis for every on-the-ground action BLM undertakes. The BLM land use planning requirements are established by Sections 201 and 202 of the Federal Land Policy and Management Act of 1976 (FLPMA, 43 U.S. Code 1711-1722) and the regulations in 43 CFR 1600. Land use plans ensure that public lands are managed in accordance with the intent of Congress as stated in FLPMA (43 U.S. C. 1701), under the principles of multiple use and sustained yield.

The BLM currently manages the TMA under the 2011 Approved RMP (BLM 2011d), as amended by the 2015 ARMPA (BLM 2015e). The Approved RMP and the ARMPA indicate long-term goals specific to the LSFO resources and uses; while national goals are set by documents such as the Travel and Transportation Handbook (BLM 2012c), National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands (BLM 2001), Land Use Planning Handbook (BLM 2005a) and Executive Orders 11644 and 11989 (Appendix D) – Off-Road Vehicle Management Policies.

The Approved RMP (BLM 2011d) outlines the following management decisions relevant to this TMP:

Provide for types or modes of access and travel that will balance resource protection with use.

Objectives for achieving this goal include:

- County and local governments and affected interests will be invited to participate in travel management.
- Design a road and trail system within the planning area that can be well managed and provides quality recreation opportunities.
- Reduce the number of unmanaged roads and trails.

Develop an access/transportation plan that:

- Enables access where needed.
- Limits points of access to reduce the number of redundant roads and trails.
- Reroutes, rehabilitates, or eliminates existing roads and trails that are causing damage to cultural or natural resources.
- Reroutes roads and trails that are landlocked by private parcels.
- Restricts access to meet resource objectives (seasonal road closures, gating, etc.)
- Concentrates stream and riparian crossings.
- Reduces habitat fragmentation.
- Considers new construction and reconstruction of roads and trails. Actively pursue access to specific parcels to improve access to public lands for land management purposes.

The ARMPA (BLM 2015e) outlines the following management decisions relevant to this TMP.

Objective TTM-1: Manage travel and transportation to 1) reduce mortality from vehicle collisions, 2) limit change in Greater Sage-Grouse (GRSG) behavior, 3) avoid, minimize, and compensate for habitat fragmentation, 4) limit the spread of noxious weeds, and 5) limit disruptive activity associated with human access.

MD TTM-1: (PHMA) Limit OHV travel to existing roads, primitive roads, and trails at a minimum. Special Zone Provision: Colorado MZ 13 – Manage the Wolford Mountain open OHV area.

MD TTM-2: (PHMA) Evaluate and consider permanent or seasonal road or area closures as needed to address a current threat.

MD TTM-3: (PHMA) Complete activity level travel plans as soon as possible, subject to funding. During activity level planning, where appropriate, designate routes with current administrative/agency purpose or need to administrative access only.

MD TTM-4: (PHMA) Complete activity level travel plans as soon as possible, subject to funding. Limit route construction to routes that will not adversely affect GRSG populations due to habitat loss or disruptive activities.

MD TTM-5: (PHMA) Use existing roads or realignments whenever possible. If it is necessary to build a new road, and the use of existing roads would cause adverse impacts to GRSG, construct new roads to the appropriate minimum Gold Book standard and add the surface disturbance to the total disturbance in the PHMA if it meets the criteria in Appendix H, Guidelines for Implementation and Adaptive Management.

Construct no new roads if the biologically significant unit (Colorado populations) and proposed project analysis area (Colorado MZ) is over the 3 percent disturbance cap (see Appendix E, Methodology for Calculating Disturbance Caps), unless there is an immediate health and safety need, or to support valid existing rights that cannot be avoided. Evaluate and implement additional, effective mitigation necessary to offset the resulting loss of GRSG habitat.

MD TTM-6: (PHMA) Allow upgrades to existing routes after documenting that the upgrade will not adversely affect GRSG populations due to habitat loss or disruptive activities.

MD TTM-7: (PHMA) Conduct restoration of roads, primitive roads and trails not designated in travel management plans. This also includes primitive route/roads that were not designated in wilderness study areas and within lands with wilderness characteristics that have been selected for protection in previous LUPs.

MD TTM-8: (PHMA) When reseeding roads, primitive roads and trails, use appropriate seed mixes and consider the use of transplanted sagebrush.

## **1.5 Purpose and Need**

The purpose of the action is to identify within the TMA new or existing routes that would provide access to other BLM-administered public lands, State lands, local communities, and private lands. The intent is

to delineate a transportation system, which, through designation of routes, encourages responsible use and meets socioeconomic and access needs, while protecting natural and cultural resources on public lands. The system would provide high quality motorized and non-motorized recreational experiences through a comprehensive, maintainable road and trail network, while meeting additional resources management needs. The system will provide access to primary gateways; create loops, long-distance trail experiences, trails for different types of users, and access to community features. It will also reduce redundancy, resource degradation, and habitat fragmentation within the network.

A travel network in the TMA is necessary to maintain high quality recreational experiences and provide a range of access opportunities for a wide variety of users. In compliance with the Approved RMP (BLM 2011d), as amended by the ARMPA (BLM 2015e), the TMP addresses the need to identify designated routes and provide continued access and key connections to heritage sites, scenic overlooks, hunting, wildlife/wild horse viewing, recreational areas, dispersed camping, private property, management areas, travel routes, and valid existing rights. Impacts caused by cross-country motorized vehicle use are addressed in order to maintain and protect the condition of resources. The TMP considers the different modes of travel and access, conditions of travel on public lands, and the need to reduce conflicts with key natural resources and sensitive habitats. This collaborative transportation planning process identifies the type of road construction and maintenance standards needed to protect resources and accommodate anticipated traffic types and use levels.

### **1.5.1 Decisions to be Made**

The LSFO Field Manager will decide whether or not to:

- Convert areas currently allocated as "limited to existing roads, primitive roads and trails," to areas that are "limited to designated roads, primitive roads, and trails."
- Establish a travel network, with each route explicitly designated per the requirements of 43 CFR 8342.1, BLM Manual 1626, and BLM Handbook 8342-1.

## **1.6 Scoping and Issues**

The BLM Interdisciplinary Team (IDT) analyzed the potential consequences of the Proposed Action and alternatives during route evaluations and meetings held throughout the development of the TMA 1 TMP. Table 1.6-1 in Appendix B displays the resource issues analyzed and addressed in Section 3.0 Affected Environment and Environmental Consequences. The Public Scoping Summary Report (Appendix E) provides additional detail on the scoping process.

### **1.6.1 Internal Scoping**

The BLM Interdisciplinary Team analyzed the potential consequences of the TMP and alternatives during route evaluations and meetings held throughout development of the Plan EA. Table 1.6-1 in Appendix B displays resource issues and how they were analyzed and addressed in the EA.

### **1.6.2 Issues Defined by the Public**

The LSFO initiated the transportation planning process in 2012, following the release of the 2011 Approved RMP (BLM 2011d). The TMAs were designated as planning units by the IDT and recreation staff after the Approved RMP was issued in October of 2011.



Seventeen unique units were delineated within the field office boundary. The Hiawatha, Sand Wash, and Bears Ears Travel Planning Areas were inventoried during the summers of 2012-2015. These three units were established as TMA 1 and the inventory results were released to the public on the LSFO website in order to identify any routes that could have been missed or did not appear to be in the correct location. Maps and comment forms were provided to receive public input and reviewed by the IDT to ensure inventory was complete and accurate prior to beginning evaluation.

Public scoping was conducted following completion of the inventory review and included distribution of a scoping letter, press release, postcards, and updates to the project website to notify the public of the first public meeting. The first meeting was an open house, which took place on February 23, 2016 from 11:30 a.m. – 6:30 p.m. at Memorial Hospital located at 750 Hospital Loop, Craig, CO 81625. The purpose of the public scoping open house was to receive input on the issues to be analyzed; criteria used for evaluating routes; which routes are important to the various users; which routes have issues; inform the public on the planning process and RMP guidance; identify needs for new routes; and identify needs for closing routes. Eighty-one (81) participants attended the public scoping meeting.

A second public meeting, also an open house format, was held on June 23, 2016 from 11:30 a.m. – 7:00 p.m. at the Center of Craig located at 601 Yampa Avenue, Craig, CO 81625 to encourage public input on the development of the preliminary alternatives. The public was notified via email, postcards, press releases, and updates to the project website. The purpose of the preliminary alternatives meeting was to ask the public for input on the adequacy of the preliminary alternatives, look for any further issues that need to be addressed, discuss how the alternatives address the planning issues, and address the management objectives of each alternative. Fifteen (15) participants attended the preliminary alternatives open house. The public scoping meeting and the public alternatives meeting were each followed by a 30-day comment period. The comment period following the alternatives meeting was extended twice in order to allow more time to comment.

The BLM LSFO received 57 comment forms, letters, online submissions, and emails during public scoping, and 13 comment forms, letters and emails during the preliminary alternative comment period. The comments contained general comments and route specific comments. Comments were reviewed prior to and during the evaluation process and incorporated into the Geographical Information System (GIS) route database.

Comments were received from various individuals, most of whom live in or have visited the Craig area. A number of organizations and user groups commented, including Backcountry Hunters and Anglers, Yampa Valley OHV Trail Riders, Quiet Use Coalition, Friends of Northwest Colorado, Timberline Trail Riders, The Wilderness Society, Conservation Colorado, Rocky Mountain Wild and Rocky Mountain Recreation Initiative. Cooperating agencies that commented include Moffat County and Colorado Parks and Wildlife.

## **1.7 Key Scoping Issues**

The majority of comments related to the designation of routes and current use of routes. The following summary highlights comments by topic.

Mitigation

- Mitigate impacts to wildlife and sensitive species
- Apply minimization criteria to minimize impacts to resources

#### Cultural Resources

- Vandalism and theft
- The need for surveys

#### Paleontological Resources

- Protection of claystone and sandstone rocks void of vegetation

#### Soils

- Fragile soil protection
- Steep slopes
- Drainage crossings (need for culverts and water bars)

#### Vegetation

- Invasive species

#### Fish & Wildlife

- Reduce habitat fragmentation
- Special status species protection
  - GRSG protection
- Big game habitat protection
  - Elk habitat
  - Mule deer habitat
  - Pronghorn habitat
  - Raptor habitat
- Cooperation with other agencies
- Targeted seasonal closures
- Protection of riparian areas

#### Recreation

- Importance of tourism and hunting to the economy
- Enhance the experience for route users
- Quiet use opportunities
- Wild horse viewing access and opportunities
- Wild horse protection
- Restrictions on shed hunting (the search for antlers)
- Maintain routes for multiple users
- Provide good loops
- Singletrack motorcycle trails
- Keeping Bears Ears, Sheephead Basin, and Hartman draw open for hunting and backcountry access and activities

#### Travel and Transportation

- Enforcement of use and management designations

- Maintenance of designated routes
- Non-motorized travel experiences
- Protect lands with wilderness characteristics and include existing BLM datasets (e.g. lands with wilderness characteristics) in evaluation
- Use existing routes to create foot, horse, and bike experiences
- Restoration of closed routes
- Restoration of temporary oil and gas routes
- Signage
- Closure of user created routes (specifically in Vermillion Basin)
- Improve maps
- Reduce redundancy and duplicate routes
- Implementation funding plan
- Network/connection
- Protect undeveloped/undisturbed areas
- Include routes identified by Moffat County
- Define a road using existing definitions
- Match Wyoming route designations
- Inventory Sand Wash Open OHV Area
  - Road maintenance agreement on oil and gas routes used for multiple purposes (e.g. livestock grazing, fire management, recreation)
  - Over the snow use

#### Livestock and Range

- Livestock grazing/permittee access needs
- Access to move sheep camps and take care of sheep

### 1.7.1 Key Alternatives Issues

The majority of comments received on alternatives came from local interest groups and cooperating agencies. Three comments were received by individual members of the public. The following summary highlights comments by topic.

#### Routes and Access

- Maintaining routes that provide popular loop rides and connections
- Routes with historic use that require maintenance
- Access for ranching purposes
- Access to spur routes for dispersed camping
- Eliminating redundant routes
- Temporary routes
- Non-motorized trails

#### Evaluation Process

- Disclosure of evaluation methodology and process
- Access to GIS shapefiles and Google Earth (.kmz) files on the project website
- Field verification of routes to confirm current conditions

- Re-visit scoping comments
- Revise the TMP process to consider previously submitted comments
- Travel management planning schedule
- Public access to environmental consequences associated with the risk parameters
- Development of an implementation strategy

#### Alternatives and Resources

- Support for specific alternatives
- Limited impacts of sporadic and infrequent use
- Inclusion of updated special status species data
- Impacts to wildlife resources
- Planning and classification of lands with wilderness characteristics
- Lands with wilderness characteristics inventory
- R.S. 2477
- Recreation within TMAs and field office wide

A full summary of comment responses is presented in Appendix F.

### **1.7.2 Route Evaluation Process**

A comprehensive route evaluation process took place prior to initiation of this environmental assessment. The route evaluation was built on direction from the BLM national standards related to travel and transportation management, the approved RMP, and IDT collaboration and direction. Route evaluations also took into consideration public comments received during the scoping period. The methodology used in the evaluation process documented current uses and resources, while identifying potential risks and benefits each route has on various field office resources. An example route report is provided in Appendix G. The route evaluation process led to the development of four travel network alternatives, each emphasizing various levels of access and resource protection. These alternatives are described in the next chapter.

## **1.8 Travel Management Planning**

There is currently no formal travel management framework for the Little Snake TMA 1. Appendix F of the Proposed RMP/Final EIS (BLM 2010) states that Colorado State BLM policy requires that all areas in limited travel management areas have completed transportation plans within five years of the completion of the RMP ROD that identify designated routes. Per BLM Manual 1626, if no route-specific decisions exist at the time the RMP decisions are made, the designation of an “OHV Limited Area” will limit all OHV use to the same manner and degree occurring at the time of the designation in the RMP. The “OHV Limited Area” designation will prohibit any new surface disturbance, such as cross-country travel, unless subsequently authorized through another implementation-level decision (BLM 2016).

This TMP EA will establish this framework and designate all routes in conformance to 43 CFR 8340. All designations will be based on the protection of resources, promotion of safety of all users, and the minimization of conflicts among various uses.

The TMA 1 TMP EA addresses all existing roads, routes, and trails. It also addresses current plans for minor improvements and future trails and trailheads. Future trails and other minor improvements are discussed in further detail in Appendix H, Travel Management Plan. Additionally, detailed schedules and frequencies necessary to implement all decisions in the TMP. Cost estimates for the implementation of decisions are also included. Several improvements are being considered along with signage, using blockages to prevent travel on closed routes, and minor improvements.

## **1.8.1 Travel Management Terms**

### **1.8.1.1 Route Types**

This EA uses four different route types to describe the intended use designation. The route type is the description of the physical conditions of the route, and describes the extent of physical and/or vehicular access each type may support, as well as lending guidance to maintenance requirements. Route nomenclature would be consistent with current BLM guidance (BLM Roads and Trails Terminology Report 2006), utilizing the terms “road,” formerly called a two-wheel drive road; “primitive road,” formerly called four-wheel drive road and four-wheel drive technical road; and “trail,” formerly called ATV route or restricted access.

As defined in the BLM Travel and Transportation Management Manual (BLM 2016):

- **Road:** A linear route declared a road by the owner, managed for use by low-clearance vehicles, which have four or more wheels, and are maintained for regular and continuous use.
- **Primitive Road:** A linear route managed for use by four-wheel-drive or high-clearance vehicles. These routes do not customarily meet any BLM road design standards. Unless specifically prohibited, primitive roads can also include other uses such as hiking, biking, and horseback riding.
- **Temporary Route:** A transportation linear feature authorized or acquired for the development, construction, or staging of a project or event that has a finite lifespan. A temporary route is not intended to be part of the permanent transportation system, but may be part of the travel network. Temporary routes must be reclaimed by the project proponent (or their representative) when its intended purpose(s) has been fulfilled, unless through a separate review and decision making process the BLM incorporates and appropriately designates the route as part. Examples of temporary routes in the TMA 1 analysis area include oil and gas roads.
- **Trail:** A linear route managed for human-powered, stock, or off-road vehicle forms of transportation or for historical or heritage values. The BLM does not generally manage trails for use by four-wheel-drive or high-clearance vehicles.

### **1.8.1.2 Designation Types**

The alternatives being analyzed herein include a variety of route designation types. The route designation type describes the kind of user that can utilize the route, how the use can occur, and when access to the route is allowed.

- **Open:** OHV travel is permitted where there are no special restrictions or no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting the timing or season of use, the type of OHV, or the type of OHV user.

- **Limited:** OHV travel on routes, roads, trails, or other vehicle ways is subject to restrictions to meet specific resource management objectives.
  - **Seasonal Closure:** Routes that are closed to public motorized and mechanized use during certain seasons or times.
  - **OHV Width:** Routes that are restricted to use by non-motorized, motorcycle, or OHVs with a wheelbase <50 inches.
  - **Authorized Users:** These routes are available to the public for non-motorized travel only. Routes designated for authorized motorized use only, often termed “administrative access,” is for motorized travel for purposes specifically related to completing BLM work or specific work completed by a permittee associated with an approved BLM ROW, or permit, or lease. Authorizations may be granted on a case-by-case basis with written approval from the BLM authorized officer, with the exception of valid existing rights including Rights-of-Way (ROWs), current easements, and access to active mining claims. Routes designated as authorized use only are also subject to seasonal closures, vehicle size class restrictions and ongoing monitoring.
  - **Non-motorized:** Routes limited to non-motorized uses, such as bicycle, horseback, or hiking.
  - **Non-mechanized:** Routes limited to hikers and equestrian travel.
  - **Over-the-Snow Vehicles:** Over-the-snow vehicles will be allowed if snow depth is equal to or greater than 2 feet. Over-the-snow vehicles will not be permitted in areas of snow depth less than 2 feet. If winter conditions warrant, BLM will temporarily close areas to over-the-snow vehicles in order to reduce stress to wildlife. BLM over-the-snow restrictions do not apply to county roads, permitted uses and administrative uses.
- **Closed:** OHV travel is prohibited on the route. Access by means other than OHVs, such as by motorized vehicles that fall outside of the definition of an OHV or by mechanized or non-mechanized means, is permitted. The BLM designates routes as closed to OHVs if necessary to protect resources, promote visitor safety, reduce use conflicts, or meet a specific resource goal or objective.

## 2 Proposed Action and Alternatives

The Proposed Action is one of four alternatives considered in this analysis. Each alternative (except the No Action Alternative) meets the Purpose and Need as described in Section 1.1 above. Additionally, while each alternative (except the No Action Alternative) would result in varying route networks and designations, they all follow the prescriptions outlined in the Approved RMP (BLM 2011d) and ARMPA (BLM 2015e).

All action alternatives would result in a net reduction in routes for motorized and mechanized use, as compared to the current conditions (No Action, Alternative A).

In many cases, impacts in this EA are analyzed qualitatively, but when possible, quantitative impacts are evaluated. Evaluation focuses on direct and indirect effects on specific resources where they occur and cumulative impacts when applicable. For this EA the data collected was through the BLM LSFO. GIS databases were used for mapping, and calculating mileage and acreage. Table 2-1 in Appendix B provides a comparison of the, no action, proposed action and each of the alternatives. A detailed description of each alternative follows.

## 2.1 Goals and Objectives

The following travel and transportation goals, provided in Tables 2.1-1 and 2.1-2 in Appendix B, were prepared by the IDT and tiered off the Proposed RMP/Final EIS (BLM 2010), Approved RMP (BLM 2011d), and the ARMPA (BLM 2015e).

## 2.2 Alternative A (No Action)

Alternative A would maintain existing conditions and management as inventoried, and maintain the current balance of use and development of resources. Minimal limitations on motorized travel would provide an enhanced motorized recreational experience for some users.

Alternative A generally maintains existing access and use patterns and offers minimal restrictions on use type and season. No improvements or closures would occur under this alternative. However, under this alternative, routes previously designated closed in the RMP ROD would be decommissioned. This would involve signage of the closure and passive restoration. Table 2.2-1 in Appendix B and Figure 2.3-1 in Appendix C provide detail on the miles of each type of road or trail associated with Alternative A.

## 2.3 Elements Common to All Action Alternatives

Each of the action alternatives would include very minor route adjustments to avoid sensitive features that were identified during the inventory and evaluation process. Minor realignments of the route network would be considered to be Plan Maintenance. This could include a change of no more than one quarter (1/4) mile of one designated route. It could include the opening of an existing but previously “closed” route that serves the same access need as the “open” route that is to be “realigned.”

It does not include the construction of a new route involving new ground disturbance, except where new construction is necessary to avoid a cultural resource site, sensitive species, or other sensitive resources. “Minor realignments” include the following:

- Minor realignments of a route where necessary to minimize effects on cultural resources.
- Minor realignments of a route necessary to reduce impact on sensitive species or their habitats.
- Minor realignments of a route that would substantially increase the quality of a recreational experience, while not affecting sensitive species or their habitat, or any other sensitive resource value.
- Minor realignments must be documented in the official record. The reason for the alignment change shall be recorded and kept on file in the LSFO.
- Opening or “limited” opening of a route where valid rights-of-way or easements of record were not accurately identified in the route designation process.

Driving off designated roads and trails without creating resource damage would be allowed within a 300-foot buffer of a designated route. The IDT recommended during the route evaluation that these short spur routes not be brought forward for further analysis and route designation because they would remain accessible to the public for multiple-use via the 300-foot buffer analyzed in the Approved RMP (BLM 2011d).

Routes designated to be closed would be decommissioned. This could involve signage, barricades, and passive restoration.

Per 43 CFR 8341.2 (a), if it is determined that OHVs are causing or will cause considerable adverse effects to resources on a route, the affected area will be immediately closed to the type(s) of vehicle causing the adverse effect until the effects are eliminated and measures are implemented to prevent recurrence. These closures would not prevent designation of the route in accordance with 43 CFR 8342, but these areas would not be opened to the type(s) of OHV to which it was closed unless the authorized officer determines that the adverse effects have been eliminated and measures implemented to prevent recurrence.

Under all alternatives, routes that were not included in the inventory or documented during the TMA 1 travel management planning process would be considered on a case by case basis with written approval from the BLM authorized officer. Travel management designations may not affect valid existing rights for permitted uses including ROW, county or State roads, grazing authorizations, current easements, and access to active mining claims. Routes designated as authorized/administrative use only are also subject to seasonal closures, vehicle size class restrictions and ongoing monitoring.

In addition, authorizations for use of routes that provide necessary access to authorized or permitted range improvement projects as documented in the Rangeland Improvement Project System (RIPS) and/or that have a signed Cooperative Agreement, Range Improvement Permit or other documentation requiring maintenance, should be incorporated into the travel management network via administrative access during implementation and/or plan maintenance unless detrimental resource concerns need to be analyzed or can't be mitigated. These routes are occasionally traveled and could have been missed during field inventories, but provide important access for required maintenance activities.

Any permittee or lessee may apply for a range improvement permit to install, use, maintain, and/or modify removable range improvements that are needed to achieve management objectives for the allotment in which the permit or lease is held. Additionally, if maintenance is no longer possible access could be needed for the potential removal and abandonment of these range improvement projects and to reclaim the area. Any new range improvement projects which are installed during the life of the TMP should have administrative access in order to maintain this investment. Any new projects would have site-specific National Environmental Policy Act (NEPA) analysis that clears these projects of any resource concerns allowing for them to be incorporated into the travel management network.

While no future oil and gas development has been identified through this TMP EA process, any temporary roads associated with new oil and gas development would be analyzed and authorized through each associated Application for Permit to Drill (APD) or ROW permit process and site-specific NEPA documents. In general, fluid mineral roads are temporary routes that would be removed and reclaimed upon the completion of the development in accordance with APD requirements. BLM may consider these temporary routes on a case by case basis for future needs and choose not to reclaim the route if it is used by the public or provides essential access. Oil and gas development would follow the standards and guidelines presented in the publication Surface Operating Standards and Guidelines for Oil and Gas Exploration and Development (commonly referred to as the Gold Book) (BLM 2007).

## **2.4 Alternative B (Proposed Action)**

Alternative B emphasizes balanced levels of resource use and resource protection. Opportunities for public recreation would be improved by providing a more efficient route network and additional user



information. This alternative emphasizes multiple-use by protecting sensitive resources while providing additional recreation and travel opportunities. Implementation efforts under Alternative B would emphasize the concepts of adaptive management where reasonable and practicable, based on available funding and personnel.

Alternative B includes some new connector routes between existing routes, as well as, defines scenic driving and recreation loop routes. It also provides for associated maps and signage (Figure 2.4-1, Appendix B). Loop routes would emphasize outdoor experiences for different visitor groups. Two trailheads may also be constructed to provide for increased recreation opportunities.

As described in Appendix H, Travel Management Plan, the Sand Wash Connector would develop an OHV network that provides valley experience with extraordinary views using best trail design practices to minimize resource impacts. Designation of this trail would deter cross country travel to the open OHV area and would limit the use within washes and riparian areas by having an officially designated trail. While this connector is generally discussed under this alternative, additional detailed NEPA analyses would be required for the Sand Wash Connector, prior to construction.

The Upper Sand Wash Connector would provide for a similar experience as described above and it also would create an OHV loop. The Vermillion Link would be constructed as a primitive road that would provide the only access around private land to the southern Vermillion Protective Management Area. It also would provide 2 parking areas and access to 2 non-motorized gateways/trailheads for primitive recreation/backcountry access.

Alternative B would reduce route redundancy and habitat fragmentation and offer protection of sensitive resources. Routes designated to be closed would be decommissioned. This could involve signage, barricades, and passive restoration. Table 2.4-1 in Appendix B provides detail on the miles of each type of road or trail associated with Alternative B.

## **2.5 Alternative C (Resource Use)**

Alternative C would allow the greatest extent of route use and access, while maintaining the basic protection needed to sustain sensitive resources (Figure 2.5-1, Appendix C). Alternative C maximizes the use of the existing transportation system and provides minimal restrictions on use type and season for activity. This alternative maximizes motorized opportunities for all visitors. Under this alternative, routes previously designated closed due to a violation of laws or regulations would be decommissioned. Table 2.5-1 in Appendix B provides detail on the miles of each type of road or trail associated with Alternative C.

## **2.6 Alternative D (Resource Protection)**

Alternative D would emphasize the greatest extent of resource protection, while still allowing route uses where conflicts with resource protection do not exist. Alternative D would provide for increased protection of sensitive areas and habitat restoration through route closures, as well as maximum protection of known cultural and paleontology sites and sensitive wildlife habitat. Under this alternative, routes designated to be closed would be decommissioned. This would involve signage of the closure, possible barricades, and passive restoration. Seasonal closures would prohibit use within 4 miles from active GRSG leks during courtship, nesting, and early brood-rearing from March 1 to July 15. Under

Alternative D, protection of soil and water resources would increase. This alternative would provide more opportunities for backcountry recreation through additional non-motorized routes. Table 2.6-1 in Appendix B and Figure 2.6-1 in Appendix C provide detail on the miles of each type of road or trail associated with Alternative D.

## **2.7 Alternatives Eliminated from Detailed Analysis**

Comments were submitted discussing the issues surrounding Revised Statute (R.S.) 2477 assertions. The BLM considered an alternative that analyzed the designation of these R.S. 2477 assertions. R.S. 2477 is a repealed section of the Mining Act of 1866 that granted ROW to the State of Colorado for construction of highways over public lands not reserved for public uses. It was repealed by FLPMA in 1976.

During discussions with cooperators, it was determined that routes commented on by Moffat County that could have R.S. 2477 assertions present would be included in the inventory of existing routes. The county classifies these routes as secondary road systems and subclasses of these ROWs have been assigned. If these routes were unable to be located on the ground, then BLM proceeded with travel management planning in accordance with BLM policy.

A TMP is not intended to provide evidence bearing on or addressing the validity of any R.S. 2477 assertions. R.S. 2477 rights are determined through a process that is entirely independent of the BLM's planning process. Consequently, this plan does not consider any R.S. 2477 assertions or evidence. TMPs are founded on an independent determined purpose and need, and associated access to public lands and waters. When a decision is made on R.S. 2477 assertions, the BLM will adjust its travel management route designations accordingly.

## **2.8 Minimization Criteria**

The 43 CFR 8342.1 states all designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands; and in accordance with the following criteria:

- (a) 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.
- (b) 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.
- (c) 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.
- (d) Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines that off-road vehicle use in such locations will not adversely affect their natural, esthetic, scenic, or other values for which such areas are established.

During the route evaluation process, each segment was designated as open, limited, or closed based on 43 CFR 8342.1 and the specific evaluation criteria developed by the BLM IDT.

## **2.9 Spatial and Temporal Boundaries**

The geographic extent of cumulative impacts varies by the type of resource and impact. The timeframes, or temporal boundaries, for those impacts may also vary by resource. Spatial boundaries are provided for each resource in each resource section. This TMP EA would remain in effect until rescinded or amended by a future management action or a revision of the 2011 Approved RMP (BLM 2011d).

## **3 Affected Environment & Effects**

### **3.1 Introduction**

This chapter presents the affected environment and provides an analysis of the impacts (environmental consequences) that would result from the implementation of the four alternatives described in Chapter 2. An environmental impact or consequence is generally considered as a modification or change in the existing environment resulting from an action that is being taken. Impacts can be direct or indirect, short-term, long-term, or permanent.

#### **3.1.1 Analysis Area**

For most resources, the analysis area is defined as the lands and water within the boundaries of TMA 1. A broader area is considered for certain resources where necessary to provide context.

#### **3.1.2 Key Assumptions**

In order to complete an analysis of the effects of the alternatives, the following assumptions were made:

1. Non-motorized and motorized recreational uses would continue to increase in the TMA as population in Colorado and the surrounding region increase.
2. For the purpose of NEPA and the analysis herein, it is assumed that the public will comply with the route designations. Management under all alternatives would require signs, barricades, maps, kiosks, and public education efforts to direct users to appropriate routes available for motorized travel. In addition, routes designated as available for motorized travel would be monitored to ensure compliance with the goals and objectives of the Approved RMP (BLM 2011d) as amended by the ARMPA (BLM 2015e) and other applicable laws, regulations, and policy.
3. Direct and indirect impact indicators vary by resource, but usually include mileages of routes open or closed, route densities, or other special considerations. These indicators are described for each resource.
4. All action alternatives (as described in Chapter 2) would result in a net reduction in routes for motorized and mechanized use, as compared to the current conditions (No Action, Alternative A).

The amount of change, or reduction in mileage and open routes, varies by action alternative. For the majority of resources and resource uses analyzed in this chapter, route closures and use restrictions would result in a spectrum of beneficial impacts.

## 3.2 Physical Resources

### 3.2.1 Soil Resources

#### 3.2.1.1 Affected Environment

The TMA 1 travel analysis area is located in Major Land Resource Area 34A – Cool Central Desert Basins and Plateaus within the Wyoming Basin Province (NRCS 2006). The dominant soil orders in the analysis area are Aridisols (comprising typically saline or alkaline soils with very little organic matter characteristic of arid regions) and Entisols (comprised of unconsolidated parent material with little soil horizon development). The dominant soil temperature regime is frigid, and soil moisture regime is aridic. Elevations in the TMA vary from approximately 5,600 feet in the southern portion of the area to over 8,100 feet along the Vermillion Bluffs.

Fragile soil areas and steep slopes are more susceptible to accelerated erosion, requiring specific management consideration (BLM 2011d). The Approved RMP identifies fragile soils as areas rated as highly or severely erodible by wind or water as described by the *NRCS Soil Survey Report*; or areas with a slope greater than or equal to 35 percent with one of the following characteristics (Figure 3.2-1 in Appendix C):

- Surface texture of sand, loamy sand, very fine sandy loam, silty clay, or clay
- A depth to bedrock of less than 20 inches
- An erosion condition rated as “poor”
- K-factor greater than 0.32

Soil compaction occurs when soil particles are pressed together, and the pore spaces between them are reduced and bulk density is increased. This results in a decrease in infiltration rates and an increase in runoff and erosion. Moist, fine textured (clayey) soils are most susceptible to compaction.

For this analysis, travel routes located on steep grades (10 percent or more) were also considered because they are more likely to lead erosion and sediment runoff.

Tables 3.2-1 and 3.2-2 in Appendix B provide detail on the existing acres of sensitive soils within the analysis area and number of miles of routes located on sensitive soils.

#### 3.2.1.2 Environmental Consequences

The key scoping issues for soil resources are described in Section 1.7. Motorized and non-motorized travel would result in compaction and a reduction in vegetation cover. Some motorized routes would have a wider footprint or create two tracks as opposed to a single track for motorcycles or non-motorized travel. Routes located on steep slopes and in areas with fragile soils where vegetation has been removed are vulnerable to disturbance and the displacement of soil particles that can be transported by wind, water or other natural and anthropogenic forces. Traveling on routes during the spring season, or other times of year with high soil moisture content (i.e. after a recent precipitation event) could lead to rutting, compaction, accelerated runoff, erosion and sedimentation to rivers and streams.

Drainage crossings are a key contributor of sediment to waterways. Sediment transport can be reduced by road maintenance, including installation of culverts where appropriate, and other BMPs.

### **Alternative A – No Action**

As illustrated in Table 3.2-3 in Appendix B, Alternative A would have the greatest impact on fragile soils with a total of approximately 79.36 miles of open or limited roads and trails located on fragile soils. Additionally, Alternative A would have the greatest mileage of open routes on slopes over 10 percent (168.46). Soil compaction and rutting of existing routes would continue and minimal restrictions on off route travel would continue to compact soils and denude vegetation within the analysis area. Compaction would decrease infiltration of moisture and increase runoff and erosion. Routes located on steep slopes would also increase runoff and erosion, which can lead to the formation of rill and gullies if left unmitigated.

### **Alternative B – Proposed Action**

Alternative B would impact approximately 70.21 miles of open or limited routes and trails on fragile soils, and 138.10 miles of open or limited roads and trails on slopes over 10 percent. The impacts associated with Alternative B would be less than that of either Alternatives A or C. Alternative B would include the construction of the Sand Wash and Upper Sand Wash limited width trail loops. This would result in approximately 2.59 miles of new disturbance to soils. Additionally 0.06 miles of primitive road would be constructed to create the Vermillion Link. The new trails and primitive road would be designed to minimize soil resource impacts. Additionally, designation of these loops would also help to prevent cross country travel to the South Sand Wash SRMA. Impacts to soils would be similar to what is described for the No Action Alternative except off-route travel would not be permitted within the TMA and several redundant routes or routes causing resource damage would be passively decommissioned. This would have a beneficial effect on soil resources compared to the No Action Alternative. Over time, as decommissioned routes naturally re-vegetate, soil erosion would be reduced.

### **Alternative C – Resource Use**

Alternative C would impact approximately 77.91 miles of open or limited routes on fragile soils, the highest mileage after the No Action Alternative. Alternative C would also impact 161.80 miles of open or limited routes on slopes over 10 percent. Impacts associated with Alternative C would be similar to those described for the No Action Alternative except that approximately 2 miles of routes would be decommissioned along fragile soils and 7 miles would be decommissioned on slopes over 10 percent. The decommissioning of routes would allow for passive re-vegetation of the soils over time. This would lead to reduced runoff and soil erosion.

### **Alternative D – Resource Protection**

Alternative D would have the least impact to soil resources compared to the other alternatives, with approximately 56.52 miles of open or limited roads and trails crossing fragile soils and only 112.89 miles located on slopes over 10 percent. Environmental effects would be similar to what is described for Alternative B, but with a lesser degree of impact. Benefits to the resource would result from the decommissioning of 23 miles of routes on fragile soils and 56 miles of routes on slopes greater than 10 percent. The passive decommissioning of routes would allow for some native recruitment of adjacent vegetation over time. This would help further reduce soil erosion, slowly reduce bulk density, and would increase soil productivity. Seasonal closures during the spring would also provide a beneficial impact to

soil resources due to the reduced potential for compaction, rutting, and erosion during the wettest periods of the year.

## **3.2.2 Surface Water and Water Quality**

### **3.2.2.1 Affected Environment**

#### **Surface Water**

The analysis area for surface water hydrology includes the watersheds within the LSFO TMA 1 planning area (Figure 3.2-2, Appendix C). Average annual precipitation is about 7 to 12 inches, but it can range from 7 to 32 inches and generally occurs as snow. Small amounts of rain occur usually June through September (NRCS 2006).

The primary perennial waterbodies within the analysis area are Vermillion Creek, Shell Creek, Canyon Creek, and Talamantes Creek, as well as freshwater emergent wetlands (wetlands are further described in Section 3.3.3). Several intermittent streams are also present in the analysis area. The intermittent streams generally flow in response to rainfall events and snow melt in the spring (United States Geological Survey [USGS] 2016).

Motorized uses of roads and trails within the TMA 1 travel analysis area have been ongoing over many decades. One way to gauge the effect of these roads on watershed conditions and water quality is to examine road density within watersheds. Such analyses can help provide an understanding of how roads influence hydrologic functions.

The TMA 1 travel analysis area includes portions of two 8-digit hydrologic unit code (HUC) watersheds, which are the Vermillion and the Little Snake Subbasins (Figure 3.2-2, Appendix C). Within the Vermillion Subbasin, the existing density of roads and trails is 1.53 miles/mile<sup>2</sup>. In the Little Snake Subbasin, the existing density of roads and trails is 2.14 miles/mile<sup>2</sup>.

#### **Water Quality**

Federal regulations that ensure the protection of water resources include the Safe Drinking Water Act (SDWA) and the Clean Water Act (CWA). The SDWA protects drinking water sources, and requires strategies to prevent pollution of these sources. The CWA regulates pollutant discharge into streams, rivers and wetlands. The U.S. Environmental Protection Agency (EPA) has established primary and secondary standards to guarantee quality drinking water. The Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission implements the standards set by the EPA, regulates the discharge of pollutants into surface and ground water, and enforces the Primary Drinking Water Regulations.

BLM's policy states that agency projects should meet or exceed water quality standards established by the State of Colorado for all water bodies located on or influenced by BLM-administered lands. The State of Colorado maintains a 303(d) list of impaired waterbodies along with summaries of use attainment for streams and rivers within the State of Colorado. The water quality attainment, classifications, and 303(d) categories for the impaired surface waters within the TMA 1 are listed in Table 3.2-4 (Appendix B). One 303(d)-listed stream, Talamantes Creek, occurs within the analysis area.

### **3.2.2.2 Environmental Consequences**

The key scoping issues for surface water and water quality are described in Section 1.7. The primary impacts to surface water quality from travel management results from erosion on roads and trails that causes sedimentation in nearby waterbodies. Additionally, fluid spills from motor vehicles can impact water quality. To compare these potential effects of the travel network on streams in the analysis area, the number of times any route crosses a stream was calculated under each alternative. Table 3.2-5 in Appendix B summarizes the number of route crossings within the analysis area by watershed and alternative. This analysis does not determine quantitative impact; it does provide a measure of potential impact to streams from open, limited, or closed travel routes.

Under each of the alternatives, routes designated to be closed would be decommissioned and passively restored. Passive restoration is accomplished by closing a route and allowing it to reclaim naturally. Passive restoration would allow for some vegetation re-establishment over time, which would help to reduce sedimentation to connected waterbodies. However, it is expected that legacy soil compaction would persist and hydrologic functions such as infiltration would not be fully restored to closed routes in the short-term. A detailed description of each alternative follows.

#### **Alternative A – No Action**

Under Alternative A (No Action), no changes would be made to access or use within the analysis area. Erosion and sedimentation to connected waterbodies would be expected to continue at current levels. Travel on roads near drainages and at crossings could elevate total suspended sediment concentrations and turbidity in downslope waterbodies during runoff. The potential for water quality impacts from spills of fluids (such as petroleum products) from motorized vehicles would be slightly higher under this alternative due to the higher number of stream crossings. Alternative A would have the highest stream crossing density of all alternatives (Table 3.2-5, Appendix B). No new roads would be constructed under this Alternative, and routes previously designated closed would be decommissioned by passive restoration.

#### **Alternative B – Proposed Action**

Under Alternative B (Proposed Action), a small number of new connector routes would be constructed between existing routes to create loops, while some routes would be closed or decommissioned. Alternative B would include the construction of the Sand Wash and Upper Sand Wash limited width trail loops. This would result in approximately 2.59 miles of new disturbance. Additionally 0.06 miles of primitive road would be constructed to create the Vermillion Link. The new trails and primitive road would be designed to minimize impacts to surface water. As described in Alternative B, under this alternative some routes maybe relocated due to sensitive resource issues such as highly erodible soils, wetlands, or other resource concerns. This would have a beneficial effect to surface water and water quality. This alternative also has fewer crossings than Alternative A or C (Table 3.2-5, Appendix B) which would help to reduce erosion and sedimentation to streams.

#### **Alternative C – Resource Use**

Under Alternative C (Resource Use), use of the existing transportation system would be highest compared to the other action alternatives, and there would be minimal restrictions on use type and season of use. This alternative would have a similar number of stream crossings as the existing condition (No Action). A

lack of seasonal restrictions could lead to damage within the riparian areas and to stream banks, leading to erosion and sedimentation of perennial streams or intermittent streams during periods of precipitation or spring runoff. More crossings (as compared to Alternative B and D) could increase soil erosion, which could increase sedimentation and turbidity of affected waterways. These impacts could also affect associated riparian areas through a decrease in water quality. The higher number of crossings would also increase human access to surface water, which increases the potential for water quality impacts from spills of fluids from motorized vehicles compared to Alternative B and D.

## **Alternative D – Resource Protection**

Alternative D (Resource Protection), would provide for increased protection of soil and water resources, as well as, allow for restoration of some stream crossings and riparian areas through route closures. This alternative would have the lowest number of stream crossings in both the Vermillion and Little Snake Subbasins resulting in less potential for erosion and sedimentation to waterbodies during periods of high use. Additionally, because this alternative would include seasonal closures during the spring, which has the highest levels of rainfall, soil and water resources would be protected, and the potential for impacts to riparian areas and water quality would be reduced.

## **Mitigation**

The following mitigation measure is recommended for all action alternatives:

Water 1: To reduce the potential for sedimentation to waterbodies, BMPs such as water bars, culverts, and hardening of crossings would be utilized at degraded or sensitive areas within the travel management system.

## **3.3 Biological Resources**

### **3.3.1 Upland Vegetation**

#### **3.3.1.1 *Affected Environment***

Vegetation in the planning area is within the Wyoming Basin ecoregion and is characterized by rolling hills, sagebrush steppe communities, foothills, and low mountains (EPA 2016). The landscape is generally dry and dominated by conifers, shrubs, and grasses (Table 3.3-1, Appendix B). The watershed is composed of a variety of sagebrush steppe plant communities that support a number of wildlife species and provide important big game wintering habitat as well as migratory bird year-round and breeding habitat.

General vegetation zones within the analysis area include saltbush, pinyon juniper, sagebrush, mountain shrub, riparian shrub/tree and salt desert shrub (USGS GAP 1996; Table 3.3-1 (Appendix B), Figure 3.3-1 (Appendix C). Detailed descriptions for each GAP vegetation zone, including species composition, site characteristics, and distribution, are provided in the Proposed RMP/Final EIS (BLM 2010, 3:28-33).

The USGS LANDFIRE existing vegetation type data set was downloaded to determine the fine-scale vegetation community types present in the analysis area (USGS LANDFIRE 2015). Table 3.3-2 in Appendix B provides a more detailed context of the vegetation composition of the area and is also used to determine wildlife habitat availability. The most dominant vegetation types within the analysis area are big sagebrush shrubland and steppe, greasewood shrubland, pinyon-juniper woodland, and salt desert



scrub. Each of these vegetation types are composed of slow growing woody species that generally experience a time lag for recovery from impacts in comparison with herbaceous vegetation such as grassland vegetation types.

### **3.3.1.2 Environmental Consequences**

The analysis of effects to vegetation communities associated with each alternative was conducted by calculating and evaluating the route miles of open and closed routes within each vegetation type (Tables 3.3-3, 3.3-4, 3.3-5 in Appendix B). The presence of fugitive dust created by overland travel on unimproved routes would be a common impact to vegetation under all alternatives. Dust generated by passenger vehicles and OHVs could settle on vegetation, affecting photosynthesis and often resulting in stunted growth and, in some species, mortality. Vegetation mortality may change the structure and composition of the overall community. Dust from roads that have been improved by bringing in surface material may change the surrounding soil chemistry creating unfavorable conditions for native vegetation and encouraging noxious weed proliferation. The effects to vegetation communities from fugitive dust would be minor both in the short and long term.

Additional effects common to all alternatives would include off route travel where access remains open. Travel by vehicles, horses, and hikers could potentially impact vegetation communities through the introduction of invasive species. Damage to or loss of individual plants could affect community structure, which in turn would affect habitat suitability for plants and wildlife. Ruts created by OHVs could disrupt hydrologic flow and increase potential for erosion. Motorized travel would have both short and long term moderate effects to vegetation communities.

#### **Alternative A – No Action**

This alternative would keep open all but 1.51 miles of routes without change in use or designation. There would be no adjustments to routes based on potential conflict with vegetation communities. OHV use would not be restricted further, and vegetation communities would continue to be impacted by travel routes in a manner and degree similar to current conditions. The closure of less than ½ mile of routes within big sagebrush shrubland and steppe would have a negligible benefit to that community. Overall, Alternative A would have the highest level of adverse effects on vegetation due to very few vegetative communities having the opportunity to reestablish routes that would not be experiencing traffic. Effects common to all alternatives would apply as described above and no alterations or improvements in regards to vegetation or vegetative communities would occur under Alternative A.

#### **Alternative B – Proposed Action**

Under this alternative approximately 2.59 miles of new limited width trail (<50 inches in width) would be constructed to create a loop for OHV use. Additionally, 0.06 miles of primitive road would be constructed to provide access to the South of Vermillion Backcountry Access trailheads. Minor impacts to vegetation would occur in these areas. However, designation of these loops would also help to prevent cross country travel to the South Sand Wash SRMA which would be beneficial to vegetation resources. Under this alternative more than 158 route miles would be closed within a variety of vegetation types (Table 3.3-5, Appendix B). The salt desert scrub and big sagebrush shrubland and sagebrush steppe communities would experience the most benefit from the route closures. Over time, it is anticipated that vegetation communities along closed routes would return to a more natural condition, including increases in native

species adapted to the site. Through the closure of 158 miles of routes, many species would be able to reestablish into the areas that would not be experiencing traffic. Alternative B would have a beneficial effect on vegetation communities within the analysis area.

### **Alternative C – Resource Use**

This alternative provides for the greatest extent of resource use among the three action alternatives. Approximately 31 miles of route closures are proposed under this alternative, which would reduce travel related impacts when compared to Alternative A. Route closures would allow for reestablishment of vegetation, over time. However, Alternative C would have lesser benefits for vegetation than Alternatives B and D, due to fewer route closures.

### **Alternatives D – Resource Protection**

This alternative would result in the closure of 268 route miles within the analysis area. This reduction would be the most beneficial to the big sagebrush shrubland and steppe communities. Access by OHV users would be reduced substantially. With more than an additional 100 miles of route closure compared to Alternative B, Alternative D would have the most beneficial effect on vegetation communities of the four alternatives by allowing adjacent vegetative communities to reestablish into the areas that would not be experiencing traffic. This would increase the overall vegetative production, continuity, and reproduction of the adjacent plant communities; as well as limiting the dispersal of exotic species by motorized or non-motorized travel.

## **3.3.2 Special Status Plant Species**

### **3.3.2.1 Threatened, Endangered, and Candidate Species**

The U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) Decision Support System was queried to obtain a list of threatened, endangered, and candidate plant species with potential to occur within the vicinity of the analysis area. One species was identified and is discussed in detail below.

#### **Affected Environment**

There is one threatened species, the Ute ladies' tresses (*Spiranthes diluvialis*), with the potential to occur within the analysis area. Ute ladies' tresses is a small perennial, terrestrial orchid characterized by a flowering stalk with small white or ivory flowers clustered into a spike at the top of the stalk. Ute ladies'-tresses orchid first appears above-ground as a rosette of thickened grass-like leaves that can be difficult to distinguish from other plants, but typically blooms from late July to August. Ute ladies'-tresses orchid reproduces by seed. The orchid may not flower every year and some individuals may remain dormant underground. Fluctuations in mature flowering adults do not necessarily correspond to population fluctuations or indicate habitat alterations. It occurs along riparian edges, on gravel bars, old oxbows, high flow channels, and moist to wet meadows. It may also occur in seeps associated with historical floodplains of major rivers, as well as in agriculture fields and actively grazed rangelands. Two populations of Ute ladies'-tresses orchids have been observed in Moffatt County within the Upper Flaming Gorge Reservoir Watershed, along the Green River from Browns Park through Lodore Canyon (Fertig et al. 2005). One population is within Dinosaur National Monument, the other is within Browns Park National Wildlife Refuge (Fertig et al. 2005). Critical habitat has not been, nor is it expected to be,

designated for the Ute ladies' tresses orchid. At this time, no existing populations of this species have been identified on BLM-administered lands within the planning area.

### **Environmental Consequences**

Potential effects to Ute ladies' tresses were analyzed in terms of effect to potentially suitable habitat supporting the species. Ute ladies' tresses have variable blooming patterns, often lying dormant for multiple seasons then emerging with a prolific population bloom. Existing populations may also remain partially dormant from season to season. For this reason, annual population estimates are not reliable and population stability must be assessed in terms of multi-year trends. A reduction in population numbers or lack of population emergence following implementation of any of the following alternatives may not necessarily indicate an impact to the species; the population could simply have entered a dormant phase.

#### **Alternative A – No Action**

Under Alternative A, route designations would essentially remain unchanged. Access within and near wetland and riparian habitat would continue. Access by passenger vehicles or OHVs would continue to compact soils, changing habitat conditions under which the species would survive. Access into Ute ladies' tresses potentially suitable habitat also would potentially introduce noxious weeds that may out compete the species. Alternative A would have long term adverse impacts to any potentially suitable habitat for the Ute ladies' tresses.

#### **Alternative B – Proposed Action**

Alternative B would designate road closures within wetland and riparian habitat. Access to areas that may contain potentially suitable Ute ladies' tresses habitat would be reduced. The beneficial effects of these closures would be partially offset by a continuation of adverse effects similar to those described for Alternative A in locations where routes remain open. However, Alternative B would have long term beneficial impacts to any potentially suitable habitat for the Ute ladies' tresses.

#### **Alternative C – Resource Use**

This alternative focuses on increased resource use and, apart from Alternative A, designates the lowest mileage of closures in habitat that may support Ute ladies' tresses. Similar to Alternative B, the beneficial effects of closures would be partially offset by continuing access to areas within and near potentially suitable habitat. Alternative C would have a long term, negligible beneficial impact to Ute ladies' tresses.

#### **Alternative D – Resource Protection**

Alternative D closes the greatest mileage of routes of the four alternatives. This would have a beneficial effect to any potentially suitable habitat for the Ute ladies' tresses. Continued access would partially offset these beneficial effects. However, overall, Alternative D would have long term beneficial impacts to any potentially suitable habitat for the Ute ladies' tresses.

### **3.3.2.2 BLM Sensitive Species**

#### **Affected Environment**

Table 3.3-6 in Appendix B provides a list of BLM sensitive plant species (BLM 2015a). These species have the potential to occur in a variety of habitats within the analysis area. Analysis of the potential effects to vegetation habitat types is discussed in detail in Section 3.3.1 Upland Vegetation.

## Environmental Consequences

The effects analysis for BLM Sensitive Species was conducted using the same methodology used for Section 3.3.2.1 Threatened, Endangered, and Candidate Species above.

The project area contains known occurrences of Yampa beardtongue (*Penstemon acaulis var yampaensis*) and tufted cryptantha (*Cryptantha caespitosa*). Most of these occurrences are found within the Irish Canyon ACEC and would not be impacted by any of the alternatives.

The project area contains historical populations of the following plants listed as sensitive by BLM Colorado: Duchesne milkvetch (*Astragalus duchesnensis*), Singlestem buckwheat (*Eriogonum acaule*), Woodside buckwheat (*Eriogonum tumulosum*), Clay hill buckwheat (*Eriogonum viridulum*), Flaming Gorge evening primrose (*Oenothera acutissima*) and Bessey locoweed (*Oxytropis besseyi var obnapiformis*). While these species are not known to currently exist within the project area, should populations be identified during the life of the planning document those populations will be given the same protections to mitigate any adverse impacts.

### Alternative A – No Action

Under Alternative A, route designations would remain generally unchanged. Unrestricted access within suitable sensitive plant habitat would continue. Off route access by passenger vehicles or OHVs would continue to compact soils, changing habitat conditions under which the rare plant species survive. Off route access into rare plant habitat would potentially denude vegetation and introduce noxious weeds that may out-compete the species. Alternative A would have long term and moderate adverse impacts to special status plants in the analysis area.

### Alternative B – Proposed Action

Alternative B would designate road closures within numerous habitats that have the potential to support sensitive plant species. This alternative would close significantly more route miles in sensitive species habitat, including sagebrush shrubland and steppe and pinyon-juniper woodland, than Alternatives A and C. The benefits of these closures (see upland vegetation) would be partially offset by continued access to habitat where routes remain open. Overall, Alternative B would have long term beneficial impacts to sensitive species through the removal of traffic and surface disturbance on 159 miles of routes. Additionally, it would reduce the potential for introduction of non-native species and improve opportunities for rare plant dispersal in areas and routes that have been decommissioned.

### Alternative C – Resource Use

This alternative focuses on increased resource use and, apart from Alternative A, designates the lowest mileage of closures (31 miles) in habitat that may support sensitive species. The benefits of these closures would be partially offset by continuing access to sensitive plant habitat. Alternative C would have a long term and negligible beneficial impact to sensitive plant species due to the removal of continued disturbance associated with motorized vehicles on 31 miles of closed routes. Additionally, soil conditions would be expected to improve over time on closed routes.

### Alternative D – Resource Protection

Alternative D closes the greatest mileage (approximately 270 miles) of the four alternatives. Under this alternative, nearly two hundred route miles would be closed in sagebrush shrubland and steppe and pinyon-juniper woodland, the two most common habitat types supporting sensitive plants. This would

have the most considerable beneficial effect to sensitive plant species of all of the alternatives. Although continued access within some suitable habitat areas would partially offset these beneficial effects, Alternative D would have long term and moderate beneficial impacts to sensitive plant species due to the removal of disturbance associated with motorized vehicles on closed routes. Additionally, soil conditions would be expected to improve over time on closed routes allowing for potential dispersal opportunities of sensitive plant species.

### **3.3.3 Wetlands and Riparian Zones**

#### **3.3.3.1 Affected Environment**

There are 88.62 acres of freshwater emergent wetlands (USFWS 2016) and 3,959.34 acres of western riparian woodland and shrubland (USGS 2015) within the analysis area. Wetlands provide important habitat for several threatened and endangered species, sensitive species, and migratory birds. Riparian woodlands and shrublands provide habitat for western yellow-billed cuckoo and provide important ecological function to stream and river systems. For further detail on the existing conditions of wetlands and riparian areas within the analysis area, refer to Section 3.1.5.1, page 3-33 of the Proposed RMP/Final EIS (BLM 2010).

#### **3.3.3.2 Environmental Consequences**

The USFWS National Wetland Inventory database was queried to determine the extents of Cowardin-classified wetlands within the analysis area (Cowardin et al. 1979). For the purposes of this analysis, the emergent wetland type was used to determine potential impacts to wetland communities. The route segments and total miles of each route designation type crossing emergent wetlands are listed by alternative in the table below (Table 3.3-7 in Appendix B, Figure 3.3-2 in Appendix C).

#### **Alternative A – No Action**

Alternative A would close the fewest miles of routes in the vicinity of emergent wetlands compared to the other alternatives, although only slightly less (0.01 mile) than Alternative C. No routes would be closed within riparian woodland and shrubland communities. Existing roads and user access would continue at current levels. Potential impacts to emergent wetlands would include vegetation impacts from overland travel, noxious weed infestation, and sedimentation from runoff and erosion. The effects to emergent wetlands and riparian woodlands and shrublands under this alternative would continue, and this alternative would result in more effects on wetlands than any other alternative.

#### **Alternative B – Proposed Action**

This alternative would result in more closed miles of routes located near emergent wetlands (0.16 mile vs. 0.04 mile) and riparian woodland and shrubland communities (1.72 miles vs. 0 miles) than Alternative A. The road closures would reduce vegetation impacts and potential for compaction and sedimentation within wetlands due to motorized vehicle travel. Construction and designation of the Sand Wash Connector trail would deter cross country travel to the open OHV area and would limit motorized use within washes and riparian areas, which would reduce impacts to wetlands and riparian areas. Alternative B would have a beneficial effect to both emergent wetlands and riparian woodland and shrublands in the analysis area by allowing for passive restoration of 0.16 miles of wetlands along decommissioned routes.

## **Alternative C – Resource Use**

Under Alternative C, road closures near emergent wetland communities would be comparable to Alternative A. Approximately 0.05 miles of closures would be designated in riparian woodland and shrubland vegetation communities, which would have a beneficial effect to this community type. Alternative C would have less beneficial effects on emergent wetlands and riparian woodlands and shrublands than Alternatives B and D.

## **Alternative D – Resource Protection**

Alternative D would close over one-third mile of routes near emergent wetlands and over two miles of routes within riparian woodland and shrubland. This alternative would have the greatest benefit to these communities of any of the alternatives. Wetlands and riparian areas within the vicinity of closed routes would be allowed to passively restore over time. Freeze thaw and root penetration would help to reduce the compaction in these areas and allow for improved hydrologic function.

### **3.3.4 Invasive, Non-native Species**

#### **3.3.4.1 Affected Environment**

Invasive vegetation and noxious weeds are highly competitive and can often out-compete native vegetation, especially on recently disturbed sites. Invasive vegetation and noxious weeds are the dominant vegetation on an estimated 35 million acres of public lands (BLM 2000a). It has been estimated that noxious and invasive weeds now infest over 100 million acres in the continental US, with an additional three million acres being infested annually. These weeds are spreading at an average rate of over 5,000 acres per day on Federal lands across the United States (Westbrooks 1998). Invasive vegetation and noxious weeds degrade or reduce soil productivity, water quality and quantity, native plant communities, wildlife habitat, wilderness values, recreational opportunities, and livestock forage; their presence is detrimental to the agriculture and commerce of the US and to public health (The Research Group 2014). The total cost to the US economy is estimated at over \$40 billion every year. Weed infestations can become permanent if left untreated.

Regulation by State and Federal laws is the greatest difference between noxious weeds and invasive plants. Legally, a noxious weed is a plant designated by a Federal, State, or county government as injurious to public health, agriculture, recreation, wildlife, or property. Although noxious and invasive plants have similar effects on native plant communities, not all invasive plants have been put on noxious weeds lists in Federal and State laws or State regulations. Colorado has 102 officially designated weed species. They are classified in three lists according to the level of control designated by the Commissioner on noxious weeds. Species that occur in Moffat County and are considered noxious and strictly regulated by the State are listed in Table 3.3-8 in Appendix B.

#### **Noxious weed designations in Colorado:**

List A – Species that are designated for eradication.

List B – Species for which an advisory committee and stakeholders have developed and implemented State noxious weed management plans.

List C – Species for which an advisory committee and stakeholders will develop and implement State noxious weed plans intended to support local efforts to control weed infestations on public and private lands.

Watch List – Species that have been determined to pose a potential threat to the agricultural productivity and environmental values of the State. Intended for educational purposes for future noxious designations.

The primary noxious weed species within the analysis area include cheatgrass (*Bromus tectorum*), halogeton (*Halogeton glomeratus*) and salt cedar (*Tamarix sp.*); while less common species include hoary cress, knapweeds, and biennial thistles. Salt cedar infestations are found along the Sandwash drainage, Clay Buttes reservoir, Vermillion Creek and Shell Creek and are monitored and mapped in order to implement ongoing removal and treatment efforts. Disturbed areas and roadways have the highest infestation levels of halogeton and cheatgrass in the analysis area, although both species are widely distributed throughout TMA 1. Specific locations include areas along County Road 80, County Road 52 and County Road 67. Russian thistle (*Salsola iberica*) and alyssum (*Alyssum sp.*) are also present on the landscape along roadways and other disturbed areas. Noxious weeds in the LSFO are treated through cooperative efforts with Moffat County and the NW Colorado Weed Partnership utilizing chemical, mechanical and biological control methods. Invasive species that are not classified as noxious and not regulated by law do exist along roadways and other disturbed areas as well. These species may pose just as serious a threat to natural ecosystems. Native ecosystems adjacent to BLM-administered lands may also suffer when invasive plants spread from BLM-administered lands.

### **3.3.4.2 Environmental Consequences**

#### **Alternative A – No Action**

Under Alternative A, routes would generally be maintained under their existing uses and distribution throughout the analysis area. There would be minimal change to designations but decommissioning would occur for a limited amount of routes previously closed due to regulation violations. Travel by OHV and equestrian users through existing weed infestations would continue to pose a risk of distributing seed and plant parts to currently uninfested areas. In addition, equestrian users present a risk of inadvertently bringing noxious weed seed and plant parts into the analysis area with feed that is not certified designated weed free. Implementation of Alternative A would not result in any substantial change in use within the analysis area and current interactions with noxious weed infestations would continue. By leaving the most travel routes open, Alternative A presents the greatest risk of continuing weed problems of any of the alternatives.

#### **Alternative B – Proposed Action**

The emphasis of Alternative B is to achieve a balance between recreational use and resource protection. Alternative B would close nearly 159 miles of existing routes, Route closure does not necessarily equate to improvement in noxious weed conditions. However, over time it is anticipated that closed routes would return to a more natural condition and some diminishment of weed concentrations would occur along closed routes through active monitoring and treatment efforts. A reduction in length and density of the route network would also reduce the potential for interaction with existing infestations and introduction of noxious weeds to previously uninfested areas.

Routes that remain open within and adjacent to existing infestations would still create a potential for spread of seed and plant parts. However, a reduced network would likely reduce the risk of infestations in new areas. Overall, implementation of Alternative B would result in a long term, beneficial effect on the control and reduction of noxious weeds in the analysis area

### **Alternative C – Resource Use**

This alternative maintains existing natural resource protection measures while maintaining route access and use would be the greatest of the three action alternatives. Implementation of Alternative C would result in the closure of approximately 38 miles of route, less than 25% of the closures resulting from Alternative B. Overall effects would be similar to Alternative B, but the beneficial effects would be less (due to less route closures), resulting in a negligible improvement on the control and reduction of noxious weeds in the analysis area.

### **Alternative D – Resource Protection**

Alternative D would help to preserve and protect resources within the analysis area. Alternative D would result in the closure of nearly 277 miles of routes, nearly twice the amount resulting from implementation of Alternative B. The beneficial effects described for Alternative B would be increased, resulting in the greatest long term, beneficial effect on the control and reduction of noxious weeds in the analysis area.

## **3.3.5 Wildlife, Terrestrial**

### **3.3.5.1 Affected Environment**

There are various terrestrial wildlife species that can be found throughout the analysis area from small mammals and rodents to predators, such as mountain lion, and big game species including Rocky Mountain elk, mule deer, and pronghorn (see Chapter 3 [3.50 – 3.61] of the Proposed RMP/Final EIS [BLM 2010] for detailed species descriptions and habitat characterization). Table 3.3-9 in Appendix B shows a list of the most common or noted wildlife species, their occurrence, and the basic habitat types in which they are found. Some species are year-long residents, while others are migrants. A variety of small mammal, bird, and reptile species are scattered throughout the area where their specific habitats are present. Primary habitat types include mature pinyon-juniper woodlands, sagebrush steppe, and riparian woodlands. Additional diversity occurs with topography, slope, and aspect.

BLM's role is to provide habitat that supports desired wildlife species, specifically by managing disturbances to wildlife populations (2.5 Goal D, BLM 2011d). Travel management planning can reduce the level of disturbance a travel network has on wildlife through the closure and associated restoration of routes. Wildlife responses vary by habitat type and species but beneficial effects of route closures common to all alternatives include decreased mortality from collisions with vehicles, decrease in human presence and associated behavioral changes, improved habitat connectivity, increase in available forage and cover from newly established vegetation, and increased ecosystem resiliency from other natural and anthropogenic disturbances.

Habitat within the analysis area provides extensive winter range for pronghorn (Figure 3.3-3, Appendix C), elk (Figure 3.3-4, Appendix C), and mule deer (Table 3.3-10 in Appendix B, Figure 3.3-5 in Appendix C). Winter range includes critical habitat with forage and sufficient cover for mule deer, pronghorn, and elk herds to survive winter conditions. The analysis area also includes year-round



pronghorn range supporting pronghorn populations throughout their life cycle. This would include calving range and migratory corridors. Raptor nests are documented throughout the analysis area and include golden eagle and a number of hawks.

### **3.3.5.2 Environmental Consequences**

A description of the impacts to terrestrial wildlife under each alternative is described below. Table 3.3-11 in Appendix B provides a breakdown of mule deer winter range impacts by alternative. Table 3.3-12 in Appendix B provides a summary of the segments and miles of routes within pronghorn habitat in the analysis area. Table 3.3-13 in Appendix B provides a summary of segments and total miles of routes within elk habitat in the analysis area.

#### **Alternative A – No Action**

Sagebrush shrubland and steppe is crucial big game habitat and is the largest habitat type in the analysis area at over 130,000 acres (See Section 3.3.1.). Alternative A would close approximately 0.28 mile of travel route within crucial elk winter concentration area. There would be no closures in severe winter range, concentration, or production areas (Table 3.3-13, Appendix B). Similarly, the only closures in pronghorn habitat would occur within winter range (Table 3.3-12, Appendix B). Under this alternative route access would continue throughout the analysis area and particularly through big game wintering and calving habitat. Disruptions caused by overland travel and OHV use may force elk, pronghorn, and mule deer to disperse from winter habitat during critical foraging periods when big game must preserve energy. Big game wintering habitat provides shelter, and forage during harsh winter conditions when food sources are scarce (Youmans 1999). Reaching winter range expends critical physiological resources. Disturbance causing big game to disperse from wintering habitat could temporarily push them out of sheltered areas with available food sources leaving them vulnerable to extreme weather. Big game animals live significantly off of their stored fat reserves during winter (Vore 2012). Travel routes crossing winter range create habitat fragmentation, limiting the ability of big game animals to travel freely within and between winter range habitat patches. Alternative A would have the greatest adverse effects of any of the alternatives on wildlife and provide only minor benefits (through minimal route closures).

#### **Alternative B – Proposed Action**

Under Alternative B resource use would be balanced with resource protection. As shown in Table 3.3-13 in Appendix B, there would be approximately 67 miles of closed routes within elk winter range. Of this, nearly 3 miles of closed routes would be located within severe winter range and 11 miles within winter concentration areas. Nearly 17 route miles would be closed within elk production areas. The closures would also benefit pronghorn, including the closure of nearly 138 miles of routes within pronghorn winter range. Of this, 8 miles of closures would be in severe winter range, and an additional 8 miles would be in winter concentration areas (Table 3.3-12, Appendix B). Closures within mule deer winter range total nearly 159 miles (Table 3.3-11, Appendix B). These closures would reduce disruption within crucial big game habitat during winter foraging and during calving season. Route closures would reduce habitat fragmentation and allow big game to freely move within and between habitat patches. No seasonal closures would occur under Alternative B, routes would remain open during big game wintering and calving seasons. Access would continue on routes that remain open throughout the analysis area. Implementation of Alternative B would be beneficial to wildlife, second only to Alternative D in the level of beneficial effects from route closures that are common to all alternatives.

## **Alternative C – Resource Use**

Alternative C would maintain the most access of the three action alternatives and provide for minimal closures within important wildlife habitats (Table 3.3-11 through Table 3.3-13 in Appendix B). There are no seasonal closures in elk, pronghorn or mule deer habitat and permanent closures are minimal. There would be some decreased wildlife disturbance resulting from the route closures; however, it is not likely to produce a noticeable improvement within big game habitat. The lack of sufficient closure does little to reduce disturbance to wintering and calving big game. Habitat fragmentation would remain throughout much of the analysis area. Wintering habitat fragmentation would prevent big game from reaching much needed critical forage in adjacent habitat patches. There would be potential for direct mortality to big game on routes where motorists may travel at a higher rate of speed. Under Alternative C, the beneficial effects to wildlife would be minimal.

## **Alternative D – Resource Protection**

This alternative closes nearly 103 route miles within elk winter range, including 4.2 miles within severe winter range and 24.5 miles in winter concentration areas. An additional 30 route miles would be closed within elk production areas (Table 3.3-13, Appendix B). Alternative D would also close nearly 270 route miles within mule deer winter range, as well as 229 route miles in pronghorn winter range (Table 3.3-12, Appendix B). In addition, Alternative D provides for seasonal closures during sensitive periods on portions of the route network that would remain in use. Seasonal closures would reduce disturbance in big game habitat during critical periods where motorized activity within big game habitat would be most disruptive, such as wintering and calving periods. Permanent road closures would reduce habitat disturbance in the long term. Significantly less route density within habitat would remove barriers to movement between habitat patches. These route reductions and seasonal closures would substantially decrease disturbance levels during critical life cycle periods for several species. As a result, Alternative D would have the greatest degree of beneficial effect on wildlife of any of the alternatives.

### **3.3.6 Migratory Birds**

#### **3.3.6.1 *Affected Environment***

The majority of bird species in Colorado are protected by the Migratory Bird Treaty Act (MBTA). The Bald and Golden Eagle Protection Act of 1940 (BGEPA) and the Endangered Species Act of 1973 (ESA) offer additional protections to certain migratory bird species.

Migratory birds utilize varied habitats throughout Colorado as they travel between winter and summer ranges and many species both breed and nest within the State's boundaries. Suitable foraging habitat and, to a lesser extent, nesting habitat occurs in most of the analysis area. The USFWS IPaC decision support system was queried to obtain a list of migratory birds likely to occur within the analysis area (Table 3.3-14, Appendix B) (USFWS 2017). Birds associated with the analysis area are generally widely distributed and common throughout the area and on adjacent public and private lands.

#### **3.3.6.2 *Environmental Consequences***

Effects to migratory birds were analyzed by calculating the density of routes within the analysis area for each alternative (Table 3.3-15, Appendix B) as well as determining the route segments and miles within proximity to raptor nests (Table 3.3-16 and Table 3.3-17 in Appendix B). These metrics are relative

indicators of the level of disturbance experienced by migratory birds. Disturbance to vegetation communities with the potential to support migratory birds is discussed in section 3.3.1 Upland Vegetation.

### **Alternative A – No Action**

Alternative A would have the highest density of open or limited roads of the four alternatives (Table 3.3-15, Appendix B). Routes crossing through occupied breeding raptor habitat have the potential to disrupt courtship, nest site selection, or brood rearing activities. Several species are particularly sensitive to disturbance in the vicinity of nest sites. Golden eagles, for example, typically require disturbance buffers of up to two miles from active nests to prevent nest abandonment (Tesky 1994). This alternative would preserve existing route conditions with minimal changes in the number of open routes or use designations.

Data shows a lack of recent eagle nesting activity within the analysis area following several consecutive years throughout the area, particularly in the northern portion of the TMA for eagles. It is possible given the proximity of nests to road locations that some species have already responded to current travel patterns. Without seasonal closures in crucial nesting habitats, it is unlikely migratory birds and eagles would return to those nesting locations. Permanent closures would further encourage raptors to return to abandoned nesting habitat. Big Sagebrush Shrubland and Steppe, Low Sagebrush Shrubland and Steppe, Pinyon-Juniper Woodland, and Western Riparian Woodland and Shrubland vegetation types are all important breeding habitats for migratory birds. Alternative A has the highest mileage of routes within these habitat types and the lowest quantity of closed routes analyzed in the four alternatives. There are no seasonal road closures proposed under this alternative. This alternative would have the lowest level of beneficial impacts on migratory birds.

### **Alternative B – Proposed Action**

The intended purpose of Alternative B is to balance resource use and resource protection. Under this alternative there would be fewer open routes within the analysis area and route density would be reduced by closing and decommissioning segments. These closures would also decrease the number of routes within proximity of raptor nests by 82 route segments. There are no seasonal road closures proposed under this alternative. Alternative B would have a beneficial effect on migratory birds due to the reduction of route density and segments within important breeding habitat.

### **Alternative C – Resource Use**

Alternative C would allow the most extensive use of the existing route network out of any of the action alternatives. Approximately thirty route miles would be closed, which is considerably less than Alternatives B and D. There are no seasonal route closures proposed under Alternative C. The lack of seasonal closures would provide no improvement in levels of disturbance within proximity to raptor nesting habitat during breeding season, compared to Alternative D. Permanent closures are not necessarily designated within specific habitat or in association with habitat for the most sensitive species. The permanent closures associated with this alternative would decrease human activity in the long term. Under this alternative, routes within important migratory bird habitats would remain largely unchanged and beneficial effects to migratory birds would be minimal.

## **Alternative D – Resource Protection**

This alternative would place an emphasis on resource protection by closing and decommissioning routes in sensitive avian habitat. This alternative would result in the least dense route concentration of the four alternatives, and it would protect important breeding habitat in the most critical vegetation types for migratory birds. This alternative would also close over one hundred route miles within ½ mile of raptor nests, reducing the potential for nest abandonment or loss of nest site fidelity. Seasonal closures would prohibit use on routes near active leks during lekking, nesting, and early brood-rearing from March 1 to July 15. The seasonal closure also would be beneficial to migratory bird species and raptors. Seasonal closures would generally be targeted in areas that are sensitive habitat during sensitive periods such as breeding and nesting seasons and would result in a decrease in disturbance that could cause raptors and migratory birds to disperse from the area. Seasonal closures of route segments in proximity to active GRSG leks would have a positive effect on lekking birds by eliminating disturbance during that period. Permanent closures would have a long term beneficial effect on migratory birds and raptors, potentially encouraging occupancy of previously abandoned nesting habitat. Overall, implementation of Alternative D would have the greatest beneficial effect on migratory birds, especially raptors, of any of the alternatives.

### **3.3.7 Wildlife, Aquatic**

#### **3.3.7.1 *Affected Environment***

Aquatic wildlife species and their habitats are typically limited to perennial streams and some intermittent streams. Within the analysis area, aquatic species would likely be found within the Vermillion, Shell, Canyon, and Talamantes Creeks. Aquatic wildlife vary from water birds, such as the American dipper, various ducks and Canada geese, to amphibians, mollusks, gastropods (snails), bivalves (mussels and clams), and fish. Native fish species potentially found within the analysis area include mountain sucker, mountain whitefish, and common shiner. The non-native brown trout, rainbow trout, and brook trout are found in this watershed as well. Some frogs, including boreal chorus and Northern leopard frogs, Western boreal toads, and salamanders have been known to be present in the riparian zones and wetlands in the analysis area. Federally listed fish species are addressed in Section 3.3.3, Special Status Animal Species.

#### **3.3.7.2 *Environmental Consequences***

Many effects to aquatic wildlife would be common to all alternatives and consistent with the effects analyzed in Section 3.2, Surface Water and Water Quality, including sedimentation and water quality degradation. The effects discussed below were analyzed using the stream crossing calculations provided in the above referenced hydrology analysis. Avian species associated with aquatic environments are discussed in the migratory bird analysis.

## **Alternative A – No Action**

No changes in access or use would occur under Alternative A. The number of stream crossings would remain at current levels, which would be the highest of the four alternatives. Each of the action alternatives reduces potential impacts to aquatic species through route closures. Where stream crossings occur bank stabilizing vegetation may be impacted. In addition to the sedimentation effects discussed in the surface water and water quality section, a loss of vegetative cover would impair aquatic habitat due to

an indirect increase in stream temperatures. The potential for spills of fluids (such as petroleum products) from motorized vehicles would be higher under this alternative, which could degrade aquatic habitat and water quality. The effects to aquatic wildlife under Alternative A would be the highest of any alternative.

### **Alternative B – Proposed Action**

Alternative B would decrease the number of crossings within the analysis area. The number of crossings in the Vermillion watershed would be reduced by 28 intermittent stream crossings and 1 perennial stream crossing. In the Little Snake watershed the number of intermittent stream crossings would be reduced by 91 crossings. Stream crossings have the potential to destabilize bank vegetation causing erosion and sedimentation in streams. A loss of bank vegetation would alter suitable habitat for aquatic species by reducing cover and increasing stream temperatures. Temperature variations can render streams too hot for fish and aquatic invertebrate survival and reduce water quality. Destabilized banks change the hydrologic character of a stream and can lead to long term impacts to stream functionality. Route closures would reduce impacts to stream bank vegetation and would protect fish and aquatic invertebrate habitat. There would be a beneficial effect to aquatic wildlife, especially fish and aquatic invertebrates, under this alternative by reducing active disturbance at stream crossings. Reclamation and restoration of these crossings would have the greatest benefit by stabilizing banks and increasing aquatic habitat. These benefits would be greater than Alternatives A and C but less than Alternative D. Additionally, designation of the Sand Wash Connector trail would deter cross country travel to the open OHV area and would limit the disturbance within washes and riparian areas thereby reducing the potential sedimentation to downstream habitat.

### **Alternative C – Resource Use**

The change in the number of stream crossings from Alternative A to Alternative C would be negligible. Alternative C proposes no closures on perennial streams in the Vermillion and Little Snake watersheds, and 7 and 14 closures on intermittent streams in the Vermilion and Little Snake watersheds respectively. The effects to aquatic wildlife under Alternative C would include potential stream bank destabilization at crossing points. Destabilized banks create erosion and sedimentation in streams, altering suitable habitat for fish, aquatic invertebrates, amphibians, and would affect species that feed on aquatic wildlife. The loss of vegetation due to bank erosion would also alter stream temperature, which can have broader effects on water quality. Route closures would reduce active disturbance at stream crossings therefor reducing impacts described above. Alternative C would have a slight beneficial effect to aquatic wildlife although the benefits would be less than Alternatives B and D.

### **Alternative D – Resource Protection**

The miles of route closures and associated reduction in the number of stream crossings would be the highest under this alternative. Alternative D would reduce the number of stream crossings in the Vermillion watershed by 3 crossings on perennial streams and 66 crossings on intermittent streams. Within the Little Snake watershed no perennial streams are present but stream crossings would be reduced by 155 crossings on intermittent streams. This would be almost double the number of crossings closed compared to Alternative B. Beneficial effects described for Alternative B would also apply to Alternative D. Additionally, seasonal closures would help to reduce the potential for sedimentation to aquatic habitat and damage to stream banks during the periods of highest precipitation. The beneficial effects to aquatic habitat associated with this alternative would be the highest of all the alternatives.

### **3.3.8 Special Status Animal Species**

#### **3.3.8.1 Threatened, Endangered, and Candidate Species**

The BLM manages and administers public lands as wildlife habitat, where habitat provides food, cover, water, and space for various species for all or part of their life cycle. The analysis area provides a wide range of habitat for a diverse assemblage of wildlife that includes ESA listed species and BLM sensitive species.

#### **Affected Environment**

The USFWS IPaC decision support system was queried to establish a list of threatened, endangered, or candidate species with the potential to occur within the analysis area (Table 3.3-18, Appendix B). Due to the proximity of the Yampa, Snake, and Green rivers to the analysis area and potential distribution of a number of Colorado River Basin fish, there are several endangered fish species included in the species list. The Colorado pikeminnow is the only fish species with Designated Critical Habitat near the project area (Yampa River from Craig to Utah border). Species such as the razorback sucker and bonytail chub were only known to occur in these rivers historically and have not been confirmed in these waters within the past several decades; and the razorback sucker in particular has not been confirmed to occur above the Grand Canyon. Mexican spotted owls typically occupy narrow canyons and river corridors. There is very limited potential for Mexican spotted owl habitat within the LSFO; those areas are relatively close to historically occupied habitats in Utah and Dinosaur National Monument. There are no known nesting or roosting areas documented in the analysis area.

Black-footed ferrets do not currently occur within the LSFO. Black-footed ferret releases were anticipated in the Little Snake Black-footed Ferret Management Area, however, a sylvatic plague epidemic significantly reduced prairie dog numbers in the area and a ferret release has been postponed until prairie dog numbers recover to a level that will provide adequate prey for ferrets.

#### **Environmental Consequences**

Effects to threatened, endangered, and candidate species are analyzed based on the route segments and route miles proposed within vegetation types as described in Section 3.3.1 Upland Vegetation. Travel route designations, openings, and closures would have an effect on wildlife habitat and therefore an effect on threatened, endangered, and candidate species with the potential to occur in those habitat types.

To comply with Section 7(c) of the Endangered Species Act of 1973, BLM consulted with the USFWS in conjunction with the Approved RMP process (BLM 2011d). This TMP would result in a no effect to any of the T & E species outlined in the LSFO RMP Biological Assessment (BLM 2011d), due to the lack of designated critical habitat within the TMA 1 analysis area.

#### **Alternative A – No Action**

Under this alternative route access and designation would remain in the existing condition with the addition of minimal road closures associated with regulatory violations. Route use by passenger vehicle, OHV, or equestrian use within sensitive habitats would continue. Disruptions caused by overland travel and OHV use may cause displacement of special status wildlife species. Users traveling off of designated routes would potentially cause damage to soils and vegetation communities supporting wildlife. In particular, impacts to prairie dog habitat that would be integral in the reintroduction of the black-footed

ferret. Impacts could include crushing of smaller mammals or collision with species. However, because very little suitable habitat is present within the analysis area, these species are not expected to occur and impacts to threatened and endangered bird and mammals would be minor.

Current routes and route designations would not likely have a direct effect on special status fish species occurring in the Yampa, Snake, or Green rivers due to the distance from the analysis area. However, watershed level indirect effects may occur with regard to damage of riparian vegetation and potential for runoff and sedimentation to enter these rivers through streams and tributaries affected in the analysis area. Impacts to riparian areas would also impact water quality and water temperature thereby affecting aquatic habitat.

#### Alternative B – Proposed Action

Alternative B calls for over 150 miles of road closures within the analysis area with over one hundred miles of closures in various vegetation types that would support threatened, endangered, or candidate wildlife species. This alternative would have a beneficial effect on threatened, endangered, or candidate wildlife. However, remaining routes within potential habitats would have the potential to disrupt wildlife. The effects to threatened, endangered, and candidate wildlife under this alternative would be minor due to the reduction in total miles within habitat supporting these species and the lack of occurrence within the analysis area.

#### Alternative C – Resource Use

This alternative would close thirty-one miles of routes within the analysis area and in particular within big sagebrush shrubland and steppe. There would be approximately half a mile of closure in the pinyon-juniper woodland. While there is a reduction of mileage in general, it is significantly less in sensitive habitats compared to Alternatives B and D. The remaining routes would allow continued access into sensitive habitats and the continued potential for illegal off route impacts to wildlife habitat. Impacts could include crushing of smaller mammals or collision with species. However, because very little suitable habitat is present within the analysis area, these species are not expected to occur and impacts to threatened and endangered bird and mammals would be minor. The effects to threatened, endangered, and candidate species would be minimal due to the lack of occurrence within the analysis area.

#### Alternative D – Resource Protection

Alternative D would preserve and restore the most sensitive habitat. More than 260 route miles would be closed throughout the analysis area. The most significant closures would occur within pinyon-juniper woodland and sagebrush communities. There would be approximately two miles of closure in potential western yellow-billed cuckoo habitat. Under this alternative there would be a beneficial effect to threatened, endangered, and candidate species due to the reduction in route density that improves habitat connectivity, reduces changes in behavior and eliminates mortality from vehicular collisions on routes that are decommissioned.

### **3.3.8.2 BLM Sensitive Species**

#### **Affected Environment**

The following is a list of BLM sensitive species (BLM 2015a; Table 3.3-18, Appendix B). These species have the potential to occur in a variety of habitats within the analysis area. Raptors and other migratory bird species listed below have been analyzed in Section 3.3.6 Migratory Birds.

## **Environmental Consequences**

The effects analysis for BLM Sensitive Species is conducted using the same methodology used for Section 3.3.8.1 Threatened, Endangered, and Candidate Species.

### **Alternative A – No Action**

Under Alternative A there would not be a substantial reduction in route mileage within habitat supporting BLM sensitive species. Existing route access would be maintained and minimal road closures would occur as a result of regulation violations. Users would continue to access sensitive habitat areas, and there would be potential for off-route impacts to habitat supporting sensitive species. There would be potential for vehicle and wildlife collisions in the case of sensitive reptile and small mammal species. This potential would vary depending on frequency and type of use for each route. Effects to BLM sensitive species under this alternative would be moderate.

### **Alternative B – Proposed Action**

This alternative reduces the potential for off route damage to important habitat areas and has an overall benefit to BLM sensitive species. There would be minor effects to sensitive species under this alternative. Users would continue to have access to habitat that supports sensitive species and thus could cause wildlife to disperse from those areas. The potential for vehicle collisions or crushing of small reptiles or mammals would remain where routes are open, although it would be less likely for vehicle collisions to occur compared to the No Action Alternative due to the reduction of routes remaining in these habitat areas.

### **Alternative C – Resource Use**

This alternative closes more routes than Alternative A, but far fewer than Alternatives B and D. Impacts to BLM sensitive species would be similar to what is described for Alternative A, but to a somewhat lesser degree. Damage to prairie dog burrows and burrow networks due to off route access would have a negative effect on the species. While this alternative would have some benefits to BLM sensitive species the effect would be moderate.

### **Alternative D – Resource Protection**

Alternative D would have the greatest beneficial effects to BLM sensitive species. Alternative D would preserve and restore habitat throughout the analysis area through the route closures. Access throughout sensitive habitat areas would be greatly reduced and would limit potential off-route user impacts. The reduction of routes within the analysis area would reduce wildlife collisions and mortalities. Alternative D would have an overall beneficial effect on BLM sensitive species and continued access routes in the analysis area would result in negligible effects to the resource.

## **3.3.8.3 Greater Sage-Grouse**

### **Affected Environment**

Greater sage-grouse (GRSG) in particular is a sensitive species that was recently evaluated as a candidate for listing under the ESA and in March 2010 was designated as “warranted, but precluded.” In response to this decision, the BLM approved (September 2015) and is implementing the ARMPA to amend RMPs for BLM field offices (including the LSFO) containing GRSG habitat. In October 2017, BLM issued a Notice of Intent (NOI) to amend the ARMPA (as amended in 2015) and a Record of Decision (ROD) was issued



in March 2019 (BLM 2019c). The 2019 amendment is not currently being implemented due to a court-ordered injunction, and the 2015 ARMPA remained in effect for the development the EA.

The ARMPA provides the following objectives for managing travel and transportation: 1) reduce mortality from vehicle collisions; 2) limit change in GRSG behavior; 3) avoid, minimize and compensate for habitat fragmentation; 4) limit the spread of noxious weeds; and 5) limit disruptive activity associated with human access (BLM 2015e).

Based on Colorado Parks and Wildlife (CPW) mapping efforts and the ARMPA, GRSG habitat has been classified into two types: 1) priority habitat management areas (PHMA); 2) general habitat management areas (GHMA). PHMA represents areas having the highest conservation value in maintaining sustainable GRSG populations, including breeding, later brood-rearing, and winter concentration areas. GHMA represent occupied or recently occupied habitats that are outside priority habitat. These two habitat categories conform well to former mapping that emphasized suitable habitat within 4 miles of current or recently active leks.

Much of the project area has been designated as PHMA and GHMA and contains several documented active, inactive and historic leks, where male GRSG display to gain breeding territories and attract females (Table 3.3-19, Appendix B).

## **Environmental Consequences**

The effects analysis for GRSG is conducted using the same methodology used for Section 3.3.8.1 Threatened, Endangered, and Candidate Species. Table 3.3-20 in Appendix B describes the route segments and total miles of routes adjacent to GRSG leks or within habitat management areas.

### **Alternative A – No Action**

Habitat supporting GRSG would continue to be impacted by overland travel both creating habitat disturbance and potentially disrupting individuals. There would be no route closures within PHMA and GHMA and no seasonal restrictions in the vicinity of known leks. The effects to GRSG under Alternative A would be consistent with current conditions.

### **Alternative B – Proposed Action**

Alternative B would close approximately 102 route miles within priority GRSG habitat compared to less than one mile in Alternative A and approximately seventeen miles in Alternative C. While this alternative reduces general impacts to GRSG habitat, there are no seasonal restrictions for routes within the one mile buffer for leks. There would be a beneficial effect to the species in regard to restoration of PHMA and the potential for reduced collisions with motorized vehicles due to route closures. However, due to the travel access on county roads in close proximity to breeding areas and the lack of seasonal limitation, beneficial effects to GRSG under Alternative B would be isolated to areas that have been closed to motorized vehicles. The limited dispersal, establishment and slow growth patterns of sagebrush (*Artemisia spp.*) would result in long periods of time to establish sufficient nesting habitat within closed routes; however faster establishing forb species would improve food sources and brood-rearing habitat more rapidly.

### **Alternative C – Resource Use**

Alternative C would close approximately seventeen route miles in PHMA which would have a minor beneficial effect on the species. However, significant access to the habitat would remain and potential for

off-route habitat damage may continue. Effects to GRSG under Alternative C would be less than Alternative A and experience the same beneficial effects of route closures described in Alternative B, but not to the same extent due to significantly less miles of routes being passively restored.

#### ***Alternative D – Resource Protection***

Alternative D would close approximately 155 miles of routes in PHMA and more than thirty miles of routes in proximity of GRSG leks. Of the four alternatives, Alternative D preserves and restores the highest amount of GRSG habitat. Additionally, Alternative D designates more than 17 miles of seasonally restricted access (no activity from March 1 to July 15) in proximity to leks and within PHMA. The potential for off route access would continue where routes remain; however, there would be a considerable beneficial effect to the species under Alternative D. Negative effects to GRSG such as mortality from vehicle collisions and habitat fragmentation under Alternative D would be minor and less than all of the aforementioned alternatives.

### **3.3.9 Wild Horses**

#### **3.3.9.1 Affected Environment**

One wild horse herd management area occurs on BLM-administered lands within the analysis area (Figure 3.3-6, Appendix C). Wild horses from the Adobe Town Herd Management Area administered by the Rawlins Field Office in Wyoming often drift into the analysis area. The Sand Wash wild horse herd resides in the Sand Wash Herd Management Area (HMA), which provides sufficient water, forage, and habitat to maintain a self-sustaining wild horse population in balance with the other uses of the area. The Sand Wash HMA, consisting of 153,203 acres of public land, lies approximately 45 miles west of Craig, Colorado, in the Sand Wash Basin. A summer range of 53,444 acres has been identified along with 13 critical water sources (springs, wells, or reservoirs), which are disbursed throughout the HMA (Table 3.3-21, Appendix B). The boundary of the HMA is primarily fenced, except along State Highway 318 and in two drainages in the Spence gulch area, generally preventing wild horses from entering or leaving the HMA. There are no fences within the HMA, allowing horses to roam freely within the confines of the HMA (BLM 2005b).

The LSFO RMP established an appropriate management level for the HMA of a range between 163 and 362 wild horses. Horses are occasionally removed and placed into an adoption program or treated with a contraceptive to maintain an ecological balance. In 2021, a gather was conducted in the HMA in response to its wild horse population far exceeding the appropriate management level. During the gather operation, the BLM removed 634 horses and applied 300 doses of fertility control. These efforts returned the wild horse population to the RMP-established appropriate management level.

The LSFO RMP Goal for wild horses is to manage the Sand Wash wild horse herd and its habitat to encourage herd health while maintaining a thriving, natural ecological balance of rangeland resources.

#### **3.3.9.2 Environmental Consequences**

The key scoping issues for wild horses are described in Section 1.5.2. The Wild Horse Scenic Driving Loops, as identified by the Moffat County Tourism Association, are not impacted as they exist on county roads and will remain open. Table 3.3-22 in Appendix B provides information on the miles of routes within the HMA under each alternative.

### **Alternative A – No Action**

Wild horses are susceptible to disturbance and the effects of habitat loss resulting from travel routes and activities. Alternative A does not change any of the route designations within the HMA and would therefore have the highest level of adverse effects on wild horses. As shown in Table 3.3-22 in Appendix B, Alternative A would not close any routes within the HMA and over 433 miles of primitive roads would remain open to use. The use of unpaved roads has the potential to generate fugitive dust emissions. The severity of dust generated by these activities varies depending on several factors including wind, the frequency and timing of precipitation events, and the effectiveness of dust control measures. Fugitive dust particles can become deposited on vegetation and reduce the quality and quantity of forage. Broad, horizontal leaves tend to be more susceptible to the adverse effects of dust deposition. This can result in a reduction of photosynthetic capabilities (affecting proper growth) or reduced palatability for wild horses. Additionally, off route travel would have the potential to introduce or spread noxious weeds (see Section 3.3.4 Invasive and Non- Native Species). Adverse effects of these species range from out-competing desirable forms of native forage to being toxic. Implementation of Alternative A would result in long-term moderate impacts on wild horses due to the continued decline in forage due to route and off route travel

### **Alternative B – Proposed Action**

Alternative B would close 88 miles of routes within the HMA (3.3-22). These closures would reduce the amount of disturbance to forage and wild horses. Additionally, the route closures would be allowed to passively restore and re-vegetate which would be a beneficial effect to wild horses. Some continuing adverse impacts would occur along routes that remain open (similar to what is described under the no action). Implementation of Alternative B would have a long-term, beneficial impact on wild horses compared to the No Action Alternative.

### **Alternative C – Resource Use**

Alternative C would close less than 18 miles of routes located within the HMA's, leaving the great majority of routes open (see Table 3.3-22 in Appendix B). Implementation of Alternative C would result in similar impacts as described for Alternative A. While Alternative C would have less impact than Alternative A, it would provide only a negligible long-term beneficial effect.

### **Alternative D – Resource Protection**

Alternative D would close the greatest amount of primitive roads within the HMA, nearly double that of Alternative B (Table 3.3-22, Appendix B). These closures would reduce the amount of disturbance to forage and wild horses. Additionally, the route closures would be allowed to passively restore and re-vegetate which would be a beneficial effect to wild horses. Seasonal closures would also provide some benefit to wild horses due to a reduced human presence. As a result, Alternative D would result in a long-term beneficial impact on wild horses.

## **3.4 Heritage Resources and the Human Environment**

### **3.4.1 Cultural Resources**

#### **3.4.1.1 Affected Environment**

Cultural resources are defined as specific locations of human activity, occupation, or traditional use identifiable through field inventory, historical documentation, or oral evidence. The term includes archaeological, historic, and architectural sites and structures, as well as places with traditional cultural or religious importance within a social or cultural group. Relevant laws, ordinances, executive orders, policies, regulations and agreements other than NEPA include the Antiquities Act of 1906 (16 USC 431–433); National Historic Preservation Act of 1966, as amended (16 USC 470 et seq.); Executive Order 11593 Protection and Enhancement of the Cultural Environment (May 13, 1971); American Indian Religious Freedom Act of 1978 (92 Stat. 469; 42 USC 1996); Archaeological Resources Protection Act of 1979 (16 USC 470aa–470mm); Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001–3013); and Executive Order 13007 Indian Sacred Sites (May 24, 1996) and the Federal Land Policy and Management Act of 1976 (90 Stat. 2743; 43 USC 1701).

The most relevant direction in terms of considering the effects of the proposed project on cultural resources is the NHPA. In 2014, the BLM in Colorado and the State Historic Preservation Officer executed a protocol agreement that regulates the BLM’s compliance with NHPA in Colorado. The 2014 Protocol Agreement guides the BLM’s implementation of 36 CFR 800, the Advisory Council on Historic Preservation’s government-wide regulations, and serves as the procedural basis for BLM managers to meet their responsibilities under Sections 106, 110(f) and 111(a) of the NHPA. BLM Manual 8100–8170 provide further guidance and policy direction on the identification, evaluation, management, and protection of cultural resources, as well as tribal consultation.

The NHPA, along with other legislation, requires Federal agencies to consider the effects of an undertaking on historic properties and established the National Register of Historic Places. The implementing regulations (36 CFR 800) of the NHPA define historic properties as “...any prehistoric or historic district, site, building, structure or object included in, or eligible for inclusion in the National Register of Historic Places.” The term “historic properties” also includes properties of traditional religious or cultural importance to Native Americans.

The TMA 1 analysis area, as identified in this document, is a landscape that has been inhabited by humans for thousands of years. The land has supported Native American groups, such as the Ute, as well as Euro-American settlers. Both populations have settled in the area, have built dwellings and have utilized natural resources to survive. The analysis area contains approximately 331,470 surface acres. Data provided by the BLM LSFO indicates that between the mid-1970s and 2014, 917 cultural resource inventories were conducted on 26,662 acres (eight percent) in the analysis area. The majority of these inventories were related to proposed oil and gas development. Review of the General Land Office plats revealed that an unrecorded six-mile-long segment of the Cherokee Trail is present in TMA 1 along the Wyoming border. The historic trail was used by the Cherokee to travel to the 1849 California Gold Rush and was later used by Euroamerican homesteaders.

These inventories, although representing a small percentage of the total land base contained within the LSFO TMA 1, have identified approximately 1,311 cultural resources (archaeological sites and historic

structures) within the analysis area that need to be considered in the travel management planning process. There is potential for additional resources to be found, which would require Section 106 of the National Historic Preservation Act among other cultural resource preservation laws to be followed. Analysis of the data indicates that within the 0.25-mile buffer area of all TMA 1 routes, there are 371 sites present (10,566 acres) that are either NRHP-eligible or need more data for an eligibility determination. A single Traditional Cultural Property, a rock art site, is present within 0.25 miles of one of the routes. Common site types in the analysis area include prehistoric campsites and flaked stone scatters. Few prehistoric architectural sites and flaked stone quarries are present. Also present are a small quantity of historic artifact scatters, homesteads, corrals, and fences.

### **3.4.1.2 Environmental Consequences**

#### **Alternative A – No Action**

This alternative would designate all primitive roads and trails “open” without regard to possible conflicts with cultural resources. This alternative would not have the beneficial impact of reducing OHV use to cultural resources as no routes would be closed to protect cultural resources. The No Action Alternative also does not provide BLM with the support needed to manage “wild-cat” routes illegally created into areas where unknown and yet to be identified cultural properties exist. Under the No Action Alternative, 152 route segments, or 43.44 miles of routes, would intersect the 100-foot buffer for cultural sites (Table 3.4-1, Appendix B). A total of 520 route segments, or 188.56 miles of routes would intersect the 0.25-mile buffer (Table 3.4-1, Appendix B). Under this alternative, cultural sites would continue to be directly impacted by the creation of illegal routes or off-route travel and the ongoing use of existing routes (i.e., through erosion of vehicular routes).

#### **Alternative B – Preferred Alternative**

This alternative would balance resource use and resource protection. Alternative B would result in a reduction in impacts to cultural resources from the current conditions (No action). Under Alternative B, 97 route segments, or 31.07 miles of routes would intersect the 100-foot buffer for cultural sites. A total of 382 route segments, or 159.52 miles of routes would intersect the 0.25-mile buffer. This alternative also would present less of an impact than Alternative C but would still present a risk of damage to cultural sites caused by vehicular traffic and illegal collecting. Approximately 12 miles of routes would be closed under Alternative B within the 100-mile buffer and 29 miles would be closed within the .25-mile buffer. Closed routes would be signed, may be barricaded where feasible, and passively restored. This would give BLM the ability to better manage and enforce route closure.

#### **Alternative C – Resource Use**

Under Alternative C, a total of 116 route segments, or 34.76 miles, would intersect the 100-foot buffer for cultural sites (Table 3.4-1, Appendix B). A total of 465 route segments, or 173.59 miles, would intersect the 0.25-mile buffer for cultural sites (Table 3.4-1, Appendix B). Approximately 9 miles of routes would be closed under Alternative C within the 100-mile buffer and 15 miles would be closed within the .25 mile buffer. Indirect effects from visitation, illegal collection and excavation, and vandalism would also be more likely under this alternative than Alternative B or D, due to more direct access to cultural sites across the TMA.

## **Alternative D – Resource Protection**

This alternative would offer the greatest benefit to cultural resources, as it would provide additional resource protection. Under this alternative, more routes would be closed and passively restored than all the other alternatives. This would help to protect sensitive areas (both environmental and cultural). Under Alternative D, a total of 65 route segments, or 24.83 miles, would intersect the 100-foot buffer for cultural sites (Table 3.4-1, Appendix B). A total of 305 route segments, or 132.24 miles, would intersect the 0.25-mile buffer for cultural sites (Table 3.4-1, Appendix B). Approximately 19 miles of routes would be closed under Alternative D within the 100-mile buffer and 56 miles would be closed within the .25 mile buffer. Closed routes would be managed similar to what is described under Alternative B. Cultural sites may continue to be impacted by erosion of vehicular routes, but to a lesser extent than under other proposed alternatives. Indirect impacts from illegal visitation, collection, and vandalism would be less likely under this alternative than under all other alternatives

### **3.4.2 Native American Concerns**

#### **3.4.2.1 Affected Environment**

BLM is required to consult with Native American tribes to “assure (1) that federally recognized tribal governments and Native American individuals, whose traditional uses of public land might be affected by a proposed action, will have sufficient opportunity to contribute to the decision, and (2) that the decision maker will give tribal concerns proper consideration” (BLM 2004c). The BLM has made a reasonable and good faith effort to identify and seek government-to-government consultation with federally recognized Native American Tribes with religious and cultural ties to the analysis area that “attach religious and cultural significance to historic properties that may be affected by an undertaking” (Section 101[d][6][B] of the NHPA).

The BLM LSFO sent letters to four different Native American tribes, three branches of the Ute Indian Tribes (Northern, Southern, and Ute Mountain) and the Eastern Shoshone Tribe, offering consultation opportunities. For the purposes of Section 106 compliance, tribal consultation for the Project began when a certified letter was mailed on February 22, 2016, to all federally recognized Native American Tribes either residing in or with cultural ties to the analysis area.

Archaeological sites exist within TMA 1 that may be of concern to the Ute and Shoshone tribes. Site types and densities vary within TMA 1, however, resources traditionally important to tribes exist and potentially include rock art and wickiups.

#### **3.4.2.2 Environmental Consequences**

### **Alternative A – No Action**

Under the No Action Alternative, existing conditions would be maintained and minimal limitations on motorized travel would exist. Impacts from motorized travel could occur to both known sites and subsurface sites and could result in the erosion of soil containing cultural materials or damage to or destruction of artifacts and features. Other potential effects could include vandalism, inadvertent damage, or illegal artifact collection could occur. This alternative would not have the beneficial impact of reducing OHV use, as no routes would be closed to protect cultural resources or Native American Concerns.

## **Alternative B – Proposed Action**

Alternative B would emphasize multiple-use by protecting sensitive resources while providing additional recreation and travel opportunities. Native American concerns were carefully considered during route evaluations, route designations attempt to avoid and/or mitigate impacts. Where small connector routes may be constructed, compliance with Section 106 would be required through appropriate government-to-government consultation and an intensive Class III inventory of previously un-inventoried areas would be conducted to identify historic properties.

## **Alternative C – Resource Use**

Alternative C would allow the greatest extent of route use and access, while maintaining the basic protection needed to sustain sensitive resources. This alternative would allow the most access to TMA 1, with the exception of the No Action Alternative. Impacts from motorized travel could occur to both known sites and subsurface sites and could result in the erosion of soil containing cultural materials or damage to or destruction of artifacts and features. Other potential effects could include vandalism, inadvertent damage, or illegal artifact collection could occur. Section 106 would be required through appropriate government-to-government consultation and an intensive Class III inventory of previously un-inventoried areas would be conducted to identify historic properties.

## **Alternative D – Resource Protection**

This alternative would offer the greatest benefit in regard to Native American concerns, as it would provide additional resource protection. Native American concerns were carefully considered during route evaluations, and route designations attempt to avoid and/or mitigate impacts in regard to Alternative D. Alternative D would decommission the highest number of routes that are impacting sensitive resources, which would be a beneficial impact. Section 106 would be required through appropriate government-to-government consultation and an intensive Class III inventory of previously un-inventoried areas would be conducted to identify historic properties.

### **3.4.3 Paleontological Resources**

#### **3.4.3.1 Affected Environment**

Within the TMA 1 analysis area, the potential for paleontological resources is documented through the use of the following five class definitions:

- Class 1 – Very Low: Geologic units that are not likely to contain recognizable fossil remains.
- Class 2 – Low: Geologic units that are not likely to contain paleontological resources.
- Class 3 – Moderate: Geologic units where fossil content varies in significance, abundance, and predictable occurrence. Also sedimentary units of unknown fossil potential.
- Class 4 – High: Geologic units that are known to contain a high occurrence of paleontological resources.
- Class 5 – Very High: Highly fossiliferous geologic units that regularly and predictably, produce significant paleontological resources.

In addition to Potential Fossil Yield Classification (PFYC), data provided by the Little Snake Field Office identified 98 paleontological sites totaling 6,949 acres within the analysis area to be considered in the travel management planning process (Table 3.4-2 in Appendix B, Figure 3.4-1 in Appendix C).

Shapefiles provided by the LSFO provided only locations of paleontological resources, with very few descriptive details regarding their components

### **3.4.3.2 Environmental Effects**

#### **Alternative A – No Action**

This alternative would designate all primitive roads and trails “open” without regard to possible conflicts with paleontological resources. Management of the routes would be left to future site specific project plans. No routes would be closed to protect paleontological resources (Table 3.4-3, Appendix B). Under the No Action Alternative, 63 route segments, or 18.91 miles of routes would intersect the 100-foot buffer for paleontological sites. A total of 138 route segments, or 62.25 miles of routes would intersect the 0.25-mile buffer. Under this alternative, paleontological sites would continue to be directly impacted by the creation of illegal routes and the ongoing use of existing routes (i.e., through erosion of vehicular routes). This alternative would be the least favorable for the preservation of paleontological resources due to the highest number of paleontological resources within a 100-foot buffer from open or limited routes. Impacts to paleontological resources may occur as the result of ongoing erosion and travel related disturbance. Additionally, Alternative A would allow more access to unauthorized collecting at accessible outcrops.

#### **Alternative B – Proposed Action**

This alternative would balance resource use and resource protection. Under Alternative B, 45 route segments, or 16.44 miles of routes would intersect the 100-foot buffer for paleontological sites (Table 3.4-3, Appendix B). A total of 102 road segments, or 56.85 miles, would intersect the 0.25-mile buffer. The increase in route closures would benefit paleontological resources due to a reduction in access to sites likely resulting in a reduction in unauthorized collection compared to Alternative A and C. Indirect impacts from illegal visitation, collection, and/or vandalism would be less likely under this alternative than under Alternatives A and C.

#### **Alternative C – Resource Use**

This alternative would allow only basic protection of paleontological resources, as it would decommission approximately 2 miles of route within the 0.25-mile buffer (almost 35 miles less than Alternative B). Under Alternative C, a total of 57 route segments, or 18.02 miles, would intersect the 100-foot buffer for paleontological sites (Table 3.4-3, Appendix B). This alternative would increase the direct impacts to paleontological resources from the use of additional open routes compared to Alternative B and D. Impacts would be similar to what is described for Alternative A, but slightly reduced due to 6 less sites being accessible due to closed routes.

#### **Alternative D – Resource Protection**

This alternative would offer the greatest benefit to paleontological resources, as it would provide additional resource protection. Under this alternative, routes would be closed to protect sensitive biological, physical, and historical resource areas. Under Alternative D, a total of 25 route segments, or 10.92 miles, would intersect the 100-foot buffer for paleontological sites. A total of 71 route segments, or 45 miles, would intersect the 0.25-mile buffer (Table 3.4-3, Appendix B). Seasonal closures would benefit paleontological resources by closing areas during the season with highest rainfall. This would reduce the potential for rutting along routes and accelerated erosion which could expose and damage sites.



Paleontological sites may continue to be impacted by erosion of vehicular routes but to a lesser extent than under other proposed alternatives. Indirect impacts from illegal visitation, collection, and/or vandalism would be less likely under this alternative than under all other alternatives.

### **3.4.4 Visual Resources**

#### **3.4.4.1 Affected Environment**

In order to meet its responsibility to maintain the scenic values of the public lands, BLM has developed a Visual Resource Management (VRM) system that provides a framework for managing the degree of modification and assessing visual impacts. There are four VRM classes with established objectives:

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

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

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

VRM Class IV – The objective of this class is to provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

As shown in Table 3.4-4 in Appendix B, most of the land within the TMA has been designated by the RMP as Class 3 and 4. Approximately 25% of the TMA is Class 2; these areas are located in the west and southwest areas along the Vermillion area. Approximately 42% of the analysis area is VRM class 3; this area is located throughout the Sand Wash Basin. Consisting of the South Sand Wash SRMA and the northern border of the analysis area, 32% of the analysis area is designated VRM class 4. Table 3.4-5 in Appendix B provides a summary of route miles within each VRM Class.

#### **3.4.4.2 Environmental Consequences**

The key scoping issues for visual resources are described in Section 1.7. Routes impact the visual resource by creating lines and breaks in the landscape from the foreground (3-5 miles) to the background (5-15 miles). Dust clouds from moving vehicles can be seen beyond 15 miles. Road cuts in the topography create dissimilarities in color, texture and line on the landscape. Impacts of routes can be seen on the landscape for years to come even if the routes are not traveled frequently. Over the long-term, it is

expected that closed routes would blend back into the landscape, reducing the impact on the visual landscape. Regulatory and information signage can also create an impact on the visual resources in the immediate foreground. Table 3.4-6 in Appendix B provides a breakdown of the miles of each route type by Alternative within each VRM class.

### **Alternative A – No Action**

This alternative would have minimal changes to the existing route classifications and would close only 1.33 miles in VRM Class 2. This alternative would have only minimal beneficial effects to visual resources resulting from minimization of the route network – closing approximately 1.3 miles of route segments located in VRM Class 2 and a minor amount in VRM Class 3. Off-route travel would continue to occur under the No Action Alternative, and may lead to route proliferation and damage to the visual landscape. Existing management and recreational activities and other uses of the area would continue and impacts to visual qualities would continue as they have in the past.

### **Alternative B – Proposed Action**

This alternative would have beneficial effects on visual resources, resulting in the closure of 576 segments and 157.66 miles. Of these closures, approximately 3.6 miles would be located in VRM Class 2. The great majority of closures would occur in VRM Class 3 (103 miles) and VRM Class 4 (51 miles). Closed routes would be allowed to passively restore and would allow the framework for BLM to manage off-route use. This would reduce route proliferation compared to the No Action Alternative. Overall, Alternative B would have a higher level of beneficial effects than Alternatives A and C but less than Alternative D. Over the short-term, closed routes would continue to be visible on the landscape until vegetation re-establishes. After the re-establishment of vegetation, these closures would improve the visual character of the landscape.

### **Alternative C – Resource Use**

Alternative C would have less visual impacts than Alternative A, but more visual impacts than Alternatives B and D due to the retention of approximately 947 miles of routes. A total of 105 segments and 30.72 miles would be closed in Alternative C. The great majority of closures would be located in VRM Class 3 (21 miles) with smaller amounts in VRM Class 2 (1.5 miles) and VRM Class 4 (8.3 miles). This would have a minor beneficial effect to visual resources in the analysis area by allowing these routes to passively restore thereby improving the visual character of the landscape.

### **Alternative D – Resource Protection**

This alternative would close the most segments and miles in VRM Class 2 areas (7.6 miles) as well as the most total miles closed (847 segments and 268.16) throughout the TMA. The majority of these closures would occur within VRM Class 3 (172.5 miles) with a lesser amount in VRM Class 4 (88 miles). Impacts associated with Alternative D would be similar to what is described for Alternative B, but Alternative D would have the greatest beneficial effect on visual resources of any of the alternatives due to the highest mileage of route closures in VRM Class 2, 3, and 4 areas.

## **3.5 Resource Uses**

### **3.5.1 Access and Transportation**

#### **3.5.1.1 Affected Environment**

The analysis area is comprised of the Hiawatha, Sand Wash and Bears Ears Travel Planning Areas. Refer to Section 3.2.6 of the Proposed RMP/Final EIS (BLM 2010) for additional detail on the current resource use conditions and trends for access and transportation in the study area. The analysis area is located in the northwest region of the LSFO boundary; bordered by County Road 10 to the west, the Wyoming state line to the north, County Road 75 to the east, and Highway 318 to the south.

A comprehensive route inventory was completed to the greatest extent possible to include all motorized and non-motorized routes used by people and their vehicles. The route inventory dataset includes 1,913 route segments totaling approximately 964 miles of existing routes located on BLM administered land. The BLM defines and categorizes its linear assets (travel routes) into the following categories: roads, primitive roads, trails, and transportation linear disturbances. Please refer to Section 2.1 for a full list of terms and definitions.

The RMP evaluation criteria related to transportation and access place the highest benefit on County roads, major BLM connector or through routes, and primary access routes that connect to county roads. These routes streamline travel, reduce redundancy and provide access to the area with the least amount of impact to sensitive resources. The analysis area has a number of ROWs as well as permitted and/or leased actions such as the utility lines, oil and gas, and private land access. None of these would be affected by the alternatives presented in this EA.

#### **3.5.1.2 Environmental Consequences**

The key scoping issues for access and transportation resources are described in Section 1.7. Table 3.5-1 in Appendix B presents the total miles of open, limited, and closed routes proposed under each alternative. Travel management designations would not affect BLM ROWs, permitted uses, county or State roads, or other valid existing rights. Restrictions apply only to motorized public access and recreational OHV use.

#### **Alternative A – No Action**

Under Alternative A the authorized BLM transportation system would be unaltered. Alternative A would not call for any closures of redundant routes (Table 3.5-1, Appendix B). Use and travel by motorized and non-motorized vehicles would be allowed on all routes except where not currently permitted. If the trend towards higher usage of the area continues, there would be a high potential for new user-created routes to be developed. Under Alternative A, the environmental impacts from the increased use of poorly located and designed routes would steadily grow over time. However, the impact to access and transportation would generally remain the same. Figure 3.5-1 in Appendix C illustrates the open and closed routes within the analysis area under the No Action Alternative.

#### **Alternative B – Proposed Action**

Alternative B would close 537 route segments (154.43 miles). Access limited to authorized users (i.e. private land owners or permittees) would total 26.48 miles. Approximately 812.36 miles of existing

routes would remain open for public use (Figure 3.5-2, Appendix C). Additionally, of the proposed segments that would be closed or decommissioned, 85.36 miles (58.5%) are classified as ‘dead end’ routes. The dead-end segments do not enhance connectivity and access in the analysis area, and their closure would have minimal impact on access and transportation. Highly used roads are important for access throughout the analysis area. Under Alternative B, no primary roads would be closed. However, 87.47 miles of redundant routes would be closed under Alternative B. Keeping primary roads open while closing dead-end and redundant routes would benefit access and transportation by streamlining the transportation system within the analysis area. This would allow management to focus resources on the most important and highly used routes. Under Alternative B, the transportation system would be less redundant. However, with the closure of routes, signage and barriers to enforce these closures would be necessary.

### **Alternative C – Resource Use**

Alternative C would prioritize access to the analysis area by all users. The implementation of this alternative would call for the closure of 31.38 miles of existing routes and limit access to authorized users on 10.14 miles of routes, leaving 932.82 miles open for public use. It would close 34.17 miles of routes categorized as redundant. Of the three action alternatives, Alternative C would have the least impact on the transportation system from the standpoint of closures. Figure 3.5-3 in Appendix C illustrates the open and closed routes proposed for Alternative D.

### **Alternative D – Resource Protection**

Alternative D would prioritize resource protection through the closure of routes that may impact sensitive or protected resources. It would result in the closure 269.99 miles of existing routes. Of the routes that would be closed, 88% are classified as either dead end or redundant routes. Primitive roads limited seasonally or to authorized users (i.e. private land owners or permittees) would comprise 104.86 miles of the existing routes in the analysis area. This alternative has the greatest amount of closures and restrictions on motorized travel and would therefore have the greatest impact on access and transportation. However, as previously mentioned, the bulk of closures are dead end and redundant routes. These closures would create a need for the installation of gates, barricades, and other closure devices to reinforce the travel restrictions. Additional signage would also be needed to designate the allowable travel uses on the designated routes. Figure 3.5-4 in Appendix C illustrates the open and closed routes proposed for Alternative D.

## **3.5.2 Recreation**

### **3.5.2.1 Affected Environment**

Recreation is a key part of the multiple use management in the analysis area. Dispersed recreation occurs throughout the analysis area, including the following activities shown in Table 3.5-2 in Appendix B.

Key destinations within the TMA include:

- Vermillion, Talamantes, Shell Creeks, and the area around them offer hunting, fishing, and hiking experiences.
- Sand Wash HMA, which is further discussed in the Wild Horses section.

- Vermillion Basin Protective Management Area (VBPMA), which is managed as lands with wilderness characteristics, offers a variety of areas to be explored with canyon, slick rock, petroglyphs, and diverse typography. This area includes multiple bluffs, mountains such as Bears Ears, and limestone ridges. Vermillion Basin is discussed in length in Section 3.4.2.
- Irish Canyon ACEC (11,910 total acres) is managed to protect specific resources, including rare plants, rare plant communities, and scenic, geologic, and cultural values. A small section of the ACEC is located within the analysis area and it overlaps with Vermillion Basin.
- A big-game trophy hunting unit covers the entire analysis area. The primary game unit is 2.

OHV use, big game hunting, and antler gathering are the fastest growing recreational uses identified in TMA 1 (BLM 2005a; Field Office IDT). Colorado Parks and Wildlife (CPW) has determined that 40 percent of the big game license revenue taken in by the State of Colorado is from Moffat and Rio Blanco counties, indicating that big game hunting is extremely prevalent and important to local economies. OHV use related to hunting is concentrated from late summer to early winter during open seasons.

Hiking and other trail based recreation does not occur at significant levels; however, the need for quiet and scenic recreation use is increasing. TMA 1 offers the VBPMA and Irish Canyon ACEC for quiet use opportunities. Interest in wild horse viewing is also rapidly increasing in TMA 1. Sand Wash HMA offers opportunities for photographing and viewing the wild horse herds.

### **Recreation Opportunity Spectrum**

The recreation opportunity spectrum (ROS) is a system of inventorying and classifying the range of recreational experiences, opportunities, and settings available on public lands. BLM primarily manages five of the six ROS classes: primitive, semiprimitive non-motorized, semiprimitive motorized, roaded natural, and rural. The urban ROS classification does not typically require BLM management restrictions. Rural ROS classes also require very few BLM restrictions. The primitive, semiprimitive, and roaded natural classifications are designed to provide certain types of recreation settings and might require use restrictions to meet management objectives.

The facilities, level of infrastructure, and concentration of users throughout most of the analysis area is consistent with semiprimitive motorized and roaded natural ROS designations. Primitive and semiprimitive non-motorized experiences can be found within the VBPMA and the Irish Canyon ACEC.

### **South Sand Wash SRMA**

South Sand Wash SRMA is a 35,510-acre area managed to provide OHV experiences in the Yampa Valley. The SRMA has two management zones: Zone 1 for open play area and Zone 2 for designated roads and trails area. SRMAs are identified where demands for specific recreation opportunities have been determined from identifiable recreation-tourism markets. As outlined in the Approved RMP (BLM 2011d), Zone 1 of the South Sand Wash SRMA is managed as an open play area. Zone 1 of the South Sand Wash SRMA was not considered as part of this travel management planning process since all types of vehicle use is permitted at all times, anywhere in the area. The South Sand Wash SRMA will be evaluated in a future comprehensive Recreation Area Management Plan.

### **3.5.2.2 Environmental Consequences**

The key scoping issues for recreation are described in Section 1.7. The BLM administers 49.2% of the land in Moffat County with additional Federal land making up a total of 56.8% of the surface acres in Moffat County. The analysis area is almost entirely public land. The primary economic drivers in the analysis area are tourism (including recreation), mining, oil & gas, and grazing, which largely occur on these lands. The public lands administered by the BLM provide many of the recreational and tourism opportunities.

While the ROS areas have not been mapped within the analysis areas, there is a trend of shifting from more primitive to more developed (rural) experiences as populations near the analysis area grow and motorized recreation becomes more popular and accessible. As outdoor recreational use continues to increase on public lands, the demand for developed recreation sites and open areas for users to disperse would increase accordingly. Side-by-side OHV use is rising and is expected to continue into the future for hunting and general travel. The need for ATV/UTV specific routes could become prevalent; as well as the need to re-designate trails to consider the impacts specific to side-by-side OHVs such as increased route width and access capabilities.

Antler gathering (shed hunting) is currently unregulated within the analysis area and is causing conflicts with other use types and cross country travel. The need to enforce regulations or monitor antler gathering could arise if the conflicts associated with antler gathering continue to increase.

All recreational activities would still be allowed throughout the analysis area. Overall, the existing ROS would continue to be implemented throughout all of the alternatives with no changes in the types of activities and facilities being offered. However, the types of recreational experiences may be altered in some areas (i.e. opportunity to be isolated from other groups or the convenience of more recreation sites). Changes to the recreation network consist of identifying certain routes to be open, closed, or limited. Limited routes are categorized to season closures, authorized use only, limited by width of an OHV, or limited to only non-mechanized travel. All public lands would continue to be available for non-motorized activities such as horseback riding, hiking, and on-foot activities such as game retrieval.

Each of the action alternatives identifies 3.85 miles of non-mechanized trails (trails limited to only horses and hiking). The proposed trail is located along the northwest edge of Vermillion Basin and offers a unique experience for quiet use and one of the only primitive experiences, providing an unmodified natural environment and isolation from man-made sights and sounds, in the analysis areas.

#### **Alternative A – No Action**

All of the routes (approximately 962.6 miles or 1,909 segments) under Alternative A would remain open, except those that are temporary roads and 4 segments of closed routes. The closed routes had been designated as closed in the RMP. Table 3.5-3 in Appendix B provides detail on the miles of routes and number of segments open under Alternative A. Alternative A would result in no change to the existing condition for recreation users of TMA 1. Alternative A would not include implementation measures such as monitoring, mitigation, and signage further increasing the negative impacts to other resources.

## **Alternative B – Proposed Action**

Approximately 808 miles or 1,375 routes would remain open under Alternative B (Table 3.5-3, Appendix B). This alternative offers the most limited width OHV routes, OHVs with less than a 50-inch wheel base, which creates a unique single track experience. Alternative B provides a balanced recreation system for the long-term sustainable management of recreation trails. Open routes are distributed throughout the analysis area to provide a complete network of recreational opportunities including recreational loops for motorized recreation. Limited new routes would be constructed to enhance the recreational experience for motorized users by completing certain loops and connectors for a complete trail network.

## **Alternative C – Resource Use**

Approximately 932.8 miles or 1,816 routes would remain open in this alternative (Table 3.5-3, Appendix B), the highest number of routes of the action alternatives. This alternative provides the least negative effects to motorized activities. Routes closed in this alternative do not add to the recreational experience and primarily consist of redundant routes, routes designated as closed in the RMP, or routes with impacts to cultural sites or special status species. Open routes are distributed throughout the analysis area to provide a complete network of recreational opportunities including recreational loops for motorized recreation.

## **Alternative D – Resource Protection**

Approximately 694.15 miles or 1,121 routes would remain open in this alternative (Table 3.5-3, Appendix B), the least amount of routes of the action alternatives. Alternative D closes or decommissions the highest number of routes, creating the greatest negative impact to motorized activities. This alternative offers minimal limited width OHV routes. Closing of a large number of routes would concentrate users creating a less opportunities for isolation. Although hiking is not a significant use in the analysis area, users seeking non-motorized wildlife viewing or hunting opportunities may benefit from decreased levels of disturbances to wildlife. Similar to Alternative C, routes to be closed have significant impacts on other resources, lack connectivity, or have light/ non-use. Seasonal closures would reduce access to some areas for recreational users. Open routes are distributed throughout the analysis area to provide a complete network of recreational opportunities; however, a limited number of loops would be available.

## **3.6 Special Designations**

### **3.6.1 Vermillion Basin**

#### **3.6.1.1 *Affected Environment***

The Vermillion Basin Protective Management Area (VBPMA) was created as part of the 2011 Approved RMP (BLM 2011d) in order to protect the naturalness and outstanding opportunities for primitive recreation and solitude in the area (Figure 3.6-1, Appendix C). The management framework for the VBPMA is outlined in the 2011 Approved RMP and includes a VRM Class II designation, ROW exclusion, recommended withdrawal from mineral location; and closure to new oil & gas leasing, mineral material sales, non-energy leasing, and coal leasing. There are 77,070 acres of land managed to protect wilderness characteristics within the travel management area.

The VBPMMA contains a very diverse landscape; ranging in elevation from approximately 6,000 feet at the base of Vermillion Creek to over 8,000 feet on the ridgetop of the Vermillion Bluffs and Bears Ears Peak. The basin comprises the southwest portion of the analysis area; however, it extends to within 1.5 miles of the northwest boundary (nearly bisecting the analysis area above Sand Wash Basin). There are a total of 95 route segments and 48.34 miles within the analysis area that intersect the boundary of Vermillion Basin; of which 23 segments and 37.43 miles (or 77% of the total miles) are county roads or previously designated as open in the Approved RMP. OHV use within Vermillion Basin is limited to designated roads and trails in some areas and closed in other areas (BLM 2011d). Three roads are cherry-stemmed out of the closed area in western Vermillion Basin and are not subject to OHV closure; including the Blue Hill road, the Vermillion Basin bench road running from County Road 169, and the road from Irish Lake.

### **3.6.1.2 Environmental Consequences**

The management restrictions put in place by the RMP within VBPMMA reduce motorized access to the area, making the primary use primitive camping and hiking. There would be no new road construction or route designation changes from ‘primitive’ to ‘maintained’ as part of any of the alternatives. Providing a travel network to the public will concentrate travel on the routes designated as open, and remove travel from routes designated as closed. Routes designated as closed or limited would likely experience an improvement in biological function and aesthetics for visitors due to the removal of motorized vehicular travel. Over time, water infiltration would improve as a result of less soil compaction due to freeze thaw and root penetration. This would decrease runoff and sedimentation as a result of increased water infiltration and the re-establishment of vegetation in the routes tracks. There would also be a decrease in habitat fragmentation and improvement of the physical landscape integrity or naturalness.

#### **Alternative A – No Action Alternative**

Alternative A would have minimal closures and 48.28 miles (Table 3.6-1, Appendix B) of existing routes would remain open. The only closures would be routes previously designated as closed in the RMP and access opportunities would remain as is. Alternative A would provide the least amount of beneficial effects on VBPMMA compared to the other alternatives due to only 0.06 miles of routes being decommissioned and restored. Decommissioning routes would increase the naturalness of the area by returning manmade features back to their native state and improving the visual quality of the landscape. Opportunities for primitive recreation and solitude would increase in areas where routes have been decommissioned, however traffic and use would be more concentrated due to less available access points.

#### **Alternative B – Proposed Action**

Alternative B would close 1.14 miles (Table 3.6-1, Appendix B) of existing routes along 34 segments. These closures would reduce motorized access opportunities but result in a beneficial effect to the VBPMMA than Alternative A or C by increasing protection of physical, biological, and historical resources that were previously susceptible to damage associated with the use and proliferation of routes. Route closure specifically, allows vegetation to reestablish on route surfaces that were previously susceptible to erosion and sedimentation during runoff events. Wildlife would benefit from route decommissioning by decreasing habitat fragmentation, improving food sources, and reducing the change in animal behavior associated with human presence and the noise from motorized vehicles. Documented and undocumented historical resources in close proximity to closed routes would be less susceptible to vandalism or damage that vehicular access provides. Under this alternative, three route segments and 1.45 miles of trail would



be designated as non-mechanized along the northern rim of Vermillion Basin, outside lands managed for wilderness characteristics.

### **Alternative C – Resource Use**

Alternative C retains more open routes than Alternatives B or D but less than Alternative A. A total of 0.19 miles (Table 3.6-1, Appendix B) of routes, or 10 segments, would be closed under this alternative. There would be minimal loss of motorized access but less of a beneficial effect to the physical, biological, and historical resources discussed in Alternative B within VBPMA. Under this alternative, three route segments and 1.45 miles of trail would be designated as non-mechanized along the northern rim of Vermillion Basin, outside of lands managed for wilderness characteristics.

### **Alternative D – Resource Protection**

Alternative D closes more routes than all of the other alternatives (3.27 miles and 51 segments, Table 3.6-1 in Appendix B). Alternative D would maximize the protection of sensitive physical, biological, and historical resources, while enhancing the feeling of naturalness and solitude for primitive recreational users as discussed in the preceding alternatives. Decommissioning routes would increase the naturalness of the area by returning manmade features back to their native state and improving the visual quality of the landscape. Opportunities for primitive recreation and solitude would increase in areas where routes have been decommissioned, however traffic and use would be more concentrated due to less available access points. Under this alternative, three route segments and 1.45 miles of trail would be designated as non-mechanized along the northern rim of Vermillion Basin, outside of lands managed as wilderness characteristics. This could reduce noise and physical impacts that result from OHVs. Alternative D could concentrate users and limit access points, thereby reducing the opportunity of dispersal and solitude.

## **3.6.2 Areas Containing Wilderness Characteristics**

### **3.6.2.1 Affected Environment**

Section 201 of the FLPMA requires BLM to maintain on a continuing basis an inventory of all public lands and their resources, including wilderness characteristics. In the winter of 2012, the LSFO began the process of identifying and inventorying lands that could have the potential to contain wilderness characteristics within its administrative boundaries by evaluating roadless (not containing highway, county, or maintained BLM roads) areas greater than 5,000 acres outside of WSAs. The analysis resulted in the identification of 55 individual areas containing wilderness characteristics but not managed to protect those values, totaling 582,592 acres. Sixteen of these areas are located within the boundary of the analysis area (Table 3.6-2, Appendix B), totaling 244,612 acres or 74% of the analysis areas land surface. While these areas were identified as containing wilderness characteristics, they are not managed to protect those values. Table 3.6-3 in Appendix B provides the number of route segments and miles within each polygon for lands containing wilderness characteristics. Figure 3.6-2 in Appendix C illustrates the portions of the Analysis Area that contain wilderness characteristics.

### **3.6.2.2 Environmental Consequences**

Managing wilderness values is part of the BLM's multiple use mission. Lands determined to contain wilderness characteristics must be over 5,000 acres in size, have the absence of roads which have been improved and maintained by mechanical means to ensure regular and continuous use (roadless), and

contain naturalness and outstanding opportunities for solitude or a primitive and unconfined type of recreation (BLM 2012a).

Designating an existing linear feature as a 'Road' can remove the wilderness characteristics of an inventoried polygon. The number of open routes (route density) within an area identified to have wilderness characteristics can decrease naturalness and opportunities for solitude.

All ground transportation linear features would remain open to foot travel under all alternatives. There are no newly proposed roads or route designation changes from 'primitive' to 'maintained' within any lands inventoried to contain wilderness characteristics. Table 3.6-4 in Appendix B provides the route segments and mileage of routes within lands with the presence for wilderness characteristics by Alternative.

### **Alternative A – No Action**

This alternative has minimal changes to the existing route classifications and would close 1.60 miles of routes in areas that contain wilderness characteristics. The closure of these routes would provide a minor beneficial impact to areas containing wilderness characteristics due to the increased potential for solitude and the restoration of the landscape and scenic qualities.

### **Alternative B – Proposed Action**

Under the Proposed Action (Alternative B), a total of 403 primitive road route segments (121.75 miles) would be closed and decommissioned within areas that contain wilderness characteristics. These closures would greatly improve the scenic and ecological integrity of the landscape within these areas by removing traffic and allowing them to passively restore to their native state (see other physical and biological resource sections for specific ecological benefits of route closures). The closures would also increase the potential for solitude. Three route segments following Vermillion Creek would be limited to non-mechanized (foot and horse) travel only.

### **Alternative C – Resource Use**

This alternative would have less of an impact on areas that contain wilderness characteristics than Alternative A. However, it would close fewer primitive roads than Alternatives B and D. A total of 73 segments and 25.68 miles of primitive road would be closed in Alternative C. Beneficial effects of these closures on areas that contain wilderness characteristics include an increase in naturalness from roads being re-vegetated (allowing them to blend into the landscape) and increase in opportunities for solitude or primitive and unconfined recreation by eliminating motorized traffic in areas where routes have been decommissioned.

### **Alternative D – Resource Protection**

This alternative has the highest segments and miles of primitive road closures in areas that contain wilderness characteristics. A total of 606 segments and 268.16 miles would be closed in Alternative D. Public access opportunities under this Alternative would be significantly reduced, concentrating traffic to the remaining 'Open' routes and taking away from opportunities for solitude when traveling by vehicle. Naturalness and opportunities for primitive recreation would increase and experience beneficial effects through the decommissioning of routes and removal of the disturbance associated with them from the landscape.

### **3.6.3 Areas of Critical Environmental Concern**

#### **3.6.3.1 Affected Environment**

Section 202 of the Federal Land Policy Management Act (FLMPA) mandates giving priority to the designation and protection of Areas of Critical Environmental Concern (ACECs). ACECs are areas where special management attention is needed to protect and prevent damage to important historical, cultural, and scenic values; fish, or wildlife resources; or other natural systems or processes (BLM 1988).

The Irish Canyon ACEC is an 11,190-acre area first designated in the 1989 Little Snake RMP for its unique record of geological history, presence of rare plant communities, outstanding scenery, and significant archaeological history (Figure 3.6-3, Appendix C).

Seventy-four percent, or 8,252 acres, of the Irish Canyon ACEC is located within the TMA 1 boundary and Vermillion lands with wilderness characteristics inventoried unit (CON-010-008). Of that, 7,581 acres lie within the VBPMA.

A total of six existing route segments (8.01 miles) intersect the Irish Canyon ACEC where OHV use would be limited to designated roads and trails. However, 6.31 of those miles (seventy-nine percent) is County Road 10N (BLM 2011d). The Irish Canyon ACEC contains two developed recreational sites, the Irish Canyon Campground, and Irish Canyon Interpretive Site.

#### **3.6.3.2 Environmental Consequences**

Designated routes within the Irish Canyon ACEC are primarily located along the perimeter, leaving the interior relatively undisturbed. Five route segments within the Irish Canyon ACEC would remain open under each of the action alternatives. Table 3.6-5 in Appendix B details the miles of open, limited, and closed routes within the Irish Canyon ACEC by alternative.

#### **Alternative A – No Action**

Alternative A would result in no changes to the existing route network. It would result in no change to the existing impacts to sensitive biological and historical resources in the Irish Canyon ACEC due to 0 miles of routes being decommissioned and restored.

#### **All Action Alternatives**

Alternatives B, C, and D would close one route segment totaling 0.03 miles, thereby reducing impacts to sensitive biological and historical resources in the Irish Canyon ACEC compared to Alternative A. The associated closure and passive restoration on 0.03 miles of routes would decrease soil erosion, reestablish vegetation, and improve wildlife habitat, thereby increasing the ecological function and scenic values of the Irish Canyon ACEC. Route closures would also help to protect paleontological, cultural, and historic resources by eliminating access that could lead to collection, degradation, or damage from motorized vehicles or vandalism.

## **4 Cumulative Effects**

The Council on Environmental Quality (CEQ) regulations defines cumulative effects as "...the impact on the environment which results from the incremental impact of the action when added to other past,

present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions”. Cumulative effects are the direct and indirect incremental effects of the impacts from implementing the proposed changes and projects in each of the alternatives, when added to other past, present, and reasonably foreseeable actions (40 CFR Part 1508.7). Past activities are those activities whose effects are still present on the landscape. Future activities are those reasonably foreseeable actions that may add to the cumulative effects on the environment and social impacts.

#### **4.1 Physical and Temporal Boundaries of Cumulative Impacts**

The Cumulative Impact Analysis Area (CIAA) for most resources is illustrated in Figure 4.1-1 in Appendix C. The geographic boundary of the cumulative impact analysis encompasses a three mile buffer around the TMA 1 analysis area. The CIAA was used to identify past, present, and reasonably foreseeable future projects that may have a cumulative impact when considered with the TMA 1 TMP. The CIAA for soils, surface water and water quality, vegetation, visual resources, and wild horses and special designations is described in each respective section.

#### **4.2 Past, Present and Reasonably Foreseeable Future Actions**

The past and present actions that would affect the resources analyzed in this EA are livestock grazing, wildfire, suppression, special designations, mineral development and exploration (particularly seismic lines), pipelines, hunting, and recreational off-highway use. The TMP, which includes implementation, would help to address the ongoing process of resource degradation in regards to off-highway use, which, if not attended to, could have long-term negative impacts.

Reasonably foreseeable future actions (RFFAs) are those for which there are existing decisions, funding, formal proposals, or which are probable based on known opportunities or trends. Oil and gas leases were sold within the TMA 1 project area in May of 2016. While no specific APDs have been submitted, it is anticipated that oil and gas development would continue to impact the CIAA into the future.

The Energy Gateway South (EGS) and Transwest Express (TWE) transmission lines are anticipated to be constructed over the next 1-5 years. These projects would result in a linear disturbance in the eastern portion of the CIAA.

The Seven Mile/Conway Juniper Reduction project is a mechanical fuel reduction project. The project is planned to reduce juniper encroachment in an effort to enhance GRSG habitat and reduce hazardous fuels.

#### **4.3 Cumulative Effects**

The following analyses consider the cumulative impacts analysis area and past, present, and reasonably foreseeable actions that may cumulatively contribute to impacts for each resource.

##### **4.3.1 Soils**

The CIAA for soil resources is the Vermillion and the Little Snake Subbasins. The CIAA is approximately 1,396,641 acres in size. The majority of the soils within the CIAA are erodible by wind and water, and vegetation cover is sparse because of aridity. Past and existing actions that affect soil compaction, stability, and quality include livestock grazing, mineral development, ROWs for roads, pipelines, transmission lines, oil and gas developments, vegetation treatments, and recreational off-

highway use. Over time, past actions such as oil and gas development would be actively or passively reclaimed depending on the commitments within each APD (Application for Permit to Drill).

Cumulative impacts associated with Alternatives B, C, and D would be similar. Each of the alternatives would close routes that are redundant or dead end spurs that serve no purpose. Alternative C would have slightly higher cumulative impacts than Alternatives B or D due to having more open routes than the other alternatives.

RFFAs within the CIAA include the TWE and EGS transmission lines. During construction soil would be disturbed and soil compaction would increase. Vegetation would be cleared which would decrease soil cover and increase erosion. The BLM would require soil protection BMPs that would be applicable for all RFFA project disturbances that are likely to occur in the analysis area. The TMP alternatives would contribute very little cumulatively, if not reduce the cumulative impacts to soil resources.

#### **4.3.2 Surface Water and Water Quality**

The CIAA for surface water resources is the Vermillion and the Little Snake Subbasins. The CIAA is approximately 1,396,641 acres in size. Similar to soil resources, a reliable indicator of potential cumulative impacts to surface water and water quality throughout the analysis area is proportional surface disturbance and loss of vegetation cover, particularly in existing impaired watersheds which would contribute to erosion and sedimentation. Past and present activities such as livestock grazing, mineral development, ROWs for roads, pipelines, oil and gas developments, vegetation treatments, and recreational off-highway use have impacted watersheds leading to sedimentation to waterbodies within the CIAA. Over time, past actions such as oil and gas development would be actively or passively reclaimed depending on the commitments within each APD (Application for Permit to Drill).

Cumulative impacts associated with Alternatives B, C, and D would be similar. Each of the alternatives would close routes that are redundant or dead end spurs that serve no purpose. Alternative C would have slightly higher cumulative impacts than Alternatives B or D due to having more open routes than the other alternatives. In general impacts would be reduced from current conditions as oil and gas roads and well pads are closed and reclaimed, and redundant and spur routes are closed through the travel management planning process.

RFFAs within the CIAA include the TWE and EGS transmission lines. During construction soil would be disturbed. Vegetation would be cleared which would decrease soil cover and increase erosion and sedimentation to waterbodies. The BLM has BMPs and stipulations that would reduce the impacts to perennial waterbodies from RFFAs. The TMP alternatives would contribute very little cumulatively, if not reduce these impacts.

#### **4.3.3 Vegetation and Special Status Plants**

The CIAA for vegetation and wetlands and riparian is the Vermillion and the Little Snake Subbasins. The CIAA is approximately 1,396,641 acres in size. Past and present activities such as livestock grazing, mineral development, ROWs for roads, pipelines, oil and gas developments, vegetation treatments, and recreational off-highway use have impacted the vegetative cover within the CIAA. Where public lands are grazed, riparian areas and areas around water sources generally see an increase in invasive weeds and a decrease in vegetative cover unless they are actively managed.

Cumulative impacts associated with Alternatives B, C, and D would be similar. Each of the alternatives would close routes that are redundant or dead end spurs that serve no purpose. Alternative C would have slightly higher cumulative impacts than Alternatives B or D due to having more open routes than the other alternatives. Impacts would generally be reduced from current conditions as oil and gas roads and well pads are closed and reclaimed, and redundant and spur routes are closed through the travel management planning process.

RFFAs within the CIAA include the TWE and EGS transmission lines. During construction vegetation would be cleared, cut, or trampled. The BLM has BMPs and stipulations that would reduce the impacts to vegetation from RFFAs. The TMP alternatives would contribute very little cumulatively, if not reduce these impacts.

#### **4.3.4 Wildlife**

This cumulative effects analysis covers all wildlife species that occur within the TMA. The CIAA for wildlife is described in Section 4.1. Past and present actions such as mineral development and exploration, grazing, pipelines, and the transportation network in the area have fragmented and degraded habitat for wildlife within the CIAA.

RFFAs such as transmission lines and future oil and gas development would continue to contribute to cumulative impacts to wildlife species due to a loss of vegetation and continued habitat fragmentation, a decrease of grazing/browsing areas, and mortality from motor vehicle strikes. However, designation of a route system under any of the action alternatives, as well as other BLM travel management planning in the CIAA would reduce the existing levels of disturbance and habitat fragmentation to wildlife by closing or limiting use and rehabilitating previous disturbance. Additionally, the Seven Mile/Conway Juniper Reduction Project would improve habitat for GRS and other wildlife species. Management of designated routes would improve habitat quality by maintaining proper trail width and reducing impacts to vegetation. Seasonal closures of routes under Alternative D, would benefit wildlife throughout the area by enhancing breeding success and survival of young. The closure of some routes that cross or are in close proximity to waterways would eliminate the threat to riparian and fish habitat caused by motorized vehicles in the TMA by eliminating increased sedimentation, turbidity, and bank disturbance caused by vehicles.

#### **4.3.5 Wild Horses**

The CIAA for wild horses includes the entire HMA that extends outside of the TMA 1 analysis area. Past and present actions such as oil and gas development, pipelines, mineral development and exploration have reduced forage within the CIAA. As these past and present actions are reclaimed (either actively or passively) this impact would be reduced. RFFA impacts to wild horses would be minimal. The TMP alternatives and the Seven Mile/Conway Juniper Reduction Project would be a benefit to wild horses due to the passive restoration of routes and increase in forage. Implementation of the Proposed TMP or its action alternatives would contribute very little cumulatively, if not reduce these impacts.

#### **4.3.6 Cultural Resources and Native American Concerns**

The CIAA for cultural resources is the same as described in Section 4.1. Past, current, and future use of the CIAA for recreation, ranching, hunting, and vegetation management and wildfire suppression have a

minor impact on cultural resources within the CIAA. In the past, the main impacts to cultural resources were due to route proliferation. Implementing the Proposed TMP should reduce route proliferation. All other reasonably foreseeable actions would require cultural inventories and any anticipated impacts would be reviewed at that time. Implementation of the Proposed TMP or its action alternatives would contribute very little cumulatively, if not reduce these impacts.

#### **4.3.7 Paleontological Resources**

The CIAA for paleontological resources is described in Section 4.1 (Figure 4.1-1, Appendix C). Disturbances within high yield fossil areas likely would result in some irreversible loss of fossil material. It is anticipated that any disturbance that would cross high yield fossil areas would incrementally reduce the quantity of near-surface fossil resources as more of the ground surface is disturbed. The quantities of fossils recovered and contributed to scientific collections also would incrementally increase. The risk of unauthorized collection of fossils would be increased by improved access and more bedrock exposure from construction activities. The BLM has BMPs and stipulations that would reduce the impacts to paleontological resources from RFFAs. The TMP alternatives would contribute very little cumulatively, if not reduce these impacts.

#### **4.3.8 Visual Resources**

The CIAA for visual resources includes the VRM units that overlap the TMA 1 analysis area is the Vermillion and Little Snake Subbasins which represent the affected viewshed. None of the alternatives would result in any adverse cumulative impacts to visual resources when considered with the actions listed in Section 4.2, since there would be no net increase in total route miles in all VRM classifications and there would be no increase in route density under all alternatives. The motorized and non-motorized trails analyzed under these action alternatives are currently meeting VRM management objectives, resulting in weak contrasts and direct impacts to the characteristic visual landscape, and when added with other visually impacting actions, would not result in any measurable cumulative impacts.

#### **4.3.9 Access and Transportation**

The CIAA for Access and Transportation is described in Section 4.1 (Figure 4.1-1, Appendix C). Past, present, and RFFAs that may be an impact to the transportation network would include oil and gas development and the TWE and EGS transmission lines, which would increase the use of routes and create new temporary routes within the CIAA. In general, new routes created for transmission lines and oil and gas would be temporary routes or limited to authorized users and closed and decommissioned after the project is complete. Similarly, temporary routes may be created for livestock grazing management and would be subject to the grazing permit requirements. Cumulative impacts to access and transportation are expected to be minor.

#### **4.3.10 Recreation**

The CIAA for recreation is described in Section 4.1 (Figure 4.1-1, Appendix C). Past, present, and reasonably foreseeable future actions such as oil and gas development and transmission lines within the CIAA would change the landscape characteristics, existing conditions on area transportation systems, and existing topography, and potential for wildlife viewing, which would contribute to an overall change in the social values for recreation users. In general the TMP alternatives would enhance the recreation

experience, depending on the recreational use, and when added with other cumulative impacts would not result in any adverse cumulative impacts.

#### **4.3.11 Special Management Areas**

The CIAA for SMAs are limited to the boundary of each specific special management area. Cumulative impacts from the implementation of this TMP on currently designated and potential ACECs would be minimal. No cumulative impacts are anticipated from the designation of routes under any of the action alternatives because the LSFO RMP would preserve the naturalness of the area by excluding future ROWs, recommended withdrawal from mineral location; and closure to new oil & gas leasing, mineral material sales, non-energy leasing, and coal leasing. None of the RFFAs described under Section 4.1 are anticipated to impact the VBPMA or the Irish Canyon ACEC. Impacts from past and present actions would slowly improve over time, specifically where routes are closed and passively restored.

The CIAA for lands with the presence for wilderness characteristics is described in Section 4.1 (Figure 4.1-1, Appendix C). As described in Chapter 3, Section 3.6.2.1, there are sixteen areas with the potential for wilderness characteristics that occur within the TMA. Cumulative effects on lands with wilderness characteristics outside existing WSAs within the CIAA would vary among the alternatives. However, they would be proportional to the amount of surface disturbing activities and OHV use that would be allowed. These impacts would be greatest under Alternatives C. Alternative D would provide the greatest level of protection to lands with wilderness characteristics outside existing WSAs because of its reductions in routes. The TMP alternatives would generally enhance the experience in lands with the presence for wilderness characteristics, due to the reduction of routes, and when added with other cumulative impacts would not result in any adverse cumulative impacts.



## 5 Consultation & Coordination

### 5.1 Public and Agency Scoping Process

Public involvement activities undertaken during inventory, evaluation, and scoping included distribution of a scoping letter, postcard, public outreach through a project website, press release, and a public scoping meeting. The BLM used the scoping process to solicit meaningful participation in the development of the TMA 1 TMP EA.

The following tribes, agencies, organizations, businesses and individuals were consulted with or participated during the scoping process.

#### 5.1.1 Tribes

Ute Indian Tribe of the Uintah and Ouray  
Reservation  
Ute Mountain Ute Tribe

Southern Ute Indian Tribe  
Eastern Shoshone Tribe

#### 5.1.2 Federal, State, and Local Agencies

Moffat County  
Colorado State Land Board  
Colorado Department of Natural Resources  
Colorado Parks and Wildlife  
Routt County Commissioners  
Rio Blanco County Commissioners  
Office of Archaeology & Historic Preservation

Moffat County Tourism Association  
Moffat County Natural Resources Dept.  
Moffat County Commissioners  
Hahns Peak/Bears Ears Ranger District  
FAA  
Dinosaur National Monument  
Browns Park National Wildlife Refuge

#### 5.1.3 Individuals, Businesses, and Organizations

Yampa Valley Electric Association  
White River Trail Runners  
Xog Operating Company  
Yampa Valley OHV Trail Riders  
Wilderness Society  
Whiting Oil & Gas Corp  
Wexpro Company  
Western Watersheds Project  
Western Slope ATV Association  
West Elk Outfitters  
Visintainer Sheep Company  
Vermillion Ranch Ltd Partnership  
Two Bar Sheep Co LLC  
Timmer Outfitting  
Timberline Trailriders  
Three Forks Resources LLC  
Steamboat Parks and Recreation

Steamboat Lake Outfitters  
Sombbrero Ranches Inc  
Smith Rancho Inc  
Sierra Club of Colorado  
Samson Resources Company  
Salisbury Livestock Company  
Routt County Riders  
Questar Pipeline Company  
QEPM Gathering I LLC  
QEP Energy Company  
PDC Energy Inc  
Redwine Resources Inc  
Nottingham Land & Livestock  
Northwest Colorado Snowmobile Club  
Northern Pump Company  
Motorcycle Trail Riding Association  
Moon Lake Electric Association

Marathon Oil Company  
M & M Outfitters  
Lyons Outfitting Service  
Lr Smith Investments LLC  
Legend Outfitting LLC  
Justin Energy LLC  
Julander Energy Company  
Hunter's Domain  
Darrin Bevel  
Shawnel Mack  
Horox Outfitters  
High Desert Ranch & Outfitting  
Hellander Outfitting  
Freedom Hooves  
Double H Outfitters LLC  
Diamond Peak Cattle Co LLC  
Conservation Colorado  
Craig Middle School  
Colowyo  
Colorado Wild Horse & Burro Coalition

Colorado Outfitters Services  
Colorado Northwestern Community College  
Automotive/Four-Wheelers Club  
Colorado Mountain Club  
Co State Doit  
Co Interstate Gas Company  
Chris Journey Outfitting  
Chevron Usa Inc  
Cec West Slope Office  
Ce Brooks & Associates PC  
Behrman Outfitting  
Big Cat Outfitters LLC  
Back Country Horsemen of Colorado  
Adventure Bicycle Productions Inc  
Access Anything  
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## 6 List of Preparers/Reviewers

The following lists of individuals show the BLM IDT that contributed to the compilation of this document. BLM specialists and Logan Simpson (a contractor to the BLM) prepared this TMP EA together.

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Bruce Sillitoe	Field Manager	Hunter Seim	Assistant Field Manager
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Pam Levitt	IT Specialist/ GIS	Eric Scherff	Hydrologist
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Mark Lowrey	Rangeland Management Specialist	Janell Corey	Realty Specialist/Lands
<b>Logan Simpson Staff</b>	<b>Role</b>	<b>Logan Simpson Staff</b>	<b>Role</b>
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