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Henry Mountains/Fremont Gorge Travel Management Plan Environmental Assessment

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It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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ACRONYMS

Acronym	Full Terminology
ACEC	Area of Critical Environmental Concern
AIB	Analyzed in Brief
ATV	All-Terrain Vehicle
BCC	Birds of Conservation Concern
BCR	Bird Conservation Regions
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
CON	Continental U.S.
E-bike	Electric bicycle
EA	Environmental Assessment
ECOS	Environmental Conservation Online System
EIS	Environmental Impact Statement
ERMA	Extensive Recreation Management Area
ESA	Endangered Species Act
ESD	Ecological Site Description
GIS	Geographic information system
GCNRA	Glen Canyon National Recreation Area
GPS	Global Positioning System
GTLF	Ground Transportation Linear Feature
HMA	Herd Management Area
HMFG	Henry Mountains/Fremont Gorge
IPaC	Information for Planning and Consultation
KML	Google Earth keyhole markup language
KMZ	Google Earth keyhole markup language zipped
LWC	Lands with Wilderness Characteristics
MBTA	Migratory Bird Treaty Act
MSO	Mexican spotted owl
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NSE	NatureServe Explorer
OHV	Off-Highway Vehicle or Off-Road Vehicle
PAC	Protected Activity Center
PFYC	Potential Fossil Yield Classification
PLPCO	State of Utah Public Lands Policy Coordinating Office
RFO	Richfield Field Office
RMP	Resource Management Plan
R.S.	Revised Statute
SHPO	Utah State Historic Preservation Office
SRMA	Special Recreation Management Area
SRP	Special Recreation Permit
SWFL	Southwestern willow flycatcher
T&E	Threatened and Endangered
TLA	Utah Trust Lands Administration
TMA	Travel Management Area
TMP	Travel Management Plan
Travel PA	BLM's Travel and Transportation Management Programmatic Agreement with the Advisory Council on Historic Preservation and the Utah State Historic Preservation Office

UDWR	Utah Division of Wildlife Resources
USFWS	U.S. Fish and Wildlife Service
UTV	Utility Terrain Vehicle
VRI	Visual Resource Inventory
VRM	Visual Resource Management
WSA	Wilderness Study Area
YBCU	Yellow-billed cuckoo

1. INTRODUCTION

1.1 BACKGROUND

The Bureau of Land Management's (BLM's) 2008 Richfield Field Office Record of Decision and Approved Resource Management Plan (2008 RMP) included an implementation-level travel management plan (2008 TMP) that designated routes for use by off-road vehicles (see 2008 RMP Map 16). Off-road vehicles are also known as "off-highway vehicles" (OHVs) and are referred to by this term hereafter in this Environmental Assessment (EA). The Code of Federal Regulations (CFR) 43 CFR 8340.0-5 define OHVs as any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, with limited exclusions.[1] The route designations made by the 2008 RMP, including those within the Henry Mountains Fremont Gorge (HMFG) travel management area (TMA), are hereafter referred to as the "2008 TMP" in this EA. For details on the route designation processes BLM undertook for the 2008 RMP, see the 2008 RMP pages 20-23 and 122-125, Maps 15 and 16, and Appendix 9.

Implementation of the 2008 TMP route designations was initiated but incomplete due to litigation and related workloads. The incomplete implementation has resulted in a challenging management situation involving user conflicts, resource effects, user confusion, and public safety challenges.

On May 22, 2015, the United States District Court for the District of Utah Central Division issued a Memorandum Decision and Order remanding the deficiencies found in the 2008 RMP and 2008 TMP to the BLM. These included a requirement (Remedy Order) to conduct intensive pedestrian cultural resource surveys (Class III) along the 2,088 miles of the 4,277 miles of routes throughout the Richfield Field Office designated by the 2008 TMP that had not had a Class III cultural survey previously conducted. As directed by the Remedy Order, the BLM began contracting for Class III surveys and reviewing the 2008 route designations for the entire Richfield Field Office.

In a 2017 Settlement Agreement[2] resolving legal challenges to the 2008 RMP, the BLM agreed to issue a new TMP for the HMFG TMA. The 2017 Settlement Agreement outlined the process for completing the

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[1] Exclusions include:
(1) Any nonamphibious registered motorboat;
(2) Any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes;
(3) Any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved;
(4) Vehicles in official use;
(5) E-bikes (i) While being used on roads and trails upon which mechanized, non-motorized use is allowed; (ii) That are being used in a manner where the motor is not exclusively propelling the e-bike for an extended period of time; and (iii) Where the authorized officer has expressly determined, as part of a land-use planning or implementation-level decision, that e-bikes should be treated the same as non-motorized bicycles; and
(6) Any combat or combat support vehicle when used in times of national defense emergencies.
Note: E-bikes are defined in 43 CFR § 8340.0-5(j) as a two- or three-wheeled cycle with fully operable pedals and an electric motor of not more than 750 watts (1 h.p.) that meets the requirements of one of the following three classes: (1) Class 1 electric bicycle shall mean an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 20 miles per hour. (2) Class 2 electric bicycle shall mean an electric bicycle equipped with a motor that may be used exclusively to propel the bicycle, and that is not capable of providing assistance when the bicycle reaches the speed of 20 miles per hour. (3) Class 3 electric bicycle shall mean an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 28 miles per hour.).

[2] The 2017 Settlement Agreement was a result of *Southern Utah Wilderness Alliance, et al. v. U.S. Department of*

TMP and replaced the TMP requirements of the Remedy Order. In addition to complying with the 2017 Settlement Agreement, the BLM's active planning of the route designations in the HMFG TMA would ensure the travel network continues to meet the goals and objectives of the TMA's resource values and uses. This process includes evaluating whether previously designated routes have an affirmed purpose and need and ensuring the route designation alternatives would comply with Presidential Executive Orders 11644 and 11989 and 43 CFR. 8342.1 which require the BLM to designate routes in a manner that protects the resources of public lands, promotes the safety of all users of those lands, and minimizes conflicts among the various users of those lands.

To form a revised travel network, the BLM plans to designate routes within the TMA as OHV-Open, OHV-Limited, or OHV-Closed as defined in the following categories:

- OHV-Open – The route would be open year-round to all motorized vehicle travel.
- OHV-Limited – The route would be authorized for some limited public motorized vehicle use, usually to address identified resource or use concerns. Limits typically include vehicle type or width, or seasonal use, etc.
- OHV-Closed – The route would not be authorized for public motorized vehicle use. The OHV-Closed category includes:
    - Routes that will not become part of the designated travel network and are often identified for natural or manual reclamation.
    - Routes that will remain available for authorized uses. Some of these routes provide access to authorized facilities (e.g., stock tanks and ponds, corrals, communication sites, etc.).
    - Routes that remain available for non-OHV use, such as hiking or equestrian trails.

The BLM prepared a linear feature[3] route inventory, then evaluated 2,282 miles of routes (1,938 routes) on 1,451,385 acres of BLM-managed lands in the HMFG TMA. This EA analyzes the effects of the proposed route designations. The TMA Implementation Guide (Appendix E) describes actions (education and outreach, sign installation, route maintenance, enforcement, monitoring, and reclamation) that BLM would take after completion of the TMP. The route designations selected would replace the implementation-level decisions of the 2008 TMP.

1.2 PURPOSE AND NEED

The need for the BLM to develop the HMFG TMP is established by the Federal Land Policy and Management Act (FLPMA) of 1976, as amended (43 U.S.C. 1701 et seq.). FLPMA provides for the management, protection, development, and enhancement of the public lands. Presidential Executive Orders 11644 and 11989, and regulations at 43 CFR § 8342.1, require the BLM to designate OHV routes in a manner that protects the resources of public lands, promotes the safety of all users of those public lands, and minimizes conflicts among the various users of those lands.

The purpose for the BLM to develop the HMFG TMP is to designate existing routes capable of use by OHVs as OHV-Open, OHV-Limited, or OHV-Closed on BLM-managed lands within the TMA. The TMP will result in route designations that meet the goals and objectives of the TMA's resource values

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the Interior, et al., U.S. District Court (D. Utah), Consolidated Case No. 2:12-cv-257. The 2017 Settlement Agreement can be accessed online at https://eplanning.blm.gov/public_projects/nepa/93510/169299/205894/Final_Settlement_Agreement.pdf

[3] The term linear feature refers to a linear ground disturbance that results from travel across or immediately over the surface of BLM-administered public lands. These features include engineered roads and trails as well as user-defined, non-engineered routes created as a result of public or unauthorized use (BLM 2016b).

and uses. It will also ensure travel and transportation management in the TMA is in conformance with applicable laws, regulations, and policies.

Additionally, the HMFG TMP would meet the provisions of the 2017 Settlement Agreement, directing BLM to issue a new TMP for the HMFG TMA that follows the procedure and documentation requirements outlined in the 2017 Settlement Agreement.

1.3 DECISION TO BE MADE

The BLM Authorized Officer will determine which route network would be appropriate for BLM-administered lands in the TMA and will decide which routes will be designated OHV-Open, OHV-Limited, or OHV-Closed within that travel network. The final OHV route designations will be selected from the range of alternatives considered in this EA and may include the modification of an alternative or a combination of the alternatives. The decision will identify the selected route designations and the rationale for the decision. The BLM decision will be limited to BLM-administered lands.

The BLM Authorized Officer, in this TMP, will not authorize construction of any new routes.

The BLM Authorized Officer will not, in this TMP, make any decisions affecting existing or future authorized users. Authorized users are excluded from the definition of OHV in 43 C.F.R. § 8340.0-5(a). Examples of authorized users include, but are not limited to, grazing permittees accessing authorized range facilities, landowners or their lessees who have been authorized to access their inholdings, and other permit holders acting pursuant to their permit authorizations (such as rights-of-way or mineral leases). If the selected route designations preclude public OHV access to Utah Trust Lands Administration (TLA) parcels, TLA and its permittees may obtain authorization to access those parcels from the BLM. The BLM will continue to work with current and future authorized users as appropriate to ensure reasonable access. As the need arises, and in accordance with applicable laws and regulations, any route (including those that are designated OHV-Closed) could be made available to authorized uses.

The BLM Authorized Officer will not, in this TMP, make any decisions pursuant to Revised Statute (R.S.) 2477, Act of July 28, 1866, Chapter 262, 8,14; Stat. 252, 253, codified at 43 U.S.C. § 932. This travel planning effort and resulting TMP is not intended to provide any evidence bearing on or to address the validity of any asserted R.S. 2477 rights-of-way and does not adjudicate, analyze, or otherwise determine the validity of any asserted rights-of-way. R.S. 2477 rights are determined through a process entirely separate from BLM travel planning. Consequently, the decision would not consider any R.S. 2477 assertions or evidence and has no effect on any legal rights relating to asserted R.S. 2477 rights-of-way. Should the applicable authorities issue a decision on R.S. 2477 assertions, the BLM would adjust its travel routes accordingly (BLM Manual 1626 (BLM 2016b)).

The BLM Authorized Officer will not, in this TMP, make any decisions affecting non-motorized use on routes.

1.4 TMA OVERVIEW

Maps showing the HMFG TMA, evaluated linear feature route inventory, and proposed alternatives are in Appendix B. The BLM administers 1,451,385 acres within the 1,659,932-acre TMA across portions of Garfield and Wayne counties in Utah. The TMA is comprised of two areas: the Henry Mountains area and the Fremont Gorge area. The Henry Mountains area is bounded on the north by the Wayne/Emery County line, on the east and south by Glen Canyon National Recreation Area, and on the west by Capitol Reef National Park. The Horseshoe Canyon section of Canyonlands National Park is surrounded by the TMA. The Fremont Gorge area encompasses BLM-managed lands from the Bicknell Bottoms on the west to Capitol Reef National Park and the Garfield County line on the southeast. Under the 2008 RMP, OHV use is limited to designated routes in much of the TMA. The North Caineville Mesa Area of Critical

Environmental Concern (ACEC), the Fremont Gorge Suitable Wild River corridor, portions of Wilderness Study Areas (WSAs), and portions of Special Recreation Management Areas (SRMAs), are closed to OHV use. The Caineville Cove Inn OHV play area, the Swing Arm City OHV play area, and the Factory Butte OHV play area are open to cross-country OHV use.

Acreages of surface management jurisdictions in the TMA are displayed in Table 1 below. The BLM would only designate routes on BLM-administered lands, but routes, actions, resources, and resource uses on lands outside BLM jurisdiction were considered in the cumulative effects analysis.

Table 1: TMA Approximate Acreage by Jurisdiction

Jurisdiction	Acres	% of TMA
Bureau of Land Management (BLM)	1,451,385	87%
Utah State Trust Lands Administration (TLA)	169,660	10%
Private	35,260	2%
National Park Service	3,449	Less than 1%
Utah Department of Transportation	101	Less than 1%
U.S. Forest Service	77	Less than 1%
Total	1,659,932	100%

1.5 CONFORMANCE WITH BLM LAND USE PLAN

The action alternatives described in this document are in conformance with applicable management direction in the 2008 RMP, which provides overarching management decisions, goals, and guidance for this travel planning effort. RMP decisions and goals to which this project conforms are listed below.

Table 2: RMP Travel-Related Management Decisions and Goals

2008 RMP	Decision	How the TMP Conforms
Travel Management Goals and Objectives (pg. 122)	• Maintain existing access, where needed and allowed, to meet public and administrative needs, including acquiring or maintaining necessary access across non-Federal land. • Continue compatible traditional, current, and future use of the land by establishing a route system that contributes to protection of sensitive resources, accommodates a variety of uses, minimizes user conflicts, and is sustainable. • Consider public access, resource management, and regulatory needs through transportation planning. • Coordinate OHV management with other agencies where possible (U.S. Forest Service (USFS), National Park Service (NPS), State of Utah, counties, and communities).	The BLM considers these goals and objectives in developing route designation alternatives.

2008 RMP	Decision	How the TMP Conforms
TRC-3 (pg. 122)	The BLM could impose limitations on types of vehicles allowed on specific designated routes if monitoring indicates that a particular type of vehicle is causing disturbance to the soil, wildlife habitat, cultural or vegetative resources, especially by off-road travel in an area that is limited to designated routes.	The BLM considers limiting certain routes to specific types of vehicles. It also considers ways to minimize disturbances to soil, wildlife habitat, cultural, or vegetative resources. The BLM will monitor the adopted travel network and will engage in adaptive management as appropriate.
TRC-6 (pg. 122)	If OHV use in areas designated as open or limited causes threats or adverse impacts to resources, take appropriate steps, including, but not limited to, use restrictions or closures, installation of additional signs and barricades, restoration of affected areas, etc. Balance motorized access to public lands with other resource and resource use needs.	The BLM considers use restrictions or closures, installation of additional signs and barricades, restoration of affected areas to balance access to public lands with other resource and resource use needs in the Implementation Guide and alternatives.
TRC-18 (pg. 124)	Prohibit all cross-country (off-transportation system) motorized travel in limited areas, with the following exceptions: For emergency and other purposes as authorized under 43 CFR § 8340.0-5(a)(2),(3),(4) and (5).	The BLM considers designating a travel network and does not change any area designations made in the 2008 RMP.
TRC-19 (pg. 124)	Coordinate OHV route designations with USFS, NPS, State of Utah, counties, and communities, where possible.	The BLM coordinated with Federal Agencies, the State of Utah, counties, and communities, if applicable, regarding route designations as a part of the development of this TMP.
TRC-20 (pg. 124)	Rehabilitate closed OHV routes on a case-by-case basis as required to mitigate impacts to resources. Closed or non-designated routes would be allowed to rehabilitate naturally unless a specific resource effect was occurring that warranted expedited rehabilitation of the route (e.g., soil erosion, water quality concerns, and/or continued illegal use).	The BLM considers route rehabilitation in this TMP.
TRC-21 (pg. 125)	Route designations are implementation decisions that are subject to change based upon future site-specific environmental analysis. Appendix 9 provides additional details of the travel management/route designation process, the implementation process, and the process that would be required to add or remove route designations following completion of the RMP.	The BLM considers route designation and implementation as part of this TMP.
TRC-22 (pg. 125) and WSA-4 (pg. 143)	Where routes would remain available for motorized use within WSAs, such use could continue on a conditional basis. Use of the existing routes in the WSAs ("ways" when located within WSAs – see Glossary) could continue as long as the use of these routes does not impair wilderness suitability, as provided by the IMP (BLM 1995). If	The BLM considers impairment to wilderness suitability when proposing route designations within the WSAs in accordance with BLM Manual 6330 (Management of WSAs) which replaced the IMP (BLM 1995). Any routes designated in WSAs by this TMP will be subject to monitoring and designation

2008 RMP	Decision	How the TMP Conforms
	Congress designates the area as wilderness, the routes will be closed. In the interim, if use and/or non-compliance are found through monitoring efforts to impair the area's suitability for wilderness designation, BLM would take further action to limit use of the routes, or close them. The continued use of these routes, therefore, is based on user compliance and non-impairment of wilderness values.	reevaluation if use is found to impair wilderness suitability.
TRC-23 (pg. 125)	Designate routes for motorized use unless significant, undue damage to or disturbance of the soil, wildlife, wildlife habitat, improvements, cultural or vegetative resources, or other authorized uses of the public lands is imminent.	The BLM considers how the designation of OHV routes affects resources.
TRC-24 (pg. 125)	Designate routes to minimize harassment of wildlife or significant disruption of wildlife habitats. Give special attention to protecting SSS and their habitats.	The BLM considers how OHV designations affect wildlife, disruption of wildlife habitats, and protecting Special Status Species and their habitats.
TRC-25 (pg. 125)	Designate routes to minimize conflicts between OHV 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.	The BLM considers minimizing recreational user conflicts as part of its travel and transportation planning process.
TRC-27 (pg. 125)	Consider seasonal closure of designated routes on a case-by-case basis, subject to environmental analysis.	The BLM considers in this TMP seasonal closure of routes on a case-by-case basis to minimize resource effects.
TRC-30 (pg. 126)	Allow motor vehicles to pull off a designated route up to 50 feet of either side of the centerline for the purposes of parking/staging.	The BLM considers the parking and staging of vehicles off of designated routes in this TMP.
TRC-31 (pg. 126)	Allow motor vehicles to use existing spur routes for ingress and egress to established campsites within 150 feet of designated routes. (Previous campsites can be distinguished by evidence of rock fire rings, old tent sites, and tracks from earlier vehicle access.) This does not authorize creation of new campsites or travel ways.	The BLM considers the effects of the use of existing dispersed camping adjacent to designated routes (see Section 3.2).
TRC-32 (pg. 126)	Prohibit motorized travel ways between multiple campsites, establishment of motorized play areas, race tracks, or travel across wet meadows or riparian areas.	The BLM considers ongoing or potential effects to resources associated with evaluated routes. Addressing unauthorized use will be a continuous part of the implementation of this TMP (see Appendix E).

2008 RMP	Decision	How the TMP Conforms
TRC-33 (pg. 126)	Prohibit motorized access to camping areas where conflicts with other resources are identified.	The BLM considers the effects of motorized access to camping areas along designated routes.
TRC-34 (pg. 126)	Require vehicles to stay on designated ways or cherry-stemmed routes withing WSAs, in accordance with IMP direction.	The BLM will require vehicles to stay on designated ways or cherry-stemmed designated routes within or adjacent to WSAs. Actions including monitoring, signing, and rehab of unauthorized use will occur in WSAs in accordance with BLM Manual 6330 –Management of WSAs (BLM 2012c), which has replaced the IMP direction.
Recreation Goals and Objectives (pg. 111)	• Provide recreational opportunities in a variety of physical, social, and administrative settings, from primitive to near-urban, that allow visitors to have desired recreational experiences and enjoy the resulting benefits. • Provide opportunities for recreational experiences unique to the lands managed by the RFO, consistent with resource capabilities and mandated resource requirements; provide for visitor education and interpretation of the recreational opportunities within the RFO. • Work with local communities to foster recreation and tourism. • Provide for public health, education, and safety through interpretation, facility development, and visitor management. • Maintain important recreational values and sites in federal ownership to ensure a continued diversity of recreation settings, activities, and opportunities.	The BLM considers these goals and objectives in developing route designation alternatives.
REC-4 (pg. 112)	Consider limiting recreational access, season of use, and numbers of users, if needed, to protect other resources.	The BLM considers route limitations in this TMP as a method of protecting resources.
REC-6 (pg. 112) (excerpts)	Manage public lands in the Fiddler Butte, Labyrinth Canyon, Blue Hills, and Little Rockies area in a primitive, naturally appearing setting for a high probability of expecting solitude, freedom, closeness to nature, self reliance, challenge, and risk. Interaction and evidence of other users would be low. Achieve this by: -Managing access and travel primarily as non-motorized, with motorized travel limited to designated routes (access for people with disabilities would be difficult)	The BLM will establish route designations within these areas where appropriate.

2008 RMP	Decision	How the TMP Conforms
REC-7 (pg. 112)	Manage public lands adjacent to other federal and state lands to complement the recreational experience on the adjoining lands.	The BLM considers the recreation experience on other adjoining lands.
REC-9 (pg. 113)	Provide signs, trails, trailhead parking, and staging areas to facilitate the use and enjoyment of the ERMA and to protect visitor health, safety, and resources.	The BLM considers existing and potential new signs, trailhead parking, and staging areas within the TMA.
REC-10 (pg. 112)	Designate, Maintain and/or improve the Paiute, Great Western, and other motorized trail systems.	The BLM considers route designations on the Great Western motorized trail system.
REC-21 (pg. 114)	(Factory Butte SRMA) Limit to designated routes in the Motorized touring RMZ.	In this TMP, the BLM considers route designations within the Factory Butte SRMA where appropriate.
REC-27 (excerpts) (pg. 115)	Dirty Devil/Robbers Roost SRMA (excerpts) Provide semi-primitive motorized activity on designated routes. Provide non-motorized access by means of trails, cross-country travel, and some primitive roads. (Access for people with disabilities would be most difficult.)	In this TMP, the BLM considers route designations within the SRMA and access to non-motorized opportunities.
REC-28 (pg. 116)	(Within the Dirty Devil SRMA) Close canyons and portions of WSAs to OHV use. Limit OHVs to designated routes elsewhere.	The RMP designated OHV Closed areas in the Dirty Devil SRMA. In this TMP, the BLM considers designation of a travel network for OHV Limited areas of the SRMA.
REC-35 (pg. 116)	(Within the Dirty Devil SRMA) Address changes to OHV route designations, if needed.	In this TMP, the BLM considers route designations in the Dirty Devil SRMA.
REC-42 (pg.-117)	(Within the Capitol Reef Gateway SRMA) Provide access into the area through motorized and non-motorized routes. (Access for people with disabilities would be difficult)	In this TMP, the BLM considers designations of routes within the Capitol Reef Gateway SRMA.
REC-45, REC-46 (pg. 117)	(Within the Capitol Reef Gateway SRMA) Rec-45: Close the Fremont Gorge WSA and Fremont Gorge wild river corridor to OHV use. Rec-46: Limit Vehicles to designated routes elsewhere.	In this TMP, the BLM will designate routes in OHV Limited areas of the Capitol Reef Gateway SRMA.
Transportation Facilities Goals and Objectives (pg. 152)	Provide a safe and effective transportation system across public lands.	The route designation alternatives put forward in this TMP are a framework for the BLM to establish a travel network of designated routes across public lands.
TRV-1 (pg. 152)	As per the State of Utah v. Andrus, Oct. 1, 1979 (Cotter Decision), the BLM would grant the State of Utah reasonable access to state lands for economic purposes, on a case-by-case basis.	This TMP does not change BLM's responsibilities under the Cotter Decision.

2008 RMP	Decision	How the TMP Conforms
TRV-2 (pg. 152)	Continue to support Sanpete, Sevier, Piute, Garfield and Wayne counties and the State of Utah in providing a network of roads for movement of people, goods, and services across public lands.	The alternatives put forward in this TMP are a framework for the BLM to establish a travel network.
TRV-5 (pg. 152)	Require reclamation of redundant road systems and/or roads that no longer serve their intended purpose in order to reduce road density and reduce habitat fragmentation.	In the TMP planning process, the BLM considers reclamation of redundant roads and roads without purpose (see Appendix E).
TRV-8 (pg. 152)	Install directional, informational, regulatory, and interpretive signs at appropriate locations throughout the planning area.	The BLM considers route signing in the TMP's Implementation Guide (see Appendix E).
TRV-9 (pg. 152)	There are a number of locations throughout the RFO that are commonly known and consistently used for aircraft landing and departure activities that, through such casual use, have evolved into backcountry airstrips (the definition contained in Section 345 of Public Law 106-914, the Interior and Related Agencies Appropriation Act of 2001). In accordance with that law, require full public notice, consultation with local and state government officials, the Federal Aviation Administration (FAA), and compliance with all applicable laws, including NEPA [National Environmental Policy Act], when considering any closure of an aircraft landing strip.	The BLM considers some routes used as aircraft landing strips which were captured as a part of linear feature inventory and route evaluations.
WC-4 (pg. 103)	Limit motorized use to designated routes.	The BLM considers route designations and designations' effects on wilderness characteristics within the Natural Areas.
ACEC -3 (pg. 149)	(North Caineville Mesa ACEC) Manage to protect the relevant and important relict vegetation values: Close to OHV use.	In this TMP, the BLM does not consider route designations within or directly adjacent to the ACEC.
WL-16 (pg. 95) TRC-26 (pg. 125)	Limit OHV use to designated routes in deer and elk crucial winter habitat (806,700 acres), except for the Glenwood and Aurora, Managed Open Areas.	In this TMP, the BLM considers route designations within deer and elk crucial winter habitat.
WL-17 (pg. 95)	Close 4,500 acres of deer and elk crucial winter range to OHV use.	In this TMP, the BLM does not consider open route designations within OHV-Closed areas of deer and elk crucial winter range.
WL-18, WL 21 (pg. 95) TRC-27 (pg. 125)	Consider seasonal closure of designated routes on a case-by-case basis.	In this TMP, the BLM considers seasonal closures of designated routes as a way to protect wildlife.
WL-19 (pg. 95) TRC-28 (pg. 125)	OHV use in 257,600 acres of crucial bison habitat would be limited to designated routes.	The BLM will designate routes within OHV Limited areas of crucial bison habitat.
WL-20 (pg. 95)	1,000 acres of critical bison habitat would be closed to OHV use.	In this TMP, the BLM does not consider open route designations within OHV-Closed areas of critical bison habitat.

2008 RMP	Decision	How the TMP Conforms
WL-22 (pg. 95)	Manage OHV use for game retrieval consistent with OHV area and route designations.	The BLM considers game retrieval in formulating route designations.

1.6 Relationships to Laws, Regulations, Policies, and Other Plans

The route designation alternatives were developed in accordance with applicable laws, regulations, and BLM policy including, but not limited to, those listed in Table 3.

Table 3: TMP Relationship to Laws, Regulations, Policies, and Other Plans

Law, Regulation, Policy, or Plan	**Requirement**s (non-exhaustive)	How the TMP Relates
The Federal Land Policy and Management Act of 1976	Section 102 of the Act requires that public lands be managed in a manner that will protect the quality of various resource values, that will preserve and protect certain public lands in their natural condition, and that will provide for outdoor recreation and human occupancy and use. Section 103 requires the management of the public lands and their various resource values to best meet the present and future needs of the American people, a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations, and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment.	Various resource values, their natural condition, and outdoor recreation and human use are managed in the route designation alternatives. The BLM designed the route designation alternatives to best meet present and future needs of the American people, balanced and diverse resource uses, long term needs of future generations, and harmonious and coordinated management without permanent impairment of the productivity of the land and quality of the environment.
National Historic Preservation Act of 1966	Section 106 of the Act requires Federal agencies assess the effects its actions may have on historic properties.	The BLM assessed adverse effects from its proposed route designations to historic properties in accordance with the requirements of the *2018 Programmatic Agreement Among the Advisory Council on Historic Preservation, The Bureau of Land Management-Utah and the Utah State Historic Preservation Office Regarding National Historic Preservation Act Responsibilities for Travel and Transportation Management Undertakings* (Travel PA). The TMP is subject to consultation under this law as appropriate.
Endangered Species Act of 1973	Section 7 of the Act requires Federal agency actions do not jeopardize the	The BLM considered the effects of the proposed route designations to listed species or designated critical habitats and is

Law, Regulation, Policy, or Plan	**Requirement**s (non-exhaustive)	How the TMP Relates
	existence of any listed species or designated critical habitat.	subject to consultation under this law as appropriate.
Migratory Bird Treaty Act of 1918	Prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species.	The BLM considered the effects to migratory birds and their habitats from the proposed route designations.
Paleontological Resources Preservation Act of 2009	Section 6302 of the Act directs Federal land managers to manage and protect paleontological resources on Federal land using scientific principles and expertise.	The BLM considered the potential fossil yield classification system and known paleontological sites to identify effects on paleontological resources from the proposed route designations.
Wilderness Act of 1964	Section 4 of the Act requires there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.	There are no designated wilderness areas within the TMA, however the effect of proposed route designations on adjacent wilderness areas is considered in the analysis.
43 CFR § 8340 Off-Road Vehicles	Establishes criteria for designation of public lands as open, limited or closed to the use of off-road vehicles (OHV) and establishes controls governing the use and operation of off-road vehicles (OHV) in such areas.	The BLM considered the designation criteria and OHV controls in the development of proposed route designations and networks.
43 CFR § 8342.1 Designation Criteria	Requires designations to be based on the protection of the resources of the public lands, the promotion of the safety of all the users of public lands, and the minimization of conflicts among various uses of public lands.	The BLM considered resource protection, public safety, and conflict minimization considerations for each route designation alternative. The BLM documented those considerations in this EA.
BLM's 2016 Travel and Transportation Management Manual (MS-1626)	Provides detailed policy, direction and guidance for the comprehensive management of travel and transportation on Bureau of Land Management-administered lands.	The BLM followed the policies in this Manual in development of the proposed route designations.
BLM's 2012 Travel and Transportation Handbook (H-8342)	Provides specific guidance for preparing, amending, revising, maintaining, implementing, monitoring, and evaluating BLM land use and travel management plans.	The BLM followed the policies in this Handbook in development of the proposed route designations.
Garfield County Management Plan	The Plan states that Garfield County's transportation network identified in the County Resource Management Plan is the minimum necessary to a) provide for the health, safety, welfare, custom, culture,	The BLM considered county maintenance classifications which are established by this county plan when developing the linear

Law, Regulation, Policy, or Plan	Requirements (non-exhaustive)	How the TMP Relates
	heritage and community stability of Garfield County's residents and visitors; and b) ensure a productive and enjoyable harmony between man and his environment.	feature route inventory and route designation alternatives.
Wayne County Public Lands Resource Management Plan	Section 12.4 of the Plan states that all trails in Wayne County which have historically been open to OHV use should remain open.	The BLM considered county maintenance classification when developing the linear feature route inventory and travel network alternatives.

1.7 ISSUE DEVELOPMENT

1.7.1 INTERNAL REVIEW

Internal (BLM and Cooperating Agencies) review identified route- and route designation-related issues that could affect the natural and human environment within the TMA. Internal review occurred concurrently with the route evaluation and travel network creation process described in Section 2.1.

1.7.2 PUBLIC INPUT

The BLM released preliminary travel network alternatives to the public and accepted public input from May 10 – June 10, 2024. This period included a virtual public meeting on May 28, 2024. At the close of this public input period, the BLM received 529 comment submissions (including 395 form letters).

1.7.3 ISSUES

While many preliminary issues related to the route designation alternatives were identified through internal and external review, not all issues warrant detailed analysis in this EA. Issues that are brought forward for detailed analysis are based on guidance in the BLM National Environmental Policy Act (NEPA) Handbook H-1790-1.

- ***Issue 1:*** *How would the route designation alternatives affect cultural resources within the TMA?*
- ***Issue 2:*** *How would the route designation alternatives affect native vegetation communities?*
- ***Issue 3:*** *How would the route designation alternatives affect Threatened and Endangered plant species and BLM Sensitive plants and their habitat within the TMA?*
- ***Issue 4:*** *How would the route designation alternatives affect Threatened and Endangered wildlife species and their habitats within the TMA?*
- ***Issue 5:*** *How would the route designation alternatives affect soils with high or moderate erosion potential and high or moderate biological soil crust potential in the TMA?*
- ***Issue 6:*** *How would the route designation alternatives affect water quality, hydrology, and riparian areas within the HUC-10 watersheds that intersect the TMA?*
- ***Issue 7:*** *How would the route designation alternatives affect OHV recreation opportunities and experiences in Emery, Garfield, Grand, and Wayne counties?*
- ***Issue 8:*** *How would the route designation alternatives affect non-motorized recreation access and experiences in the TMA?*

- ***Issue 9:*** *How would the route designation alternatives affect visual resources within the TMA?*
- ***Issue 10:*** *How would the route designation alternatives affect size, apparent naturalness, and outstanding opportunities for solitude or primitive and unconfined recreation in Wilderness Study Areas (WSAs) within the TMA?*
- ***Issue 11:*** *How would the route designation alternatives affect size, apparent naturalness, and outstanding opportunities for solitude or primitive and unconfined recreation in lands identified by the BLM as possessing wilderness characteristics?*

BLM identified an additional 21 issues and determined a detailed analysis was not warranted (BLM 2008a Section 6.4). These issues are listed below and analyzed in brief (AIB) in Appendix A with a concise discussion regarding the context and intensity of the effects related to each issue. The AIB issues do not relate to how the proposed action or alternatives respond to the purpose and need or they have no potential for significant effects (BLM 2008a Section 6.4).

- ***AIB-1:*** *How would the route designation alternatives affect air quality in the TMA?*
- ***AIB-2:*** *How would the route designation alternatives affect greenhouse gas emissions and climate change?*
- ***AIB-3:*** *How would the route designation alternatives affect the quality of dark night skies?*
- ***AIB-4:*** *How would the route designation alternatives affect natural soundscapes?*
- ***AIB-5:*** *How would the route designation alternatives affect energy and mineral exploration, development, and operations in the TMA?*
- ***AIB-6:*** *How would the route designation alternatives affect paleontological resources within the TMA?*
- ***AIB-7:*** *How would the route designation alternatives affect existing fuel breaks and difficulty of access for fire suppression personnel within and adjacent to the TMA?*
- ***AIB-8:*** *How would the route designation alternatives affect forestry and woodland product gathering?*
- ***AIB-9:*** *How would the route designation alternatives affect livestock grazing operations and rangeland health within the TMA?*
- ***AIB-10:*** *How would the route designation alternatives affect the introduction and spread of noxious and invasive weeds?*
- ***AIB-11:*** *How would the route designation alternatives affect wild burros within the Canyonlands Herd Management Area?*
- ***AIB-12:*** *How would the route designation alternatives affect migratory birds, including raptors?*
- ***AIB-13:*** *How would the route designation alternatives affect BLM Utah Sensitive wildlife species?*
- ***AIB-14:*** *How would the route designation alternatives affect general wildlife species?*
- ***AIB-15:*** *How would the route designation alternatives affect public safety and emergency services within and adjacent to the TMA?*
- ***AIB-16:*** *How would the route designation alternatives affect environmental justice populations?*
- ***AIB-17:*** *What socioeconomic effects would the route designation alternatives have?*
- ***AIB-18:*** *How would the route designation alternatives affect Congressionally designated Wilderness Areas within the TMA?*
- ***AIB-19:*** *How would the route designation alternatives affect the Forest Service roadless area adjacent to the TMA?*

- ***AIB-20:*** *How would route designation alternatives affect suitable Wild and Scenic River corridors adjacent to the TMA?*
- ***AIB-21:*** *How would the route designation alternatives affect National Parks, and National Recreation Areas in or adjacent to the TMA?*
- ***AIB-22:*** *How would the route designation alternatives affect public access to existing rights-of-way, private land, and lands administered by the State of Utah?*

Some resources are not associated with potential issues because they are not present or would not be affected in any way by the route designations. Those resources are listed in Table 4 along with rationale explaining why no analysis is needed.

Table 4: Resources for Which There are No Associated Issues

Resource	Rationale
Areas of Critical Environmental Concern (ACECs)	The North Caineville Mesa ACEC is in the TMA but is isolated on a mesa and topography such as cliffs prevent any route from accessing it. The area is closed to OHV use by the 2008 RMP and no alternative would change the closure or designate routes within its boundary. For these reasons, there would be no effects expected to this ACEC.
Farmlands (Prime or Unique)	Using Natural Resources Conservation Service (NRCS) Web Soil Survey, the BLM identified 263 acres of lands designated by the NRCS as prime (if irrigated) farmlands in the TMA (.3%). Because the routes are existing, no network designation alternatives would have potential to meaningfully alter the characteristics of any of those parcels or cause them to not meet their definitions of prime. 42.6 acres of farmlands of Statewide importance are in the TMA (0.05%), but none meet the NRCS definition of unique farmlands.
Floodplains	Some routes in the TMA intersect floodplains, and OHV use on routes designated as OHV-open or OHV-limited by alternative route networks at these intersections has potential to alter floodplain characteristics. Executive Order 11988 directs agencies to consider effects to floodplains related to alterations in watershed hydrology and flood risk. Hydrological effects are analyzed in detail under Section 3.4.6. Flood risk is assessed through potential effects of floods on human health, safety, and welfare and flood loss of property or resources. The potential alterations would not meaningfully change flood risk or have effects to a level meriting detailed analysis because OHV use of existing routes would not change likelihood of flooding.
Municipal Watersheds/Drinking Water	Per data from the State of Utah Division of Environmental Quality, drinking water protection zones comprise 6,068 acres (0.4%) of BLM-managed land in the TMA. Activities described in the alternatives are not categorized as potential sources of contamination under the definitions of the Division of Environmental Quality, thus there is no potential for effects to drinking water.
National Historic Trails	There are no Congressionally designated National Historic Trails within or visible from the TMA boundaries.

Resource	Rationale
Native American Concerns	Alternative route designations would not affect Native American access to areas in the TMA associated with Tribal treaty rights and the American Indian Religious Freedom Act of 1978, because use of existing routes including those designated as OHV-closed would remain authorized for Native American users to access those sites. There are no known Native American concerns in the TMA. There were no specific areas of concern raised in comments from the Tribes. Consultation with the Tribes is ongoing.
Wastes and Hazardous Materials	Because no new routes would be constructed and because the alternative route designations would not authorize new uses, no wastes or chemicals subject to reporting would be introduced or spread in the TMA.
Water Rights	Water rights exist in the TMA and are concentrated, but are not exclusively present, near surface water features. Detailed analysis of water quality is in section 3.3.7. Some existing routes overlap or are near water rights, but no new routes would be constructed and the alternative route designations would not authorize water use, thus no effects on water rights would be expected. Detailed analysis is not necessary.

2 ALTERNATIVES

2.1 TRAVEL NETWORK DEVELOPMENT METHODOLOGY

The BLM developed the alternative travel networks (see maps in Appendix B) by compiling a linear feature route inventory within the TMA (see Section 2.1.1); evaluating the routes in accordance with BLM policy (see Section 2.1.2) and the 2017 Settlement Agreement; and gathering and incorporating information from the public and cooperating agencies (see Sections 1.7.2 and 4.3).

2.1.1 LINEAR FEATURE ROUTE INVENTORY

The BLM compiled the linear feature route inventory to be considered for designation as a part of this travel planning effort. The following subsections describe the process for developing the linear feature route inventory.

Initial Baseline Linear Feature Route Inventory and Data Collection

The BLM compiled a partial linear feature route inventory prior to the 2008 RMP TMP, using a combination of BLM Global Positioning System (GPS) data, county cooperator GPS data, resource specialist knowledge, and roads from USGS topographic 100K and 24K quadrangle maps. In the intervening years, Richfield Field Office resource specialists identified 146 additional miles of previously undesignated linear features receiving some level of use by the public and added them to the linear feature route inventory in preparation for this HMFG TMP effort. In 2019, the BLM received and reviewed additional GPS data from Garfield County and Utah Geospatial Resource Center and when appropriate added linear features to the linear feature route inventory.

The HMFG TMP effort is subject to the 2017 Settlement Agreement and the timelines of that agreement. In addition, the 2015 Remedy Order and 2017 Settlement Agreement required that Class III cultural surveys would be performed on all routes considered in this TMA. From late 2023 to present, including in response to the public input period (May 10, 2024, to June 10, 2024), BLM received requests from the public regarding the addition of airstrips and other routes that BLM has not included in the linear feature route inventory. At this stage of the TMP process, the BLM is unable to add features to the route inventory due to the inability to conduct the required Class III cultural resource surveys, as well as gather other survey and resource data needed to analyze these linear disturbances and/or features. In some cases airstrips were included in the route inventory where they occurred within or directly adjacent to an inventoried route where adequate survey data was available.

Appendix 9 of the 2008 RMP discusses the Travel Management/Route Designation Process. It specifically speaks to the awareness that the 2008 Richfield Field Office route inventory was not 100 percent correct or complete. Since 2008, 146 miles were added to the route inventory as errors and missed routes were identified, but a new inventory was not undertaken. The BLM Travel Management regulations allow for revision or amendment to travel plans to open, close, modify, or add new routes in the future. Requests to add features to the TMP, such as airstrips and missed routes that were not included in this TMA effort, may be addressed in the future, as appropriate.

Preliminary Analysis and Linear Feature Route Inventory Refinement

The BLM conducted a preliminary evaluation of each linear feature in the inventory to identify linear disturbances such as game trails, cattle trails, linear mapping errors, fence-lines, and seismic exploration scars which were inappropriate for consideration in a travel planning effort. Approximately 5.5 miles of linear disturbances were identified during this preliminary evaluation. In total, 2,282 miles of routes were carried forward as linear features appropriate for route evaluation. See Map 2 in Appendix B.

2.1.2 ROUTE EVALUATION AND DESIGNATION

Between 2015 and 2024, the BLM conducted an interdisciplinary evaluation of the 2,282 miles of routes in the linear feature route inventory. The BLM held over 60 day-long workshops to conduct the evaluations. The results of these route evaluations are shown, route by route, in each of the separate route reports (Appendix D) for each route or route segment in the TMA. These route reports catalogue the resources present on or proximate to each route, along with route attributes. They also catalogue survey data[4] collected and compiled by the BLM.

The route evaluation process (which included evaluating resource and user conflicts along with the purpose and need for the route) was used to inform proposed route designations across the action alternatives B–D.

For each route, the BLM considered and documented the following:

- characteristics (e.g., location, maintenance frequency, class, use level, vehicle type accommodation),
- condition (e.g., braiding, washed out),
- connectivity (e.g., if routes on adjacent land ownerships are open to public use),
- public purpose and need (e.g., destinations or experiences provided by the route, whether the other routes provide access to the same destinations or experiences),
- known user conflicts,
- official and/or authorized uses (e.g., facility access, permit access, etc.),
- recreational attractions (e.g., campsites, overlooks),
- resource values (e.g., within or near special status species or habitat),
- design features to minimize effects (e.g., cultural resource monitoring), and
- necessity of the route within the travel network considering that alternative's theme (resource protection emphasis, multiple use emphasis, and access emphasis).

In addition to cataloging the resources relating to each route and route attributes, the route reports include the proposed designation for the subject route under each alternative. Alternative A (i.e., current management) represents the 2008 TMP and also includes as OHV-Closed the undesignated routes identified since the 2008 inventory. Alternatives B-D were created by weighing resource conflicts against purpose and need for the route in consideration of the goals of each alternative. Alternative B's goal is to emphasize resource conservation, Alternative C's goal is to allow public OHV access while conserving sensitive resources, and Alternative D's goal is to emphasize public OHV access.

Additionally, the BLM considered and discussed opportunities and techniques for avoiding or mitigating route designation effects to minimize damage, disruption, and conflict with various resources and users. The BLM proposed routes as open or limited where doing so would result in minimal resource damage or redirect travel to routes in less sensitive areas. The BLM identified implementation actions associated with specific route designations (see Appendix E).

2.1.3 ALTERNATIVES DEVELOPMENT

The BLM considered travel network connectivity to create the proposed range of alternatives by discussing how different route designations in a particular travel network area will redirect OHV use patterns and what resources would be affected by those use patterns. When identifying the travel network

[4] For survey data collected and analysis methodologies, see the resource specific sections of Chapter 3 and Appendix A.

areas, the BLM considered primary uses in the area being reviewed, such as canyoneering, hunting, or loop opportunities. The BLM documented in the route forms which routes are particularly important for travel network connectivity (see Appendix D). The BLM also considered the route designation criteria (43 CFR 8342.1), issues identified through internal and external review, the requirements of the Settlement Agreement (see Settlement Agreement Section 17.(f)), and the management decisions and objectives in the 2008 RMP for the network as a whole as well as on a route by route basis.

Figure 1, below, and figures throughout Chapter 3, enable the reader to compare the effect levels of the route designation alternatives. The variety of individual designations proposed during route evaluation are available in the route reports (see Appendix D) and interactive maps (available on the project-specific ePlanning webpage). In some cases, some form of management (e.g., monitoring) was assigned to routes in conjunction with their individual OHV designations, and details on such management can be found in the route reports. Unless otherwise noted, if the route reports include management prescriptions for a selected alternative those prescriptions will be incorporated into the decision. OHV route designations are defined in Appendix F and on page 7-3 of the BLM Travel and Transportation Management Manual (BLM 2016b).

There are 122 miles of routes included in the travel network that are open in the existing TMP (Alternative A) but are receiving negligible to no use from the public (i.e., lack public purpose or need), have a known resource issue that needs to be resolved, or are otherwise not sustainable. BLM has proposed closing those routes in all alternatives.

2.2 ALTERNATIVES

Map 2 – Map 5 in Appendix B show alternative travel networks and designations for Alternatives A, B, C, and D.

2.2.1 COMMON TO ALL ALTERNATIVES

The TMA's most heavily used and primary access routes would remain open under all alternatives (see Table 5). This includes regularly maintained routes that provide crucial route network connectivity and routes accessing primary recreation destinations.

Table 5: Summary of Routes Open in All Alternatives

Route Network Geographic Area	Routes Open in All Alternatives
Capitol Reef Gateway SRMA	Beas Lewis Flat Rd (WYPM0456), Sulphur Creek Rd (WYPM0459), Hilltop Dr. (WYPM0465), Rock Quarry/Overlook Point Rd (WYPM20458a, WYPM0458e)
Dirty Devil/Robbers Roost SRMA	Hans Flat / Roost Rd (WYBD 0009), Oil Well Rd (WYBD0096), Ekker Ranch Rd (WYBD0012), S. Ekker Ranch Rd (WYBD0011) Bull Pasture Overlook Rd (WYBD0110, WYBD0346), Angel Point Rd (WYBS0099), Sams Mesa Rd (WYBD0356), Spur Rd (WYBD0001), Spur Trail Rd (WYBD0003). Windy Peak Rd (WYBD0004) Mailbox Rd (WYBD0028), Horseshoe Overlook Road (WYBD0027), Sand Slide Rd (WYBD0240) Angel Trail West Rd (WYBD0262), Blackburn Wash Rd (WYBD0125, WYBD0130), Poison Springs/N Hatch Cyn Rd (GABD0004),
Factory Butte SRMA	Factory Bench Rd. (WYNC0049), Coalmine Wash Rd. (WYNC0051), Caineville Wash Rd. (WYNC0066), Cathedral Valley Rd, (WYNC0866), WYNC0064, and WYNC0061.
Henry Mountains SRMA	The Bull Creek Pass Back Country Byway (GAHM0211, GAHM0123, GAHM0136, GAHM0127, GAHM0069, GAHM0025, GAHM0106, GAHM0303), Lonesome Beaver Rd. (WYHM0001, GAHM0131), Fairview Ranch Rd.(WYHM0041), Granite Ranch Rd. (WYHM0114, WYHM0116), Nasty Flat Rd. (GAHM0124) Hogs Back-Starr Springs Rd (GAHM0362), Hoskinnini Rd. (GAHM0302,GAHM0406), Eggnog-Starr Springs Rd. (GAHM0450, GAHM0416,GAHM0398), Tarantula Mesa Road, (GAHM0073) King Ranch-Stevens Narrows Rd. (GAHM0026, GAHM0072), Notom Road (GAHM0001, WYHM0137)

Route Network Geographic Area	Routes Open in All Alternatives
Henry Mountains/Fremont Gorge ERMA	Hartnet Rd (WYNC0123), Cathedral Rd (WYNC0086), Red Desert Rd (WYNC0173), Cow Dung Rd (WYNC0015), Shooting Range Rd (WYNC0007), Hanksville Landfill Rd (WYNC0228), Hanksville Cemetery Loop (WYBD0224), Sand Slide Rd (WYBD0240), Lower San Rafael Rd (WYBD0034), Dell Seep Rd (WYBD0318, WYBD0311), Burr Point Rd (WYBD0318), Cedar Point Rd (GABD0061), S Turkey Knob Rd (GABD0109, GABD0090, GABD0104), E Trachyte Point Rd (GAHM0492), Starr Springs Campground Rd (GAHM0362), GAHM0492b), Ticaboo Mesa Rd (GAHM0477), Cane Spring Desert Rd (GAHM0472, GAHM0473), S Hansen Creek Rd (GAHM0467), Shooting Rd (GAHM0424, GAHM0424a), Burr Trail Rd (GAHM0440), Halls Creek Overlook Rd (GAHM0442), N. Oak Creek Rd (GAHM0005), Cove Canyon Rd (GABD0499)

Throughout the TMA some routes are proposed as closed in all alternatives. These routes would be closed for a variety of reasons including total or partial natural reclamation, redundancy, lack of purpose, lack of use, or inaccessibility. These routes cause confusion for users navigating on the ground and do not contribute to the overall route network.

Throughout the TMA, based on the information considered during route evaluations and estimated use levels, in developing the route designation alternatives the BLM proposed changes to the designation of some routes limited by season to either OHV-Open or OHV-Closed, so all action alternatives (Alternatives B–D) would have fewer routes designated as OHV-Limited than under current management (Alternative A).

The TMP Implementation Guide (Appendix E) describes implementation actions that would be common to all action alternatives. These actions include education and outreach, sign installation, route maintenance, enforcement, monitoring, and reclamation. The Implementation Guide identifies BLM's objectives, commitments, priorities, and applicable policies and regulations. Authorized uses would continue under all alternatives, regardless of the public OHV designation (see Section 1.3).

2.2.2 ROUTE DESIGNATION ALTERNATIVES

The alternative route designations are described below. Figure 1 and Table 6 show the number of miles to be designated OHV-Open, OHV-Limited, and OHV-Closed in each alternative.

Figure 1: Miles of Evaluated Routes by Alternative and Designation

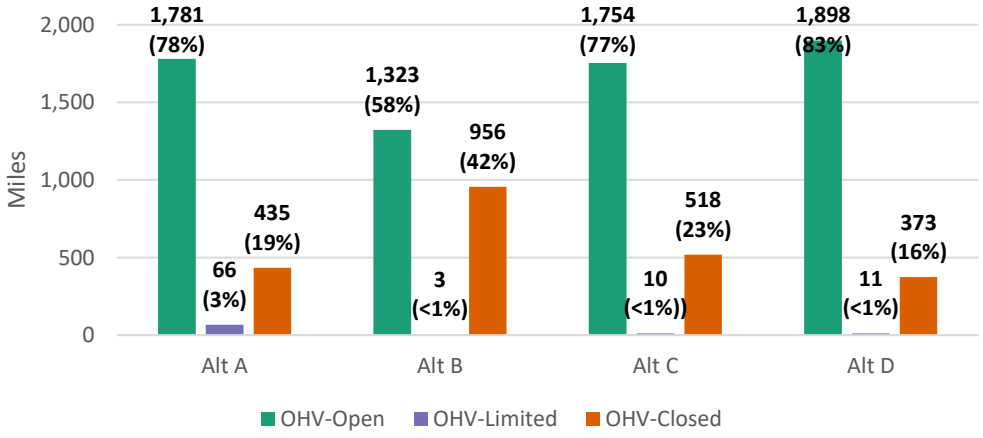


Table 6: Summary Table of Alternatives Designations of the 2,282 Miles of Evaluated Routes

	Alt. A	Alt. B		Alt. C		Alt. D	
Designation	Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
Open to all use (OHV-Open)	1,781	1,323	-458	1,754	-27	1,898	+117
Limited to vehicles less than 66" (OHV-Limited)	31	3	-28	5	-26	3	-28
Limited by season (OHV-Limited)	35	-	-35	5	-30	8	-27
Closed (OHV-Closed)	435	956	+521	518	+83	373	-62

2.2.3 ALTERNATIVE A (NO ACTION)

Alternative A is the no action alternative. Under this alternative, the BLM would continue the current designations from the 2008 TMP within the HMFG TMA boundaries.

With no action, the 1,847 miles of routes (on BLM-managed lands only) designated available for public motorized vehicle use (see 2008 RMP, Map 16) would retain their current designations. These routes designated OHV-Open and OHV-Limited comprise 81% of the total evaluated travel network miles. The 285 miles of routes in the TMA designated as OHV-Closed would remain OHV-Closed. The 146 miles of routes in the TMA's linear feature inventory that were not designated in 2008 would remain undesignated and would not be publicly available for OHV use. Because these routes were not designated OHV-Open or OHV-Limited in the 2008 TMP, they are included in the OHV-Closed category. The companion Implementation Guide (Appendix E) would not be adopted.

While no changes to existing management would occur with no action, continuation of current route use would have effects of the same nature as action alternatives, but the spatial scope and magnitude of those effects would vary based on route locations. The effects of these route designations were analyzed in the 2008 Richfield Field Office Proposed Resource Management Plan & Final Environmental Impact Statement and would continue under this alternative. No action is used as a baseline scenario for comparison between action alternatives.

2.2.4 ALTERNATIVE B

Alternative B would prioritize conservation of sensitive resources. For example, route closures would be prioritized in BLM Natural Areas, Lands with Wilderness Characteristics (LWCs), Wilderness Study Areas, threatened and endangered species habitats, and riparian areas among other resources to minimize resource effects. The BLM would not prioritize route closures in areas with no sensitive resources. Fewer miles of routes would be designated open for public OHV use than under any other alternative.

Of the evaluated route miles in the TMA, Alternative B would designate 58% as OHV-Open, <1% as OHV-Limited, and 42% as OHV-Closed. The three miles of routes designated as OHV-Limited would be limited by vehicle size.

2.2.5 ALTERNATIVE C

Alternative C would prioritize compatibility between OHV access and conservation of sensitive resources. The OHV-Open, OHV-Limited, and OHV-Closed designations were designed to reduce adverse effects to natural and cultural resources and reduce user conflicts while designating more miles of routes open to OHV use than Alternative B.

Of the evaluated route miles in the TMA, Alternative C would designate 77% as OHV-Open, <1% as OHV-Limited, and 23% as OHV-Closed. Five miles of routes designated as OHV-Limited would be limited seasonally and five miles would be limited by vehicle size.

2.2.6 ALTERNATIVE D

Alternative D would prioritize OHV access and accommodate a range of opportunities and uses while addressing adverse resource effects. Alternative D would designate more miles of routes as OHV-Open than any other alternative.

Of the evaluated route miles in the TMA, Alternative D would designate 83% as OHV-Open, <1% as OHV-Limited, and 16% as OHV-Closed. Eight miles of routes designated as OHV-Limited would be limited seasonally and three miles would be limited by vehicle size.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

The BLM considered the following alternatives but dismissed them from detailed analysis:

2.3.1 DESIGNATE ALL ROUTES OHV-CLOSED

Under this alternative, the BLM would designate all (100%) evaluated routes in the TMA as OHV-Closed. The BLM did not carry this alternative forward for detailed analysis because it would not conform to the applicable land use plan and would not meet the purpose and need for BLM action.

This alternative would not meet the purpose and need because it would eliminate the travel network rather than designating a travel network that provides for OHV use. This alternative would not conform to the 2008 RMP's goals to maintain existing access, where needed and allowed, to meet public and administrative needs; and to continue compatible traditional, current, and future use of the land by establishing a route system that contributes to protection of sensitive resources, accommodates a variety of uses, minimizes user conflicts, and is sustainable.

2.3.2 DESIGNATE ALL ROUTES AVAILABLE FOR OHV USE

Under this alternative, the BLM would designate all (100%) evaluated routes in the TMA as OHV-Open. The BLM did not carry this alternative forward for detailed analysis because it would not conform to the applicable land use plan and would not meet the purpose and need for BLM action.

This alternative would not meet the purpose and need because it would not enhance public lands or protect sensitive resources from adverse effects. This alternative would not conform to the 2008 RMP's management decision TRC-6 that states the BLM will balance motorized access to public lands with other resources and resource use needs. Additionally, the regulations at 43 CFR § 8342.1 require designations to be based on the protection of resources on public lands, the promotion of the safety of all the users of public lands, and the minimization of conflicts among various uses of public lands. This alternative would also not comply with the 2017 Settlement Agreement, which states a "route without an identified purpose and need will not be proposed as part of the dedicated travel network" (see Settlement Agreement section 17(a)).

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

3.1 OVERVIEW

This chapter describes the existing conditions and trends related to elements of the human environment that may be affected by the route designation alternatives. It also identifies the known and predicted effects related to each issue (BLM 2008a) identified in Section 1.7.3 and analyzed in Section 3.4. While the analysis area for each issue is specific to the issue being analyzed, the TMA is the same for all alternatives. For an overview of the TMA setting, see Section 1.4.

3.2 GENERAL SETTING AND ASSUMPTIONS

For the purposes of estimating the temporal scope of the effects, the BLM assumes the timeframe for this plan is 20 years in order to account for effects that may occur over longer timeframes such as reclamation success. Maintenance under this TMP would be appropriate to the class of road to ensure navigability for designated routes without changing the character, function, or recreation experience the route provides.

The BLM assumes that while minor numerical errors in the EA may exist because of rounding, the data and numerical values represent the best available information and are accurate for the purposes of disclosing and analyzing the potential impacts.

The BLM assumes that along OHV-Open and OHV-Limited routes outside WSAs, recreationists may occasionally park and stage along designated routes within 50 feet of centerline (TRC-30) and dispersed camp at existing campsite disturbances on existing spur routes along designated routes within 150 feet of centerline. This does not authorize creation of new campsites or travel ways (TRC-31).

For evaluated routes subject to TRC-30 and TRC-31 of the 2008 RMP that would be designated as OHV-Open or OHV-Limited under a given alternative, the BLM assumes that impacts of use within the off-route allowance would be substantially similar to those associated with use along the route where BLM is proposing to authorize OHV use. This assumption is supported by the route-specific resource data documented during route evaluations which document resources within at least 150 feet of all routes. BLM's documentation shows that the resources present within the off-route allowances are the same as or substantially similar to those associated with the route BLM would designate as OHV-Open or OHV-Limited under a given alternative.

There are no documented conflicts between motorized and non-motorized recreationists in the TMA, but the BLM assumes conflicts between these user groups could occur where they use the same routes to access particular destinations.

None of the alternatives would authorize construction of new routes, designate routes that do not have a purpose and need or do not exist, authorize events, create or remove a destination that would draw new visitors, or authorize an action such as construction of recreation facilities or utility lines. The alternatives may designate routes that are reclaiming for OHV use if they are deemed to have a public purpose and need; the potential effects in these cases are assumed to be similar to those involved with typical route maintenance.

The BLM assumes the 146 miles of existing routes undesignated under the 2008 TMP (see Section 2.1.1) have been experiencing some level of unauthorized OHV use. The BLM assumes where no routes are designated open for motorized travel, instances of unauthorized off-route motorized travel will increase.

Finally, the BLM assumes that public land users will operate their OHVs in accordance with the TMP designations and the regulations. The BLM assumes that application of specified operation and

management tools provided in the TMP Implementation Guide—such as human-made barriers, route markers, kiosks, and signs to educate OHV users of low-impact and responsible use—would help reduce or prevent visitor behaviors that could otherwise cause adverse effects to resources.

3.3 CUMULATIVE IMPACT SCENARIO

This section outlines past, present, and reasonably foreseeable future actions and trends in Wayne County, Garfield County, Sevier County, Grand County, and Emery County and recently signed TMPs with a relationship to potential resource effects associated with the alternatives (see Table 7). This section precedes the effects analyses because it is intended to provide broad context for those analyses and the activities occurring regionwide. The cumulative effects associated with each specific issue are discussed in their respective subsection under Section 3.4 and informed by the data and information provided here. In recent decades, the influences on the regional landscape in southeastern Utah the TMA is in include the following:

- Travel management planning
- Livestock grazing and grazing management
- Utilities and realty
- Wildlife habitat management
- Recreation
- Mineral development and remediation of abandoned sites

The acreage influenced by each event or action is also provided in Table 7. All these events or actions are anticipated to continue based on information available to BLM at this time. Sections 3.3.1 – 3.3.6 also contain information about past, present, and reasonably foreseeable actions within the analysis area.

Table 7: Acres in Regions Relevant to the Cumulative Actions

Event or Action	Acres in Regions
2008 RMP/TMA (from the 2008 RMP)	2,128,200
Travel Management Planning: San Rafael Desert TMA[1]	377,609
Travel Management Planning: San Rafael Swell TMA[2]	1,144,000
Travel Management Planning: Labyrinth Rims Gemini Bridges TMA[1]	300,000
Travel Management Planning: Canyon Rims (Indian Creek) TMA[1]	90,955
Livestock Grazing and Grazing Management[1]	1,829,706
Utilities and Realty: Goblin Valley Power and Fiber Optic Line[2]	38
Utilities and Realty: Hanksville Diversion Dam[2]	8
Utilities and Realty: Dingell Act Land Exchanges[2]	856
Wildlife Habitat Management: Tamarisk and Forest Health Thinning[1]	569
Wildlife Habitat Management: Pinyon Juniper Maintenance[2]	8,730
Recreation: Starr Springs Campground[1]	65

Event or Action	Acres in Regions
Recreation: Lonesome Beaver Campground[1]	3
Recreation: McMillian Campground[1]	17
Recreation: Hog Springs Day Use[1]	5
Recreation: Dandelion Flat Day Use[1]	2
Mineral Development: Locatable[1]	67
Mineral Development: Mineral Materials[1]	212

[1]These events/actions have had influences on the landscape in recent decades (past events/actions), are current influences (present events/actions), and are anticipated to continue into the future (reasonably foreseeable future actions).
[2]These events/actions have not occurred yet. They are reasonably foreseeable future actions.

3.3.1 TRAVEL MANAGEMENT PLANNING

The 2008 RMP included area designations for motorized use and reduced the number of acres designated as Open to cross-country motorized travel from 1,636,400 acres to 9,890 acres (less than 1% of the Richfield Field Office). The 2008 TMP overlaps with the HMFG TMA.

3.3.2 LIVESTOCK GRAZING AND GRAZING MANAGEMENT

Livestock grazing has occurred extensively across the region since the late 1800s. The BLM Price and Richfield field offices currently manage 33 grazing allotments that are relevant to resource effects. These allotments make up 1,829,706 acres of the region and contain numerous rangeland improvements. Livestock grazing is reasonably foreseeable to continue.

3.3.3 UTILITIES AND REALTY

Throughout the TMA, there are dozens of existing utility rights-of-way. Notable utility/realty actions that are reasonably foreseeable in the region include the Goblin Valley Power and Fiber Optic Line Project, the Hanksville diversion dam rehabilitation project, and Dingell Act land exchange. The Goblin Valley Power and Fiber Optic Line Project would occupy 38 acres of the TMA. The Hanksville diversion structure and ancillary facilities will be constructed in a different location on private land. The current diversion dam and facilities on BLM lands would be decommissioned, and 8 acres of land within the TMA would be rehabilitated. The Dingell Act land exchange would result in the addition of 856 acres to the TMA. After the Dingell Act land exchange is finalized, routes on acquired lands that correspond with the selected travel network would be incorporated into the OHV travel network in accordance with the agreement governing the exchange and applicable law.

3.3.4 WILDLIFE HABITAT MANAGEMENT

Within the region, there are a variety of known past, present, and foreseeable plans and structures related to wildlife habitat management including private, state, and federal restoration initiatives, conservation monitoring, wildlife water guzzlers, riparian protection projects, and vegetation treatments. Recent past actions include 519 acres of forest health thinning. There are also 8,730 acres of pinyon-juniper treatments planned in the near future within the TMA. It is reasonably foreseeable that BLM monitoring efforts for vegetation and riparian management as well as treatment of invasive/noxious weeds will continue throughout the region.

3.3.5 RECREATION

In 2023 visitation to the TMA was estimated at 450,808 visitor days. BLM anticipates motorized and non-motorized visitation and recreation in the TMA will increase over time commensurate with population growth regardless of which alternative is selected, as observed elsewhere in Utah (Leaver 2024). BLM actively manages SRMAs to attain outcomes identified in the 2008 RMP (2008 RMP, Table 16), administers special recreation permits (SRPs) for commercial operators and organized groups on designated routes, and provides a variety of free, dispersed recreation in accordance with the 2008 RMP. Specific regional opportunities include casual motor vehicle touring for scenery appreciation, landscape and wildlife photography, off-roading, mountain biking, canyoneering, hunting, equestrian riding, backpacking, hiking, astronomy, geology study, viewing cultural and historic sites, and camping. The Richfield Field Office has three campgrounds and two day-use recreation areas totaling 90 acres as well as three OHV-Open areas totaling 8,500 acres. BLM actively works on maintaining and improving existing trailheads and staging areas including delineating areas with fencing, resurfacing parking areas, and constructing informational kiosks. The counties maintain certain routes in the TMP for use by motor vehicles, especially those popular among OHV recreationists or frequently used for recreational access. The BLM also maintains roads as described in Appendix E. External to BLM, Capitol Reef National Park and Glen Canyon National Recreation Area bring recreationists to the region; many of these visitors travel through, camp on, or otherwise visit BLM lands in route to their destinations.

3.3.6 MINERAL DEVELOPMENT

Mineral development is allowed within the TMA per the 1872 Mining Law, Materials Act of 1947, Mineral Leasing Act of 1920, and the Mining and Mineral Policy of 1970 in accordance with 43 CFR 3809, 3600, and 3500 regulations. There are approximately 67 acres of authorized or approved disturbance for locatable mineral operations and 212 acres for authorized disturbance of mineral material operations within the TMA. The 2008 RMP's Mineral Potential Report found no occurrence potential for coal bed methane for the TMA (Mineral Potential Report, Map 27). Further review of BLM and Utah Division of Oil, Gas, and Mining data found 412 abandoned mine land and oil and gas features within the TMA. Out of the 412 features approximately 194 abandoned mine land features have been remediated or are proposed to be remediated.

3.4 ISSUES ANALYZED IN DETAIL

The following issues are analyzed in detail because they relate to how the proposed action or alternatives respond to the purpose and need, or analysis is needed to determine the significance of the effects.

3.4.1 CULTURAL RESOURCES

Issue 1: How would the route designation alternatives affect cultural resources within the TMA?

The analysis area for cultural resources effects[5] is the area within a 150-foot (45 meter) buffer of all routes proposed for designation as OHV-Open or OHV-Limited for each route designation alternative because that encompasses the Area of Potential Effect (APE), as defined by 36 CFR 800.16(d). The 150-

[5] The NEPA analysis herein is formulated using the results of BLM's Section 106 process and uses the Section 106 definitions of terms, which differ slightly from the NEPA term definitions but are analogous enough to be comparable and discussed across both laws. The objective of Section 106 corresponds with NEPA's objective—to identify what potential effects and effects this TMP could pose to cultural resources through continued public OHV use of routes. For more information see Appendix C.

foot buffers model a possible but overestimated amount of potential disturbance to Cultural Resources. Most primitive roads and routes experience little use and the necessity of driving off the route is relatively rare. Also, many of these routes are incised or have other physical barriers that limit the opportunities to leave the route. Even rarer are spurs up to 150 feet from these that lead to established dispersed campsites. The temporal scope of analysis is 20 years (see Section 3.2).

Affected Environment

The BLM's efforts to identify historic properties, analyze effects of the undertaking, and develop a Treatment Plan were directed by the 2017 Settlement Agreement and the Travel PA. Identification efforts dictated by the Travel PA included identification of an APE for the routes (III.A.1.b.), a literature review and cultural resource potential map (III.A.2.), site revisits (III.A.3), and Class III surveys (III.A.4.b. and Settlement Agreement B.24.a.).

Prior to the execution of the Travel PA, BLM consulted with SHPO regarding establishing an APE within a 100-foot corridor of each OHV route (i.e., 50 feet from each side of each route's centerline) for approximately 4,277 miles of routes. Following the execution of the Travel PA and the 2017 Settlement Agreement, the BLM enlarged the APE to encompass a 300-foot corridor of each OHV route (i.e., 150 feet from each side of each route's centerline) for approximately 2,088 miles of routes without previous Class III survey. This new APE was based on the 2008 RMP which declared the ingress and egress to established campsites and areas for purposes of parking and staging to be within 150 feet of designated routes within the Richfield Field Office.

A Class I – Existing Information Inventory was completed as part of the Travel and Transportation planning efforts for the Richfield Field Office. This report titled "A Class I Cultural Resource Inventory of Lands Administered by the Bureau of Land Management, Richfield Field Office" was completed in 2016 (Beck et al. 2016). This study (Class I) included a summary of all existing cultural resource information, including existing records, past and current environments, early cultural resource investigations, overviews of prehistoric and historic lifeways, ethnographic records, cultural resource data needs, management recommendations, and future research directions. This Class I provides the BLM the foundation of cultural resource information for this TMP. Chapter 7 of the Class I describes the predictive modeling that was completed to define areas of high, medium, and low potential for cultural resources.

According to the Class I, the Richfield Field Office area has a rich archaeological record, which has been the subject of research documenting the lifeways of people in this region across the span of human occupation. The earliest evidence for prehistoric use of the area dates to the terminal Pleistocene, when the environment here was very different than today. After over 10,000 years of occupation by hunter-gatherers of the Paleoarchaic and Archaic periods, people in the area adopted domesticated crops and began to farm, and a florescence of Formative period Fremont and Ancestral Puebloan occupations occurred between ca. 150 B.C. and A.D. 1450. The Late Prehistoric period saw a shift back to hunting and gathering as the primary means of subsistence. When Euro-Americans began to venture into the region in the late 1700s, it was home to many of the Southern Paiute, Navajo, and Utes. Euro-American exploration began with the expeditions of Spanish priests and continued into the early 1800s with inroads made by Anglo trappers and traders. Settlement of the region by Euro-Americans, primarily Mormon pioneers, began in the mid-1800s. Since that time, human population density in the region and in the TMP has always been very low, and the area's economy has been based primarily on agriculture and other uses of the abundant natural resources that occur here (Beck et al. 2016).

To identify and document cultural resources, Class III surveys were undertaken on 100% of the routes in the Henry Mountain area of the TMP and on 114 miles of routes in high potential areas of the Fremont Gorge area of the TMP between 2022 and 2024, per the 2017 Settlement Agreement (B.24.) and Travel PA (see Section 1.6).

The BLM completed Class III survey on 2,282 miles of routes within the TMP in seven phases (Chuipka et al. 2022; Chuipka and Spittler 2022; Spittler et al. 2023a; Spittler et al. 2023b; Spittler et al. 2023c; Spittler et al. 2023d; Spittler et al. 2024). The BLM reviewed the Class I as well as historic records and topographic maps to identify specific potential site types and locations (e.g. historic roads/trails, airports, mines, structures, and prehistoric sites) in the APE. Each cultural resource within the APE was recorded on a Utah Archaeology Site Form, evaluated for National Register eligibility and travel impacts were documented on a Travel Route Site Assessment Form. As a result of these identification efforts, 1,536 new cultural resources were identified and recorded, and 397 previously recorded cultural resources were subject to updated recording or complete re-recording (site revisits) within the APE. A further 108 cultural resources within the APE did not require updated recordings. Cultural component and site type distribution identified during the Class III generally conformed with the findings and expectations from the Class I.

The cumulative impact scenario described in Section 3.3 of this EA provides a quantitative overview of past, present, and reasonably foreseeable future undertakings in the TMA. All the actions listed in Section 3.3 have potential to affect cultural resources, including historic properties (sites that are eligible or listed on the National Register). Any adverse effects to cultural resources from the federal actions in the table would be resolved through a Historic Properties Treatment Plan or Memorandum of Agreement with the SHPO. Section 304 of the National Historic Preservation Act (NHPA) requires that BLM only disclose site locations if no harm, theft, or destruction of cultural resources will result from disclosure. To protect cultural resources, no site location data is included in the following analysis.

Environmental Effects Analysis

2,041 sites occur in the APE, of which 1,392 are not eligible for the National Register and therefore definitionally would not be subject to adverse effects as contemplated by the NHPA. The remaining 649 cultural resources are listed on, eligible to, or have no eligibility determination for the National Register. Up to 1,204 sites are physically intersected by routes under the alternatives being considered (Table 8). Up to 608 sites are near (within 150 feet) but not physically intersected by routes (Table 9). When sorted by the National Register eligibility, and quantified by route designation alternative, the occurrence of cultural resources can be compared between alternatives as displayed in Table 8 and Table 9[6].

Table 8: Number of Cultural Resources Intersected by Open/Limited Routes

Site Status	Alt A	Alt B	Alt C	Alt D
National Register Listed	2	2	2	2
National Register Eligible	418	307	392	410
Not Eligible for National Register	780	609	754	783
National Register Eligibility Undetermined	4	4	4	4
Total Cultural Resources in Alternative	1,204	922	1,152	1,199

Table 9: Number of Cultural Resources within 150 Feet of Open/Limited Routes

Site Status	Alt A	Alt B	Alt C	Alt D
National Register Listed	3	3	3	3
National Register Eligible	143	115	147	152
Not Eligible for National Register	438	347	437	449
National Register Eligibility Undetermined	4	4	4	4
Total Cultural Resources in Alternative	588	469	591	608

[6] The numbers in these tables are the best available data at the time of writing.

Human interactions can adversely affect cultural resources, intentionally or accidentally, in numerous ways including, but not limited to, vehicular damage to cultural features and artifacts, increased erosion, and by making sites more accessible to vandalism and looting (Sampson 2009). Direct or indirect adverse effects may occur to historic properties if impacts from use of routes designated as OHV-Open or OHV-Limited become intense enough to damage their National Register significance. For example, OHV travel through or immediately adjacent to a historic property could cause soil erosion from tires resulting in exposure and erosion of significant in-situ artifact deposits or subsurface features at the time of the activity or incrementally over time, damaging or destroying the important data they may contain and therefore their ability to convey their importance within their cultural context. Illegal activity is another factor that affects cultural resources, and public access to cultural sites has potential to increase incidences of crime, such as vandalism and looting with malintent or through negligence. Accidental or intentional adverse effects from everyday outdoor public recreation activities using or based out of OHVs may also occur, such as dispersed camping fire rings, trash, and personal waste within cultural sites. OHV route use in close vicinity to sites may also contribute to dust accumulation on cultural resources; however, dust caused by passing OHVs versus natural dust caused by constant winds are indistinguishable during site documentation (Silver 2007).

Assuming a historic property is present on a route, designating that route OHV-Open or OHV-Limited means public OHV users may have the potential to cause effects. Designating routes OHV-Closed may eliminate the potential for public OHV use to cause effects. Therefore, designating routes OHV-Closed through this action may be an effective method to avoid effects to cultural resources in the TMA (Hedquist et al. 2014). Effects to cultural resources may also be minimized or mitigated in accordance with the Implementation Guide (Appendix E) and the Historic Properties Treatment Plan (Treatment Plan).

Based on the above analyses, the BLM determined OHV use, including incidental use such as passing, parking, and staging may result in adverse effects to cultural resources and historic properties, the quantity of which depends on the chosen alternative. As part of compliance with Section 106 of the NHPA, the BLM analyzed potential future effects to each historic property using past and current travel effects specific to each site, as identified in the Travel Route Site Assessment Forms. All potential adverse effects to historic properties can be compared across route designation alternatives as follows (Table 10).

Table 10: TMP Effects on Historic Properties Under Section 106[7]

	Alt A	Alt B	Alt C	Alt D
Number of Adverse Effects to Individual Historic Properties (including cultural resources with undetermined National Register eligibility)	30	22	32	33

Based on historic property identification efforts, the BLM anticipates reaching a finding of an "adverse effect" to historic properties regardless of chosen alternative. To resolve these potential adverse effects, the BLM will prepare and consult on a Treatment Plan, following Stipulation V of the Travel PA. The Treatment Plan will outline BLM's proposed measures to avoid, minimize, or mitigate potential adverse effects during the TMP implementation through measures such as educational signs, protective signs, no camping/vehicles signs, fencing, barriers, and periodic site monitoring. For a description of the NHPA Section 106 Consultation, see Section 4.1.

[7] The numbers in this table are the best available at the time of writing.

Alternative A (No Action)

Routes designated OHV-Open or OHV-Limited under the current management intersect 1,204 cultural resources and are within 150 feet of another 588 cultural resources. Alternative A would pose potential adverse effects to historic properties (29) and would require the BLM to implement protective measures.

Alternative B

Routes designated OHV-Open or OHV-Limited would intersect 922 cultural resources and would be within 150 feet of another 469 cultural resources. Alternative B would pose potential adverse effects to historic properties (20) and would require the BLM to implement protective measures. Alternative B would have less potential for adverse effects than other alternatives.

Alternative C

Routes designated OHV-Open or OHV-Limited would intersect 1,152 cultural resources and would be within 150 feet of another 591 cultural resources. Alternative C would pose potential adverse effects to historic properties (31) and would require the BLM to implement protective measures.

Alternative D

Routes designated OHV-Open or OHV-Limited would intersect 1,199 cultural resources and would be within 150 feet of another 608 cultural resources. Alternative D would pose potential adverse effects to historic properties (33) and would require the BLM to implement the most protective measures. Alternative D would have more potential for adverse effects than other alternatives.

Cumulative Effects

Cumulative effects from past, present, and reasonably foreseeable projects and activities on cultural resources include direct and indirect adverse effects to historic properties as previously described in the affected environment. The alternatives would contribute the effects described above. In the 58 years since the NHPA was signed into law (1966), 527 Section 106 compliance projects have taken place within the TMA boundary, on BLM-administered lands. Of those 527 projects, 440 (83%) occurred in or overlapped this TMP's Section 106 APE. Since the 2017 Settlement Agreement was reached none of the projects considered within the TMP's APE would have caused an adverse effect to a historic property. In that time, 6 projects (1.1%) proposed within the TMP's APE intersected or were proximate to historic properties. Through project design or a modification of project location to protect historic properties, the projects were determined to have no effect to historic properties or no adverse effect to historic properties. BLM anticipates the TMA's past, present, and reasonably foreseeable events/action would continue these trends regarding cultural resources and protection of historic properties further in time and farther in distance when future actions under the types of activities listed in Section 3.3 are proposed in the TMA.

3.4.2 NATIVE VEGETATION

Issue 2: How would the route designation alternatives affect native vegetation communities?

The analysis area for native vegetation is the entire TMA, because it is the smallest unit which shows all effects to native vegetation within the TMA.

Methodology and Assumptions: The BLM used LandFire (LANDFIRE 2020 Existing Vegetation Type (EVT) CONUS) as well as the most recent aerial imagery and specialist knowledge to inform classification of plant communities and route-specific vegetation resource issues during the route evaluation process. The number of routes in each primary biome or vegetation type are used as the indicator. Several routes crossed into two or more biomes (e.g., sagebrush and pinyon-juniper). In these cases, the dominant vegetation type was assigned to the route. Since route miles of each biome cannot be

separated from each route in the database without double counting route miles, estimated effects to vegetation are based on the number of segments within the dominant biome.

The temporal scope of analysis is 20 years (see Section 3.2). For analysis of potential effects to special status plants, see Section 3.4.3. For analysis of riparian vegetation, see Section 3.4.6. For analysis of invasive weeds, see Appendix A.10 .

Affected Environment

The TMA encompasses portions of three NRCS Major Land Resource Areas (MLRAs). In order of extent in the TMA from greatest to least, these are: MLRA 035X Colorado Plateau, MLRA 034B Warm Central Desertic Basins and Plateaus, and MLRA 047X Wasatch and Uinta Mountains. For consistency with the RMP, vegetation was categorized into four biomes in the TMA, with the desert shrub biome being the most extensive (~53%), followed by pinyon-juniper (~27%), sagebrush (~12%) and oak/mountain shrub (~8%). In the highest elevations of the Henry Mountains there are some small stands of spruce/fir and aspen. Routes that pass through these stands were included within the sagebrush biome, since the greater extent of these routes were in the sagebrush.

Within the TMA, existing routes that are used by OHVs, especially two-track and primitive roads, may still have vegetation in them because plants may have sporadically regrown in the route. Therefore, use of existing routes may result in vehicles crushing regrowth, compacting the soil the plants grow in, and carrying weed seed and propagules. Table 11 shows the primary vegetation cover types and the number of evaluated routes within each for the TMA. See Section 2.2.2 for the total mileage of route designations under each alternative. Map 3-03 in the 2008 Richfield Proposed RMP/EIS (BLM 2008c) shows general vegetation cover types for the Richfield Field Office area.

Table 11: Primary Biomes within the TMA

Biome	Number of Evaluated Routes Within the Biome	Description[8]
Desert Shrub	1,741	Includes the salt shrubs: shadscale, greasewood, blackbrush, and desert grassland vegetation. Located primarily on valley floors and most common on well-drained, sandy to rocky soils. Wildlife and livestock use of desert shrub vegetation varies depending on the species present.
Pinyon-Juniper	725	Occupies the driest woodland sites in Utah and provide important resources for people, wildlife, and plants. Pinyon-juniper stands grow on foothills, low mountains, mesas, and plateaus ranging from 3,000–8,000 feet in elevation. Pinyon pine and Utah juniper compete with other plants for available soil water, crowding out grasses and shrubs that usually are present as understory vegetation, leaving soil surfaces particularly susceptible to erosion.
Sagebrush	326	Generally occurs on the drier portions of pinyon-juniper woodlands and mesic portions of desert shrub communities. Sagebrush species include black sagebrush, Wyoming big sagebrush, and basin big sagebrush. Sagebrush steppe communities in Utah have declined because of drought, changes in disturbance regimes, and the invasion of cheatgrass and other invasive plant species. Although present, cheatgrass is not a major problem within the TMA.
Oak/Mountain Shrub	207	Oak/mountain shrub occurs as a transition vegetation type between mid-elevation sagebrush and conifer vegetation types. It is found at moderately high elevations (7,000–8,500 feet), usually on north and east slopes that

[8] Source: BLM 2008c

		tend to be cooler and moister. It provides important biodiversity, wildlife habitat, and protective ground cover to the ecosystem.

Past, present, and reasonably foreseeable actions that may occur in the analysis area are shown in Section 3.3. These include vegetation management, livestock grazing and grazing management, utilities and realty, wildlife habitat management, recreation, and mineral developing including remediation of abandoned sites. All cumulative actions have the potential to crush, dust, or damage native vegetation, introduce or spread weeds that would compete with the native vegetation. Utility and mineral actions include surface disturbance which would remove native vegetation.

Environmental Effects Analysis

OHV-Closed designations have the highest likelihood of protecting native vegetation from habitat alteration caused by on- and off-route crushing of plants, soil compaction and introduction and spread of invasive weeds (e.g., passing or parking, particularly along primitive roads, which tend to be narrower than 50 feet), since travel along the route and in the vicinity would be unauthorized.

OHV-Open or OHV-Limited designations result in crushing or removing vegetation that may have grown in the road depending on the amount of traffic. Route designation implementation activities that may cause native vegetation loss and soil compaction include route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities that could reduce native vegetation crushing include sign placement directing OHVs to routes that are less disruptive to native vegetation.

Numbers of routes in the TMA's primary vegetation communities are used as indicators of potential OHV route designation effects (see Figure 2 – Figure 5). The nature of the effects will be the same across alternatives; however, the magnitude and location of the routes will vary. The magnitude can be assessed using Figure 2 – Figure 5. The location of the effects can be seen using Map 2 – Map 5.

Figure 2: Number of Evaluated Routes in Desert Shrub Communities

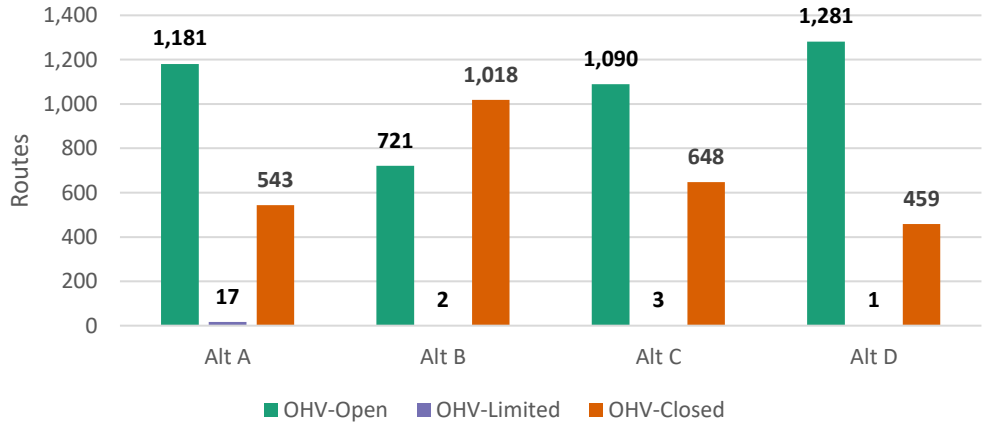


Figure 3: Number of Evaluated Routes in Pinyon-Juniper Communities

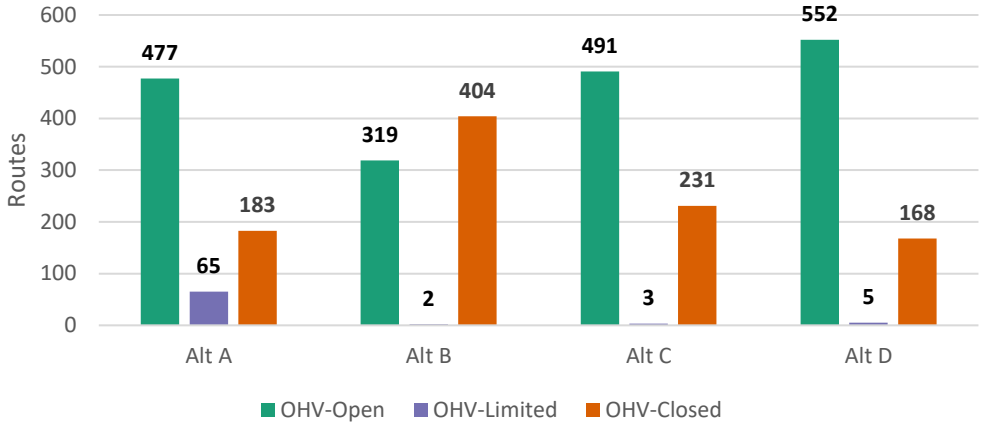


Figure 4: Number of Evaluated Routes in Sagebrush Communities

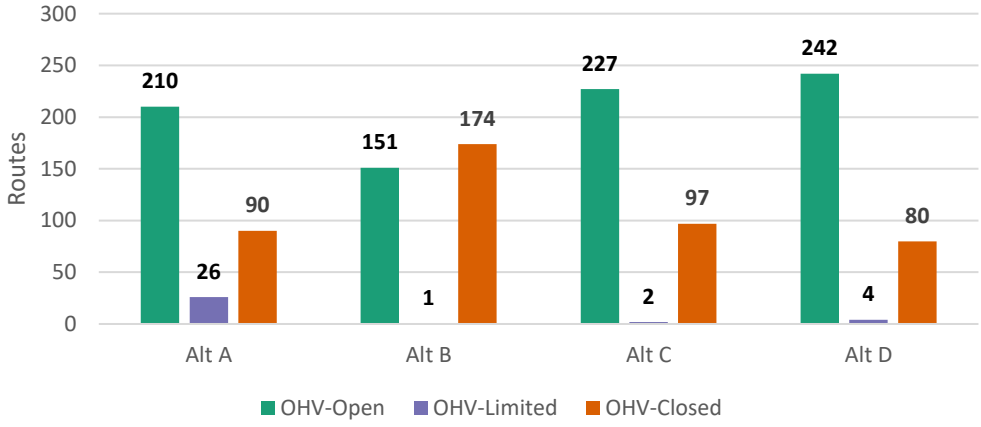
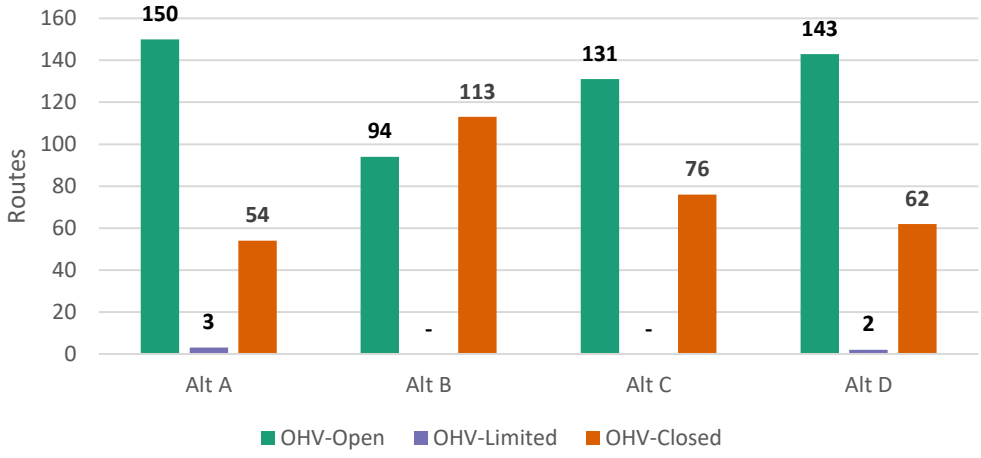


Figure 5: Number of Evaluated Routes in Oak/Mountain Shrub Communities



Alternative A (No Action)

Under Alternative A, there would be no route designation changes in the TMA. Of the evaluated routes in desert shrub vegetation communities, 69% (1,198 routes) would remain available for OHV use. In pinyon-juniper vegetation communities, 75% (542 routes) would remain available for OHV use. In sagebrush vegetation communities, 72% (236 routes) would remain available for OHV use. And in oak/mountain shrub vegetation communities, 74% (153 routes) would remain available for OHV use. Overall, in the TMA's primary vegetation communities Alternative A would extend the potential for OHV use-related effects such as crushing, soil compaction and diminishment of the soil's ability to support vegetation, dispersal of weed seeds, etc. Effects to native vegetation from ongoing OHV use (e.g., vegetation damage or loss, etc.) would reflect a continuation of current designations.

Alternative B

Alternative B would reduce numbers of evaluated routes designated for OHV use, including a 40% (475-route) reduction in desert shrub communities, a 41% (221-route) reduction in pinyon-juniper communities, a 36% (84-route) reduction in sagebrush communities, and a 39% (59-route) reduction in oak/mountain shrub communities. Under Alternative B, the same types of effects on native vegetation from OHV use noted above would be expected to occur on those routes designated OHV-Open or OHV-Limited; however, this alternative would have the overall lowest potential of any alternative for OHV-related effects on native vegetation.

Alternative C

Alternative C would reduce numbers of evaluated routes designated for OHV use, including a 9% (105-route) reduction in desert shrub communities, a 9% (48-route) reduction in pinyon-juniper communities, a 3% (7-route) reduction in sagebrush communities, and a 14% (22-route) reduction in oak/mountain shrub communities. Under Alternative C, the same types of effects on native vegetation from OHV use noted above would be expected to occur on those routes designated OHV-Open or OHV-Limited. Overall, this alternative would have higher potential than Alternative B but lower potential than Alternatives A and D for OHV-related effects on native vegetation.

Alternative D

In most of the TMA's primary vegetation communities, Alternative D would increase the numbers of evaluated routes designated for OHV use, including a 7% (84-route) increase in desert shrub communities, a 3% (15-route) increase in pinyon-juniper communities, and a 4% (10-route) increase in sagebrush communities. In oak/mountain shrub communities, Alternative D would reduce the numbers of evaluated routes designated for OHV use by 5% (8 routes). Under Alternative D, the same types of effects on native vegetation from OHV use noted above would be expected to occur on those routes designated OHV-Open or OHV-Limited. Overall, this alternative would have the highest potential of any alternative for OHV-related effects on native vegetation.

Cumulative Effects

Cumulative effects from past, present, and reasonably foreseeable projects and activities on native vegetation include soil compaction, vegetation removal, crushing, or dusting as described in the affected environment.

Under Alternative A, there would be no route designation changes in the TMA. Effects from ongoing OHV use would reflect a continuation of current conditions, with effects from OHV route and related use adding to other ongoing vegetation disturbances from other uses such as livestock grazing. Given the likelihood of increased recreation use and visitation regardless of alternative (see Section 3.3.5 and Leaver 2024) and incomplete implementation of the 2008 TMP, it is likely that accumulating effects on

native vegetation from the Alternative A route designations would occur commensurate with the increased use and visitation.

Under Alternatives B and C there would be a 36-41% and a 3-14% reduction in routes available for OHV use across the TMA's native vegetation communities respectively. OHV use-related cumulative effects on native vegetation would be correspondingly less commensurate with the reduced use for each of these alternatives, plus implementation of a formal operation and management plan (Appendix E) would also help in mitigating or reducing overall route designation use related effects, despite the projected increased visitation to the TMA noted in Section 3.3.5. Under Alternative D, there would be slight increases (3-7%) in OHV-available routes in three of the four native vegetation communities, and a slight decrease (5%) in the other vegetation community. These slight increases could result in a correspondingly slight increase in overall cumulative effects on native vegetation; however, like Alternatives B and C, application of a structured travel network operation and management plan would help to reduce overall route designation use-related effects.

3.4.3 SPECIAL STATUS PLANTS

Issue 3: How would the route designation alternatives affect Threatened and Endangered plant species and BLM Sensitive plants and their habitat within the TMA?

The analysis area for special status plants is the TMA because it is the unit which contains the special status plant species and habitats that could be potentially affected by the route designation alternatives. The temporal scope of analysis is 20 years (see Section 3.2).

Affected Environment

A list of plant species listed under the Endangered Species Act with potential to exist in the TMA was obtained from the U.S. Fish and Wildlife Service (USFWS). Each route was evaluated using known location data points from past BLM surveys, the most current Utah Natural Heritage Program Database, BYU herbarium records, and a compilation of locality information of listed species obtained from the SEINet Symbiota Support Hub (obtained 8/25/2023). Threatened, Endangered, and BLM Sensitive plant species which have the potential to occur in the TMA and their habitats are summarized in Table 12. Details on habitat, threats, and trends for the Threatened and Endangered (T&E) species listed below can be found in the table and in the "Special Status Species" section of the 2008 Richfield Proposed RMP/EIS (BLM 2008c, pages 3-49 – 3-69) and the 2008 Richfield RMP Biological Opinion (USFWS 2008a). Several threats have been identified to special status plants in the TMA. These include exotic species introduction and spread, cross-country OHV travel, and climate change.

Table 12: Threatened and Endangered Plant Species and Their Habitats

Species	Status	Habitat Information
Last Chance townsendia (*Townsendia aprica*)	Threatened	Last Chance townsendia was listed as threatened on August 21, 1985 (USFWS 1985). This species is endemic to Emery, Sevier and Wayne Counties and is found in the TMA on semi-barren soils within the pinyon-juniper thermal belt. Internal monitoring indicates that its population declines when the presence of other competing species increases. Population fluctuations regularly occur but are apparently the result of abiotic or environmental factors rather than human caused. For more details on habitat, threats, and trends, see Last Chance Townsendia Recovery Plan (USFWS 1993b), Last Chance Townsendia 5-Year Review, internal BLM monitoring report developed for San Rafael TMP (USFWS 2013, USFWS 2019a, BLM 2021c).

Species	Status	Habitat Information
Winkler cactus (*Pediocactus winkleri*)	Threatened	Winkler cactus was listed as threatened on August 20, 1998 (USFWS 1998). It is very closely related to San Rafael cactus (*Pediocactus despainii*). In this document, Winkler cactus is treated as the only listed *Pediocactus* species within the TMA, with an acknowledgement that future genetic work may change the taxonomy of these two closely allied species. It is known only from Wayne County and extreme southeastern Sevier County, and is endemic to specific, fine-textured soils derived from the Dakota and Morrison Formations in the lower Fremont River-Notom area, and from the Entrada, Morrison, and Summerville Formations in Capitol Reef National Park. For more details on habitat and threats, see the Winkler cactus (*Pediocactus winkleri*) and San Rafael cactus (*Pediocactus despainii*) Draft Recovery Plan (USFWS 2015).
Wright fishhook cactus (*Sclerocactus wrightiae*)	Endangered	Wright fishhook cactus was listed as endangered on October 11, 1979 (USFWS 1979). The species is endemic to Emery, Sevier and Wayne counties, Utah. It prefers shallow, poorly developed soils derived from many geologic substrates, including the Mancos, Carmel, Entrada, Curtis, Summerville, Dakota, and Morrison Formations. Long-term monitoring shows substantial fluctuations in population with the greatest declines attributed to the native cactus beetle (*Monielema semipunctata*), and increases coming in years of above-average precipitation. For more details on habitat, threats, and trends, see the Wright Fishhook Cactus (*Sclerocactus wrightiae* L. Benson) 5-Year Review: Summary and Evaluation (USFWS 2008b), the internal BLM monitoring report for the San Rafael TMP (BLM 2021c) and the NRCS plant guide on Wright fishhook cactus (NRCS 2011).
Barneby reed-mustard (*Schoenocrambe barnebyi*)	Endangered	Barneby reed-mustard is endemic to Wayne and Emery Counties and critical habitat has not been designated or proposed. One population exists within the TMA and adjacent Capitol Reef National Park growing on the Moenkopi formation in very steep and relatively inaccessible eroding slopes. For more details on habitat, threats, and trends, see Utah Reed-Mustards: Clay Reed-Mustard (*Schoenocrambe arigllaceae*) Barneby Reed-Mustard (*Schoenocrambe barnebyi*) Shrubby Reed-Mustard (*Schoenocrambe suffrutescens*) Recovery Plan (USFWS 1994) and Barneby Reed-Mustard (*Schoenocrambe barnebyi*) 5-Year Review (USFWS 2021a).
Jones cycladenia (*Cycladenia humilis var. jonesii*)	Threatened	Jones cycladenia occurs between 4,000 and 6,660 feet in elevation, typically on steep slopes, and is restricted to gypsum-rich, saline soils of the Wasatch, Cutler, Summerville, and Chinle formations. This distinctive species has not been found within the TMA. For details on habitat, threats, and trends see the Recovery Plan for Jones Cycladenia (USFWS 2021d).

Species	Status	Habitat Information
Ute ladies'-tresses (*Spiranthes diluvialis*)	Threatened	Ute ladies'-tresses habitat includes perennial streams, rivers, groundwater-fed meadows, or human-created wetland systems (Fertig et al. 2005). The species is known from Emery, Garfield, and Wayne counties, but not from the TMA (UNPS 2021, USFWS 2021c). For more details on habitat, threats, and trends, see Ute Ladies'-Tresses (*Spiranthes diluvialis*) Recovery Plan (USFWS 1995b) and Rangewide Status Review of Ute Ladies'-Tresses (*Spiranthes diluvialis*) (Fertig et al. 2005), and Species Status Assessment Report for Ute Ladies'-tresses (USFWS 2023).
Navajo sedge (*Carex specuicola*)	Threatened	Navajo sedge is not known to exist in the TMA, although several of the most likely springs/hanging gardens in the eastern portion of the TMA were searched in 2023 for its presence. Despite the name, Navajo sedge has not yet been documented from the Navajo Sandstone formation. It is however known from the Wingate, Kayenta, and Cedar Mesa formations in Utah. For more information relating to Navajo sedge see Recovery Plan for Carex Specuicola (*Navajo sedge*) as amended (USFWS 2019b).

Table 13: BLM Sensitive Plant Species and Their Habitats

Species	Habitat Information[9]
Big Flattops buckwheat (*Eriogonum smithii; E. corymbosum var. smithii*)	Big Flattops buckwheat is narrowly endemic to the semi-barren outcrops of Summerville formation along the shared boundary of Emery and Wayne counties east of Goblin Valley State Park. The species is a very distinctive local endemic.
Cronquist's buckwheat AKA Bull Mountain buckwheat (*Eriogonum corymbosum var. cronquistii*)	Cronquist's buckwheat is endemic to the Henry Mountains in Garfield and Wayne counties, growing with pinyon, rabbitbrush, mountain brush, and rock-spirea communities. It occurs on steep and usually treacherous talus slopes from 8,800–8,900 feet in elevation. All known occupied habitat is in WSAs of the Henry Mountains. This variety is a candidate for removal from the BLM sensitive species list due to its inaccessible habitat and lack of potential human-caused threats.
Entrada rushpink (*Lygodesmia entrada*)	This species occurs in deep sandy soils of mixed desert shrub communities at 4,400–4,800 feet in elevation in Emery and adjacent Wayne Counties. It was observed by BLM staff in 2023 to colonize low-use routes readily and abundantly within the sandy tracts derived from the Entrada formation east of Goblin Valley State Park. Its abundance is heavily dependent upon favorable moisture.
Rabbit Valley gilia (*Aliciella caespitosa*)	In the TMA, this long-lived and compact plant grows on relatively inaccessible crevices and talus derived from the Carmel, Navajo, and Wingate formations and on various aspects in the vicinity of Bicknell and Teasdale both north and south of the Fremont River. It is also found on adjacent USFS and NPS lands. It is not found within 150 feet of any routes of the TMA.

[9] Sources: NSE 2024, BLM 2008c, and UDWR 2024

Species	Habitat Information[9]
Pinnate spring-parsley (*Cymopterus beckii*)	In the TMA, it is found on steep Navajo Sandstone formation crevices and partially shaded areas near Grover and Teasdale, with the largest population known from near Lion's Head Mountain in the TMA. It is also found in Capitol Reef National Park and adjacent national forest lands. It is not within 150 feet of any routes in the TMA.
Hole-in-the-Rock prairie clover (*Dalea flavescens var. epica)*	On years of exceptional precipitation, this white-flowered species grows in sandy desert tracts between the Henry Mountains and Lake Powell. The taxonomy is problematic, as the length of the inflorescence is the distinguishing varietal characteristic and varies greatly, especially on years of abundant precipitation with larger plants. NatureServe does not recognize it at the varietal level.
Maguire's daisy (*Erigeron maguirei*)	This plant is found on Navajo and Coconino Sandstone outcrops in the San Rafael Swell and Capitol Reef National Park, but not found within 150 feet of routes within the TMA. This species was delisted and deemed recovered from the Endangered Species Act (ESA) by USFWS on January 19, 2011 (USFWS 2011b).
Jane's globemallow (*Sphaeralcea janeae*)	This plant is a notably long-lived globemallow of warm, salt, and mixed desert shrub communities on sandy and gravelly soils, associated with Entrada formation semi-barrens and on benches and roadsides from 4,000–4,600 feet in elevation. It is common on outcrops near Hanksville and east to Millard Benches and into Canyonlands National Park.
Psoralea globemallow (*Sphaeralcea psoraloides*)	This species is endemic to the Canyonlands section of Utah, mostly in Emery and Wayne Counties, and barely crossing the Green River into western Grand County. Commonly associated with desert shrub and pinyon-juniper communities on saline and gypsiferous soils at 4,000–6,300 feet in elevation. Often growing with other globemallow species along the margins of its range. Readily colonizes roadsides, even within infrequently county-maintained roads.
Utah spurge (*Euphorbia nephradenia*)	This nondescript annual species is a Colorado Plateau endemic that is known from extremely varied habitats ranging from gumbo clay barrens of the Tropic formation to sandy washes and stabilized dunes, growing in several desert shrub communities. It is only found on very wet years and is likely often overlooked because it is typically obscured by more showy annual species. It is known from Emery, Kane, Garfield, San Juan, and Wayne Counties and is known from the TMA.
Alpine or Rabbit Valley greenthread (*Thelesperma subnudum var. alpinum*)	This species is endemic to the Carmel Limestone and Navajo and Entrada sandstone formations in Wayne County, and lives at higher elevations of 6,890 to 9,000 feet. It is not known from near routes in the TMA. According to the 12/02/2023 edition of the Utah Division of Wildlife Resources Utah Species Field Guide, the taxonomy of this variety is problematic.

Environmental Effects Analysis

To determine the potential for each designation alternative to affect special status plants, evaluated routes were buffered by 150 feet to account for the extremes of potential direct (e.g. crushing and removal of plants and soil compaction) and indirect effects (e.g. dust accumulation on plants). These acreage within these route buffers are considered the Area of Impact (AOI) for each special status plant species. The 150-foot buffers model a possible but overestimated amount of potential disturbance to special status plants.

For example, most primitive roads and routes experience very little use and the frequency of off-route driving is relatively rare. Also, many of these routes are incised or have other physical barriers that limit the opportunities to leave the route. Even rarer are spurs up to 150 feet from these that lead to established dispersed campsites. Further, when the route evaluation database was populated for Threatened and Endangered plant species, specialist judgment was utilized to indicate whether the route was within or adjacent to habitat for each species. This methodology tends to overestimate potential impacts since many routes are only partially within or near habitat, yet the entire segment is counted.

Fugitive dust can be a concern to rare plants near travel routes, especially in calcareous, silt-dominated soils of the central and southern Uinta Basin where oilfield and heavy truck traffic is abundant (USFWS 2021b; Lewis et al. 2017). Dust impacts have not been documented as having an observable effect on individuals of Wright fishhook cactus within the TMA, nor does the TMA have appreciable calcareous, silty soils or the level of heavy oilfield traffic as that found in the Uinta Basin. A study was conducted within the TMA by an interagency botanist where dust was caked and glued on individuals of Wright fishhook cactus to mark and tag individuals in the event of poaching (Clark 2008). Clark reported that "dusted plants were in fine condition showing no effect from the dust material or glue used to attach the dust."

Minimization of cross-country travel through proper signage and appropriate route maintenance can help eliminate unnecessary route braiding and associated habitat degradation (see Appendix E). In general, travel routes open or limited to OHV use can contribute to risk of cross-country travel and exotic species introductions that can cause adverse effects to special status plant species.

Table 14 shows the difference in the magnitude of the acres (effects indicator) between the alternatives. The acres of potential habitat within 150 feet of routes designated OHV-Open or OHV-Limited under each alternative are displayed for each special status plant species. As explained above, the AOI for each plant species as calculated here likely overestimates the acres of potential habitat affected. To see the variation between alternatives in routes designated for OHV use, see the alternatives maps (Map 2 – Map 5). For a description of the Endangered Species Act Section 7 Consultation, see Section 4.2.

Table 14: Acres of Listed Plant Habitat Potentially Affected by OHV-Open or OHV-Limited Routes within the TMA and AOI for Each Species

Species	Conservation Status	Modeled Habitat Acres in TMA	Alternative A Potentially Affected AOI Acres	Alternative B Potentially Affected AOI Acres	Alternative C Potentially Affected AOI Acres	Alternative D Potentially Affected AOI Acres
Last Chance townsendia	Threatened	197,353	2,031	1,106	2,103	2,157
Winkler cactus	Threatened	186,568	2,421	1,767	2,440	2,533
Wright fishhook cactus	Endangered	208,822	9,196	6,468	8,725	9,701

Table 15: Acres of BLM Sensitive Plant Species Potentially Affected by OHV-Open or OHV-Limited Routes within the TMA and AOI for Each Species

Species	Conservation Status	AOI (Acres)	Alternative A Potentially Affected AOI Acres	Alternative B Potentially Affected AOI Acres	Alternative C Potentially Affected AOI Acres	Alternative D Potentially Affected AOI Acres
Big Flattop buckwheat	BLM Sensitive	48	48	29	48	48
Entrada rushpink	BLM Sensitive	15	15	0	0	0
Jane's globemallow	BLM Sensitive	1,852	1,586	912	1,339	1,428
Psoralea globemallow	BLM Sensitive	411	396	228	376	386

Alternative A (No Action)

Under Alternative A, the effects described previously on the acres quantified in Table 14 would continue to occur on those routes designated OHV-Open or OHV-Limited under the 2008 TMP.

Alternative B

Under Alternative B, some routes with known direct resource conflicts for T&E plant species would be closed. The Alternative B route designations would reduce potentially affected acres of all special status plant habitats compared to Alternative A. The effects described above would occur on routes designated OHV-Open or OHV-Limited, though at a reduced magnitude and on fewer routes than the current conditions. Alternative B would have lower potential than other alternatives for adverse effects from OHV use to habitat for each special status plant species in the TMA.

Alternative C

Under Alternative C, some routes with known direct resource conflicts for T&E plants would be closed. The Alternative C route designations would reduce potentially affected acres of most special status plant species compared to Alternative A. Exceptions to this would be slight increases in Last Chance townsendia AOI (+4%) and in Winkler cactus AOI (+1%), and no change in Big Flattop buckwheat AOI. Overall, the effects described above from the evaluated routes and related use and maintenance would continue to occur on those routes designated OHV-Open or OHV-Limited at a reduced magnitude and on fewer routes.

Alternative D

Under Alternative D, the route designation acreage with potential for adverse effects to T&E plants would increase compared to Alternative A. For BLM Sensitive plant species, Alternative D would reduce the potential effects in the AOI for Entrada rushpink (an elimination of potential effects), Jane's globemallow (-10%), and Psoralea globemallow (-3%). Alternative D would see no change in Big Flattop buckwheat AOI. The effects described above would occur on those routes designated OHV-Open or OHV-Limited. Overall, Alternative D would have higher potential than other alternatives for adverse effects from OHV use to habitat for special status plant species in the TMA.

Cumulative Effects

Cumulative effects from past, present, and reasonably foreseeable projects and activities on special status plants are described above. As noted in Section 3.3.5, the BLM anticipates motorized and non-motorized visitation and recreation in the TMA will increase over time commensurate with population growth regardless of which alternative is selected, as observed elsewhere in Utah (Leaver 2024).

Under Alternative A, effects from ongoing OHV use would reflect a continuation of current conditions, with effects from OHV routes and related use adding to effects from other ongoing disturbances such as grazing and trampling by livestock, mining and quarrying, competition from invasive noxious weeds, and climate change. Given the likelihood of increased recreation use and visitation, and TMP operation and management structure to address ongoing OHV use and related effects (e.g., route proliferation and social trails), it is likely that accumulating effects on special status plants from no action would occur commensurate with the increased use and visitation.

Because acreage associated with each travel route was used as the impact indicator, the level of cumulative effects on special status plants would be relative to each alternative's miles of OHV-Open, OHV-Limited, and OHV-Closed routes. The magnitude of an alternative's contribution to cumulative effects on special status plants would increase or decrease proportionate with its change in OHV-Open and OHV-Limited designations and related use. Implementation of formal operation and management (see Appendix E) would help to minimize or reduce OHV use effects on routes designated open or limited, despite the projected increased visitation and recreation in the TMA. Alternative B, because it would designate fewer routes open or limited for OHV use than other alternatives, would result in an incremental reduction in the cumulative level of effects on special status plants. Alternatives C and D would result in slight increases or decreases in accumulating effects on the TMA's special status plants proportionate with their increases or decreases in OHV-Open and OHV-Limited routes.

3.4.4 WILDLIFE: T&E WILDLIFE

Issue 4: How would the route designation alternatives impact Threatened and Endangered wildlife species and their habitats within the TMA?

The analysis area for threatened and endangered (T&E) wildlife is the entire TMA because it is the smallest unit which shows all impacts to T&E wildlife species and their habitats within the TMA. The temporal scope of analysis is 20 years (see Section 3.2).

Affected Environment

Table 16: Threatened and Endangered Wildlife Species and Their Habitats

Species	Status	Affected Environment
Birds		
California condor (*Gymnogyps californianus*)	**Experimental Population, Non-Essential. Not listed in IPaC report for TMA.** The USFWS established a non-essential experimental population of California condors in northern Arizona in 1996 (USFWS 1996). California condors from Arizona are known to forage and roost in Utah and are likely to nest in southern Utah.	There have been rare observations of California condors in the canyon sections of the Roost area within the TMA. To date, no known nesting or roosting sites occur within the Richfield Field Office. Zion National Park is the northern extent of known California condor nesting habitat. Therefore, no California condor surveys occurred and not carried forward for analysis.
Mexican spotted owl (*Strix occidentalis lucida*)	**Threatened. Listed in IPaC report for TMA.** The Mexican spotted owl (MSO) was listed as threatened on March 16, 1993 (USFWS 1993a). The initial Mexican Spotted Owl Recovery Plan (1995) partitioned the owl's habitat into eleven distinct recovery units, now called Ecological Management Units (USFWS 2012a). Encompassing the TMA is the	MSO have been observed within the TMA and surrounding area. Breeding habitat ranges from low to high potential near BLM routes. Call stations along these BLM routes were surveyed, along with PAC surveys which did not have call stations along BLM routes, except the Larry Canyon PAC. The Larry Canyon

	Colorado Plateau Ecological Management Unit. Within this unit, the species is primarily known to inhabit narrow, steep-walled, or hanging canyons where complex rocky terrain and favorable aspect substitute for the habitat elements found in old-growth forest utilized in other areas (Willey and Ward 2003). Within the rocky-canyon habitat, owls prefer to nest in caves and roost in caves or on rocky ledges. In Utah, no MSO nests have been observed in trees. While they nest and roost predominantly in the narrow, deeply incised sandstone canyons, they are known to forage farther afield in broader canyons and pinyon-juniper woodlands, both above and below the canyon rim, though research indicates that most of the time spent foraging occurs below the rim (USFWS 2012a). Since 2004 there is designated critical habitat (206,123 acres; 14% of BLM lands within TMA) for the species within the TMA and adjacent areas, refer to Map 2. MSO are the only species to have designated critical habitat within the Richfield Field Office. Additionally, suitable habitat which is non-critical habitat also occurs within the TMA and surrounding areas. MSO nests and priority activity centers (PACs) have seasonal and spatial buffers restricting ground disturbance activities from March 1st–August 31st and within 0.5 miles around occupied nests and PAC sites.	PAC has a closed route which is fenced off, but provides walking access to portions of the PAC.
Southwestern willow flycatcher (*Empidonax trailii extimus*)	**Endangered. Listed in IPaC report for TMA.** The Southwestern willow flycatcher (SWFL) is a small neotropical migratory bird that exclusively nests in dense tree and shrub riparian habitats. It was listed as endangered on February 27, 1995 (USFWS 1995a). It is known to nest in native willow species and in various exotic species in the southwest, such as tamarisk and Russian olive. In general, its distribution follows suitable riparian habitat within relatively small, isolated, widely dispersed locales. Breeding territories have been found primarily where surface water or saturated soil is present, and nests are usually less than 20 meters from water (Ellis et al. 2009). No critical habitat is designated within the TMA. The nearest critical habitat is approximately 55 miles from the TMA to the southeast on the San Juan River and approximately 65 miles from the TMA to the southwest on the Paria River.	SWFL have been observed once in the TMA, no nest site was found and the bird was considered to be a migrant. There is low to marginal potential breeding habitat within the TMA and the species may be present between May 15th – August 31st. Eleven polygon sites were surveyed.

Yellow-billed cuckoo (*Coccyzus americanus*)	**Threatened. Listed in IPaC report for TMA.** The Western Distinct Population Segment of the Yellow-billed cuckoo (YBCU) was listed as threatened on October 3, 2014 (USFWS 2014). Though their current distribution in Utah is poorly understood, they appear to be an extremely rare breeder in lowland riparian habitats statewide. Yellow-billed cuckoo is a riparian obligate species, usually found in large tracts of dense cottonwood/willow habitats. No designated critical habitat and no known populations exist within the TMA. The closest critical habitat is on the Green River approximately 2 miles from the northeast corner of the TMA.	YBCU have been observed twice in the TMA, no nest sites were found and the birds were considered to be migrants. There is low to marginal potential breeding habitat within the TMA and YBCU may be present between June 1st – August 31st. Four polygon sites were surveyed.
Fish		
Bonytail chub (*Gila elegans*)	**Endangered. Listed in IPaC report for TMA.** The bonytail was listed as endangered on April 23, 1980 (USFWS 1980). There are no currently self-sustaining populations of Bonytail in the upper Colorado River Basin. There is no designated critical habitat in the TMA. For more details on habitat, threats, and trends, see page viii of Bonytail (*Gila elegans*) Recovery Goals: Amendment and Supplement to the Bonytail Recovery Plan (USFWS 2002a).	Bonytail do not occur within the TMA, therefore no bonytail surveys occurred.
Colorado pikeminnow (*Ptychocheilus lucius*)	**Endangered. Listed in IPaC report for TMA.** The Colorado pikeminnow was federally listed as an endangered species in 1967 (USFWS 1967), before being fully protected by the Endangered Species Act (ESA) on January 4, 1974. There is no designated critical habitat in the TMA. For more details on habitat, threats, and trends, see page viii of Colorado Pikeminnow (*Ptychocheilus lucius*) Recovery Goals: Amendment and Supplement to the Colorado River Squawfish Recovery Plan (USFWS 2002b) and page 20 of Colorado Pikeminnow (*Ptychocheilus lucius*) 5-Year Review: Summary and Evaluation (USFWS 2011a).	Colorado pikeminnow do not occur within the TMA, therefore no Colorado pikeminnow surveys occurred.
Humpback chub (*Gila cypha*)	**Threatened. Listed in IPaC report for TMA.** The humpback chub is a federally listed fish that on January 22, 2020, was downlisted to threatened (USFWS 2020b). There is no designated critical habitat in the TMA. For more details on habitat, threats, and trends, see Humpback Chub 2nd Revised Recovery Plan (USFWS 1990).	Humpback chub do not occur in the TMA, therefore no humpback chub surveys occurred.
Razorback sucker (*Xyrauchen texanus*)	**Endangered. Listed in IPaC report for TMA.** The razorback sucker was designated as endangered on October 23, 1991 (USFWS 1991). There is no designated critical habitat in the TMA. For more details on habitat, threats,	Razorback sucker do not occur in the TMA, therefore no razorback sucker surveys occurred.

	and trends see the Species Status Assessment for the Razorback Sucker *Xyrauchen texanus* (USFWS 2018).	
Invertebrates		
Monarch butterfly (*Danaus Plexippus*)	**Candidate. Listed in IPaC report for TMA.** Monarchs rely on milkweed for their reproductive success. There are two distinct populations of monarchs in the United States that are split geographically by the Rocky Mountains and have variation in reproductive behavior, wing morphology, flight performance, and disease/parasite resistance (USFWS 2020a). Besides the presence of milkweed for reproduction, the habitat needs of the monarch butterfly are somewhat ambiguous. Monarchs in the western U.S. tend to be associated with rivers and other riparian habitat (Jepsen et al. 2015), which may be especially true in the TMA as vegetation tends to be sparse in the drier areas.	Monarch butterfly breeding habitat are not known to occur on BLM lands within the TMA. The majority of milkweed habitat is found within CRNP and on private land along Utah State Route 24 in the Torrey, UT area. Therefore, no monarch butterfly surveys occurred.
Mammals		
Utah prairie dog (*Cynomys parvidens*)	**Threatened. Listed in IPaC report for TMA.** Utah prairie dog was listed as threatened on May 29, 1984 (USFWS 1984). The species occurs in semiarid shrub-steppe and grassland habitats. They require well-drained soils, as burrows must be deep enough to protect from predators, and environmental and temperature extremes. For more on habitat, threats, and trends, see Utah Prairie Dog (*Cynomys parvidens*) Revised Recovery Plan (USFWS 2012b). Utah prairie dogs are endemic to Utah, found in the southwestern part of the state.	Utah prairie dogs do not occur on Richfield Field Office-administered lands within the TMA; therefore, no Utah prairie dog surveys occurred.

Methodology and Survey Results

Potential breeding habitat for Mexican spotted owl (MSO), Southwestern willow flycatcher (SWFL), and Yellow-billed cuckoo (YBCU) were determined using GIS data from various sources including USFWS modeled habitat and designated critical habitat using a 0.5-mile buffer along routes. For more information on the methodology of choosing potential breeding habitat for T&E wildlife surveys, see Appendix F in the Henry Mountains and Fremont Gorge Travel Management Plan Biological Assessment (2024).

California condors have been observed in the area, but they are rare and there have been no nesting attempts in the region (Tim Hauck, Condor Reintroduction Program Director, personal communication, April 18, 2022). Therefore, no surveys for California condor occurred.

Presence/absence surveys for three T&E wildlife species were conducted within the TMA in areas ranging from moderate to high breeding habitat suitability for MSO, SWFL, and YBCU. In 2023, surveys for MSO totaled 138 call stations along BLM routes were completed. An additional 85 call stations along BLM routes for MSO were completed in 2024. The two years of surveys, totaling 222 call stations, are considered the 1st round of MSO surveys. A 2nd round of surveys, revisiting all 222 call stations, will be completed between 2025 and 2029, since the USFWS MSO protocol (USFWS 2012a) requires 2 years of surveys. Due to the large TMA area and the amount of potential MSO breeding habitat, the BLM was not able to complete the two years of surveys before completion of the EA. The USFWS was consulted on the

BLM's survey plan and agreed that the 2nd round ("2nd year") of surveys would be completed within 5 years of completion of the 1st round ("1st year").

No MSO have been observed at the 222 call stations during 2023 and 2024. In 2023 and 2024, MSO PACs were surveyed separately from BLM routes. Due to USFWS concerns, any BLM route surveys near PAC sites were not completed, to reduce stress of any MSO present within the PACs. Thus, 34 MSO call stations along BLM routes were not surveyed. Therefore, the only call stations along BLM routes that will have MSO observations associated with them are the call stations near MSO PAC sites. In 2023, 5 of the 7 PAC sites (French Spring Canyon, Larry Canyon, Sam's Mesa Box Canyon, Stair Canyon, and Twin Corral Box Canyon) occupied with MSO. Not all PAC sites have call stations nearby, but of those that do, 29 call stations were considered to have MSO observations in 2023. While in 2024, 4 of the 7 PAC sites (French Spring Canyon, Larry Canyon, Sam's Mesa Box Canyon, and Twin Corral Box Canyon) occupied with MSO, resulting in 28 call stations considered to have MSO observations.

Presence/absence surveys for SWFL were conducted within the TMA in areas ranging from low to moderate potential breeding habitat. Eleven potential breeding habitat areas were surveyed. None of the potential breeding habitat for SWFL is high quality and is one reason for the low number of observations for SWFL within the TMA. The other is the uncertainty that the willow flycatchers observed in the TMA are actually the *extimus* sub-species. Most willow flycatchers are observed in May and are considered non-*extimus* sub-species or are migrants which do not breed within the TMA (Adam Petry, Western Biology consultant, personal communication). No SWFL were observed within the 11 potential breeding habitat areas. Additionally, several raptors were observed within the survey areas along the Fremont River, Sandy Creek, and at Starr Campground and Woodruff Spring, including active great horned owl roost, long-eared owl nest, 2 western screech owl nests, and 5 Cooper's hawk nests. Presence of predators may reduce the chance of SWFL utilizing potential breeding habitat in the TMA.

Presence/absence surveys for YBCU were conducted within the TMA in areas ranging from low to marginal potential breeding habitat. Four potential breeding habitat areas were surveyed. YBCU potential breeding habitat is marginal within the TMA. The occasional YBCU that have been observed within the TMA are considered to be migrants. No YBCU were observed in the 4 potential breeding habitat areas.

Environmental Effects Analysis

Mexican spotted owl

In Utah, MSO habitat is found within steep, rocky canyons composed of prominent vertical cliffs, complex tributary canyons, and a variety of vegetation communities (Rinkevich and Gutiérrez 1996, Willey 1998, Lewis 2014, Willey and van Riper 2015). Within this canyon habitat MSO roost within cliff caves, on cliff ledges, and within trees, while nesting habitat occurs within cliff caves and on cave ledges (Willey 1998, USWFS 2012a). Within the TMA, there are 206,123 acres of BLM lands designated as critical habitat for MSO; this is the only designated habitat within the TMA and greater Richfield Field Office. Not all designated critical habitat supports breeding habitat, but within and outside designated habitat, 84,867 acres of known and potential breeding habitat occurs in the TMA along BLM routes.

Surveys for MSO have occurred in areas within the TMA since 1991. Resulting in MSO activity concentrated within the Richfield Field Office's seven PACs, which are within the TMA. Four of the PAC's are within MSO designated critical habitat: Burro Seep Canyon, French Spring Canyon, Sam's Mesa Box Canyon, and Twin Corral Box Canyon. Three of the PAC's are outside MSO designated critical habitat: Larry Canyon, Marinus Canyon, and Stair Canyon. These PACs are the only canyon areas where MSO pairs (1 female and 1 male) have been observed and are assumed to be breeding.

A study of northern spotted owls found a significant negative effect to adult reproductive success (number of young fledged) associated with the noise level of roads (Hayward et al. 2011). While road proximity (range: .06 - .5 miles) alone showed no association with the number of young fledged, once proximity and

noise levels exceeding a tolerable threshold level by the owls were analyzed together, proximity to road noise significantly affected reproductive success (Hayward et al. 2011).

Table 17: Alternative Route Designations Within Suitable and Potential MSO Breeding Habitat.

T&E Species	Route Designation	Alternative A: Mileage and Affected Habitats			Alternative B: Mileage and Affected Habitats		
		Routes (Miles)	Suitable Habitat [1] (Acres)	Potential Habitat [2] (Acres)	Routes (Ailes)	Suitable Habitat (Acres)	Potential Habitat (Acres)
MSO	Open[3]	168	1,557	43,026	95	693	28,092
MSO	Limited[4]	1	0	270	0	0	0
T&E Species	**Route Designation**	**Alternative C: Mileage and Affected Habitats**			**Alternative D: Mileage and Affected Habitats**		
		Routes (Miles)	**Suitable Habitat [1] (Acres)**	**Potential Habitat [2] (Acres)**	**Routes (Miles)**	**Suitable Habitat (Acres)**	**Potential Habitat (Acres)**
MSO	Open[3]	158	1,581	42,424	165	1,700	43,030
MSO	Limited[4]	1	0	270	1	0	270

[1]Suitable breeding habitat: all MSO PAC habitat in TMA, [2] Potential breeding habitat: all non-MSO PAC habitat in TMA, [3] "Open" includes any routes designated as "Limited" due to size restrictions, [4] "Limited" due to seasonal road closure from November 1 – May 15.

There are 1,557 acres (area calculated from routes with a 0.5 mile buffer overlapping PAC areas) of suitable MSO breeding habitat (represented by the 7 MSO PACs) affected by open routes in Alternative A. Alternative B would have 864 fewer acres of suitable breeding habitat affected compared to Alternative A. Alternative C would have a slight increase of 24 acres affecting suitable breeding habitat compared to Alternative A. Alternative D would affect the most acres of suitable breeding habitat, with an increase of 143 acres compared to Alternative A. However, there are no open/limited routes within canyon habitat; all routes "affecting" suitable breeding habitat are above canyon rims. Breeding sites for MSO are near canyon floors where cooler microclimate sites occur at the base of canyon cliffs (USFWS 2012a) and decibel levels from BLM routes are reduced or nonexistent. As the northern spotted owl study above indicates, both proximity to roads and noise are needed to reduce reproductive success. Due to no OHV routes within suitable breeding habitat and the attenuation of noise from routes above the canyon rims, there is no evidence to suggest that OHV use adversely affects MSO reproductive success for the PACs within the TMA. Surveys for MSO have consistently found MSO in the PACs. Since 2019, occupation of MSO in Richfield Field Office PACs has increased as OHV use has increased (1 MSO in 2019, 3 MSO in 2020, 9 MSO in 2023 and 8 MSO in 2024), again suggesting that suitable MSO breeding habitat within the TMA has not been adversely affected by OHV use.

Per the Mexican Spotted Owl Recovery Plan, Appendix C– Management Recommendations, for OHV guidelines disturbances should be limited to ≤2 disturbances per hour (averaged over a 24-hour period) within line of sight of nest/roost sites (USFWS 2012a). Since BLM routes are on the canyon rims and not along the canyon floor at PACs, OHV disturbance is not within line of sight of nest/roost sites, which are near canyon floors. Any routes that fall within PAC boundaries can be signed in order to designate zones free from public use during crucial periods, such as the seasonal buffer for MSO occurring March 1 – August 31.

For potential MSO breeding habitat (all potential habitat outside of MSO PACs) within the TMA, a few MSO have been observed in canyons, though occupation of the canyon was not determined with multiple visits. These canyons are Butler, Beaver Wash, and an unnamed canyon of the Waterpocket Fold on BLM

lands with no routes within the canyon habitat. No other potential breeding habitat has had MSO observations when surveyed. Open and limited (seasonally) routes in Alternative A affect 43,296 acres of potential breeding habitat. In Alternative B, a reduction of 15,204 acres affecting potential breeding habitat would occur. Alternative C would reduce the effect on potential breeding habitat by 602 acres. Alternative D would have a very light reduction in affected acres on potential breeding habitat, with 4 acres less than Alternative A. The potential breeding habitat within the TMA varies from primarily low to occasionally high potential. The fact that no MSO have been found in potential breeding habitat near BLM routes indicates the habitat is likely not ideal for MSO.

County R.S. 2477 and B roads, which receive regular maintenance, affects both suitable and potential breeding habitat areas. County R.S. 2477 routes affect 3 of 7 PACs, while County B routes affect 5 of 7 PACs. County R.S. 2477 roads account for 97 miles of routes surveyed for MSO, while County B roads account for 76 miles of routes surveyed for MSO; and 71 miles of routes surveyed for MSO have both County B and R.S. 2477 designations. These county designations affect BLM routes, increasing the impacts from OHVs that are not regulated by the BLM.

Alternative A

Under Alternative A, the effects on MSO described above would continue to occur on those routes designated as Open and Limited.

Alternative B

Alternative B will have an additional 73 miles of routes within potential MSO breeding habitat designated as OHV-Closed. This includes 12 miles within canyon habitat and 12 miles near MSO PACs. These additional route closures would further reduce the likelihood of MSO collisions with OHVs, especially in routes within canyon habitat along canyon floors. Collisions are less likely to occur along routes above canyon rims since MSO primarily stay within canyons. Most OHV use occurs during the day and not at night when MSO are active, reducing decibel levels from OHVs, which could deter MSO from utilizing breeding habitat, especially along routes within canyon habitat. BLM routes may affect MSO in potential breeding habitat especially where routes run along canyon floors, but within suitable MSO breeding habitat (PACs) BLM routes are not expected to adversely impact MSO. As mentioned above MSO have only been found in PACs and nearby canyons, none of which have roads within canyon habitat.

Alternative C

Alternative C has an additional 10 miles of routes designated as OHV-Closed, >1 mile of which was in canyon habitat. South of the Sam's Mesa Box Canyon PAC, 8 miles of routes would be designated as Open, including 1 mile of routes within 0.5 miles of the PAC boundary. There would also be an additional 10 miles designated as Open in potential MSO breeding habitat which were previously designated as closed and limited. These changes in route designation are not expected to affect MSO in suitable breeding habitat, as explained in the 4th paragraph of Environmental Effects Analysis section, above. Increased designations of open routes are expected to have negligible effects on potential MSO breeding habitat, including MSO foraging habitat south of Sam's Mesa Box Canyon PAC considering the low amount of OHV traffic on the mesa and for other reasons explained in Alternative B, above.

Alternative D

Alternative D would have an additional 3 miles of routes designated as OHV-Closed and 17 miles would be designated as Open within potential MSO breeding habitat. Little would change for routes within canyon habitat: 1 mile of routes would be designated as Open, while 1 mile of routes would be designated as OHV-Closed. This alternative has the most open routes in potential MSO breeding habitat mostly from redesignating limited routes to open routes. South of the Sam's Mesa Box Canyon PAC, 12 miles of routes would be designated as Open, including 2 miles of routes within 0.5 miles of the PAC boundary.

These changes in route designation will have negligible effects on suitable MSO breeding habitat, as explained in the 4th paragraph of Environmental Effects Analysis section and Alternative B, above.

Southwestern willow flycatcher

SWFL breeding habitat occurs in riparian habitat with vegetation characteristics generally consisting of dense tree or shrub cover that is ≥ 3 m tall, which may include higher levels of overstory (Allison et al. 2003), in both native and/or exotic vegetation communities (USFWS 2002c). Areas with potential SWFL breeding habitat are very small within the TMA. Currently 180 acres of potential SWFL breeding habitat exists, none of which is high quality breeding habitat. Three of the surveyed areas have habitat scores ranging from 71.1 – 76.2 providing decent habitat. Eight of the surveyed areas have habitat scores ranging from 38.5 – 61.7 providing poor to marginal habitat. Lack of density within tree/shrub cover, often below 3 m height, resulted in poor to marginal habitat at these locations, based on the survey contractors' comments. Nine of 11 patch sizes were < 10.5 acres, which is another reason for poor potential breeding habitat.

Table 18: Alternative Route Designations Within Potential SWFL Breeding Habitat.

T&E Species	Route Designation[1]	Alternative A: Mileage and Affected Habitat		Alternative B: Mileage and Affected Habitats	
		Routes (Miles)	Potential Habitat (Acres)	Routes (Miles)	Potential Habitat (Acres)
SWFL	Open	28	180	19	125
T&E Species	**Route Designation[1]**	**Alternative C: Mileage and Affected Habitat**		**Alternative D: Mileage and Affected Habitats**	
		Routes (Miles)	**Potential Habitat (Acres)**	**Routes (Miles)**	**Potential Habitat (Acres)**
SWFL	Open	29	134	29	134

[1] No "Limited" routes occur in potential SWFL breeding habitat.

Open routes in Alternative A affect 180 acres of potential breeding habitat. Alternative B reduces the effect on potential breeding habitat by 55 acres, while both Alternatives C and D reduce the effect on potential breeding habitat by 46 acres. Open routes across all Alternatives within the TMA have the potential for low negative impacts on potential SWFL breeding habitat. Due to BLM route conditions near these habitats, OHVs drive at reduced speeds. Reduced speeds occur from sinuosity of roads, decelerating at stream crossings, and in some cases rare to no road maintenance, causing OHVs to drive slower, reducing chances of wildlife collisions. Reduced acceleration leads to lower decibel levels which may potentially affect any SWFL utilizing adjacent habitat.

Several of the SWFL potential breeding habitats within the TMA are also proximate to Utah State Routes 12 and 24, with both Fremont Gorge sites within the State Route 12 right-of-way. Proximity to Utah State Routes increases the likelihood of collisions with SWFL, while also increasing decibel levels from vehicle traffic which may negatively affect species trying to breed nearby, though high traffic and high noise levels do not seem to deter SWFL from breeding, as seen in downtown St. George, Utah where active breeding habitat is within 100 feet of E. Riverside Dr with 4 lanes of heavy traffic (seen on USFWS SWFL training in May 2022).

County R.S. 2477 and B roads, which receive regular maintenance, affect 9 of 11 SWFL areas with potential breeding habitat. County R.S. 2477 roads account for 17 miles of routes surveyed for SWFL, while County B roads account for 14 miles of routes surveyed for SWFL; 12 miles of routes surveyed for SWFL having both County B and R.S. 2477 designations. These county designations affect BLM routes, increasing the impacts from OHVs that are not regulated by the BLM.

Alternative A

Under Alternative A, the effects on SWFL described above would continue to occur on those routes designated as Open and Limited.

Alternative B

Alternative B would designate as closed an additional 9 miles of routes near potential SWFL breeding habitat. The routes designated as closed in SWFL habitat consist primarily of short spurs or routes which are poorly maintained, providing slight improvements to those potential breeding habitats. Since these habitats are in riparian areas, closures will stimulate recolonization of riparian vegetation, if the route was the primary cause for reductions in riparian vegetation.

Alternative C

Alternative C would add 4 miles of designated routes as Open, while routes designated as closed would be reduced by 1 mile within potential SWFL breeding habitat. Alternative C would have similar environmental effects as Alternative A for potential SWFL breeding habitat.

Alternative D

There would be no change in route mileage for designations between Alternatives C and D for potential SWFL breeding habitat, therefore the environmental effects for both alternatives are the same.

Yellow-billed cuckoo

YBCU breeding habitat occurs along riparian areas with vegetation that is predominantly multi-layered, with riparian canopy trees and at least one layer of shrubby understory, in both native and/or exotic vegetation communities with an extant of ≥ 12 acres (USFWS 2017). Currently 108 acres of potential YBCU breeding habitat exists, all of which has low to marginal quality breeding habitat. Three of the surveyed areas have a habitat score of 58.4 providing marginal habitat. While the 4th area has a poor habitat score of 47.8. Lack of density within the understory tree/shrub cover resulted in poor to marginal habitat at these locations, based on the survey contractors' comments. All patch sizes were small, which is another reason for poor potential breeding habitat.

Table 19: Alternative Route Designations Within Potential YBCU Breeding Habitat.

T&E Species	Route Designation[1]	Alternative A: Mileage and Affected Habitat		Alternative B: Mileage and Affected Habitats	
		Routes (Miles)	Potential Habitat (Acres)	Routes (Miles)	Potential Habitat (Acres)
YBCU	Open	9	108	7	108
T&E Species	**Route Designation[1]**	**Alternative C: Mileage and Affected Habitat**		**Alternative D: Mileage and Affected Habitats**	
		Routes (Miles)	**Potential Habitat (Acres)**	**Routes (Miles)**	**Potential Habitat (Acres)**
YBCU	Open	9	108	9	108

[1] No "Limited" routes occur in potential YBCU breeding habitat.

There is no difference between the effect open routes have on potential YBCU breeding habitat across all Alternatives. All Alternatives affect 108 acres of potential low to marginal YBCU breeding habitat. Open routes across all Alternatives within the TMA have the potential for low negative impacts on potential YBCU breeding habitat. Due to BLM route conditions near these habitats, OHVs drive at reduced speeds. Reduced speeds occur from sinuosity of roads, decelerating at stream crossings, and in some cases rare to

no road maintenance, causing OHVs to drive slower, reducing chances of wildlife collisions. Reduced acceleration leads to lower decibel levels which may potentially affect any YBCU utilizing adjacent habitat. Three of the four potential YBCU breeding habitats within the TMA are proximate to Utah State Route 24. Reduced acceleration leads to lower decibel levels which may potentially affect any YBCU utilizing adjacent habitat. Increased decibel levels from vehicle traffic along Utah State Route 24 is more likely to occur than from traffic along BLM routes.

County R.S. 2477 and B roads, which receive regular maintenance, affect all 4 YBCU areas with potential breeding habitat. County R.S. 2477 roads account for 6 miles of routes surveyed for YBCU, while County B roads account for 5 miles of routes surveyed for YBCU; 4 miles of routes surveyed for YBCU having both County B and R.S. 2477 designations. These county designations affect BLM routes, increasing the impacts from OHVs that are not regulated by the BLM.

Alternative A

Under Alternative A, the effects on YBCU described above would continue to occur on those routes designated as Open and Limited.

Alternative B

Alternative B would also close an additional 3 miles of routes near potential YBCU breeding habitat. The routes being closed in YBCU habitat consist primarily of short spurs or routes which are poorly maintained, providing slight improvements to those potential breeding habitats. Since these habitats are in riparian areas, closures will stimulate recolonization of riparian vegetation, if the route was the primary cause for reductions in riparian vegetation.

Alternative C

Alternative C would add 4 miles of designated routes as OHV-Open, while routes designated as OHV-Closed would be reduced by 1 mile within potential YBCU breeding habitat. Alternative C would have similar environmental effects as Alternative A for potential YBCU breeding habitat.

Alternative D

There would be no change in route mileage of designations between Alternatives C and D for potential YBCU breeding habitat, therefore the environmental effects for both alternatives are the same.

Bonytail chub, Colorado pikeminnow, Humpback Chub, and Razorback Sucker

Refer to Section 3.4.6 “Water Resources,” which describes the effects BLM routes have on sediment loads and contaminants in water ways across all Alternatives. While increased sediment and contaminants affect fish species within Muddy Creek, Fremont River, and Dirty Devil River, these sediments and contaminants are negligible compared to the sediments and contaminants which enter the greater Colorado River drainage from large river systems such as the Green River. Due to the low probability of bonytail chub, Colorado pikeminnow, humpback chub, and razorback sucker inhabiting the Dirty Devil River within BLM lands, sediments and contaminants produced by BLM routes within the TMA, are not considered to have negative impacts on the four Colorado River T&E species. Additionally, designation of a travel network would not cause water depletion, reducing hydrologic habitat in the Upper Colorado River watershed.

Cumulative Impacts

Cumulative effects from past, present, and reasonably foreseeable projects and activities on T&E wildlife species are described in this section. The BLM anticipates motorized and non-motorized visitation and recreation in the TMA will increase over time as populations continue to grow. With the implementation of a travel plan, the 2008 RMP closed 1,418,453 acres (98%) of the TMA to cross country travel,

restricting the remaining 32,920 acres[10] to designated routes and three OHV-open areas; wildlife species have benefited by having vehicle traffic confined to those designated routes and open areas.

Livestock grazing occurring throughout the TMA has minor impacts on suitable and potential MSO breeding habitat due to the low utilization of canyon habitat compared to more accessible grazing areas. The Robber's Roost Allotment has occasional livestock grazing in a couple of canyons that are accessible to livestock. The allotment also has feral cattle (estimated 30-50 head) and the Canyonlands Herd Management Area (HMA) managed for wild burros which are known to use canyon habitat more frequently than managed livestock. Plans for removing the feral cattle are being discussed for the upcoming Robber's Roost Allotment's permit renewal. A ten-year plan for gathering wild burros off the HMA began in early 2024 (46 were removed of an estimated 160 head) with plans to continue burro gathers to reach the recommended low Appropriate Management Level (AML) of 60 burros (2008 RMP).

Livestock grazing is more likely to affect potential SWFL and YBCU breeding habitat where grazing occurs along Sandy Creek and the Fremont River. Livestock utilization can result in a proliferation of trails and vegetation removal which has negative impacts on riparian habitat.

Non-motorized recreation, primarily canyoneering, can have negative impacts on potential MSO breeding habitat. A study of MSO found that owls exposed to hikers sometimes flushed and spent more time vocalizing and less time handling prey and performing maintenance activities than owls not exposed to hikers (Swarthout and Steidl 2001, 2003). The researchers concluded that cumulative disturbance caused by recreational hiking near nests potentially could be detrimental to owls, but likely only where owls occupied canyons receiving use by greater than or equal to 50 hikers per day (Swarthout and Steidl 2003). The 2008 RMP (REC-1) restricts camping 0.5 miles from PAC boundaries. Within the Dirty Devil/Robber's Roost Special Recreation Management Area (SRMA) (refer to Map 14 of the 2008 RMP) 5 of the MSO PACs follow additional restrictions. SRP groups are allowed to hike within the PACs, with group size limited to 12 people and only 1 group within a canyon at any time. These group restrictions apply to all canyons within the Dirty Devil/Robber's Roost SRMA for all activities. Currently, recreation activities such as hiking and canyoneering are not known to affect regional or range-wide MSO populations (USFWS 2012a).

Non-motorized recreation is not expected to negatively impact potential SWFL and YBCU breeding habitat due to the low amounts of non-motorized recreation in those areas.

Cumulative effects to water resources, impacting Colorado River fish species, occur as a result of a variety of factors as described in the section below. Effects to water quality and riparian areas is well documented in the integrated report (UDEQ 2024) and BLM functioning condition assessments. Land uses such as livestock grazing, mining, and agriculture have a demonstrated effect on water quality conditions within the TMA. Livestock can affect hydrology and water quality directly through physical effects to streams and by increasing bacteria and nutrient levels. They can also degrade water quality indirectly by decreasing soil stability resulting in elevated sediment deposition in streams (Belsky et al. 1999). Agricultural uses affect water quality by depleting large amounts of water resulting in concentrated effects in natural channels. Agricultural return flow can also carry contaminants. Mining operations affect water quality by diverting water for operations, and disturbing land surfaces.

[10] Acres calculated by buffering Notom Road right-of-way to 110 ft on both sides, buffering the remaining routes by 60 ft on both sides, removing the overlap of the two buffered areas, and finally clipping those buffered areas to BLM lands.

3.4.5 SOILS

Issue 5: How would the route designation alternatives affect soils with high or moderate erosion potential and high or moderate biological soil crust potential in the TMA?

The analysis area for soils is the TMA because the alternative route designations are bounded inside the area, and OHV use and route maintenance would be the impact-driving element for soil effects. The temporal scope of analysis is 20 years (see Section 3.2). Effects to soils can have indirect effects to vegetation. Potential effects to native vegetation are analyzed in detail in Section 3.4.2 and potential effects to special status plants are analyzed in detail in Section 3.4.3. Soil disturbance and erosion can create an environment susceptible to the introduction and spread of noxious and invasive weed species. Potential effects to noxious and invasive weeds are analyzed in brief under Appendix A (see AIB-10). Soils are a contributing factor to producing dust which is analyzed in Air Quality (see AIB-1, Appendix A).

The Natural Resources Conservation Service (NRCS) Web Soil Survey was used to identify soils in the analysis area with high or moderate erosion potential (NRCS 2024). During route evaluations, the BLM used multiple geospatial datasets (such as geology and vegetation types) to identify which routes had high or moderate erosion potential. The original NRCS dataset used in the analysis was from 2015. However, the BLM checked this data against the current data in Web Soil Survey on June 20th, 2024, and the information in the route reports was verified to be accurate.

Since there are no biological soil surveys identifying the presence of cryptobiotic soils within the TMA, BLM used NRCS soil type data (NRCS 2024) in combination with the Ecological Site Descriptions (ESDs) associated with those soil types to identify areas in the TMA likely to have cryptobiotic soils. BLM identified the ESDs that intersected routes in the TMA and the estimation of percent ground cover attributed to cryptobiotic soils identified within the corresponding ESD to estimate the potential for cryptobiotic soils along each route. BLM used GIS to divide the estimations of cryptobiotic soil cover into not present, low, moderate, and high potential along natural breaks within the data. BLM's analysis assumes an overestimation of cryptobiotic crust potential within the TMA.

Affected Environment

Soils in the TMA range in type and texture from sandy soils in the northeast on Robber's Roost to rock outcrops throughout the area (NRCS 2024). In the TMA, 830 miles (36%) of evaluated routes cross areas with high erosion potential and 941 miles (41%) cross areas with moderate erosion potential (see Figure 6 and Figure 7).

84 miles (4%) of evaluated routes cross areas estimated to have high cryptobiotic soil potential and 294 miles (13%) of evaluated routes cross areas estimated to have moderate cryptobiotic soil potential (see Figure 8 and Figure 9).

Cryptobiotic soils, also known as biological soil crusts (Belnap et al. 2001), can play important roles in maintaining soil and ecosystem health and are present in some of the analysis area. In desert soils, physical soil crusts bind soil particles together reducing the potential of erosion.

Currently occurring actions that contribute to cumulative effects in the analysis area are described in Section 3.3:

- OHV use of routes results in compaction, rutting, dust, and potential erosion
- Livestock grazing results in soil trampling, compaction, and potential erosion
- Surface disturbance for utility and water developments, recreation, and mineral development result in compaction, rutting and potential erosion

Environmental Effects Analysis

Compaction from OHV use increases soil bulk density and decreases porosity (Ouren et al. 2007). Loss of porosity diminishes soils' ability to support vegetation by inhibiting root access to nutrients and water and reduces the infiltration and availability of water. Ouren et al. concludes, "As vegetative cover, water infiltration, and soil-stabilizing crusts are diminished or disrupted, the precipitation runoff rates increase, further accelerating rates of soil erosion" (2007). This increases potential erosion and sediment transport into water bodies and riparian areas. Particularly on slopes, OHV use can accelerate water erosion by decreasing infiltration rates, loosening surfaces, and channeling run-off (Brooks and Lair 2005). These types of effects are concentrated adjacent to low-traffic, rarely maintained or unmaintained routes which are usually narrow. Routes currently experiencing low use, such as two-tracks, that have vegetation encroaching into the roadway and vegetated areas alongside routes would experience a higher potential for soil loss due to erosion, increased compaction and loss of soil stability with increasing OHV use.

Off-route vehicle travel, such as passing or parking, can remove soil-stabilizing agents, such as vegetative cover, soil crusts, and woody debris, and increase soil compaction and erosion. Compaction or erosion could increase from route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). Compaction would have longer-term effects up to 20 years, but elevated rates of erosion should return to (or in the case of reclamation be reduced below) their original level. Compaction or erosion could be reduced by designating as OHV-Closed routes disruptive to erosive and cryptobiotic soils. These long-term beneficial effects would last for the estimated 20-year lifetime of the TMP.

Soil effects from alternative OHV route designations were analyzed using the miles of routes, by classification type, that would directly cross soils with high or moderate erosion potential (see Figure 6 and Figure 7) and the miles of routes that would directly cross areas with high or moderate likelihood for cryptobiotic soils (see Figure 8 and Figure 9) as indicators of the magnitude and spatial extent of the potential effects described above. The nature of the effects would be the same across alternatives but the magnitude and location of the routes would vary (see Appendix B, Map 2 – Map 5).

The following assumptions were applied in this analysis of potential effects on soils and cryptobiotic soils from the alternative designations:

- OHV-Closed designations would eliminate OHV effects to soils and cryptobiotic soils from use of those routes.
- Route designation alternatives with fewer route miles designated as OHV-Open would contribute fewer effects to soils and cryptobiotic soils due to changes in distribution and concentration of OHV use within the TMA than alternatives with more miles designated as OHV-Open.
- Maintenance under the TMP would be appropriate to the class of road to ensure navigability for designated routes without changing the character, function, or recreation experience the route provides.

Figure 6: Miles of Evaluated Routes Crossing Areas with High Erosion Potential

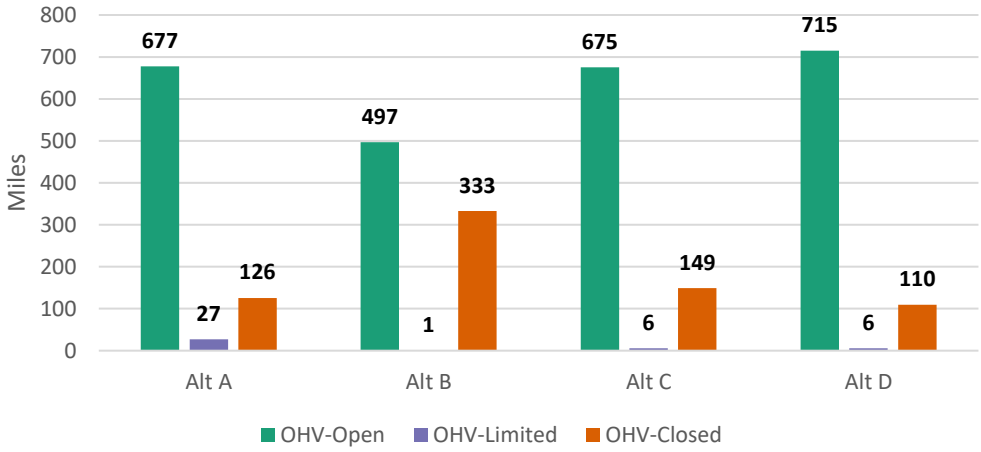


Figure 7: Miles of Evaluated Routes Crossing Areas with Moderate Erosion Potential

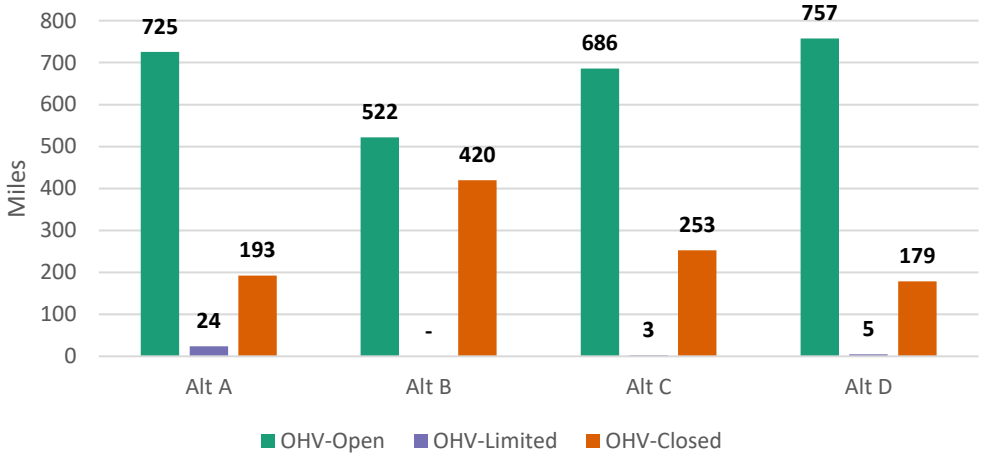


Figure 8: Miles of Evaluated Routes Crossing Areas with High Cryptobiotic Potential

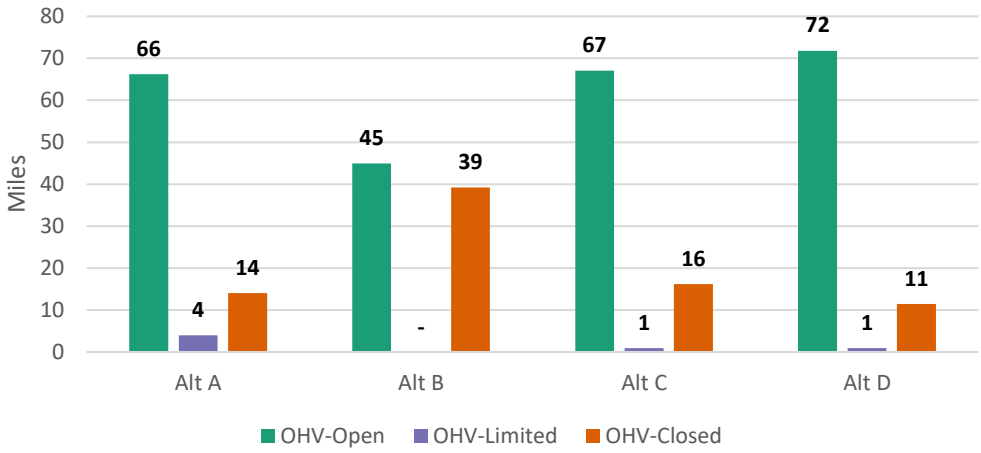
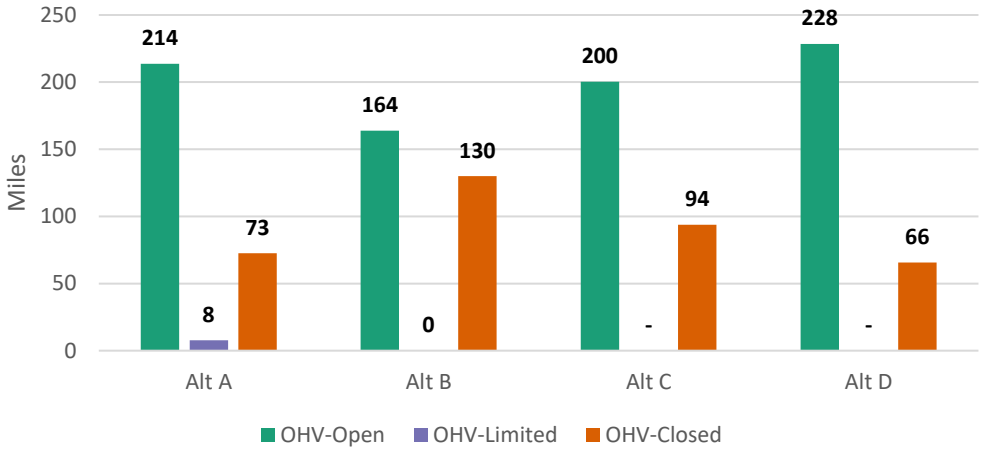


Figure 9: Miles of Evaluated Routes Crossing Areas with Moderate Cryptobiotic Potential



Alternative A

Under Alternative A, of routes in areas with high soil erosion potential, 85% (704 miles) would remain OHV-Open or OHV-Limited. Of routes in areas with moderate soil erosion potential, 80% (749 miles) would remain designated for OHV use. In areas with high cryptobiotic potential, 83% (70) of the evaluated route miles would remain designated for OHV use. In areas with moderate cryptobiotic potential, 76% (222) of the evaluated route miles would remain designated for OHV use. Overall, Alternative A would continue the current potential effects from OHV use to soils, such as compaction, erosion, rutting and diminishment of the soil's ability to support vegetation. Effects to soils would reflect a continuation of current designations.

Alternative B

Compared to the current management (Alternative A), Alternative B would reduce 29% (206) of OHV-Open and OHV-Limited route miles in areas with high erosion potential, reduce 30% (227) of miles in areas with moderate erosion potential, reduce 36% (25) of miles in areas with high cryptobiotic potential, and reduce 26% (58) of miles in areas with moderate cryptobiotic potential. The same types of effects on soils from OHV use (see above) would be expected to occur on routes designated OHV-Open or OHV-Limited. However, this alternative would have lower potential than other alternatives for adverse effects from OHV use on soil stability and erosion potential.

Alternative C

Compared to the current management (Alternative A), Alternative C would reduce 3% (23) of miles OHV-Open and OHV-Limited route designations in areas with high erosion potential and reduce 8% (60) of miles in areas with moderate erosion potential, reduce 3% (2) of miles in areas with high cryptobiotic potential, and reduce 10% (22) of miles in areas with moderate cryptobiotic potential. The same types of effects on soils from OHV use (see above) would be expected to occur on routes designated OHV-Open or OHV-Limited. This alternative would have higher potential for adverse effects from OHV use on soil stability and erosion potential than Alternative B, but lower potential for those effects than Alternatives A and D.

Alternative D

Compared to the current management (Alternative A), Alternative D would increase 2% (17) of OHV-Open and OHV-Limited route miles in areas with high erosion potential, increase 2% (13) of miles for

areas with moderate erosion potential, increase 4% (3) of miles in areas with high cryptobiotic potential, and increase 3% (6) of miles in areas with moderate cryptobiotic potential. The same types of effects on soils from OHV use (see above) would be expected to occur on routes designated OHV-Open or OHV-Limited. This alternative would have higher potential than other alternatives for adverse effects from OHV use on soil stability and erosion potential.

Cumulative Effects

Cumulative effects from past, present, and reasonably foreseeable projects and activities on soils and cryptobiotic crusts include compaction, erosion, trampling from livestock grazing, recreation activities (e.g. hiking, mountain biking, equestrian, hunting), roadside camping and parking, and mineral development and remediation. Direct loss of soils through wind and water erosion, rutting and compaction includes project development, travel, and vehicle passing (as described above).

Past, present, and reasonably foreseeable actions, plans, or projects affecting soil and cryptobiotic crusts in the TMA include increasing levels of OHV-related recreational activities on the BLM and other land ownerships; and upcoming utility projects in Wayne and Garfield counties (see Section 3.3, Table 7). Other projects include fiber optic power projects, well pads, pipelines, fences, reservoirs and stock ponds, mineral material sites, trailheads and campgrounds, road and bridge construction, telecommunication sites, habitat improvements, and mine closures and reclamation. Cumulative effects from these projects and OHV-related activities as well as reasonably foreseeable projects and activities, ongoing seasonal snowmelt runoff, and monsoon events on disturbed areas in the TMA all contribute to effects to soils. The TMP would have a maximum incremental contribution to cumulative effects of 5% in the analysis area for all alternatives. To calculate incremental contributions to cumulative effects on soils, BLM multiplied the total miles of routes by a width of 300 feet (150-foot buffer on either side of the roadway specified in the RMP) to get the total square miles of potentially impacted soils. That square mileage was converted to acres, which was then divided by the total acres covered by the TMP to develop a percentage of incremental contributions to soils.

3.4.6 WATER RESOURCES

Issue 6: How would the route designation alternatives affect water quality, hydrology, and riparian areas within the HUC-10 watersheds that intersect the TMA?

The analysis area for effects to water quality, riparian areas, and wetlands includes the HUC-10 watersheds that intersect the TMA because they reflect the hydrological system within the TMA. The temporal scope of analysis is 20 years (see Section 3.2).

Affected Environment

There are 29 watersheds within the analysis area. These are 5th level (10 digit) watersheds as classified by USGS (Seaber et al. 1987). Water Resources in the analysis area include perennial streams, intermittent/ephemeral streams, springs, wetlands, and groundwater. Water from these resources is used for a variety of purposes including agricultural irrigation, mining, domestic, municipal, stock watering, wildlife, and riparian vegetation. The primary streams in the TMA are Fremont River, Dirty Devil River, and Muddy Creek and there are numerous other perennial streams. There are around 300 springs on BLM-administered land in the TMA.

Natural occurrences such as drought, floods, and wildfire likely account for much of the observed variability of water quality conditions in the TMA. Droughts can concentrate contaminants where contaminant supplies are constant, but water supply is decreased. Floods can result in higher concentrations of some contaminants as they become suspended due to higher water (Hem 1970). Wildfires result in decreased soil stability and may result in deposition of contaminants into waterbodies.

Additionally, some waterbodies exhibit naturally higher levels of contaminants due to local geology (NDEP 2022).

Route designations may affect hydrology and water quality by altering drainage patterns, introducing contaminants, and destabilizing soils. Travel networks increase drainage density resulting in alterations of hydrology such as increased peak flows (Dingman 1978). Routes can intersect, channelize, and/or reroute streams, and wetlands resulting in rills and gullies. Travel routes parallel to or within the active channel can reduce channel meanders which naturally reduce flood energy. They can also cause geomorphic changes to bank angle, bank stability, channel width, sinuosity, flood velocities, width/depth ratios, and floodplain connectivity. In some cases, routes may cause artificial flow channels at or near route/stream intersections. Route use and maintenance disturbs soils making them more likely to erode into surface waters affecting water quality. Routes serve as conduits that direct contaminants and sediment into stream systems and riparian areas during runoff events (Miniat et al. 2019, Ouren et al. 2007). Routes in areas of erosive soils that are proximate to, or crossing drainages result in higher amounts of sediment (Ouren et al. 2007) (see Section 3.4.5). OHV's carry and may shed contaminants including 1,3 butadiene, benzene and ethylbenzene, xylenes, and toluene (Ouren et al. 2007). The stormwater can also carry pollutants from OHVs including heavy metals from brakes, engine wear, and hydrocarbons from lubricating fluids.

Water quality standards are determined by the state of Utah and are based on designated beneficial uses for waters of the state including domestic, recreation, aquatic wildlife, and agriculture. Water Quality condition is reported biennially in the state's "Integrated Report" (UDEQ 2024) Waters that are not meeting their beneficial uses are classified as impaired and placed on the Clean Water Act 303(d) list. Waters are divided into assessment units and evaluated individually. An assessment unit may include all streams in a watershed or an individual stream. In the TMP there are 30 assessment units and 9 are not meeting water quality standards. Examples include Fremont River (upstream portion of the TMA) for bacteria, Muddy Creek for benthic invertebrates, and Dirty Devil River for total dissolved solids.

Wetlands and riparian areas are scattered throughout the analysis area, but most in the TMA are along the Dirty Devil and Fremont rivers. Wetlands and riparian areas are natural buffers between uplands and adjacent water bodies. They act as natural filters of nonpoint source pollutants, including sediment, nutrients, pathogens, and metals, to waterbodies, such as rivers, streams, lakes and coastal waters (EPA 2024). Effects to riparian areas are indicated by declining riparian zone vegetation health, diversity, and density; therefore, wetland and riparian areas are used by the BLM as watershed condition and land health indicators. Specifically, BLM monitors wetland and riparian areas using Assessment, Inventory, and Monitoring Strategy and Proper Functioning Condition tools (USDI 2015). Condition of these areas is affected by a variety of land uses including livestock, roads, and agriculture. Livestock affect these areas primarily through altering flow patterns and reducing vegetative productivity thus reducing hydrologic stability. Agriculture and livestock watering affects riparian areas by depleting a portion of available water thus reducing riparian extent and riparian health. Stormwater can deliver sediment and contaminants to riparian and wetland areas, resulting in decreases in riparian and wetland health. Redirection of surface water or compaction from existing roads can dewater riparian soils (USDI 1992).

Environmental Effects Analysis

The following assumptions and methodologies were applied in this analysis of potential effects on water resources from the alternative designations:

- Routes identified in the analysis include one or more of the following:
    - Routes identified as having a high density of stream crossings (Figure 10)
    - Routes in watersheds with high erosion potential (Figure 11)
    - Routes in watersheds with a high density of routes (Figure 12)
    - Routes in close proximity to streams (Figure 13)

- Routes in and near riparian areas (Figure 14)

- OHV-Closed designations in and near riparian areas and streams would eliminate OHV effects to water resources from those closed routes.
- Maintenance under this TMP will be appropriate to the class of road to ensure navigability for designated routes without changing the character, function, or recreation experience the route provides.

The nature of the effects will be the same across alternatives; however, the magnitude and location of the routes will vary. The magnitude can be assessed using Figure 10 – Figure 14. The route designation alternatives can be seen using Map 2 – Map 5.

Specifically, OHV use, including incidental use such as passing, parking, and staging, and associated maintenance (see Appendix E) can remove soil-stabilizing agents, such as vegetative cover and woody debris. TMP implementation activities that could result in compaction or increased sediment or contaminant load include route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes). These effects would occur in very short time frames (estimated to be one to four days' worth of work, though it may be longer for longer routes). TMP implementation activities that could reduce compaction, sediment, or contaminant load include sign placement directing OHVs to routes that are less disruptive to waterways, and reclamation. These effects would occur over longer timeframes.

Figure 10: Number of Evaluated Routes Identified as Having a High Density of Stream Crossings

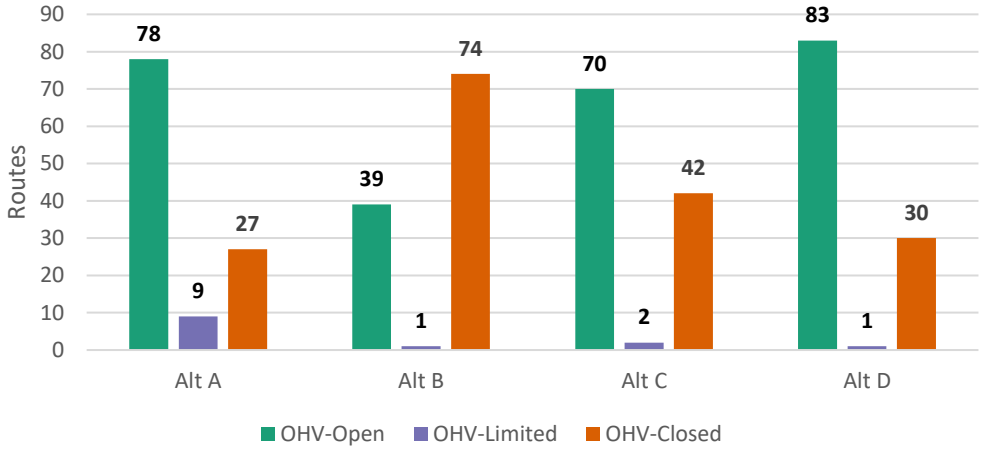


Figure 11: Number of Evaluated Routes in Watersheds with High Erosion Potential

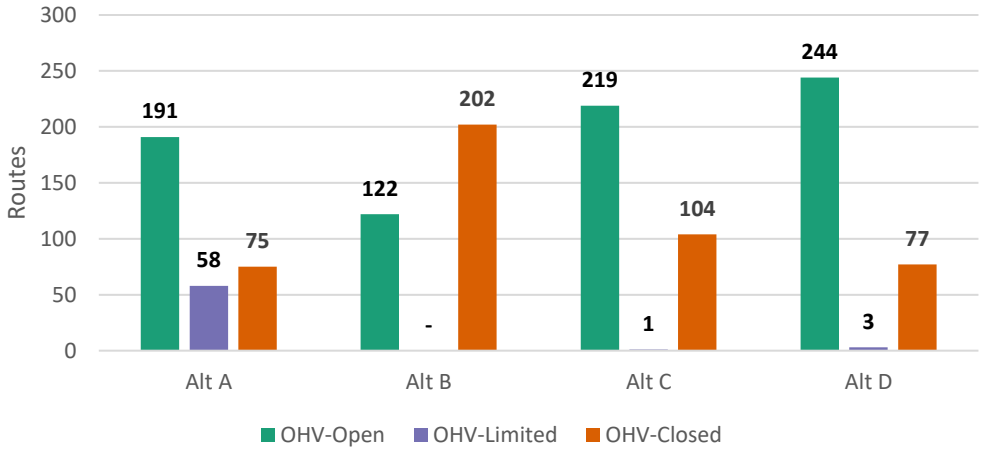
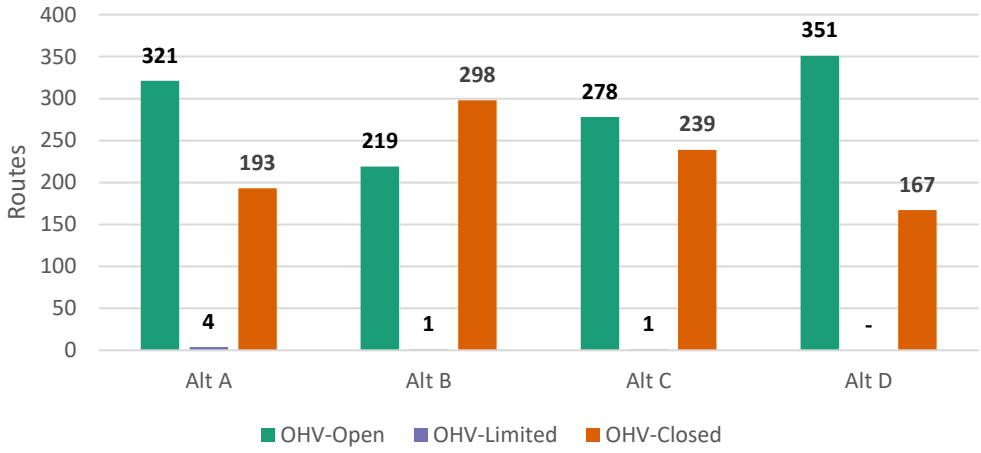


Figure 12: Number of Evaluated Routes in Watersheds with a High Density of Routes[11]



[11] **High Density of Routes:** this term along with "high route density" and "Watersheds with a high density of routes" is used in the Water Resources section to describe areas where there is a relative abundance of routes. Route miles were divided by acres in a watershed and the highest 10% of sub-watersheds were identified as having "high density of routes".

Figure 13: Number of Evaluated Routes in Proximity to Streams

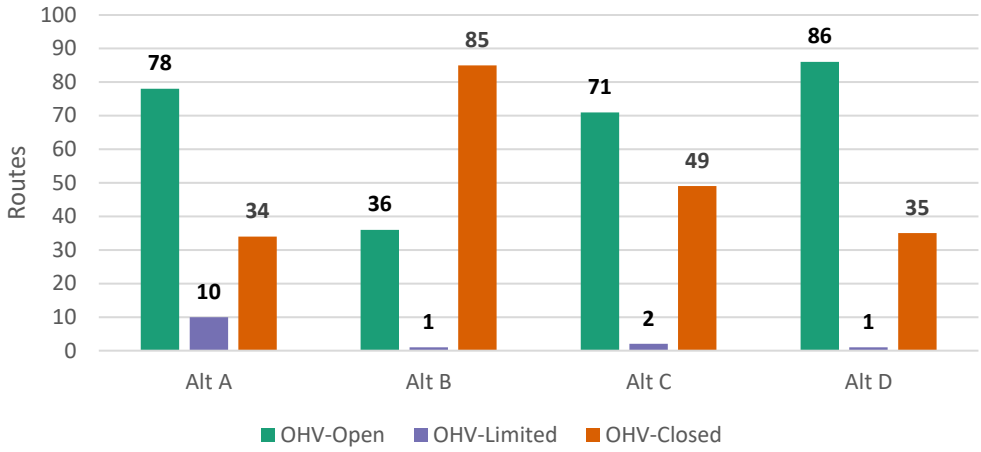
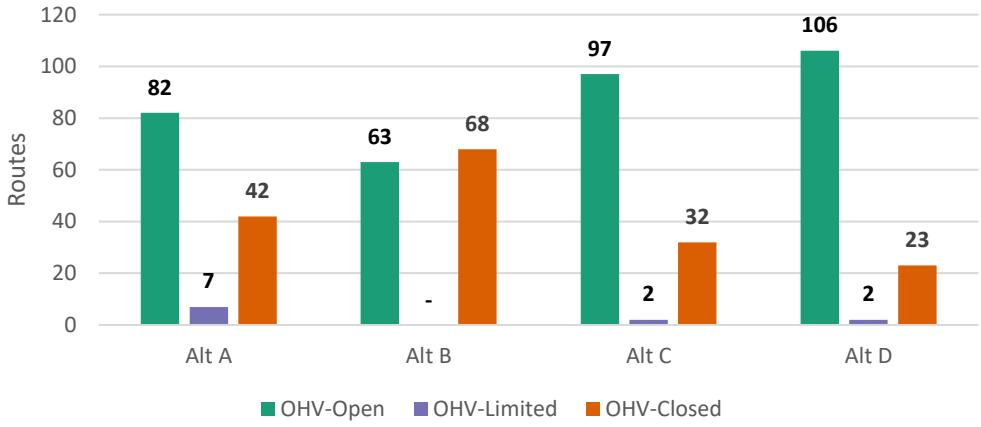


Figure 14: Number of Evaluated Routes in and near Riparian Areas



Alternative A

Under Alternative A, there would be no route designation changes in the TMA. In routes that have a high density of stream crossings, 76% of evaluated routes would remain designated for OHV use. In watersheds with high erosion potential, 77% would remain designated for OHV use. In watersheds with high route density, 63% would remain designated for OHV use. Of the evaluated routes in proximity to streams, 72% would remain designated, and in riparian areas, 68% would remain designated. The OHV and associated human use (e.g., camping, exploring, etc.) on routes in or proximate to streams and riparian areas causes erosion, sedimentation, and loss of important streamside and riparian vegetative cover. Subsequent sediment travel and deposition in streams and riparian areas leads to water quality degradation. Effects to water resources from ongoing OHV use (as described above) would reflect a continuation of current designations.

Alternative B

Alternative B would reduce the numbers of routes impacting water resources in the TMA, including a 54% (47-route) reduction in routes that have a high density of stream crossings, a 51% (127-route) reduction in routes that exist in watersheds with high erosion potential, a 32% (105-route) reduction in routes that exist in watersheds with high route density, a 58% (51-route) reduction in routes proximate to

streams, and a 29% (26-route) reduction in routes in and near riparian areas. Under Alternative B, the same types of effects on water resources from OHV use noted above would continue to occur on those routes designated OHV-Open or OHV-Limited; however, overall, this alternative would have the lowest potential of any alternative for ongoing OHV-related effects to water quality and hydrology within the TMA because it has the least routes designated for OHV use in areas with the most potential to affect watersheds.

Alternative C

Alternative C would reduce the numbers of routes affecting water resources in the TMA, including a 17% (15-route) reduction in routes that have a high density of stream crossings, a 12% (29-route) reduction of routes in watersheds with high erosion potential, a 14% (46-route) reduction in routes that exist in watersheds with high route density, and a 17% (15-route) reduction in routes proximate to streams. For riparian areas, Alternative C would increase the number of routes designated for OHV use by 11% (+10 routes). Under Alternative C, the same types of effects on water resources from OHV use noted above would continue to occur on those routes designated for OHV use. Overall, despite an increase in routes designated for OHV use in riparian habitats, this alternative would have lower potential than Alternatives A and D but higher potential than Alternative B for ongoing OHV-related effects to water quality and hydrology in the TMA.

Alternative D

In areas most affective on water resources, Alternative D would designate similar numbers of routes to Alternative A, though it would increase the numbers of routes in riparian areas by 21% (+19 routes) and it would increase the numbers of routes in watersheds with high route density by 8% (+26 routes). Under Alternative D, the same types of effects on water resources from OHV use noted above would continue to occur on those routes designated for OHV use. Overall, with an increase in routes designated for OHV use in riparian habitats and high route density areas, this alternative would have the highest potential of any alternative for ongoing OHV-related effects to water resources in the TMA.

Cumulative Effects

Cumulative effects to water resources occur as a result of a variety of factors as described above. Effects to water quality and riparian areas is well documented in the integrated report (UDEQ 2024), and BLM functioning condition assessments. Land uses such as livestock grazing, mining, and agriculture have a demonstrated effect on water quality conditions within the TMA. Livestock can affect hydrology and water quality directly through physical effects to streams and by increasing bacteria and nutrient levels. They can also degrade water quality indirectly by decreasing soil stability resulting in elevated sediment deposition in streams (Belsky et al. 1999). Agricultural uses affect water quality by depleting large amounts of water resulting in concentrated effects in natural channels. Agricultural return flow can also carry contaminants. Mining operations affect water quality by diverting water for operations, and disturbing land surfaces.

The TMP alternatives would not meaningfully change the cumulative level of effects to water quality, and some alternatives could result in incremental improvement in water quality. Likewise, effects to riparian resources would either remain the same or decrease in intensity. As a result, the alternatives would not result in any meaningful contribution to the cumulative level of adverse effects.

3.4.7 RECREATION

Issue 7: How would the route designation alternatives affect OHV recreation opportunities and experiences in Emery, Garfield, Grand, and Wayne counties?

The analysis area for OHV recreation is all BLM-managed routes within Garfield and Wayne counties which are affected by this plan and the counties affected by the Labyrinth/Gemini Bridges TMP, Canyon Rims (Indian Creek) TMP, the San Rafael Swell TMP, and the San Rafael Desert TMP: Sevier County, Emery County, and Grand counties. This analysis area was chosen for the cumulative effects discussion because the recent TMP route designation decisions in these areas, combined with the Henry Mountains/Fremont Gorge TMP alternatives, will serve to portray a potential comprehensive region-wide travel network of motorized opportunities and experiences. The temporal scope of analysis is 20 years (see Section 3.2).

Issue 8: How would the route designation alternatives affect non-motorized recreation access and experiences in the TMA?

The analysis area for non-motorized recreation is the TMA because its several large blocks of BLM Natural Areas, LWCs, and WSAs combine to provide for an array of non-motorized opportunities and experiences within the unique recreational settings in the TMA. The distances covered by non-motorized recreationists are smaller in scale than motorized use. The analysis timeframe is 20 years.

Affected Environment

The 2,282 miles of evaluated routes in the TMA largely originated from mining, ranching, and recreation-related activities. BLM visitor use data estimates 450,808 recreational visits to the TMA in 2023.

To analyze potential impacts of the route network alternatives on recreation within the TMA the BLM has grouped evaluated routes into five areas, each delineated in the 2008 RMP, which are four SRMAs and into one Extensive Recreation Management Area (ERMA) which is all other areas which are within the TMA that are not within a SRMA. These areas are described in Table 20, below. These areas are separated based on desired goals and outcomes, recreation opportunities present, and user groups.

Table 20: Route Network Areas

Route Network Area Name	Primary Recreation Opportunities	Miles of Evaluated Routes	2023 Visitation (% of TMA Visits)
Capitol Reef Gateway SRMA	Dispersed Camping (High use for visitors to Capitol Reef National Park and Torrey), hiking, Landscape Photography	42	32,112 (7%)
Dirty Devil SRMA	Canyoneering, Backpacking, Cultural/Historic site viewing, vehicle touring, Dispersed Camping, River Floating, Horseback Riding, and Hunting	406	73,120 (16%)
Factory Butte SRMA	Landscape Photography, (Factory Butte is a destination feature) Motorcycle and OHV Riding (Several OHV Open Areas are within the SRMA), Dispersed Camping, Sight Seeing, and Hiking	28	85,653 (19%)
Henry Mountains SRMA	Hunting, (World renowned opportunities for Bison and Mule Deer) Dispersed Camping, Hiking, Wildlife Viewing, and Landscape Photography.	854	75,819 (17%)

Route Network Area Name	Primary Recreation Opportunities	Miles of Evaluated Routes	2023 Visitation (% of TMA Visits)
Henry Mountains/Fremont Gorge ERMA	Canyoneering (North Wash and other locations are world renowned destinations), Dispersed Camping, Landscape Photography, Vehicle Touring, and Hunting	941	184,104 (41%)

SRMAs: SRMAs in the TMA were designated by the 2008 RMP in areas where high recreation use occurs to manage this use and mitigate use-related impacts. Each SRMA allows for a set of distinct recreation uses and a localized management strategy. In addition, each SRMA provides management direction for recreation uses as well as protection of the cultural and natural resources found in the SRMA:

- **Capitol Reef Gateway SRMA:** Comprising 12,800 acres in the western portion of the TMA, this SRMA was designated to manage recreational opportunities associated with Capitol Reef National Park for a moderate probability of experiencing solitude, closeness to nature and tranquility, high degree of self-reliance, challenge, and risk in a predominantly natural-appearing environment with low interaction but often evidence of other users. Approximately 42 miles of evaluated route are within the SRMA. The BLM estimates 33,112 (7%) of recreation visits to the TMA in 2023 were in the SRMA. The Fremont Gorge WSA and the Fremont Gorge suitable wild river segment are within the SRMA boundaries and closed to OHV use. See 2008 RMP decisions REC-38 through REC-48.
- **Dirty Devil/Robbers Roost SRMA:** Encompassing 290,500 acres, this SRMA was designated to provide recreational experiences complementary with the remote and scenic nature and other resource values of the area, and for a high probability of solitude, closeness to nature, self-reliance, challenge, and risk in an unmodified and natural appearing environment with very low interaction or evidence of other users. It includes the Dirty Devil WSA, Horseshoe Canyon WSA, and the Happy Canyon-French Springs WSA and provides opportunities for primitive and semi-primitive recreation. The 2008 RMP closed all canyons within the Dirty Devil/Robbers Roost SRMA to OHV use and limited OHV use to designated routes in the remainder of the SMRA to reduce potential adverse impacts to vegetation and retain the primitive to semi-primitive setting. Approximately 418.6 miles of evaluated route occur within the SRMA. The BLM estimates 73,120 (16%) of recreation visits to the TMA in 2023 were in the SRMA. See 2008 RMP decisions REC-27 through REC-37.
- **Factory Butte SRMA:** This 24,400-acre SRMA was designated to provide for a motorized recreational experience that involves a high degree of self-reliance, challenge, and risk in a natural setting. Approximately 28.3 miles of evaluated route are within the SRMA. The BLM estimates 85,653 (19%) of recreation visits to the TMA in 2023 were in the SRMA. The SRMA contains three Recreation Management Zones (RMZs) delineated to provide a specific set of recreation opportunities and facilities while reducing user conflicts. These include:
    - Open OHV Play Area RMZ (8,500 acres). This RMZ consists of three open OHV play areas where cross-country OHV use is allowed. They are Factory Butte (5,800 acres), Caineville Cove Inn (100 acres), and Swing Arm City (2,600 acres). This RMZ contains approximately 0.7 miles of evaluated route.
    - Motorized Touring Area RMZ (11,300 acres). Within this RMZ, OHV use is limited to designated routes. This RMZ contains 27.6 miles of evaluated routes.
    - Landmarks RMZ (4,600 acres). This RMZ is closed to motorized use. Route designations are not considered in this RMZ.

    (See 2008 RMP decisions REC-17-23.)

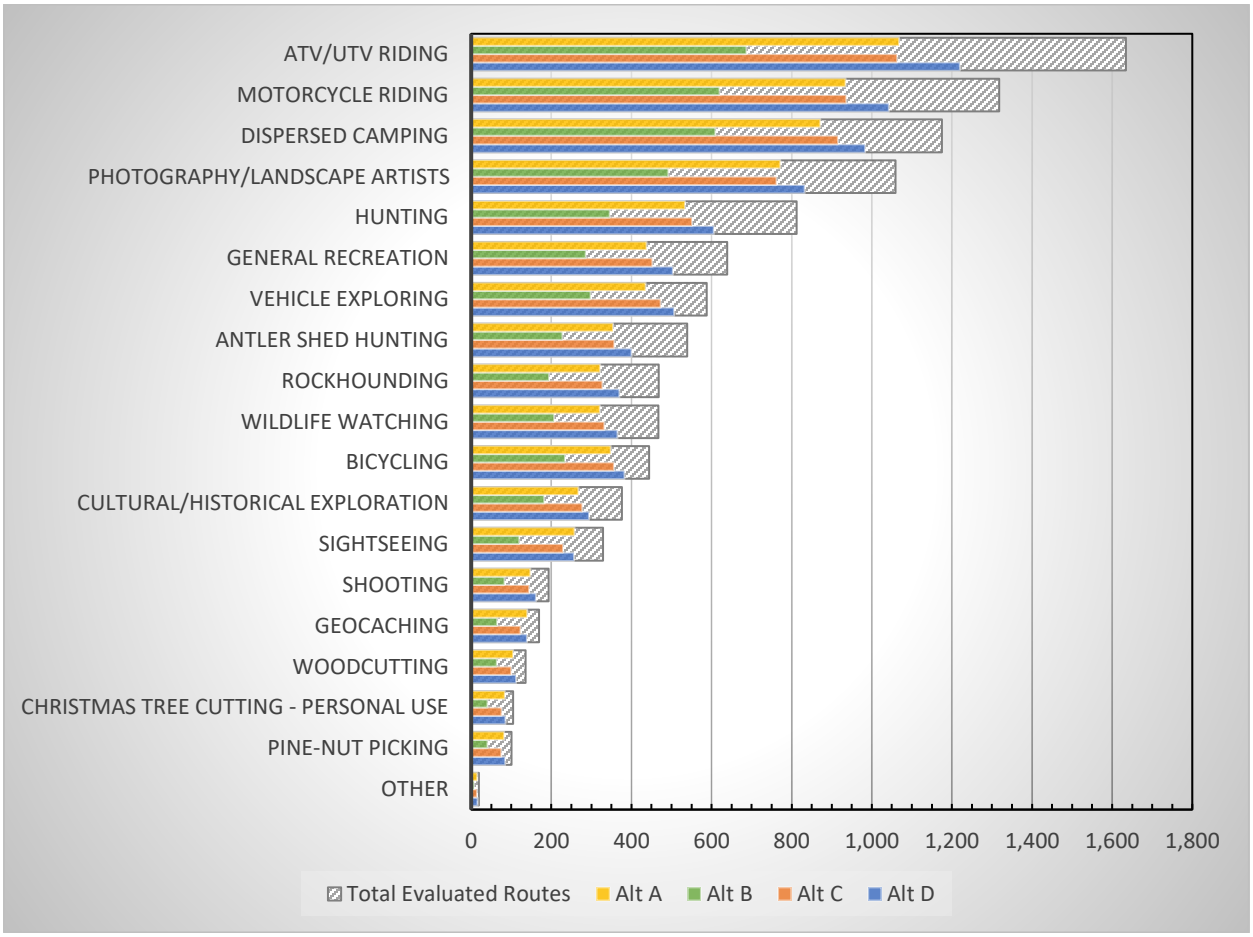
- **Henry Mountains SRMA:** This 532,600-acre SRMA was designated to manage for a combination of semi-primitive non-motorized and motorized recreational experiences in a natural or predominately natural setting with a high or very high probability of experiencing solitude, closeness to nature, self-reliance, challenge, and risk (interactions between users will be low with minimal evidence of other users). Approximately 863.6 miles of evaluated route are within the SRMA. The BLM estimates 75,819 (17%) of recreation visits to the TMA in 2023 were in the SRMA. (See 2008 RMP decisions REC-49 through REC-56.)
- **Henry Mountains/Fremont Gorge ERMA:** The 593,000-acre Henry Mountains Fremont Gorge ERMA encompasses all portions of the TMA that are not within a SRMA. The ERMA is managed for a variety of recreational opportunities and settings to address visitor health and safety, user conflict and resource protection issues. Approximately 941.5 miles of evaluated route are within the ERMA. The BLM estimates 184,104 (41%) of recreation visits to the TMA in 2023 were in the ERMA. (See 2008 RMP decisions REC-2-11.)

OHV Recreation

Popular OHV or OHV-adjacent recreation opportunities for which the BLM manages and monitors are: driving for pleasure and sightseeing, wildlife viewing, all-terrain vehicle (ATV) and utility terrain vehicle (UTV) riding, developed and vehicle-accessed dispersed camping, cultural site viewing and heritage tourism, and hunting. Other activities which are facilitated by motorized recreation include geocaching, Christmas tree cutting, and pine nut harvesting. These purposes were noted for each route during route evaluations (see the route reports, Appendix D). The geographic extent of a route network and the density of routes within a network has the potential to provide recreational benefits through recreational riding or access to other activities. Figure 15 shows the relative number of routes for each route designation alternative providing for these popular OHV or OHV-adjacent opportunities.

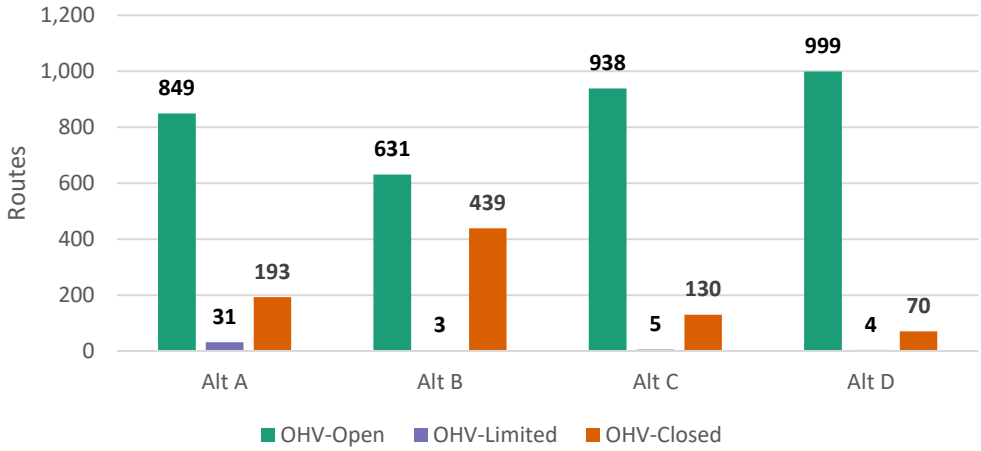
As summarized in the Cumulative Impacts Scenario (Section 3.3), OHV recreation opportunities in the TMA are largely dispersed. The 2,282 miles of evaluated routes in the TMA are associated with many dispersed trailheads, campsites, camping areas, and staging areas (see the route reports, Appendix E). The BLM has managed the dispersed trailheads, campsites, camping areas and staging areas as needed to protect resources and user safety. Developed recreation opportunities associated with the evaluated routes include three fee campgrounds, two day-use recreation areas, one semi-developed vehicle-accessed dispersed camping area, and several signed trailheads, overlooks, and staging areas. Figure 16 shows the effect of each alternative on accessing motorized destinations within the TMA.

Figure 15: Number of Routes Providing for Popular OHV or OHV Adjacent Recreation Opportunities



Note: The "Other" category includes wash-bottom riding opportunities, fishing, rock crawling, recreational gold panning, and hill climbing.

Figure 16: Number of Routes Providing Access to Motorized Recreation Destinations



OHV literature indicates that user conflict occurs within the OHV group both between and within sub-groups (motorcycles, ATVs/UTVs, and full-sized vehicles). ATV/UTV riders and motorcyclists view each other's group behavior as somewhat problematic, albeit with a low intensity of conflict. Drivers of full-sized vehicles perceive the most conflict and experience decreased enjoyment as a result, while ATV/UTV riders generally have the highest tolerance for both fellow riders and other sub-groups (Albritton et al. 2009). Conflict within groups is highest among drivers of full-sized vehicles but still lower than inter-group conflict.

Special Recreation Permits

The BLM administers 106 active SRPs within the TMA for a range of commercial activities and events. Thirty-two of these are for vehicle-based tours, activities, and events (including photography workshops, scenic driving tours, and OHV tours and gatherings). Twenty-four are for big game hunting and are allowed the use of all designated routes. Six are for bike tours and bike packing, often involving a motorized chase vehicle, on specified designated routes. The remaining forty-four are for non-motorized activities including canyoneering, backpacking, wilderness therapy, Wilderness leadership courses, and outdoor education. Consistent with BLM Utah Statewide and Site-Specific Stipulations developed for SRPs in this TMA, all SRPs in the TMA use routes designated as OHV-Open or -Limited, either for their primary activity or to access their non-motorized destination.

Dispersed Camping

The evaluated routes provide access to dispersed vehicle-accessed camping throughout the TMA. Under the 2008 RMP decisions REC-1 and TRC-31 dispersed camping is allowed throughout the TMA unless directed by other management prescriptions. In an area as vast and remote as the TMA, camping is often necessary to enjoy long days of recreation or multi-day visits. Per BLM route evaluations, over half of the evaluated routes access dispersed campsites at one or more places along the route's length. During high-use seasons, dispersed camping access is necessary to support the volume of recreationists visiting the TMA areas. Lack of vehicle-accessed camping can result in crowding and user conflict which is counter to the RMP targeted recreation outcomes.

Hunting

The TMA encompasses numerous big game hunting units managed by the Utah Division of Wildlife Resources for various big game species. The entire TMA is within hunt units for one or more big game species. Notable hunting opportunities include Henry Mountains Premium Limited Entry Mule Deer, Henry Mountains Once-in-a-Lifetime Bison, and Henry Mountains, San Rafael South, and San Rafael Dirty Devil Desert Bighorn Sheep Hunts. Hunters rely on a route network for scouting and greater area access but generally hunt and harvest animals off of the route network. Hunters on foot often require routes in close proximity to their hunting area where packing out a harvested animal is feasible. Hunters using horses or other pack animals often seek out areas with fewer roads further from the route network as they are able to pack out harvested animals over longer distances. Both groups would see areas of high route density or route congestion as being an adverse impact to their activity. 2008 RMP decision WL-22 requires that OHV use for game retrieval be managed consistent with OHV area and route designations.

Cumulative Actions for Motorized Recreation

Other actions contributing to cumulative effects for motorized recreation in the analysis area are listed in Section 3.3. These include:

- Other uses of travel routes resulting in dust and noise.
- Recreation resulting in user conflict between and within sub-groups.

The acres and miles of the cumulative travel management plans are summarized in Table 21.

Table 21: Southern Utah Region-Recent Travel Management Plans

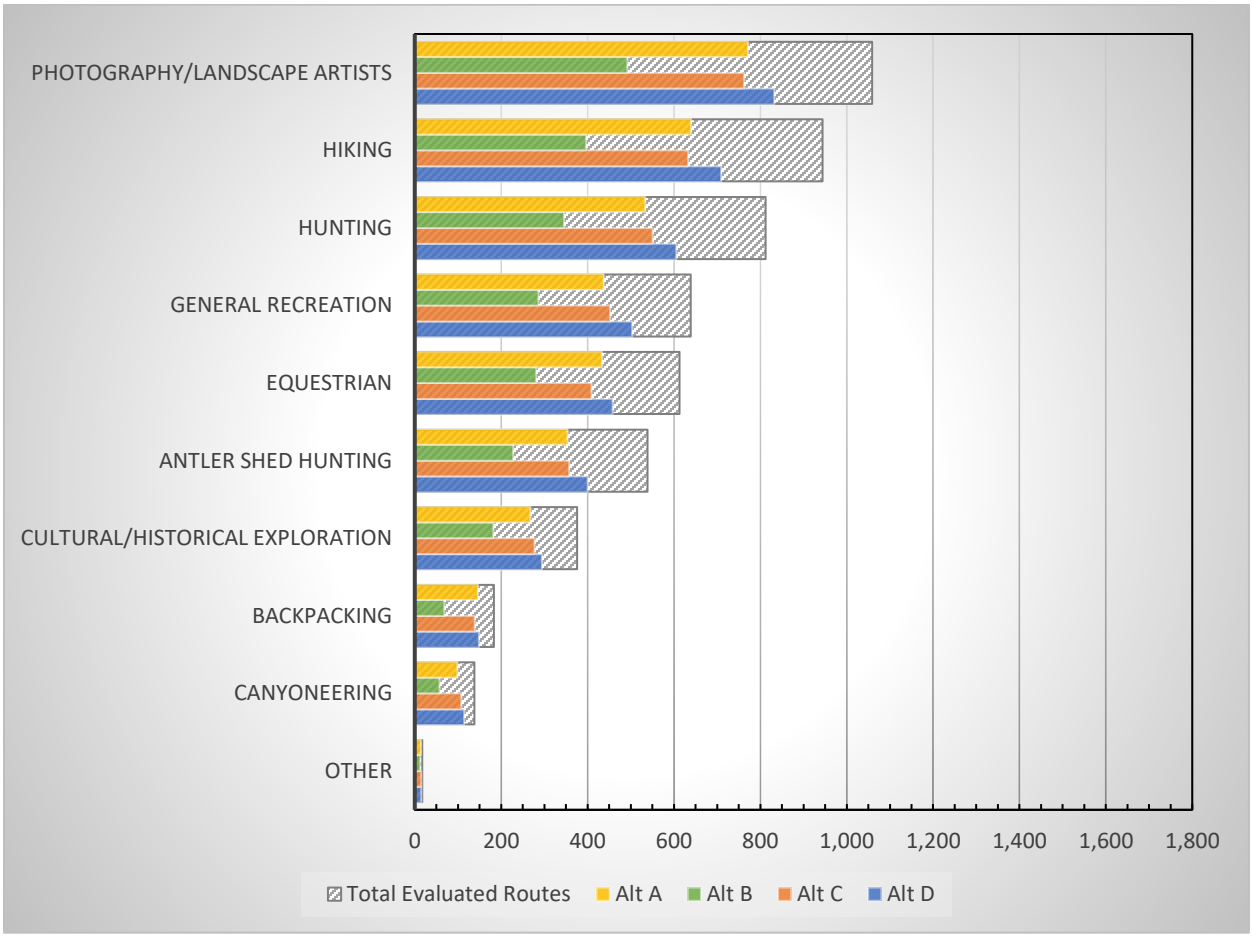
Travel Management Plan	Travel Management Area (Acres)	Total Miles Analyzed	Miles Designated OHV-Open	Miles Designated OHV-Limited	Miles Designated OHV-Closed
Labyrinth/Gemini Bridges (Moab Field Office) 2023	303,994	1,127	712	98 (97.4 width, 0.6 seasonal)	317
Canyon Rims (Indian Creek) (Moab Field Office) 2021	90,995	274	226	0	46
San Rafael Desert (Price Field Office) 2018	377,609	1,180	702	66 (all width limitations)	414
Totals	**772,598 acres**	**2,581 miles**	**1,640 miles**	**164 miles**	**777 miles**

Non-motorized Recreation

In the TMA, the BLM manages for a variety of non-motorized recreational activities that occur off of the route network including hiking, backpacking, technical canyoneering, and horseback riding as shown in Figure 17. Non-motorized recreation occurs throughout all four SRMAs and the ERMA comprising the TMA. The majority of non-motorized use occurs in WSAs and adjacent lands. These areas are accessed directly or indirectly by the route network via trailheads and staging or parking areas. The effect of alternatives on routes providing access to popular non-motorized destinations are shown in Figure 18.

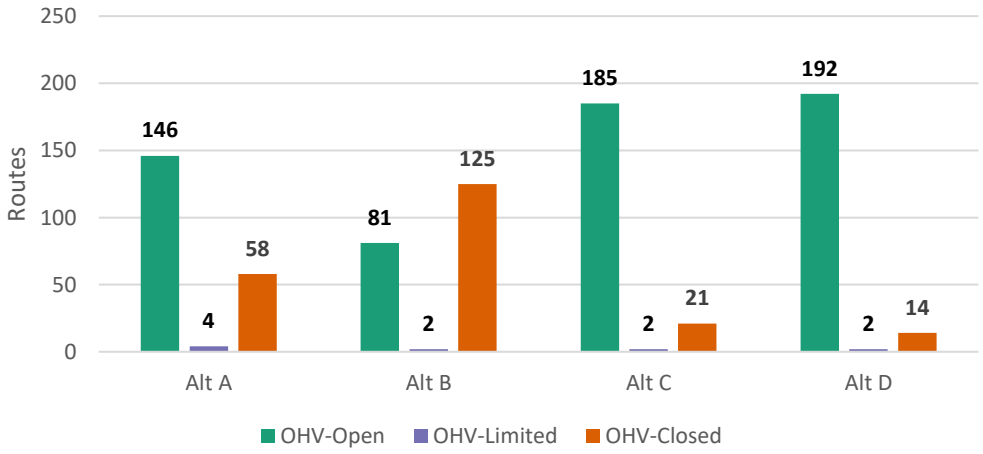
Non-motorized recreation has drastically increased throughout the TMA since the 2008 TMP was implemented. The travel network designated in the 2008 TMP is referenced in numerous guidebooks, online websites, published maps and mapping applications and is familiar to regular users of the area. The geographic extent of a route network and the density of routes within a network can affect non-motorized recreation character and user experience. OHV-Open and OHV-Limited routes can have localized and transient effects through their continued use. Evidence of motorized use also includes sign installation, camping, trail widening and braiding (to avoid travel hazards), trash dumping or accumulation, and human waste. The level of maintenance assigned to a given route could increase its prominence on the landscape if it entails a deviation from the existing condition, while reclamation could decrease evidence of a given route (see Appendix E).

Figure 17: Number of Routes Providing Access to Popular Non-Motorized Recreation Opportunities



Note: The "Other" category includes fishing, rock climbing, rafting/boating, swimming, and base jumping.

Figure 18: Number of Routes Providing Access to Non-Motorized Destinations



Environmental Effects Analysis: Motorized Recreation

Common to All Alternatives

The TMA's most heavily used routes would remain open under all action alternatives. Some routes that are redundant, naturally reclaimed, or lack purpose would be closed under all action alternatives (Alternatives B–D). See Section 2.2.1 and Table 5.

TMP implementation activities that could affect motorized recreation include route maintenance (e.g., surface and ditch grading and drainage structure replacement or installation, etc.), and sign placement (e.g., digging post holes). Maintenance can interrupt or temporarily block normal route use or access to recreation opportunities. However, maintenance actions would likely also enhance long-term access and safety for recreation experiences. Sign installation would direct recreationists to their destinations and educate recreationists on allowable uses for a particular route.

Table 22 uses miles of open, limited, and closed routes as an impact indicator to assess the effects on motorized recreation opportunities and experiences from each alternative.

Table 22: Miles of Routes by Alternative in Each Route Network Area

		Alt. A	Alt. B		Alt. C		Alt. D	
	Designation	Miles	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)	Miles	Change from Alt A (miles)
Capitol Reef Gateway SRMA	OHV-Open	29	25	-4	38	+8	38	+9
	OHV-Limited	8	-	-8	-	-8	-	-8
	OHV-Closed	4	17	+13	4	-0	4	-1
Dirty Devil-Robbers Roost SRMA	OHV-Open	294	180	-115	282	-13	294	-0
	OHV-Limited	8	-	-8	-	-8	-	-8
	OHV-Closed	104	226	+122	124	+20	112	+8
Factory Butte SRMA	OHV-Open	27	27	-0	28	+1	28	+1
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	1	1	+0	0	-1	0	-1
Henry Mountains SRMA	OHV-Open	730	582	-148	710	-20	747	+18
	OHV-Limited	14	2	-12	7	-7	8	-6
	OHV-Closed	110	270	+160	137	+27	99	-11
Henry Mountains/Fremont Gorge ERMA	OHV-Open	689	501	-189	686	-3	780	+91
	OHV-Limited	36	0	-36	3	-33	3	-33
	OHV-Closed	216	440	+224	252	+36	158	-57

Alternative A

This alternative would be a continuation of current management resultant of the route network designated in the 2008 TMP. Under this alternative, 1,847 miles or 81% of routes evaluated for this current TMP effort would continue to be OHV-Open or OHV-Limited and remain available for public use. 435 miles or 19% would remain closed to public use or undesignated.

Under Alternative A, for the most popular OHV-related recreation activities (e.g., ATV/UTV riding, vehicle exploring, motorcycle riding, vehicle-accessed dispersed camping, etc.), more than 70% and, for some activities, exceeding 80% of the routes evaluated for this TMP effort that provide access to those activities would remain available for OHV use (see Figure 16). Moreover, all OHV access to recreation

destinations (dispersed campsites, parking and staging areas, scenic overlooks, trailheads, historic sites, shooting sites, rivers and streams, etc.) authorized under the 2008 TMP would be maintained under Alternative A (see Figure 16). Accordingly, Alternative A would continue existing designated OHV route access for targeted opportunities and experiences in the unique settings of the TMA's several SRMAs, as well as maintain OHV-based access throughout the remainder of the TMA for other popular recreation activities. Given the extent and wide variety of OHV opportunities available to motorized users, OHV users under Alternative A are likely to experience some conflicts with other motorized users and authorized users (e.g., grazing operations) enroute to destinations. However, since most of the TMA is comprised of SRMAs targeting specific opportunities and experiences (many of them OHV-related), conflicts are likely to be reduced once users are within a destination SRMA.

Many areas of route congestion and confusion while finding routes currently exist in the TMA and would continue under this alternative. Additionally, under this alternative the 148 miles of routes not designated in 2008 would all remain undesignated (closed) and unavailable to public OHV use. These include a route in the Henry Mountains ERMA connecting the Little Egypt Staging area to the Burr Desert via Poison Springs Canyon, which because undesignated, requires users to travel on Highway 24 to access these areas; within the Dirty Devil SRMA approximately 14 miles of evaluated routes on Sams Mesa; and within the Henry Mountains/Fremont Gorge ERMA access to Leprechaun Canyon (GABD0110) and approximately 13 miles of routes providing connectivity and scenic driving opportunities near the town of Ticaboo, Utah.

Alternative B

Alternative B would have greater adverse effects on OHV-based recreation within the TMA than other alternatives. This alternative proposes to close 956 Miles or 42% of evaluated routes to public use, more OHV-Closed routes than other alternatives.

Compared to Alternative A there would be a reduction of 521 miles or 28% of routes designated OHV-Open or OHV-Limited and available for public use within the TMA. Under Alternative B, approximately 45-60% of routes designated for OHV use in the 2008 TMP providing OHV access for the TMA's most popular OHV-related recreation activities and 59% of routes leading to recreation destinations would remain available to OHV users. This amounts to a 20-35% and 28% reduction of access for popular OHV-related activities and to recreation destinations as compared to Alternative A.

- Alternative B would offer less OHV-facilitated access for recreation opportunities and experiences compared to other alternatives while still providing route network connectivity and access to most of the TMA's most popular destinations.
- Alternative B would provide less OHV-facilitated access for dispersed camping than other alternatives with notable reductions in the Capitol Reef Gateway SRMA on Beas Lewis Flat, and in the Dirty Devil SRMA along canyon rims.
- Alternative B would reduce OHV access into many areas of the Henry Mountains SRMA, including the Bullfrog and Muley Creek Drainages, Cave Flat, Wildcat Mesa, and Oak Creek Bench.
- Alternative B would reduce OHV access to numerous overlooks, dispersed campsites, and scenic locations within the Dirty Devil SRMA.
- Alternative B would designate all evaluated routes on Berts Mesa and Sams Mesa and the western two thirds of Big Ridge in the Dirty Devil SRMA OHV-Closed.
- Alternative B would provide fewer loops and secondary connector routes than other alternatives.
- Alternative B would have fewer adverse effects than other alternatives to wilderness qualities and characteristics and complementary non-motorized recreational experiences throughout the TMA.

Table 23: Alternative B Mileage Changes by Designation Type

	OHV-Open (Miles)	OHV-Limited (Miles)		OHV-Closed (Miles)
		Limited by size	Limited by season	
Alt A	1,781	31	35	435
Alt B	1,323	3	0	956
Change	-458	-28	-35	+521

Table 24: Effects on Motorized Recreation Opportunities – Alternative B

Route Network Area	Alternative B's Notable Effects
Capitol Reef Gateway SRMA	Designating WYPM0458b, WYPM0458c, WYPM0458d (Beas Lewis Flat Spurs) OHV-Closed would eliminate the most used opportunities for vehicle accessed dispersed camping in a high use area.
Dirty Devil SRMA	Designating 14 miles of evaluated routes on Sams Mesa including WYBD0360, WYBD0362, WYBD0361, and other spur routes OHV-Closed would make the area unavailable for OHV access. This area contains notable overlooks of the Dirty Devil River and Happy Canyon, provides access to Upper Sams Mesa Box Canyon, and is popularly used for desert bighorn sheep hunting. Designating WYBD0191, WYBD0192, and WYBD0187 OHV-Closed would eliminate a scenic OHV touring loop near Hanksville, Utah. (This OHV loop is featured on online websites and recommended to visitors by local OHV rental businesses.) Designating WYBD0065, WYBD0073, WYBD0076, WYBD0048, WYBD0047, WYBD0075, and WYBD0077a near Whitbeck Knoll as OHV-Closed would eliminate a 7.5-mile secondary connector route linking WYBD0125 (Blackburn Wash Road) with WYBD0016 (Roost House Road) and the Robbers Roost area to Hanksville, Utah. Designating these route segments OHV-Closed would remove the opportunity for users with 4x4 vehicles to bypass approximately 25 miles of graded county-maintained road and have a more scenic and technically challenging driving experience. Designating routes leading to overlooks in the Dirty Devil River drainage including: WYBD0116, WYBD0119, WYBD0241, WYBD0258a, WYBD0297, WYBD0292b, WYBD0317, WYBD0315, WYBD0315a, WYBD0315f, WYBD0315d, and WYBD0317a as OHV-Closed would reduce opportunities for OHV recreationists to enjoy scenic views over the Dirty Devil River and vehicle-accessed dispersed camping opportunities located at the end of these routes. Many of these routes also serve as access to informal trailheads for canyoneering, hiking, and other non-motorized activities. Non-motorized effects are discussed in the next section. Designating the approximately 13.5 miles of evaluated route on Burts Mesa including GABD0053, GABD0048, GABD0046, GABD0038, GABD0042, GABD0041, GABD0037, and connected spur routes as OHV-Closed would eliminate all public OHV access to the area. Scenic and technically challenging driving opportunities, overlooks of the Dirty Devil Canyon, access to historic and natural features, and dispersed campsites would no longer be accessible by OHV. Designating as OHV-Closed GABD0510 (The Simplot Dugway) would eliminate motorized connectivity between GABD0004 (North Hatch Canyon) and GABD0505 on Big Ridge adding approximately 25 miles, or 2 hours, of 4x4 OHV driving to connect these geographic areas. This route allows for OHV modes not allowed within the Orange Cliffs Unit of Glen Canyon National Recreation Area

Route Network Area	Alternative B's Notable Effects
	(GCNRA) and other users to access the top of Big Ridge and enjoy a similar setting to that found in in the Orange Cliffs Zone of GCNRA. This route allows for loop driving opportunities and serves as an alternate route between Hans Flat Ranger Station (NPS) and the Maze District of Canyonlands National Park when the Flint Trail Switchbacks are impassable.
Factory Butte SRMA	There would be no difference in Alternative B's effects in this SRMA from alternative A.
Henry Mountains SRMA	Designating as OHV-Closed GAHM0498 (Muley Creek), GAHM0494 (Bullfrog Creek), GAHM0023 (Wildcat Mesa) GAHM0298, WYHM0102 (Oak Creek Bench), GAHM0299 (Sidehill and Twin Springs) would eliminate OHV use within large geographic areas of the Henry Mountains. These routes are all dead ends that provide the sole OHV access into these which are primarily used for hunting. These routes also provide scenic experiences for OHV users. Designating as OHV-Closed GAHM0076 (Cave Flat Road) would eliminate all public OHV access to Cave Flat which provides access for hunting and scenic and technical driving opportunities. Designating as OHV-Closed WYHM0053a and WYHM0053d would prohibit OHV use past an established turn around/trailhead at the end of County road maintenance on Dugout Bench. Birch creek, a dispersed campsite, and parking area would become inaccessible to OHV users. Non-motorized effects are discussed in the next section.
Henry Mountains/Fremont Gorge ERMA	Designating as OHV-Closed GABD0106 (Cedar Point) would eliminate OHV access to one overlook of the lower Dirty Devil River Canyon and dispersed camping opportunities. Users would continue to be able to hike .3 miles to access the overlook and camp at the route's end. Continued designation of GABD003a and GABD0003 as OHV-Closed would not allow for access between the Little Egypt Staging area (the most popular and suitable location for OHV staging in the area) and the Burr Desert via Poison Springs Canyon, requiring users to travel on Highway 24 to connect these areas. This may be a deterrent to users of OHVs prohibited on or not suited for the highway from accessing the area. Designating as OHV-Closed WYPM0529, WYPM0530, and WYPM0530a would limit route network connectivity between BLM and Forest Service in the Sulphur Creek area. Designating as OHV-Open approximately 6.7 of 12.8 miles of route closed in Alternative A including GAHM0439b, GAHM0439c, GAHM0437a, GAHM0437b, GAHM0437d, and GAHM5016 would allow for greater route network connectivity and increased scenic driving opportunities near the town of Ticaboo. However, designating GABD0437e, GAHM0437c, and GAHM5010 OHV-Closed would foreclose access to some loop riding and popular OHV attractions in the area.

Alternative C

Alternative C would designate a mileage of routes similar to Alternative A. Compared to Alternative A, there would be a reduction of 83 miles (4%) of routes designated OHV-Open or OHV-Limited and available for public use within the TMA. This alternative proposes to close 518 Miles or 23% of evaluated routes to public use.

Under Alternative C, approximately 70-90% of routes providing OHV-based access for the TMA's most popular OHV-related recreation activities and 88% of routes leading to recreation destinations would remain available to OHV users. This alternative would have more access for popular OHV-related

activities and to recreation destinations than Alternatives A and B. Similar to Alternative A, Alternative C provides for a substantial extent of OHV access to the TMA's wide variety of OHV opportunities available to recreation users. See Figure 15 and Figure 16. While less so than Alternative B, OHV users under Alternative C are likely to experience slightly more conflicts with other OHV and authorized users enroute to destinations than under the current management (Alternative A) as Alternative C does not provide for quite as many ATV/UTV user designations. However, since most of the TMA comprises SRMAs targeting specific opportunities and experiences (many of them OHV-related), conflicts are likely to be reduced once users are within a destination SRMA.

- All OHV-Open routes discussed above in Alternative B would be open in Alternative C.
- Alternative C is designed to reduce the route redundancy, confusion, and congestion present in Alternative A while allowing for OHV-based access, loops, and secondary connectivity within the route network. These changes would apply to the Dirty Devil SRMA in the Whitbeck Knoll area, Routes in the Henry Mountains/Fremont Gorge ERMA, Burr Desert, and Cedar Point.
- Alternative C seeks to balance the needs and desires of both motorized and non-motorized users.

Table 25: Alternative C Mileage Changes by Designation Type

	OHV-Open (Miles)	OHV-Limited (Miles)		OHV-Closed (Miles)
		Limited by size	Limited by season	
Alt A	1,781	31	35	435
Alt C	1,754	5	5	518
Change	-27	-26	-30	+83

Table 26: Effects to Motorized Recreation Opportunities – Alternative C

Route Network Area	Alternative C's Notable Effects
Capitol Reef Gateway SRMA	Designating WYPM0458b, WYPM0458c, WYPM0458d (Beas Lewis Flat Spurs) OHV-Open would provide for vehicle-accessed dispersed camping opportunities in a high use area. Designating numerous other small spurs throughout the SRMA OHV-Open would allow for increased vehicle accessed dispersed camping opportunities as well as parking and staging locations for all user groups. Designating 2 miles of redundant, low use, or reclaiming route OHV-Closed would have a minimal adverse effect on OHV users while improving the scenic values and natural appearance of the area for all users.
Dirty Devil SRMA	Designating 8 of the 14 miles of evaluated routes on Sams Mesa OHV-Open, including WYBD0360, WYBD0362, WYBD0361 and other spur routes, would allow public OHV access to the area. This area contains notable overlooks of the Dirty Devil River and Happy Canyon, provides access to Upper Sams Mesa Box Canyon, and is popularly used for desert bighorn sheep hunting. Designating WYBD0191, WYBD0192, and WYBD0187 OHV-Open would allow for a scenic OHV touring loop near Hanksville, Utah. (This OHV loop is featured on online websites and recommended to visitors by local OHV rental businesses.) Designating WYBD0065, WYBD0073, WYBD0076, WYBD0048, WYBD0047, WYBD0075, and WYBD0077a near Whitbeck Knoll OHV-Open would allow for a 7.5-mile secondary connector route linking WYBD0125 (Blackburn Wash Road) with WYBD0016 (Roost House Road) and the Robbers Roost area to Hanksville, Utah. These routes would provide the opportunity for users with 4x4 vehicles to bypass approximately 25 miles of graded County B road and have a more scenic and technically challenging driving experience.

Route Network Area	Alternative C's Notable Effects
	Designating as OHV-Open routes leading to overlooks in the Dirty Devil River drainage, including WYBD0116, WYBD0119, WYBD0241, WYBD0258a, WYBD0297, WYBD0292b, WYBD0317, WYBD0315, WYBD0315a, WYBD0315f, WYBD0315d, and WYBD0317a, would allow for OHV recreationists to enjoy scenic views over the Dirty Devil River and vehicle-accessed dispersed camping opportunities located at the end of these routes. Many of these routes would also provide access to informal trailheads for canyoneering, hiking, and other non-motorized activities. Designating as OHV-Open approximately 9 of the 13.5 miles of evaluated route on Burts Mesa, including GABD0053, GABD0048, GABD0046, GABD0038, GABD0042, GABD0041, GABD0037, and some connected spur routes, would allow for public OHV access to the area. Scenic and technically challenging driving opportunities, overlooks of the Dirty Devil Canyon, access to historic and natural features, and vehicle-accessed dispersed campsites present on these routes would be available to motorized recreationists. Designating GABD0510 (The Simplot Dugway) OHV-Open would allow for motorized connectivity between GABD0004 (North Hatch Canyon) and GABD0505 on Big Ridge adding approximately 25 miles, or 2 hours of 4x4 driving to connect these geographic areas. This route allows for OHVs not otherwise allowed within the Orange Cliffs Unit of GCNRA and other users to access the top of Big Ridge and enjoy a similar setting to that found in in the Orange Cliffs Zone of GCNRA. This route allows for loop driving opportunities and serves as an alternate route between Hans Flat Ranger Station (NPS) and the Maze District of Canyonlands National Park when the Flint Trail Switchbacks are impassable.
Factory Butte SRMA	There would be no difference in Alternative C's effects in this SRMA from Alternative A.
Henry Mountains SRMA	Designating as OHV-Open GAHM0498 (Muley Creek), GAHM0494 (Bullfrog Creek), GAHM0023 (Wildcat Mesa) GAHM0298, WYHM0102 (Oak Creek Bench), GAHM0299 (Sidehill and Twin Springs) would allow for OHV access into large geographic areas of the Henry Mountains SRMA. These routes are all dead ends that provide the sole OHV access into these which are primarily used for hunting. These routes also provide scenic experiences for OHV users. Designating GAHM0076 (Cave Flat Road) as limited to seasonal use would allow for public OHV access to Cave Flat which provides access for hunting and scenic and technical driving opportunities. Designating WYHM0053a and WYHM0053d OHV-Closed would prohibit OHV use at an established turn around/trailhead at the end of County Road maintenance on Dugout Bench. Birch Creek, a vehicle-accessed dispersed campsite and parking area would become inaccessible to OHV users. Non-motorized effects are discussed in the next section.
Henry Mountains/Fremont Gorge ERMA	Designating GABD0106 (Cedar Point) OHV-Open would allow for OHV access to an overlook of the lower Dirty Devil River Canyon and vehicle-accessed dispersed camping opportunities. Designating GABD003a and GABD0003 as limited to high clearance OHVs would allow for access between the Little Egypt staging area (The most popular and suitable in the area) and the Burr Desert via Poison Springs Canyon, allowing users with appropriate OHVs to avoid traveling on Highway 24.

Route Network Area	Alternative C's Notable Effects
	Designating WYPM0529, WYPM0530, and WYPM0530a OHV-Open would allow for greater route network connectivity between BLM and Forest Service in the Sulphur Creek area. Designating GABD0437e, GAHM0437c, and GAHM5010 OHV-Open would provide OHV access to 12.8 miles of route allowing for greater route network connectivity and increased scenic driving opportunities, and access to popular OHV attractions near the town of Ticaboo, Utah.

Alternative D

Alternative D would maximize OHV access across the TMA. Compared to the current management (Alternative A), there would be an increase of 62 Miles (3%) of routes designated as OHV-Open or OHV-Limited and available for public use within the TMA. This alternative proposes to designate as OHV-Closed 373 miles (16%) of evaluated routes to public use, fewer than other alternatives.

Under Alternative D, approximately 83-96% of routes providing OHV access for the TMA's most popular OHV-related recreation activities and 93% of routes leading to recreation destinations would be designated as available to OHV users. This amounts to a larger increase in OHV-based access for popular OHV related activities and to recreation destinations as compared to Alternative A and would result in the largest gain in OHV user access to the TMA's wide variety of OHV opportunities. See Figure 15 and Figure 16. All OHV-Open and OHV-Limited routes discussed in Alternative C would have those same designations under Alternative D unless they appear in Table 28, below.

- Alternative D would allow OHV-based access on more miles of routes than other alternatives.
- Routes which are open in alternative A but closed in Alternative D are receiving negligible use by the public and lack a public purpose and need.
- A possible adverse effect of this high level of OHV access under this alternative is conflict with authorized users/uses, especially grazing, as many of the dead-end routes open in Alternative D but closed in Alternatives B and C lead to range improvements such as developed springs, reservoirs, and mineral sites which concentrate cattle at those locations.
- In some areas redundant routes and areas of route congestion and route-finding confusion would continue to be present such as near North Point, in the Burr Desert, and near Whitbeck Knoll.

Table 27: Alternative D Mileage Changes by Designation Type

	OHV-Open (Miles)	OHV-Limited (Miles)		OHV-Closed (Miles)
		Limited to size	Limited by season	
Alt A	1,781	31	35	435
Alt D	1,898	3	8	373
Change	+114	-28	-27	-62

Table 28: Effects to Motorized Recreation Opportunities – Alternative D

Route Network Area	Alternative D's Notable Effects
Capitol Reef Gateway SRMA	Designating as OHV-Closed 1.7 miles of redundant, low use, or reclaiming routes would allow for slightly more OHV access than Alternative C while still having a minimal effect on OHV users while improving the scenic values and natural appearance of the area for all users.
Dirty Devil SRMA	Designating as OHV-Open approximately 13.5 of the 14 miles of evaluated routes on Sams Mesa including WYBD0360, WYBD0362, WYBD0361 and other spur routes would allow greater public OHV access to the area. This area contains notable overlooks of the Dirty Devil River and Happy Canyon, provides access to

Route Network Area	Alternative D's Notable Effects
	Upper Sams Mesa Box Canyon, and is popularly used for desert bighorn sheep hunting. Designating as OHV-Open approximately 9.25 of the 13.5 miles of evaluated route on Burts Mesa including: GABD0053, GABD0048, GABD0046, GABD0038, GABD0042, GABD0041, GABD0037, and some connected spur routes would allow for greater public OHV access to the area. Scenic and technically challenging driving opportunities, overlooks of the Dirty Devil Canyon, access to historic and natural features, and vehicle-accessed dispersed campsites present on these routes would be available to OHV recreationists.
Factory Butte SRMA	There would be no difference in Alternative D's effects from alternative A.
Henry Mountains SRMA	Designating WYHM0053a and WYHM0053d OHV-Open would allow OHV use past an established turn around/trailhead at the end of County B Road maintenance on Dugout Bench. Birch creek, a dispersed vehicle-accessed campsite, and parking area would be accessible to OHV users. Non-motorized effects are discussed in the next section.
Henry Mountains/Fremont Gorge ERMA	Designating GABD003a and GABD0003 OHV-Open would allow for access between the Little Egypt staging area (the most popular and suitable in the area) and the Burr Desert via Poison Springs Canyon, allowing users to avoid traveling on Highway 24 to connect these areas.

Cumulative Effects to Motorized Recreation

Past, present, and foreseeable actions and trends were previously described in the cumulative actions portion of the Affected Environment. Cumulative effects from those actions include the following overall changes in OHV recreation opportunities on BLM land in the analysis area of Wayne, Garfield, Emery, Grand, and Sevier counties. To the existing route networks (see Table 21), the alternatives would add:

- Alternative A: No change to the total open or limited mileage within the analysis area
- Alternative B: A net mileage reduction of open or limited routes within the analysis area of 28%
- Alternative C: A net mileage reduction of open or limited routes within the analysis area of 4%
- Alternative D: A net mileage increase of open or limited routes within the analysis area of 3%

Providing an insufficient number of routes for users to engage in vehicle-accessed camping would have the cumulative effect of diminishing dispersed camping opportunities in the analysis area. In most of nearby Grand County's high-use areas on BLM lands, vehicle-accessed camping is limited to developed campgrounds or designated dispersed sites. As vehicle-accessed dispersed camping is currently allowed throughout the entire TMA, alternatives with greater open mileage in high-use areas may appeal to users who desire to engage in vehicle-accessed dispersed camping. The magnitude of the effects is greatest where there is high use, and thus is the potential of crowding or resource conflict.

Cumulative effects to recreation may also arise from conflicts between motorized and non-motorized recreation users, grazing permittees, mineral lessees or permittees, and landowners. Other authorized users in the analysis area may be driving larger slower vehicles such as livestock semi-trucks or heavy equipment transport vehicles for graders or bull dozers which can further add to crowding and congestion and affect recreation opportunities. User safety issues are exacerbated by limited sight distance on some routes due to topography (hills or curves), increased traffic, access to hazardous mine sites, and mixed traffic on travel routes (e.g., semi-trucks, equestrian and dirt bike use on the same route). As use increases relative to project development and OHV access and recreation, user safety issues also increase.

Environmental Effects Analysis: Non-motorized Recreation

Common to all alternatives

Under all alternatives, the following circumstances would stay the same:

- The TMA's most heavily used routes would remain open to OHV use across alternatives (see Table 5). This includes regularly maintained routes that provide crucial route network connectivity and routes accessing primary recreation destinations throughout the TMA.
- Routes to all developed trailheads, recreation sites, and campgrounds would remain open to OHVs in all alternatives.
- Throughout the majority of the TMA non-motorized recreation would occur off of the route network.
- The majority of non-motorized use in the TMA occurs within WSAs, Natural Areas, and other LWCs. See Sections 3.4.9 and 3.4.10 for more detail on how route network alternatives affect these lands.
- The most popular routes used for non-motorized activities by users are Poison Springs Canyon Rd (GABD0004), The Bull Creek Pass Back Country Byway (GAHM0211, GAHM0123, GAHM0136, GAHM0127, GAHM0069, GAHM0025, GAHM0106, GAHM0303), Lonesome Beaver Road (WYHM0001, GAHM0131), and Tarantula Mesa Road, (GAHM0073). These roads make up sections of the Hayduke Trail route or alternates, a popular hike crossing through the whole TMA for backpackers. These routes are also regularly hiked by users whose OHVs are not capable of driving them, or when conditions, such as snow in the Henrys, render them impassable to OHVs. While some non-motorized users may benefit from route closure this is not being considered in any alternative as they are crucial for overall network connectivity across the TMA.
- Throughout the TMA there are evaluated routes that remain closed in all alternatives for a variety of reasons: see the section of this EA analyzing motorized recreation, above. Some of these routes including WYBD0343a, WYBD0349, GAHM0140, GAHM0137, GAHM0133, and others in the TMA are currently used as non-motorized trails (are not historically used by OHVs) that provide access for non-motorized users to recreation destinations.
- Routes accessing popular non-motorized destinations in Capitol Reef National Park including: WYNC0109 (Temple of the Sun and Moon), WYNC0132 (South Desert Overlook Trailhead), GAHM0005 (Oak Creek Canyon), GAHM0445 (Halls Creek Overlook and Trailhead) and in Canyonlands National Park including: WYBD0028 (Horseshoe Canyon Trailhead), WYBD0003 (Horseshoe Canyon Trailhead East), and WYBD0005 (Deadman's Trailhead) were all designated for OHV use in the 2008 TMP and will remain open in all alternatives. Most non-motorized users would find motorized access to established trailheads to be beneficial to their activity.

Sights, sounds, and other evidence of human presence (such as vehicles) can hinder a visitor's sense of remoteness and degrade solitude and the physical environment. The magnitude of the effect depends on the proximity of the visitor to the disruption and the presence or absence of topographic or vegetative screening. Routes in wooded areas or above canyon rims would have less of an effect to non-motorized users compared to routes on open hillsides or within canyons.

Alternative A

This alternative would be a continuation of current management of the 2008 TMP. There would be no change to non-motorized recreational access or experiences from this alternative.

This alternative provides extensive access for the TMA's vast array of non-motorized opportunities (e.g., to trailheads, staging areas, etc.). Under this alternative the routes designated for OHV use in the 2008 TMP accessing areas and destinations specifically managed for non-motorized opportunities and

experiences such as hiking, backpacking, canyoneering, and horseback riding would remain available. See Figure 17 and Figure 18 on page 67.

Under this alternative the 148 miles of route not designated in 2008 would remain undesignated (i.e., OHV-Closed) and unavailable to public use. This includes many routes that could be used to access areas for off-route network non-motorized activities. Additionally, several user-created trailheads that occur on routes that were undesignated in the 2008 TMP. For example, GABD0501 (Upper Leprechaun Trailhead), one of two trailheads accessing one of the most popular canyoneering routes in the TMA, and WYBD0258a (Angel Slots Canyoneering Trailhead), would remain closed in this alternative.

Alternative B

Alternative B would have fewer route network miles designated for OHV use than other alternatives. Compared to alternative A, OHV access would be decreased. Most routes closed in this alternative are within or adjacent to WSAs, BLM Natural Areas, and LWC units. Some users of these areas would benefit from an increase in solitude and remoteness as a result. However, many routes are the sole access to large geographic areas and their closure would eliminate opportunities for day use, including non-motorized activities in some cases.

Alternative B would provide for more non-motorized opportunities and increased solitude and feelings of remoteness sought out by some users. However, non-motorized users needing OHV access to begin a non-motorized activity such as walk-in hunting from the end of a spur route or trail access for hiking, canyoneering, or horseback riding could experience a loss of OHV-based access for their activity. See Figure 17 and Figure 18 (page 67) and Table 29, below, for details.

Table 29: Effects to Non-Motorized Recreation Opportunities – Alternative B

Route Network Area	Alternative B's Notable Effects
Capitol Reef Gateway SRMA	Designating WYPM0458b, WYPM0458c, and WYPM0458d (Beas Lewis Flat Spurs) as OHV-Closed would eliminate some dispersed camping in a high-use area. Designating these routes OHV-Closed would reduce effects caused by the sights and sounds of dispersed camping and route use on Beas Lewis Flat.
Dirty Devil SRMA	Designating WYBD0258a (Angel Slots Canyoneering Trailhead) OHV-Closed would require canyoneers to hike an additional .36 miles along this route from the main road (WYBD0262) or .75 miles overland from Angel Trail West Trailhead, the nearest trailhead with adequate parking, to access these canyoneering routes. The user-created trailhead, including camping and parking areas at routes end would be unavailable and relocated elsewhere. Most canyoneers are day users, often navigating multiple routes per day and camping near their vehicles at the trailhead or elsewhere on public lands. These users may see closure and increased difficulty to access canyoneering routes as an adverse effect to their activity. Designating WYBD0096 (Lost Springs Canyoneering Route access) OHV-Closed would require cannoneers to hike an additional 1.25 to 1.6 miles to reach the beginning of these canyoneering routes. A parking and camping area along this route would become unavailable and would need to be relocated elsewhere. Most canyoneers are day users often navigating multiple routes per day and camping near their vehicles at the trailhead or elsewhere on public lands. These users may see closure and increased difficulty to access canyoneering routes as an adverse effect to their activity. Designating as OHV-Closed WYBD0116 and WYBD0119, which provide access to numerous canyoneering routes and hikers access to Robbers Roost

Route Network Area	Alternative B's Notable Effects
	and Pasture Canyons, would add 2.25 to 3.5 miles of approach distance to these locations. Existing parking areas and dispersed campsites on these routes would be unavailable. Users backpacking between the "Cowboy Steps" hiking access to Pasture Canyon and the Sunset Trail into White Roost would benefit from the lack of motorized use on WYBD0119 and resulting increased solitude above the canyon rims in this location. Most canyoneers are day users often navigating multiple routes per day and camping near their vehicles at the trailhead or elsewhere on public lands. These users may see closure and increased difficulty to access canyoneering routes as an adverse effect to their activity. Designating as OHV-Closed WYBD0199, WYBD0191, WYBD0192, WYBD0198, WYBD0187, WYBD0237, and WYBD0238 would reduce motorized access to popular Deer Hunting areas along Dirty Devil River near the town of Hanksville, Utah. These routes and adjacent areas see more use during the 10-day rifle deer hunt than they do at any other time during the remainder of the year. Some non-motorized users including hunters may find decreased motorized activity on these routes to be a beneficial effect to their activity and the solitude or remoteness of the area. However, difficulty of access may render areas inaccessible and un-huntable to many users who are unable to hike in and or pack out harvested animals. The rifle deer hunt occurs in late October each year when temperatures in the region can still reach over 80 degrees Fahrenheit. Getting a harvested animal out of the field and on ice or in a freezer as soon as possible is crucial to avoid meat spoilage.
Factory Butte SRMA	There would be no difference in Alternative B's effects in this SRMA from Alternative A. No changes would be made to route designations within the Factory Butte SRMA. All routes occur in the Motorized Touring RMZ and are crucial to meeting its goals and objectives as well as allowing for route network connectivity in this portion of the TMA. These routes likely adversely affect solitude and the scenic values of the area, and indirectly, the experience of non-motorized users. Route WYNC0066 provides access to a foot trail on to North Caineville Mesa, a popular non-motorized recreation destination.
Henry Mountains SRMA	Designating as OHV-Closed GAHM0498 (Muley Creek), GAHM0494 (Bullfrog Creek), GAHM0023 (Wildcat Mesa) GAHM0298, GAHM0299 (Sidehill and Twin Springs) would eliminate motorized use in large areas primarily used for Bison Hunting. This would increase the required distance to back out harvested Bison by as much as 9 miles. Due to their large size and the nature of the terrain this would make areas essentially unavailable for hunting to many users. However, some users, particularly those on horseback would benefit from these route closures as they could reach locations more difficult to access and competition with other hunters would be less likely. Designating GAHM0076 (Cave Flat Road) OHV-Closed would eliminate all motorized access to Cave Flat. Non-motorized access to the area would be difficult. Due to remoteness, much of the area would only be accessible to multiday users. Solitude would be enhanced, which would be seen as a benefit by hikers, backpackers, and horseback riders using the area. Scouting the area could become more difficult for hunters. However, under current management, a seasonal restriction is already in place on the route when the Bison hunt occurs. Therefore, designation of this route as OHV-Closed would

Route Network Area	Alternative B's Notable Effects
	not meaningfully change access for the majority of hunters who typically use this area. Designating WYHM0053a and WYHM0053d OHV-Closed would prohibit motorized use past an established turn around/trailhead at the end of County road maintenance on Dugout Bench. Equestrian users park at the turnaround and would benefit from the lack of motorized use on .9 miles of route prior to reaching non-motorized trails at the route's end. Some non-motorized users including hikers and backpackers may also find the lack of motorized use to be a benefit to their activity, increasing solitude and remoteness in the Birch Creek Drainage and the adjacent Mt Ellen/Blue Hills WSA. Other non-motorized users may see the .9 miles of additional hiking as an adverse effect to their activity because it would lengthen the distance between motorized access and non-motorized points of interest in the Birch Creek Drainage.
Henry Mountains/Fremont Gorge ERMA	GABD 0110 (Upper Leprechaun Canyon access) would be designated OHV-closed. Canyoneers would be required to hike an additional .5 mile to access canyoneering routes. The user created trailhead, including camping and parking areas at routes end would be unavailable and relocated elsewhere. While no other non-motorized use is known at this location the solitude and remoteness could be seen as a benefit to non-motorized users. Designating GABD0500, GABD0501 and GABD0502 OHV-Closed would remove motorized use from the upper benches of The Cove. Approximately 1.25 miles of additional hiking would be required to reach the base of the South Block Trail, which may prohibit some users from day hiking this trail. However, the enhanced solitude created by these closures would be seen as a benefit by many users. Designating GAHM0490, GAHM0490a, GAHM0489, GAHM0487b, and GAHM0487c OHV-Closed would increase the difficulty of access to the flanks of Mt. Ellsworth in the Little Rockies WSA. This is one of the 7 main summits of the Henry Mountains and is popular with hikers. These routes also provide access to the greater area for other popular area activities including desert bighorn sheep hunting and backpacking and canyoneering. Closure of these routes would increase the solitude and remoteness of the area and benefit the experience of some non-motorized users; however, approach distances to the base of the mountain, the primary area of interest to non-motorized users, would be increased by 1 to 1.5 miles depending on approach.

Alternative C

This alternative would designate miles of OHV-Open routes similar to that under current management (Alternative A). This alternative is designed to maintain access routes for non-motorized users while reducing adverse effects of routes on non-motorized recreation. Many routes that provide the sole access to large geographic areas remain open to public OHV use in this alternative, providing more opportunities for non-motorized recreation where lack of OHV-based access would otherwise make it difficult.

Like Alternative A, Alternative C provides increased access for non-motorized opportunities and destinations in the TMA. Similar to Alternative A, 90% of the existing route access to areas and destinations for non-motorized opportunities such as hiking, backpacking, or canyoneering would be maintained. See Figure 17 and Figure 18 (page 67) and Table 30, below, for details.

Table 30: Effects to Non-Motorized Recreation Opportunities – Alternative C

Route Network Area	Alternative C's Notable Effects
Capitol Reef Gateway SRMA	Designating WYPM0458b, WYPM0458c, WYPM0458d (Beas Lewis Flat Spurs) OHV-Open would allow for more dispersed camping options in a high use area. These routes and dispersed camping accessed by them would affect the experience of non-motorized recreation on Beas Lewis Flat. However, these routes also likely facilitate non-motorized experiences for some visitors hiking and exploring the area near their campsites.
Dirty Devil SRMA	Designating WYBD0258a (Angel Slots Canyoneering Trailhead) OHV-Open would allow canyoneers to access multiple canyoneering routes from the existing user created trailhead. Camping and parking areas at the route's end would be available for use. Most canyoneers are day users often navigating multiple routes per day and camping near their vehicles at the trailhead or elsewhere on public lands. These users would see opening this route to be a benefit to their activity and experience. This route is adjacent to the Dirty Devil WSA and may adversely affect the solitude experience of users in this area. However, topographic screening (canyon walls) exists between the canyon bottoms where most use occurs and the route. A continuation of this route past the trailhead WYBD0258 and nearby route WYBD0256, a secondary access to the Angel Slots, are closed in this alternative in attempt to mitigate adverse effects by eliminating motorized use near the canyon rims in this location. Designating WYBD0096 (Lost Springs Canyoneering Route access) OHV-Open would allow users to reach the beginning of these canyoneering routes, eliminating a detour of 1.25 to 1.6 miles. A parking and camping area along this route would be available for use. Most canyoneers are day users often navigating multiple routes per day and camping near their vehicles at the trailhead or elsewhere on public lands. These users would likely see OHV access on this route as a benefit to their activity. This route is adjacent to the Dirty Devil WSA; however, topographic screening and distance between the route and canyon rim would make effects to non-canyoneering users in the canyon bottom negligible. While non-canyoneering use is assumed to be low the solitude and experience of users above the canyon rim could be adversely affected by this route. Designating as OHV-Open WYBD0116 and WYBD0119, which provide access to numerous canyoneering routes and hikers access to Robbers Roost and Pasture Canyons, would eliminate 2.25 to 3.5 miles of approach distance to these locations. Existing parking areas and dispersed campsites on these routes would be available for use. Canyoneers and some other day users would benefit from increased access to canyoneering routes and trails into the canyons. Users backpacking between the "Cowboy Steps" and hikers accessing Pasture Canyon and the Sunset Trail into White Roost may be affected by motorized use on WYBD0119 and decreased solitude above the canyon rims in this location. Other routes above the canyon rim in this location, including WYDB0121, WYBD0117, and WYBD0115, would remain closed in this alternative, improving non-motorized users' experience while adding less than .25 miles of hiking distance to one canyoneering route. Designating as OHV-Open WYBD0199, WYBD0191, WYBD0192, WYBD0198, WYBD0187, WYBD0237, and WYBD0238 would allow for motorized access to popular deer hunting areas along Dirty Devil River near the town of Hanksville, Utah. These routes and adjacent areas see more use

Route Network Area	Alternative C's Notable Effects
	during the 10-day rifle deer hunt than they do at any other time during the remainder of the year. Some non-motorized users including hunters may find motorized activity on these routes to be an adverse effect to their activity and the solitude or remoteness of the area. However, increased access to these areas would be beneficial to many users who are unable to hike in and or pack out harvested animals. The rifle deer hunt occurs in late October each year when temperatures in the region can still reach over 80 degrees Fahrenheit. Getting a harvested animal out of the field and on ice or in a freezer as soon as possible is crucial to avoid meat spoilage.
Factory Butte SRMA	There would be no difference in Alternative C's effects in this SRMA from Alternative A. No changes would be made to route designations within the Factory Butte SRMA. All routes occur in the Motorized Touring RMZ and are crucial to meeting its goals and objectives as well as allowing for route network connectivity in this portion of the TMA. These routes likely adversely affect solitude and the scenic values of the area, and indirectly, the experience of non-motorized users. Route WYNC0066 provides access to a foot trail on to North Caineville Mesa, a popular non-motorized recreation destination.
Henry Mountains SRMA	Designating as OHV-Open GAHM0498 (Muley Creek), GAHM0494 (Bullfrog Creek), GAHM0023 (Wildcat Mesa) GAHM0298, and GAHM0299 (Sidehill and Twin Springs) would allow for motorized access to large areas primarily used for bison hunting. This would decrease the required distance to pack out harvested bison, allowing more use by those without pack animals to access and hunt a larger area. However, some users, particularly those on horseback could see these routes as an adverse effect as they make locations more accessible and would likely increase competition with other hunters. Connected routes GAHM0494a, GAHM0494b, GAHM0455, and GAHM0023a would remain closed in this alternative to minimize route effects to solitude remoteness and non-motorized user experience in these areas. Designating GAHM0076 (Cave Flat Road) as limited seasonally for OHV use (May 15- October 30) would allow for limited motorized access to Cave Flat. This would allow for increased day use access to the area by both motorized and non-motorized users. The solitude and remoteness of the area would be decreased during the route's open season which would be seen as an adverse effect by many hikers, backpackers, and horseback riders using the area. However, these non-motorized users could continue to access the area during its seasonal closure at which time they would benefit from its increased solitude and remoteness. During all times of year, topographic screening could distance non-motorized users from the sights and sounds of this route. Designating WYHM0053a and WYHM0053d OHV-Closed would prohibit motorized use past an established turn around/trailhead at the end of County road maintenance on Dugout Bench. Equestrian users park at the turnaround and would benefit from the lack of motorized use on .9 miles of route prior to reaching non-motorized trails at the route's end. Some non-motorized users including hikers and backpackers may also find the lack of motorized use to be a positive, increasing solitude, and remoteness in the Birch Creek Drainage. Other non-motorized users may see the .9 miles of additional hiking as adverse because it would lengthen the distance between motorized access and non-motorized points of interest in the Birch Creek Drainage.

Route Network Area	Alternative C's Notable Effects
Henry Mountains/Fremont Gorge ERMA	Designating GABD 0110 (Upper Leprechaun Canyon access) OHV-Open would eliminate .5 mile of hiking to access canyoneering routes. The user created trailhead, including camping and parking areas at routes end would be remain available to users. While no other non-motorized use is known at this location the solitude and remoteness could be adversely affected by this route and the dispersed camping opportunities at its end. Designating GABD0501 and GABD0502 OHV-Open would allow motorized access to the upper benches of The Cove. This would eliminate approximately 1.25 miles of hiking required to reach the base of the South Block Trail and allow the trail to be a feasible day hike for more users. Motorized access to these benches would adversely affect solitude and the experience of some users. GABD0500 would remain closed in this alternative, preserving solitude near The Sewing Machine. (Same as the effects under Alternative A.) Designating as OHV-Open GAHM0490, GAHM0489, GAHM0487b and GAHM0487c would allow motorized access to the flanks of Mt. Ellsworth in the Little Rockies WSA. This is one of the 7 main summits of the Henry Mountains and is popular with hikers. These routes also provide access to the greater area for other popular area activities including desert bighorn sheep hunting and backpacking and canyoneering. Designating these routes as OHV-Open would adversely affect the solitude and remoteness of the area, and indirectly, the experience of some non-motorized users. However, approach distances to the base of the mountain, the primary area of interest to non-motorized users, would be decreased by 1 to 1.5 miles depending on approach. GAHM0490a and other nearby route segments including GAHM0498a, GAHM0498b, and GAHM0487a, would remain closed in this alternative to minimize route effects to solitude, remoteness, and non-motorized user experience in the Mt. Ellsworth area.

Alternative D

This alternative would designate more OHV-Open route miles than other alternatives. This alternative would also provide the most routes for users to access via OHV non-motorized opportunities and destinations in TMA. While providing greater OHV-based access, this alternative also would have the highest likelihood of user conflicts between motorized and non-motorized users and potential for adverse effects to the experiences sought by non-motorized recreationists.

Of the evaluated routes providing access to areas and destinations for non-motorized opportunities such as hiking, backpacking, canyoneering, 93% would be retained as OHV-Open. See Figure 17 and Figure 18 (page 67) and Table 31, below, for details.

- Routes and locations discussed Alternative C have no change in Alternative D unless they appear in the table below.

Table 31: Impacts to Non-Motorized Recreation Opportunities – Alternative D

Route Network Area	Alternative D's Notable Impacts
Capitol Reef Gateway SRMA	There would be no difference in Alternative D's effects in this SRMA from Alternative C.
Dirty Devil SRMA	Designating WYBD0258a (Angel Slots Canyoneering Trailhead) OHV-Open would allow canyoneers to access multiple canyoneering routes from the

Route Network Area	Alternative D's Notable Impacts
	existing user created trailhead. Camping and parking areas at the route's end would be available for use. Most canyoneers are day users often navigating multiple routes per day and camping near their vehicles at the trailhead or elsewhere on public lands. These users would see OHV access on this route to be a benefit to their activity and experience. This route is adjacent to the Dirty Devil WSA and may be an impact to the solitude experience of users in this area; however, topographic screening (canyon walls) exist between the canyon bottoms, where most use occurs, and the route. A continuation of this route past the trailhead WYBD0258 is designated OHV-Closed in this alternative in attempt to mitigate impacts by eliminating motorized use near the canyon rims in this location. WYBD0256, a secondary access to the Angel Slots, would be designated OHV-Open in this alternative.
Factory Butte SRMA	There would be no difference in Alternative D's effects in this SRMA from Alternative A. No changes would be made to route designations within the Factory Butte SRMA. All routes occur in the Motorized Touring RMZ and are crucial to meeting its goals and objectives as well as allowing for route network connectivity in this portion of the TMA. These routes likely have an adverse effect on solitude and the scenic values of the area, and indirectly, the experience of non-motorized users. Route WYNC0066 provides access to a foot trail on to North Caineville Mesa, a popular non-motorized recreation destination.
Henry Mountains SRMA	Designating as OHV-Open GAHM0498 (Muley Creek), GAHM0494 (Bullfrog Creek), GAHM0023 (Wildcat Mesa) GAHM0298, GAHM0299 (Sidehill and Twin Springs) and connected routes GAHM0494a, GAHM0494b, and GAHM0455 would allow for motorized access to large areas primarily used for bison hunting. This would reduce the required distance to pack out harvested bison, allowing more use by those without pack animals to access and hunt a larger area. However, some users, particularly those on horseback, could see these routes as an adverse effect as they would make locations more accessible and would likely increase competition with other hunters. Connected route GAHM0023a would be designated OHV-Closed in this alternative to minimize route impacts to solitude remoteness and non-motorized user experience on Wildcat Mesa. Designating WYHM0053a and WYHM0053d OHV-Open would allow motorized use past an established turnaround/trailhead at the end of county road maintenance on Dugout Bench. Equestrian users park at the turnaround and may deem motorized use to have an adverse effect on the .9 miles of route they would be required to ride prior to reaching non-motorized trails at the route's end. Some non-motorized users including hikers and backpackers may also find motorized use to adversely affect the solitude and remoteness of the Birch Creek Drainage. Other non-motorized users may see the .9 miles of additional hiking as a beneficial effect because it would reduce the distance between motorized access and non-motorized points of interest in the Birch Creek Drainage.
Henry Mountains/Fremont Gorge ERMA	Designating GABD0500, GABD0501 and GABD0502 OHV-Open would allow motorized access to all evaluated routes in the upper benches of The Cove. This would eliminate approximately 1.25 miles of hiking required to reach the base of the South Block Trail and allow the trail to be a feasible day hike for more users. Increased motorized access to these benches would have

Route Network Area	Alternative D's Notable Impacts
	the greatest adverse effect to solitude and the experience of some users compared to other alternatives.

Cumulative Effects to Non-Motorized Recreation

Past, present, and foreseeable actions and trends affecting non-motorized recreation were previously described in the cumulative actions portion of the Affected Environment. Cumulative effects include varying levels of route density, route evidence, parking, vehicle-based dispersed camping, vehicles, dust, noise, and intra-group crowding especially near overlooks, non-motorized trails, and on canyon rims. The alternatives would also add varying increased or decreased hiking distance to points of interest. Finally, the alternatives would have varying amounts of open or limited routes adjacent to WSAs, Natural Areas, and portions of SRMAs managed for non-motorized users and closed to all OHV use by the 2008 RMP. These changes would affect solitude and overall availability of open spaces and may result in varying user experiences and levels of user conflicts. The magnitude of the effects would be greatest where there is high non-motorized use adjacent to areas of high motorized use such as a trailhead that also serves as an overlook at the end of a route or routes popular with non-motorized users.

Non-motorized users would be affected by OHV use under any alternative. Alternative A's contribution to cumulative effects would be a continuation of the current conditions and effects. Alternative B would prioritize non-motorized use with OHV use being reduced throughout the TMA. OHV-assisted access to many non-motorized destinations would be more difficult under this alternative for many users, while solitude and remoteness, seen as a benefit to many users, would be increased. Alternative C is designed to balance OHV and non-motorized uses throughout the TMA. Adverse effects from OHV use would be greater than under Alternative B but less than under Alternative D. OHV-assisted access to non-motorized destinations would be expanded in Alternative C while non-motorized users experience would still benefit from the closure of routes with the highest level of adverse effects. Alternative D would have the greatest adverse effects to non-motorized users from motorized use and access being prioritized throughout the TMA. Alternative D offers the greatest OHV-based access to non-motorized destinations while also having the most potential impact on non-motorized users experience.

3.4.8 VISUAL RESOURCES

Issue 9: How would the route designation alternatives affect visual resources within the TMA?

The spatial analysis area for visual resources is the TMA boundary which covers the area that would be incrementally affected by the action alternatives. The temporal scope of analysis is 20 years (see Section 3.2).

Affected Environment

The TMA contains a broad range of visual settings and features including mountain landscapes, deeply incised canyons, and broad bench lands. Some of the main visual attractions in the TMA include the Henry Mountains, Factory Butte, Fremont Gorge, the Fremont River, and the Dirty Devil River.

The quality of visual resources is measured with visual resource inventory (VRI) classes. See Table 32 for VRI classes in the TMA and the miles of evaluated routes in those classes. VRI classes are assigned through an inventory process and serve as the basis for considering visual values. As noted in the BLM's 8410-1 Visual Resource Inventory Handbook, "Inventory classes are informational in nature and provide the basis for considering visual values in the RMP process. They do not establish management direction and are not used as a basis for constraining or limiting surface disturbing activities" (BLM 1986). Class I is assigned to those areas where a management decision has been made previously to maintain a natural landscape. Classes II, III, and IV are assigned based on a combination of scenic quality, sensitivity level,

and distance zones, with Class I containing the highest visual quality and Class IV the lowest visual quality. An inventory of visual resources for BLM lands in the TMA was conducted in 2011. For more details on the visual resource inventory that covers the TMA, see the BLM's Visual Resource Inventory for Richfield Field Office, dated November 2011.

Visual resources in the TMA are managed in accordance with the 2008 RMP. See Table 33 for Visual Resource Management (VRM) Classes in the TMA and the miles of evaluated routes in those classes. VRM is a process the BLM uses to manage scenic values to reduce adverse visual effects from development or other surface-disturbing activities on public lands. There are four visual resource classes: I, II, III, and IV. Class I is assigned to areas where management decisions have been made to maintain natural landscapes. The objective of Class II is to retain the existing character of the landscape. The objective of Class III is to partially retain the existing character of the landscape and Class IV is assigned where decisions allow for activities that involve major landscape character modification. VRM classes are assigned through RMPs and are used as a basis for management (BLM 1986). For more details on visual resources management in the TMA, see pages 3-47 to 3-48 of the 2008 Richfield Proposed RMP/EIS (BLM 2008c). For more details on visual resource classes and how they are determined, see the BLM's Visual Resource Inventory manual (BLM 1986).

The areas of highest visual quality in the TMA, as identified by the Richfield inventories, are in the WSAs and BLM Natural Areas. VRM II within the TMA mostly extends along the boundary with Capitol Reef National Park, along the Fremont and Dirty Devil rivers, and in the Henry Mountains.

Table 32: Acres and Miles of Evaluated routes by VRI Class

VRI Class	BLM-VRI Acres within TMA	Miles within VRI class
VRI Class I	445,090	213
VRI Class II	272,413	506
VRI Class III	208,421	532
VRI Class IV	523,844	1,029

Table 33: Acres and Miles of Evaluated Routes by VRM Class

VRM Class	BLM –VRM Acres within TMA	Miles within VRM class
VRM Class I	445,509	178
VRM Class II	225,610	338
VRM Class III	281,112	721
VRM Class IV	493,704	1,036

Current conditions from Section 3.3 that currently affect visual resources:

- Use of travel routes can perpetuate dust in the viewshed. The existence of travel routes perpetuates form, line, and color contrasts in the viewshed.
- Farmland agricultural practices (see Table 7), utilities, and water developments result in dust, form, line, and color contrasts in the viewshed that are rural or industrial in character.
- Mineral development result in form line, and color contrasts in the viewshed that are industrial in character.

Existing travel routes and OHV use can inadvertently affect and disrupt the natural appearance of landscapes through just the appearance of the route on the landscape. OHV use on primitive native-surface roads can increase dust levels in the air, the extent of which depends on traffic characteristics and road quality (Etyemezian et al. 2003). In turn, the presence of dust particles in the air can reduce viewsheds (Duniway et al. 2019). Routes also affect visual resources by creating contrasting lines where they do not follow natural landscape contours. User-created routes may not follow ground contours and

can extend up slopes, leading to rilling, erosion, and contrasting lines. Finally, eroded hillsides from travel in highly erosive soils and weed spread or introduction can also result in a change in form, line, and color and create contrasts that impair visual quality.

Environmental Effects Analysis

Figure 19 – Figure 22 inform the effects analysis for visual resources. They present the miles of routes in VRI and VRM Class I and Class II areas in the TMA. Analysis does not include Class III and IV because these classes allow for changes in form, line, and color and would not provide for a useful comparison between alternatives. Specifically, OHV use, including incidental use such as passing, parking, staging, and associated maintenance (see Appendix E) may perpetuate the form, line, color, and dust effects to visual resources that are already occurring on routes that are currently OHV-Open or OHV-Limited, and would add the dust effects to routes that are currently managed as OHV-Closed.

The BLM assumes that application of specified operation and management tools provided in the TMP Implementation Guide—such as human-made barriers, route markers, kiosks, and signs to educate OHV users of low-impact and responsible use—would help reduce or prevent visitor behaviors that could otherwise cause adverse effects to the visual elements of line, form, and color. Regardless of the final designation of each travel route, the Implementation Guide provides follow up actions. For routes designated OHV-Closed, some such actions may include the placement of closure signs, reclamation, or installation of barricades, as described in Appendix E. For routes designated for OHV use, actions may include the use of heavy equipment for route maintenance. Overall, all alternatives will result in some routes being closed, thereby eliminating OHV-related dust effects from those routes on the landscape. Any reclaimed routes would reduce the route designation footprint on the landscape by decreasing visual contrast to the natural-appearing landscape.

The nature of the effects will be the same across alternatives; however, the magnitude and location of the routes will vary. The magnitude can be assessed using the miles of routes in respective VRI and VRM classes as impact indicators (Figure 19 – Figure 22).

Figure 19: Miles of Evaluated Routes in VRI Class I Areas

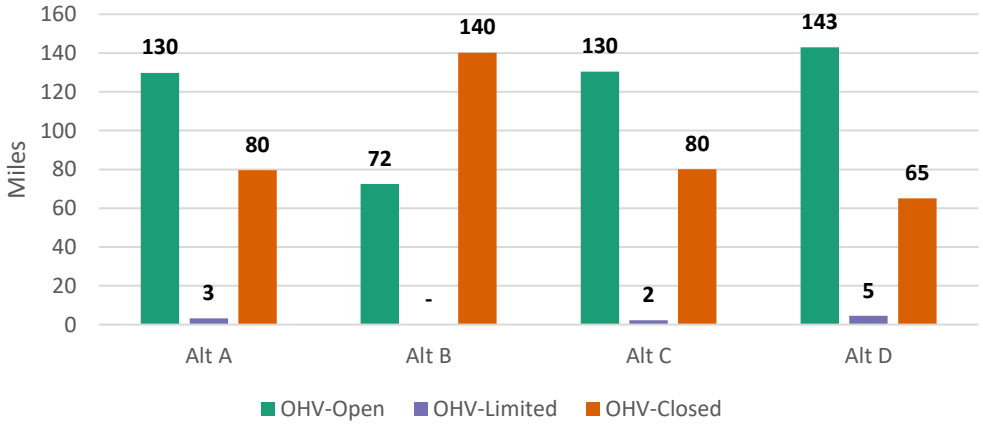


Figure 20: Miles of Evaluated Routes in VRI Class II Areas

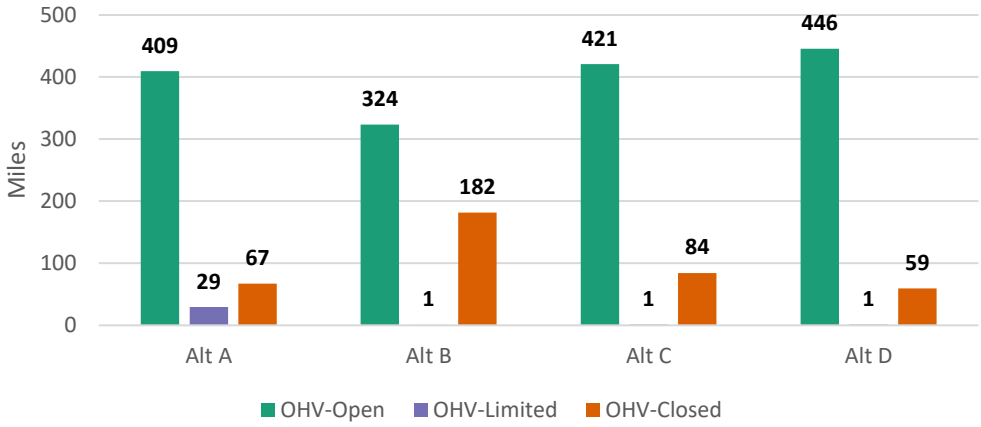


Figure 21: Miles of Evaluated Routes in VRM Class I Areas

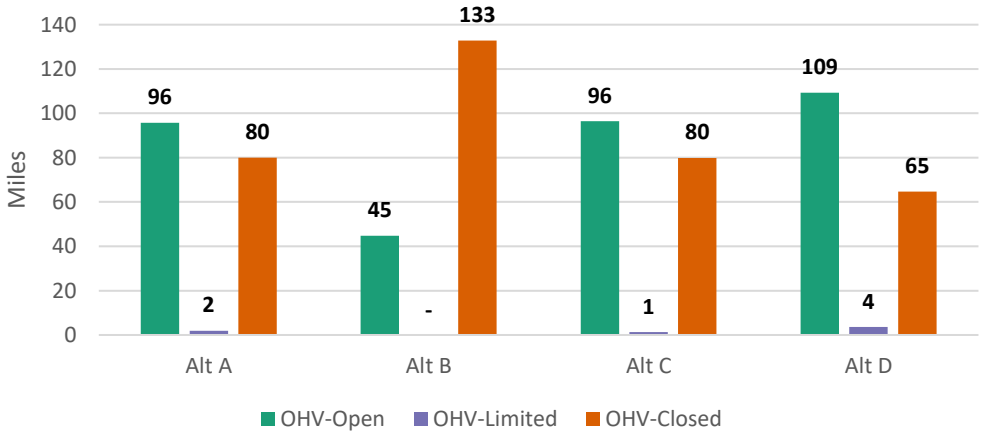
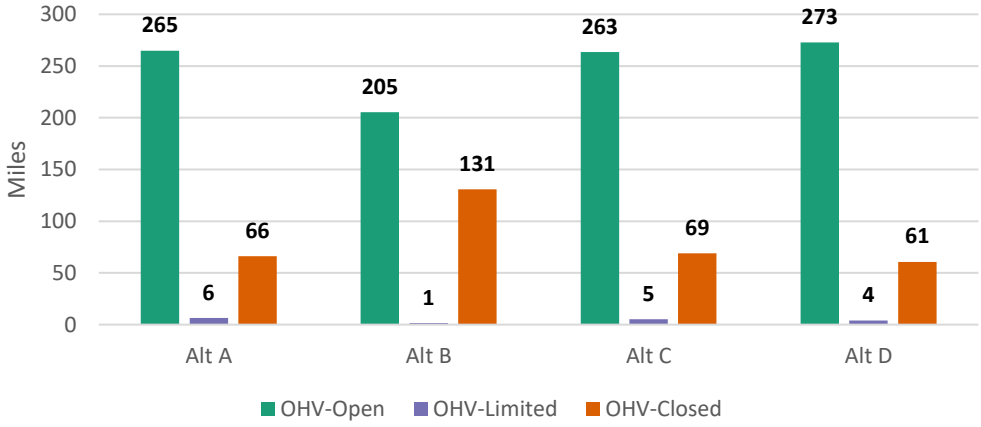


Figure 22: Miles of Evaluated Routes in VRM Class II Areas



Alternative A (No Action)

Under Alternative A, there would be no route designation changes in the TMA. In VRI Class I areas, 62% (133 miles) of evaluated routes would remain designated for OHV use; and in VRI Class II areas, 87% (438 miles) of evaluated routes would remain designated for OHV use.

In VRM Class I areas, 55% (98 miles) of evaluated routes would remain designated for OHV use; and in VRM Class II areas, 80% (271 miles) of evaluated routes would remain designated for OHV use. Effects to the TMA's visual resources (e.g., degradation of visual quality, disruption of natural appearances, etc.) would reflect a continuation of current designations.

Alternative B

In VRI Class I areas, Alternative B would designate 72 miles for OHV use, a 46% reduction from Alternative A; 140 miles would be designated as OHV-Closed. In VRI Class II areas, Alternative B would designate 325 miles for OHV use, a 26% reduction from Alternative A; 182 miles would be designated as OHV-Closed.

In VRM Class I areas, Alternative B would designate 45 miles for OHV use, a 54% reduction from Alternative A; 133 miles would be designated as OHV-Closed. And in VRM Class II areas, Alternative B would designate 206 miles for OHV use, a 24% reduction from Alternative A; 131 miles would be designated as OHV-Closed.

Given the reduction in routes designated for OHV use, Alternative B's potential for OHV use-related effects to the TMA's visual resources would be the lowest of any alternative.

Alternative C

In VRI Class I areas, Alternative C would designate 132 miles for OHV use, approximately the same as Alternative A; 80 miles would be designated as OHV-Closed. In VRI Class II areas, Alternative C would designate 422 miles for OHV use, a 4% reduction from Alternative A; 84 miles would be designated as OHV-Closed.

In VRM Class I areas, Alternative C would designate 97 miles for OHV use, approximately the same as Alternative A; 80 miles would be designated as OHV-Closed. And in VRM Class II areas, Alternative C would designate 268 miles for OHV use, a 1% reduction from Alternative A; 69 miles would be designated as OHV-Closed.

Given the slight reduction in routes designated for OHV use along with the formal closure of routes, Alternative C's potential for OHV use-related effects to the TMA's visual resources would be lower than Alternatives A and D but higher than Alternative B.

Alternative D

In VRI Class I areas, Alternative D would designate 148 miles for OHV use, an 11% increase from Alternative A; 65 miles would be designated as OHV-Closed. In VRI Class II areas, Alternative D would designate 447 miles for OHV use, a 2% increase from Alternative A; 58 miles would be designated as OHV-Closed.

In VRM Class I areas, Alternative D would designate 113 miles for OHV use, a 15% increase from Alternative A; 65 miles would be designated as OHV-Closed. In VRM Class II areas, Alternative D would designate 277 miles for OHV use, a 2% increase from Alternative A; 61 miles would be designated as OHV-Closed.

Despite the miles of routes that would be designated as OHV-Closed, and given the increase in routes that would be designated for OHV use, Alternative D's potential for OHV use-related effects to the TMA's visual resources would be the highest of any alternative.

Cumulative Effects

OHV routes and related use result in visual resource effect changes in form, line, and color of the landscape as described above.

Under Alternative A, there would be no route designation changes in the TMA. Cumulative effects on visual resources from existing OHV routes and ongoing use would reflect a continuation of current conditions that include other area disturbances (see Section 3.3.5), and, given the likelihood of increased recreation use and visitation and lack of complete implementation of the 2008 TMP to address ongoing OHV use and related effects (e.g., route proliferation and social trails), it is likely that accumulating effects on visual resources from the Alternative A route designations would occur commensurate with the increased use and visitation.

Under Alternative B there would be a 26-46% and 24-54% reduction in route miles available in the TMA for OHV use in VRI I and II, and VRM I and II areas respectively. Even with projected increases in recreation use and visitation (Leaver 2024), Alternative B's changes to the route designations would provide for overall incremental reductions in changes to the landscape in the TMA's cumulative effects analysis area. Under Alternative C, route miles available for OHV use in VRI I and II, and VRM I and II areas, would remain nearly unchanged from Alternative A. Alternative D would result in increases of route miles available for OHV use in both VRI and VRM I and II areas.

3.4.9 WILDERNESS STUDY AREAS

Issue 10: How would the route designation alternatives affect size, apparent naturalness, and outstanding opportunities for solitude or primitive and unconfined recreation in Wilderness Study Areas (WSAs) within the TMA?

The analysis area is the BLM WSAs within the TMA because the WSA bounds the wilderness character that has the potential to be affected by travel management decisions. The temporal scope of analysis is 20 years (see Section 3.2).

Affected Environment

Eleven WSAs within the TMA were established under the authority of Section 603(c) of FLPMA and are being managed to preserve their wilderness values. Under the 2008 RMP, OHV travel is allowed within the WSAs on ways (primitive routes) identified during the original wilderness inventory compiled by the BLM in 1980, unless otherwise restricted through a land use planning (i.e., RMP) level decision. Decision WSA-4 in the 2008 RMP stipulates,

> Where routes would remain available for motorized use within WSAs, such use could continue on a conditional basis. Use of the existing routes in the WSAs ("ways" when located within WSAs–see Glossary) could continue as long as the use of these routes does not impair wilderness suitability, as provided by the Interim Management Policy for Lands Under Wilderness Review (BLM 1995)[12]. If Congress designates the area as wilderness, the routes will be closed. In the interim, if use and/or non-compliance are found through monitoring efforts to impair the area's suitability for wilderness designation, BLM would take further action to limit use of the routes, or close them. The continued use of these routes, therefore, is based on user compliance and non-impairment of wilderness values.

The WSAs within the TMA include Bull Mountain, Dirty Devil, Fiddler Butte, Fremont Gorge, French Spring/Happy Canyon, Horseshoe Canyon North, Horseshoe Canyon South, South Little Rockies, Mt.

[12] BLM Manual 6330 – Management of Wilderness Study Areas (BLM 2012c) replaced the Interim Management Policy for Lands Under Wilderness Review.

Ellen/Blue Hills, Mt. Hillers, and Mt. Pennell. A total of 113 miles of evaluated routes are in these WSAs. Based upon recent WSA monitoring and active rehabilitation by BLM staff, it is estimated that approximately 10 acres total of WSAs have been affected by OHV route expansion and/or dispersed camping use. Cumulatively, BLM currently assesses that wilderness characteristics of WSAs within the TMA have not degraded, and WSA suitability for preservation as wilderness has not been impaired by ongoing OHV use. Of the cumulative actions listed in Section 3.3, only livestock grazing and OHV travel on OHV-Open routes would occur within the WSAs.

Environmental Effects Analysis

Figure 23 identifies the miles of route proposed as OHV-Open, -Limited, and -Closed within WSAs. OHV use on existing routes within WSAs may contribute to degradation or loss of naturalness, solitude, or primitive unconfined recreation through auditory and visual effects from the passage of OHVs on designated routes. The sights and sounds of motor vehicles within WSAs may disturb visitors' experience of outstanding opportunities for solitude or primitive recreation for as long as the vehicle's presence can be perceived by the visitor. However, in most circumstances, visitors can travel further into the WSAs out of visual and auditory range of vehicle routes.

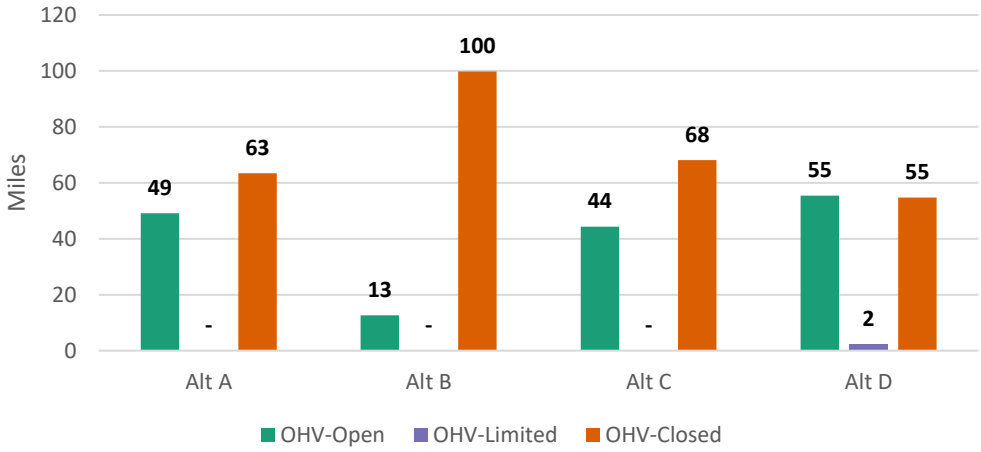
OHV use within WSAs may also affect naturalness due to improper route use such as widening or braiding, driving off route to dispersed campsites, and new route creation or extension. Other effects that may result from OHV use of routes include soil erosion, vegetation loss, spread of weed seed or propagules, human waste, litter and trash dumping, oil or gasoline spills, woodcutting, target shooting, vandalism, and wildfires. These may result in changes to naturalness and possibly supplemental values such as cultural sites, wildlife, geology, paleontology, or scientific values.

In remote, arid desert regions like the TMA, OHV routes in or adjacent to WSAs may provide crucial access for experiencing and enjoying wilderness characteristics. Distances, lack of water, and extreme temperatures often make motorized access necessary to effectively transport adequate supplies and gear to a trailhead location where personal safety and positive outcomes can be maintained. The travel network in the TMA provides important public access to trailheads for non-motorized activities such as hiking, camping, hunting, canyoneering, equestrian riding, and other activities within WSAs. While route designations would not affect authorized uses for emergency services, where routes are reclaimed naturally or actively, the resulting lack of motorized access may also lead to an increase in response time for search and rescue operations in isolated areas.

With TMP implementation actions the BLM will continuously monitor OHV use within or adjacent to WSAs within the TMA, and reclaim, mitigate, and minimize adverse effects on wilderness characteristics to the greatest extent practicable. Reclamation of unauthorized OHV use or other unauthorized human-caused surface disturbances in WSAs includes minimum-tool practices such as trash removal, erosion control, mulching, revegetation, signing, and weed eradication. TMP implementation actions such as placement of barriers for closed routes, signing[13], and restoration maintenance[14] from violations and emergencies would result in localized disturbances that could temporarily contribute to degradation of naturalness.

[13] Per BLM Manual 6330, "Motorized/mechanized primitive routes may be signed only to the extent necessary to prevent resource damage or users getting lost" (BLM 2012c).
[14] Per BLM Manual 6330, "No improvement or maintenance of any primitive routes will be permitted to facilitate recreational motor vehicle or mechanized vehicle use in WSAs if it does not meet the non-impairment standard or one of the exceptions" (BLM 2012c).

Figure 23: Miles of Evaluated Routes in WSAs



Alternative A

The route designations in this alternative are current management. The route designations listed in Figure 23 for Alternative A currently exist and would not change and existing impacts would continue.

Alternative B

This alternative would designate 13 miles of routes for OHV use within WSAs, a reduction of 73% (-36 miles). However, in the arid and mountainous terrain of the TMA, reduced access to existing trailheads and campsites within WSAs would also diminish opportunities to experience wilderness characteristics. In the short term under Alternative B, BLM signing, monitoring, and rehabilitation requirements would expand. TMP implementation actions such as placement of barriers for closed routes, signing, and restoration maintenance from violations and emergencies is also likely to increase in the short term. Under Alternative B, WSA suitability for preservation as wilderness would remain unimpaired.

Alternative C

This alternative represents a reduction in OHV access within WSAs compared to Alternative A. The potential for effects to wilderness characteristics within WSAs described above would increase compared to Alternative B but would be similar to Alternative A. In the short term under Alternative C, unauthorized OHV incursions within WSAs are not likely to change compared to Alternative A due to the similarity between the alternatives, and BLM signing, monitoring, and rehabilitation requirements would also likely remain the same. TMP implementation actions such as placement of barriers for closed routes, signing, and restoration maintenance from violations and emergencies would not likely increase compared to Alternative A. Under Alternative C, WSA suitability for preservation as wilderness would remain unimpaired.

Alternative D

This alternative represents a modest increase in OHV access within WSAs compared to Alternative A. The potential for effects to wilderness characteristics within WSAs described above would increase. TMP implementation actions such as placement of barriers for closed routes, signing, and restoration maintenance from violations and emergencies is likely to increase over time. Over the long term, cumulative effects to wilderness characteristics in WSAs would likely increase. Under Alternative D, wilderness characteristics of WSAs within the TMA are likely to degrade, and WSA suitability for preservation as wilderness could be impaired in localized areas.

Cumulative Effects

Of the cumulative actions listed in Section 3.3, only livestock grazing and OHV travel on OHV-Open routes would occur within the WSAs. BLM anticipates motorized and non-motorized visitation and recreation in the TMA will increase over time commensurate with population growth regardless of which alternative is selected, as observed elsewhere in Utah (Leaver 2024). The alternatives would contribute the effects previously described.

3.4.10 WILDERNESS CHARACTERISTICS

Issue 11: How would the route designation alternatives affect size, apparent naturalness, and outstanding opportunities for solitude or primitive and unconfined recreation in lands identified by the BLM as possessing wilderness characteristics?

The analysis area is the combined LWC inventory units and BLM Natural Area Boundaries overlapping the TMA boundaries, including portions of those BLM Natural Areas extending beyond the TMA. The temporal scope of analysis is 20 years (see Section 3.2)

Affected Environment

LWC units are defined as BLM-administered lands inventoried per BLM Manual 6310 – Conducting Wilderness Characteristics Inventory on BLM Lands (BLM 2021b) that contain at least 5,000 contiguous roadless BLM acres, or if less than 5,000 acres, are contiguous to an area of Federal lands formally managed for the protection of wilderness characteristics such as designated Wilderness, WSA, or recommended wilderness in USFS or NPS lands. LWC units have been determined by the BLM to possess the characteristic of naturalness, meaning they appear primarily affected by the forces of nature; provide outstanding opportunities for solitude and/or primitive and unconfined recreation; and may have supplemental values such as ecological, geological, or other scientific, educational, or historical (BLM 2021b). LWC inventory findings are only a resource determination and are not officially a special land use allocation or designation. LWC units are not solely managed for the protection of their wilderness character unless a BLM land use planning decision has been made to manage the unit as a BLM Natural Area. Distinct from any planning decisions, under 43 CFR § 8342.1, the BLM has the obligation to minimize adverse effects to resources, including wilderness characteristics, when designating OHV routes. The 2017 Settlement Agreement stipulates that "For purposes of minimizing damage to public lands with BLM-inventoried wilderness characteristics, the BLM will consider the potential damage to any constituent element of wilderness characteristics, including naturalness, outstanding opportunities for solitude, and outstanding opportunities for primitive and unconfined recreation, for each alternative travel network." A total of 591 miles of evaluated routes are within LWC units in the TMA. Certain primitive routes and Wilderness Inventory routes that overlap LWC or BLM Natural Area designated lands would remain open under any alternative because they are authorized by an existing right-of-way, other BLM authorization (2008 RMP decision WC-4), or by another law.

BLM Natural Areas are LWCs where BLM has decided, in an RMP decision, to manage to protect, preserve, and maintain their inventoried wilderness characteristics. Because BLM Natural Areas are a discretionary management category resulting from an RMP decision, they differ from Wilderness areas designated per the Wilderness Act, and WSAs established under the authority of Section 603 of FLPMA.

BLM Natural Areas in the TMA are managed for their wilderness characteristics under the 2008 RMP, which defines BLM Natural Areas as follows:

> In future references, lands managed by the 2008 RMP as non-WSA lands with wilderness characteristics will be referred to as BLM Natural Areas. This change does not represent a new designation or a new decision. Rather, BLM wants to recognize these discretionary decisions with a better, simpler reference. Wilderness Areas and Wilderness Study Areas are formal designations

> that are managed in a prescribed manner. To avoid confusing these official designations with discretionary agency decisions, BLM has chosen a new reference to distinguish between formal designations (e.g., Wilderness Areas) and a discretionary management category (BLM Natural Areas). According to the 2008 RMP, BLM Natural Areas will be managed to protect, preserve, and maintain values of primitive recreation, the appearance of naturalness and solitude. (BLM 2008d, page 36)

The TMA contains all or portions of 11 BLM Natural Areas. These BLM Natural Areas include Dirty Devil/French Spring, Dogwater Creek, Horseshoe Canyon South, Labyrinth Canyon, Little Rockies, Mount Ellen-Blue Hills, Mount Pennell, Notom Beach, Ragged Mountain, Red Desert, and Wild Horse Mesa. Within these BLM Natural Areas are a total 25 miles of evaluated primitive routes. In the context of BLM Natural Areas, a primitive route is a transportation linear feature that does *not* meet the Wilderness Inventory Road definition (i.e., has not been constructed or improved, and maintained by mechanical means to ensure relatively regular and continuous use for its intended purpose).

The 2008 TMP limits OHV use within the TMA's BLM Natural Areas to designated routes. In conformance with 43 CFR § 8342.1 and the 2008 RMP, the BLM authorized officer shall designate OHV-open and OHV-Limited routes in BLM Natural Areas only if off-road vehicle use would not adversely affect their natural, aesthetic, scenic, or other values for which such areas are established.

Environmental Effects Analysis

Continued OHV use, including incidental use such as passing, parking, and staging, and associated maintenance (see Appendix E) within LWC units, has the potential to contribute to degradation or loss of wilderness characteristics resulting from travel-related effects such as vehicle noise, vehicle tracks, creation or expansion of dispersed camp sites, resource damage from route proliferation, widening or braiding, and soil disturbance. OHV use can adversely affect naturalness by perpetuating routes and associated vegetation loss, erosion, and spreading noxious weeds. OHV use may also increase wildlife habitat disturbance and mortality. OHV use produces localized and transient visual and auditory effects that may lead to diminished outstanding opportunities to experience solitude and/or primitive and unconfined recreation.

Adverse effects to wilderness characteristics can occur near travel routes from dispersed camping, human waste, litter and trash dumping, hazardous fluid leaks, woodcutting, target shooting, vandalism, wildfires, etc., resulting in changes to naturalness and supplemental values such as cultural sites, scenery, wildlife, geology, paleontology, or scientific values.

In remote, arid desert regions like the TMA, OHV routes in LWC units may provide crucial access for experiencing and enjoying wilderness characteristics. Distances, lack of water, and extreme temperatures often make motorized access necessary to effectively transport adequate supplies and gear to a trailhead location where personal safety and positive outcomes can be maintained. The travel network in the TMA provides important public access to trailheads and non-motorized activities such as hiking, camping, hunting, canyoneering, equestrian riding, and other activities within LWCs. While route designations would not affect authorized uses for emergency services, where routes are reclaimed naturally or actively, the resulting lack of motorized access may also lead to an increase in response time for search and rescue operations in isolated areas.

Route closures, through OHV-Closed designations and associated implementation actions such as reclamation when applied, could reduce the overall footprint of the route designations in affected LWC units over time. Reclamation of primitive routes within an LWC unit would not increase the acreage of inventoried wilderness characteristics in any unit because primitive routes were included in the overall acreage calculation during the LWC inventory. However, reclamation of primitive routes would remove potential for adverse effects tied to OHV use on those routes and would benefit the integrity of wilderness characteristics.

The BLM has monitored visually apparent unauthorized off-route use by documenting visually apparent damage points in the Summary Motorized Vehicle Impact Monitoring Report for the Henry Mountains and Fremont Gorge Travel Management Area (BLM 2017). TMP implementation actions (see Appendix E) are designed to prevent adverse effects to LWC units from continued OHV use in each alternative. Implementation actions for OHV-Closed routes or areas where unauthorized use is occurring could include the placement of closure signs, installation of natural barricades, vertical mulching, reclamation, and monitoring by BLM staff, including BLM law enforcement or contractors. Short-term implementation effects could occur from a temporary loss of solitude from noise and presence of people and vehicles for the duration of the implementing actions (e.g., the installation of the sign, or route barrier placement). Temporary adverse changes to naturalness would occur as long as signs or barriers were present at the closure. However, once closure signs or structures were removed, the quality of wilderness characteristics would be enhanced long-term.

Figure 24 and Figure 25 are used to inform effects analysis. They indicate travel network miles that are in LWCs and BLM Natural Areas (not including routes on LWC or BLM Natural Area boundaries). This mileage is used as an indicator of the route designations' potential effects to LWCs and BLM Natural Areas because the distance is how long an OHV could travel in these areas.

Figure 24: Miles of Evaluated Routes by Alternative in LWC

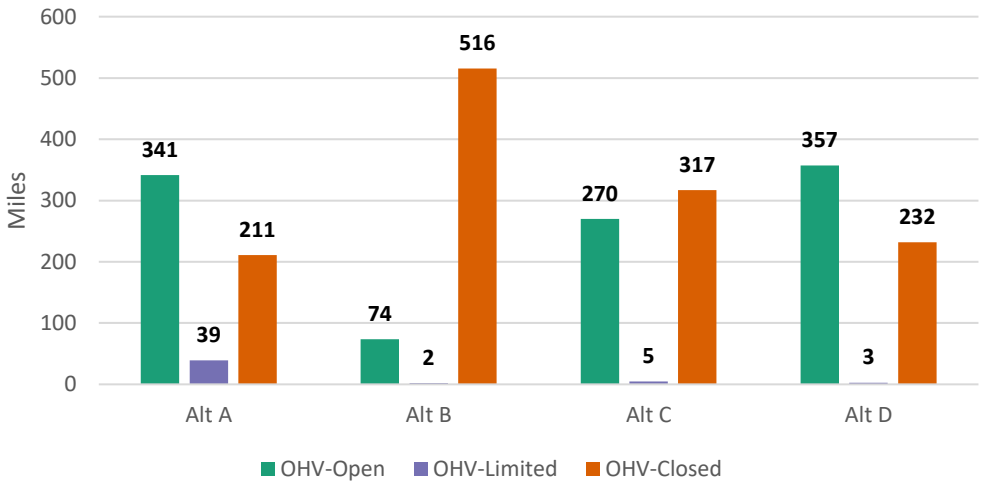
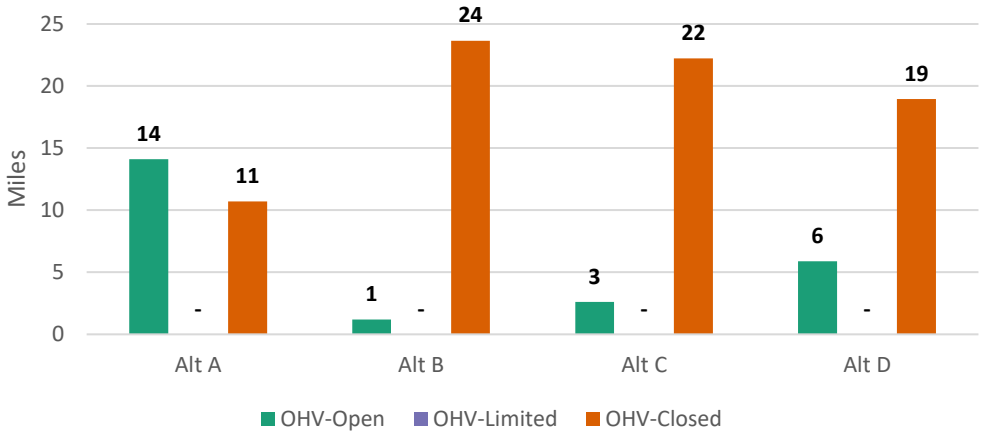


Figure 25: Miles of Evaluated Primitive Routes in BLM Natural Areas



Alternative A (No Action)

Under Alternative A, there would be no route designation changes in the TMA; 380 miles of evaluated routes in LWC units would remain designated for OHV use and 211 miles would remain closed to OHV use. Concerning BLM Natural Areas, OHV use would continue to be available on 14 miles of evaluated primitive routes while 11 miles would remain closed to OHV use. Under this alternative, impacts to naturalness and outstanding opportunities for solitude and primitive and unconfined recreation within LWC units and BLM Natural Areas would reflect a continuation of current designations.

Alternative B

Alternative B would designate a total of 76 miles of routes for OHV use within LWC units in the TMA. Please reference Figure 24 to identify the difference in magnitude of Alternative B. Overall, Alternative B's potential for OHV use-related impacts to wilderness characteristics in LWC units would be lower than that of other alternatives.

Alternative B would designate a total of 1 mile of primitive routes in BLM Natural Areas. These two routes are primary trailhead accesses for Capitol Reef National Park. Please reference Figure 25 to identify the difference in magnitude of Alternative B. Alternative B only proposes to designate for OHV use evaluated routes that meet the criteria of a Wilderness Inventory Road. The BLM interdisciplinary team has determined that these routes would not cause damage to the wilderness characteristics in these units, and that they serve a critical purpose and need for connectivity or recreation experience. Overall, Alternative B's potential for OHV use-related impacts to wilderness characteristics in BLM Natural Areas would be lower than each of the other alternatives. Negative impacts to the wilderness characteristics of these BLM Natural Areas from OHV use is not expected under this alternative.

The BLM has documented visually apparent unauthorized surface disturbances off routes as well as visually apparent damage to public lands resources caused by motorized vehicle use within BLM Natural Areas (Summary Motorized Vehicle Impact Monitoring Report, BLM 2017).

Under this alternative, impacts to naturalness and outstanding opportunities for solitude and primitive and unconfined recreation within LWC units and BLM Natural Areas would likely decrease or improve compared to current management under Alternative A.

Alternative C

Overall, Alternative C would reduce designated route mileage in LWC units by 28% (-105 miles). It would designate a total of 275 miles of evaluated routes for OHV use within LWC units in the TMA. Please reference Figure 24 to identify the difference in magnitude of Alternative C.

Alternative C would reduce the miles of primitive routes and wilderness inventoried roads designated for OHV use in BLM Natural Areas by 79% (-11 miles). Please reference Figure 25 to identify the difference in magnitude of Alternative C for BLM Natural Areas.

Although the Richfield Field Office has experienced fluctuations in visitation Field Office-wide, based on professional judgement and review of the BLM recreation visitation reporting database, the BLM believes that the character and use of the routes proposed to be designated OHV-Open and OHV-Limited under Alternative C have not significantly changed since they were inventoried and that continued use of the routes will not interfere with protecting, preserving, and maintaining wilderness characteristics.

Under this alternative, impacts to naturalness and outstanding opportunities for solitude and primitive and unconfined recreation within LWC units and BLM Natural Areas would remain largely the same compared to current management under Alternative A.

Alternative D

Alternative D would reduce designated route mileage in LWC units by 5% (-20 miles). Please reference Figure 24 to identify the difference in magnitude of Alternative D.

Alternative D would reduce the miles of primitive routes and wilderness inventoried roads designated for OHV use in BLM Natural Areas by 57% (-8 miles). Please reference Figure 25 to identify the difference in magnitude of Alternative D for BLM Natural Areas.

Under this alternative, adverse effects to naturalness and outstanding opportunities for solitude and primitive and unconfined recreation within LWC units and BLM Natural Areas would likely increase compared to current management under Alternative A. Increased OHV access may lead to more impacts such as route widening or braiding, route proliferation, dispersed campsite expansion, soil disturbance, vegetation loss, wildlife disturbance, erosion, littering, vandalism, and wildland fire risk.

Cumulative Effects

The wilderness characteristics of the LWC units and BLM Natural Areas comprising the analysis area are generally not affected by activities outside their boundaries. Most of the past, present, and reasonably foreseeable actions, plans, or projects in the TMA are outside of the analysis area and therefore do not contribute to effects in the LWC units or BLM Natural Areas.

Past, present, and reasonably foreseeable actions that may occur in the analysis area are shown in Section 3.3. These include vegetation management, livestock grazing and grazing management, wildlife habitat management, and recreation. All these actions have the potential to cumulatively affect naturalness or opportunities for solitude if the activities are noticed by visitors and associated with human activity.

During inventory, the BLM determined the LWC units and BLM Natural Areas in the TMA possess wilderness characteristics despite the existence, use, and maintenance of existing routes in them. Ongoing OHV activities may degrade wilderness characteristics through effects to naturalness, outstanding opportunities for solitude or primitive recreation, and supplemental values. Fugitive dust and noise from OHV travel along existing routes within LWC units and BLM Natural Areas may have affected experiences for those seeking outstanding primitive recreation and solitude. Other cumulative effects to LWC units and BLM Natural Areas are detailed in Section 3.3. The surface disturbances and sights and sounds of other visitors from these activities will have similar changes to wilderness characteristics such

as naturalness, outstanding solitude or primitive, unconfined recreation, and supplemental values as previously described for OHV use in the TMA.

Under Alternative A, there would be no route designation changes in the TMA. Effects from ongoing OHV use would be a continuation of current conditions, and an overall incremental change to LWC units, BLM Natural Areas and their wilderness characteristics within the analysis area is not anticipated.

Overall, Alternative B would result in fewer routes designated OHV-Open or OHV-Limited than other alternatives, and therefore would reduce effects from OHV use to LWC units and BLM Natural Areas because of the closure of 540 miles of evaluated routes in these units. Alternative B would allow continued OHV use of several routes within BLM Natural Areas. However, it should be noted these routes were present at the time the BLM Natural Areas were inventoried, and it was determined at that time that the presence of these routes did not affect the wilderness character; the BLM determined this is still the current case. The routes proposed as designated for OHV use in Alternative B currently serve as wilderness boundary roads. None of the routes proposed to be open to OHV use in Alternative B would bisect any LWC unit and cause that unit to no longer meet size criteria. If the routes proposed to be OHV-Open or OHV-Limited do not serve as wilderness boundaries, they serve as critical access routes to popular points of interest and provide parking areas that would be signed and formalized to reduce off-route travel. If this alternative is selected, it would not change the current LWC inventories as closing/opening routes would not immediately change the landscape, because the routes already exist. However, over time, future use, maintenance, and natural reclamation could lead to updated LWC inventories producing different results either adding or reducing the amount of acreage. This Alternative would reduce adverse effects to wilderness characteristics as it would close 24 miles of evaluated primitive routes within BLM Natural Areas and close 516 miles of evaluated routes in LWC units not managed as Natural Areas.

Overall, Alternative C would result in reductions of routes designated for OHV use in LWC units and BLM Natural Areas. All units were found to contain wilderness characteristics despite the existence of these inventoried routes. No new construction of routes or surface disturbing activities are proposed, just the designation and maintenance of these existing routes. If this alternative is selected, it would not change the current LWC inventories, as closing/opening a route would not immediately change the landscape. However, over time future use and maintenance (or lack thereof) could lead to updated LWC inventories producing different results, either creating more or reducing the amount of acreage. This alternative would minimize adverse effects to wilderness characteristics as it would close 22 miles of evaluated primitive routes within BLM Natural Areas, and it also closes 317 miles of evaluated routes within LWC units.

Overall, Alternative D would result in fewer miles of routes designated for OHV use in LWC units and BLM Natural Areas. All units were found to contain wilderness characteristics despite the existence of wilderness inventory roads and primitive routes within the unit. No new construction of routes or surface disturbing activities are proposed, just the designation and maintenance of the designated routes as needed to maintain access. If this alternative is selected, it would not change the current LWC inventories, as closing/opening a route would not immediately change the landscape. However, over time future use and maintenance could lead to updated LWC inventories producing different results either creating more or reducing the amount of acreage. This alternative would minimize adverse effects to wilderness characteristics as it would close 19 miles of evaluated primitive routes within BLM Natural Areas, and it also closes 232 miles of evaluated routes within LWC units.

All action alternatives include operation and management activities as disclosed in the TMP Implementation Guide (Appendix E), with formal guidance for signing, reclamation, and adaptive management protocols that are designed to offset ongoing effects from OHV use to BLM Natural Areas and LWC units. Per 43 CFR § 8342.1, each alternative would not adversely affect the natural, aesthetic, scenic, or other values for which the BLM Natural Areas were established.

4 CONSULTATION AND COORDINATION

4.1 NATIONAL HISTORIC PRESERVATION ACT (NHPA) SECTION 106

The BLM conducted NHPA consultation in accordance with the 2018 Travel PA. These consultation efforts included seeking input from Indian tribes and consulting parties regarding BLM's Class I Inventory, cultural resource potential models, the Area of Potential Effect, the need to conduct additional cultural resource surveys, and BLM's finding of effect. BLM has consulted with SHPO regarding cultural resource National Register eligibility determinations and will continue to consult regarding the effect of the undertaking and development of a Treatment Plan. SHPO consultation is ongoing but will be completed prior to the BLM authorized office issuing a decision. BLM's consultation efforts are further documented in Appendix C.

4.1.1 TRIBAL CONSULTATION

Tribal consultation, including consultation with applicable Tribal Historic Preservation Officers, was initiated through the NHPA Section 106 consultation process, described at 36 CFR § 800 and directed by the Travel PA, on April 16, 2024. The Paiute Indian Tribe of Utah has chosen to defer to the Kanosh and Koosharem Band of Paiutes as they are closer to the TMP area. No other comments have been received. Tribal consultation is ongoing but will be completed prior to the BLM authorized officer issuing a decision.

4.1.2 OTHER CONSULTING PARTIES

The NHPA and the Travel PA directs the BLM to invite parties who may have a demonstrated interest in the undertaking to participate in consultation. BLM consulted with SHPO regarding a list of potential consulting parties on April 07, 2016. Invitations to consult were sent to potential consulting parties on that list via email and USPS on April 24, 2024. Other consulting parties for this TMP include Southern Utah Wilderness Alliance (SUWA), State of Utah Public Lands Policy Coordinating Office (PLPCO), Utah Rock Art Research Association (URARA), and Utah State Parks. URARA expressed concern over cumulative effects and previously unrecorded cultural resources that might potentially be adversely affected by this undertaking.

4.2 ENDANGERED SPECIES ACT SECTION 7

The BLM coordinated with the USFWS to determine analysis areas for listed species. Coordination and communication with the USFWS is ongoing. Consultation will be completed prior to the BLM authorized officer issuing a decision.

4.3 PUBLIC INVOLVEMENT

In accordance with the 2017 Settlement Agreement requirements, the BLM released the preliminary alternatives and the preliminary route reports to the public on May 10, 2024, by posting them online to the BLM's public access National NEPA Register (ePlanning). The BLM held a public input period from May 10 to June 10, 2024. The BLM received 530 comments through ePlanning and email. An address was provided to send in letters by USPS, but no public input was received by this method. A virtual public meeting with a Q and A session was held via Zoom on May 28, 2024, and 25 members of the public attended. The BLM considered the public input received in the development of the EA. Public input received will be considered and used to update information in the EA and route reports where appropriate.

A public comment period will be held on the EA to provide opportunity to review the proposed alternatives and environmental analysis. In accordance with 40 CFR § 1503.4, public input received will be considered and used to update information in the EA and route reports where appropriate.

4.4 COOPERATING AGENCIES

Based on special expertise or jurisdiction by law, cooperating agencies involved in the BLM planning process are Garfield County, Wayne County, Town of Hanksville, the Utah Trust Lands Administration (TLA), the State of Utah Public Lands Policy Coordinating Office (PLPCO), Capitol Reef National Park, and Glen Canyon National Recreation Area.

The BLM emailed the preliminary alternatives, preliminary route reports, and other information to the cooperating agencies on May 9, 2024. Designations on routes that cross BLM office boundaries were coordinated with the adjacent offices.

4.5 LIST OF PREPARERS

4.5.1 BUREAU OF LAND MANAGEMENT

The following staff assisted with assembling this EA. Additional staff contributed to the route evaluation that supports the EA and TMP Implementation Guide.

Name	Title
Jason Anderson	GIS Specialist, Richfield Field Office
Paul Caso	Rangeland Management Specialist, Richfield Field Office
Joe Chigbrow	Wildlife Biologist, Richfield Field Office
April Crawley	Planning and Environmental Specialist, Utah State Office
Mark Dean	Hydrologist, Richfield Field Office
Sue Fivecoat	Assistant Field Manager, Henry Mountains Field Station
Ben Gaddis	Supervisory Planning and Environmental Coordinator, Utah State Office
Hunter Harridge	Outdoor Recreation Planner, Henry Mountains Field Station
Hayden Houston	Planning and environmental Coordinator, Color Country District
Stephanie Howard	NEPA and GIS Branch Chief, Green River District Office
Dave Jacobson	Travel and Transportation Lead, Utah State Office
Brandon Jolley	Natural Resource Specialist, Richfield Field Office
Ray Kelsey	National Conservation Lands Program Lead, Utah State Office
Georgia Knauss	Regional Paleontologist, Utah State Office
Leah Knighton	Natural Resource Specialist, Richfield Field Office
Sam Marolt	Geologist, Richfield Field Office
Tye Morgan	Planning and Environmental Coordinator, Oregon State Office
David Mortensen	Field Manager, Richfield Field Office
Jeff Reese	Rangeland Management Specialist, Richfield Field Office
Dustin Rooks	Botanist, Richfield Field Office

Kandi Rutan	Archaeologist, Richfield Field Office
Bill Stevens	Outdoor Recreation Planner, Moab Field Office
Michael Utley	Realty Specialist, Richfield Field Office
Joel Ward	Planning and Environmental Specialist, Green River District Office

APPENDIX A ISSUES ANALYZED IN BRIEF

A.1 AIB-1: AIR QUALITY

How would the route designation alternatives affect air quality in the TMA?

The analysis area is Garfield and Wayne counties because the TMA overlaps those counties. The temporal scope of analysis is 20 years (see Section 3.2). The counties are designated as unclassified for all National Ambient Air Quality Standards (NAAQS) pollutants. It is assumed that unclassified counties without reported design values have air pollutant concentrations below the NAAQS and good air quality since air monitoring is usually needed only when concentrations exceed 80% of the NAAQS (40 CFR § 58.14 (c)(1)). The Air Quality Index (AQI) is an indicator of overall air quality as it accounts for all criteria air pollutants in a county and is one way to quickly evaluate how clean or polluted the air is. The EPA calculates a daily AQI based on local air monitoring data. The terms "good," "moderate," and "unhealthy" help to interpret the AQI. When the AQI value is in the good range, pollutant concentrations are well below the NAAQS and air pollution poses little or no risk. Moderate AQI values occur when pollution is below but near the NAAQS and voluntary emission reduction measures are encouraged. The AQI is considered unhealthy when the NAAQS are exceeded, and major pollution sources are often required to implement mandatory emission reduction measures. Counties without AQI data usually have fewer air pollutant sources and are assumed to have good air quality. A summary of AQI data for Garfield and Wayne counties is reported in Table 34.

Table 34: AQI Summary Statistics 2020-2022

		# of Days When AQI was…			% of Days Rated…		
County	**# Days with AQI**	**Good**	**Moderate**	**Unhealthy**	**Good**	**Moderate**	**Unhealthy**
Garfield	895	763	130	2	85.3%	14.5%	0.2%
Wayne	566	521	44	1	92.0%	7.8%	0.2%

Source: BLM 2023b

On-route travel has the potential to create emissions of air pollutants from maintenance of routes, vehicle exhaust, and wind erosion. Since many of the routes are unpaved the primary pollutant would be particulate matter (PM_{10} and $PM_{2.5}$). Vehicle exhaust would also produce emissions of nitrogen oxides, sulfur dioxide, and carbon monoxide.

An overall increase in visitors in the area is expected as that has been the trend in recent decades (Leaver 2024). Emissions of air pollutants are linearly related to vehicle usage which is a function of the number of visitors and vehicle miles traveled. However, changes to the number of visitors in the TMA is unrelated to the action being considered by the BLM, because all alternatives deal with designating existing routes for OHV use. In addition, none of the alternatives would authorize the construction of new routes, designate routes that do not exist, authorize events, create or remove a destination that would draw new visitors, or authorize an action such as construction of recreation facilities or utility lines. Therefore, changes to designation of existing routes (OHV-Open, OHV-Limited, OHV-Closed) is unlikely to change the number of vehicle miles traveled as visitors are anticipated to continue to use routes that are open. Route closure could displace vehicle miles traveled by influencing where recreationists decide to recreate (inside or outside of the TMA). However, the BLM does not have data on where recreationists would decide to travel if certain routes were closed. With the number of visitors and vehicle miles traveled anticipated to remain the same between alternatives, emissions would also remain the same.

Dust plumes created by vehicles traveling on unpaved routes may be visible at distances from the routes, thereby affecting views from adjacent public lands. Airborne dust will eventually deposit on vegetation and other objects, but this usually happens within a short distance from routes. As described above, the

dust emissions are already occurring and the TMP will not change the affected environment for visibility or deposition.

Based on the existing air quality conditions in the area and the anticipated level of effects described, a detailed emissions inventory and a detailed analysis are not needed. Analyzing emissions would not help make a reasoned choice between alternatives (BLM Handbook H-1790-1, Section 6.4.1) and would not concentrate on the issues that are truly significant to the action in question (40 CFR § 1500.1(b)) since there would be no emission differences between the alternatives.

A.2 AIB-2: GREENHOUSE GAS AND CLIMATE CHANGE

How would the route designation alternatives affect greenhouse gas emissions and climate change?

Global cumulative greenhouse gas (GHG) emissions contribute to climate change. On-route travel and maintenance have the potential to result in emissions of GHGs from vehicle exhaust. An overall increase in visitors in the area is expected as that has been the trend in recent decades (United States Census Bureau 2023). Emissions of GHGs are linearly related to vehicle usage which is a function of the number of visitors and vehicle miles traveled. However, changes to the number of visitors in the recreation area are unrelated to the action being considered by the BLM because all alternatives deal with designating existing routes for OHV use. In addition, none of the alternatives would authorize the construction of routes, authorize use of a route that has not already been subject to ongoing use even if such use was unauthorized, add or remove access to major area destinations, authorize events, create or remove an attraction that would draw new visitors, or authorize an action (such as construction) that would involve worker access. Therefore, changes to designation of existing routes (OHV-Open, OHV-Limited, or OHV-Closed) is unlikely to change the number of vehicle miles traveled as visitors are anticipated to continue to use routes that are open. Route closure could displace vehicle miles traveled by influencing where recreationists decide to recreation (inside or outside the TMA). However, the BLM does not have data on where recreationists would decide to travel if certain routes were closed. Since the number of visitors and vehicle miles traveled would be anticipated to remain the same between alternatives, emissions would also remain the same. Based on existing GHG emissions in the area and the anticipated level of effects as described, a detailed emissions inventory and a detailed analysis are not needed. Analyzing GHG emissions would not help make a reasoned choice between alternatives (BLM Handbook H-1790-01, Section 6.4.1) and would not concentrate on the issues that are truly significant to the action in question (40 CFR § 1500.1(b) since there would be no emission differences between the alternatives.

A.3 AIB-3: DARK NIGHT SKIES

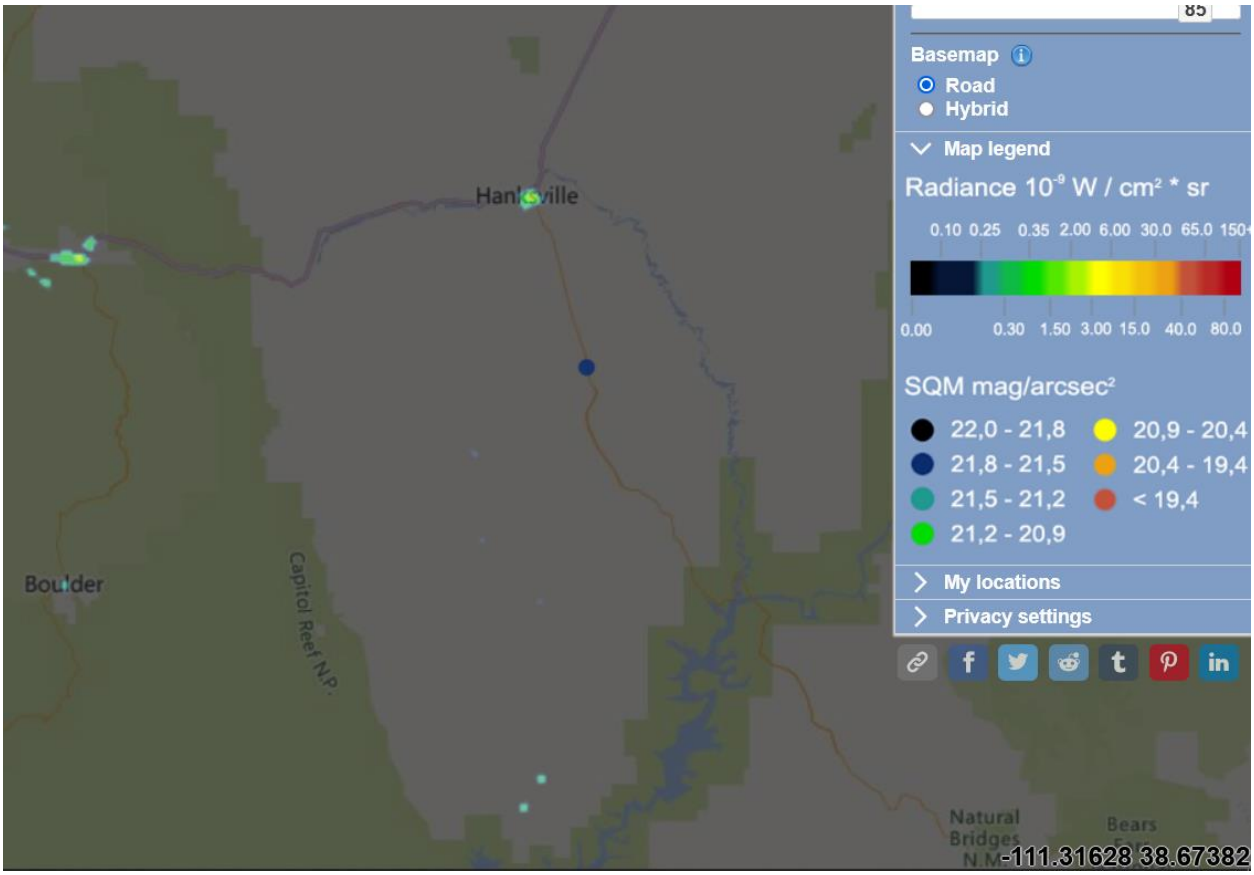
How would the route designation alternatives affect the quality of dark night skies?

The analysis area is the TMA because it is the area in which lighting from use of OHV-open or OHV-limited routes could affect the viewing quality of dark night skies. The temporal scope of analysis is 20 years (see Section 3.2). Dark night skies contribute to the remote experience that many people seek when they visit public lands. Light pollution diminishes the aesthetic values of the night sky by making it difficult to see fainter stars or other faint celestial objects (BLM 2023a). Optimal night skies are free of scattered light or skyglow, which is generated by light from development, transportation, industrial operations, and other human activity. The scattering of artificial light in the atmosphere increases night sky luminance and erodes the visual appearance of stars and planets.

The communities of Hanksville, Bicknell, Teasdale, and Torrey and development points in the far southern portion of the TMA that serve as a northern gateway to Lake Powell introduce only modest amounts of light pollution and minimally contribute to skyglow within the TMA (see Figure 26). Capitol Reef National Park was designated as an International Dark Sky Park in 2015. Based on the 2023 data from http://www.lightpollutionmap.info, the Henry Mountains/Fremont Gorge TMA has sky quality

meter (SQM) values[15] between 21.8-22.0 which places it solidly within Bortle Class 1, the highest quality of dark night skies possible (Bortle 2006). Bortle Class 1 areas are described as Excellent Night Sky sites where portions of the Milky Way cast obvious shadows, many constellations are difficult to distinguish within the heavy background of visible stars, sources of zodiacal light, airglow, and globular clusters are readily visible to the naked eye, and both Jupiter and Venus are bright enough to affect night adaptation.

Figure 26: 2023 Light Pollution Map of the TMA and Surrounding Area



Potential effects to dark night sky viewing experiences from the route designation alternatives would include temporary, transient, low-angle disturbances near the horizon from vehicle headlights or tail-lights while traveling after dark. Headlights can sometimes create temporary skyglow, especially when reflecting off canyon walls. These effects can be expected to occur most frequently early in the evenings when vehicles are traveling to and from trailheads or dispersed camping locations. Temporary and localized effects to night sky viewing quality may also occur near occupied dispersed campsites accessed via the travel network. Later evenings and early morning hours when visitors are normally asleep would likely see much fewer adverse effects from vehicle lights and dispersed camping. Due to the temporary and transient nature of the anticipated effects, adverse effects to dark night skies from vehicle travel or associated dispersed camping within the TMA would not be to a level meriting detailed analysis. Motor vehicle lighting requirements are established under the Federal Motor Vehicle Safety Standards by the National Highway Traffic Safety Administration, and therefore, are outside the purview of BLM's

[15] Sky quality meter (SQM) ratings measure the luminance of the night sky on a scale between the numbers of 16.00-22.00. Lower numbers indicate brighter skies such as in urbanized areas and higher numbers indicate darker skies such as in remote, uninhabited areas. SQM values for any point on Earth can be determined from http://www.lightpollutionmap.info.

authority to influence. Motor vehicle regulation and registration are under the jurisdiction of the Utah Division of Motor Vehicles.

A.4 AIB-4: NATURAL SOUNDSCAPES

How would the route designation alternatives affect natural soundscapes?

The analysis area is the TMA because it overlaps rural areas in Garfield and Wayne counties. The temporal scope of analysis is 20 years (see Section 3.2). In rural areas, ambient sound levels are typically 30 to 40 A-weighted decibels (dBA) (EPA 1974). As a basis for comparison, the sound levels of a normal conversation between two people standing 5 feet apart is 60 dBA. Highway traffic noise typically ranges from 70 to 80 dBA at a distance of 50 feet from the highway (USDOT 2003). Decibels (dB) are the units of measure used to represent sound pressure levels, and dBA is the unit of measure of sound pressure levels using the A-weighted network which is a good correlation to a human subject's reaction to noise. The EPA has identified a 24-hour average exposure level of 70 dBA as the level of environmental noise at or below which measurable hearing loss over a lifetime is unlikely. Likewise, levels of 55 dBA outdoors and 45 dBA indoors are identified as preventing activity interference and annoyance. 55 dBA is generally recognized as a level below which no public health or safety risks to the general population would be anticipated to occur. OHVs generate, on average, between 75 and 97 dBA at a distance of 50 feet. Decibel output can vary widely between different types of OHVs depending on types of engines, size, and throttle position. For example, a small 2-stroke gasoline engine on an accelerating motorcycle can emit much higher levels of noise than a 4-stroke gasoline motorcycle or passenger car engine many times larger. UTVs or side-by-sides are often louder than much larger SUVs or trucks. Likewise, diesel trucks can often be much louder than similarly sized gasoline powered vehicles (California Department of Parks and Recreation 2005).

In general, OHV activity, and therefore, noise levels on the open routes within the TMA are expected to increase over time with anticipated increases in visitation. However, this increase would likely be attributable to a general recreation increase, as seen in recent years (Leaver 2024), and would not have a direct relationship to the BLM's route designation alternatives. Average noise levels in the TMA would be anticipated to remain the same as current levels under any route designation alternative. It is possible that route closures could concentrate traffic and increase noise levels near routes that remain open, with a proportionate decrease in noise levels near routes designated as closed. When added together, sounds from sources with similar magnitudes would produce a sound 3dBA greater than a single source due to logarithmic scaling. A 10 dBA increase above background levels is generally accepted as sufficient to cause noise pollution (EPA 1974). Depending on the magnitude of increased activity on the open routes in the TMA, this could eventually produce temporary and localized increases of 10 dBA or greater above background levels due to passing vehicles. However, at the time of this analysis, there is no available data to quantify the magnitude of an increase or decrease in noise related to any of the alternatives, and the BLM is not required to monitor traffic noise levels within the TMA. No documented complaints about disruptions from OHV noise in the TMA have been received by the BLM at the time of this analysis.

A.5 AIB-5: ENERGY AND MINERALS

How would the route designation alternatives affect energy and mineral exploration, development, and operations in the TMA?

The geographic scope of analysis for minerals is the TMA because it includes all the mineral sites accessed by the evaluated routes. The temporal scope of analysis is 20 years (see Section 3.2).

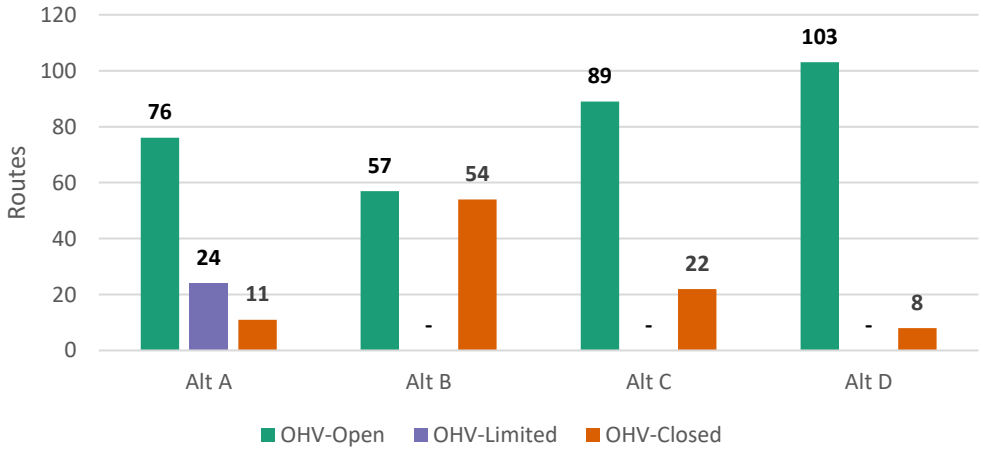
Locatable and mineral material resources are found throughout most of the TMA. There are approximately 67 acres of locatable minerals and 212 acres of mineral material disturbance currently approved or authorized in active Mine Plans, Plans of Operations, and Notices within the region. The

2008 Richfield RMP Mineral Potential Report found no occurrence potential for coal bed methane for the TMA (Mineral Potential Report, Map 27). A review of BLM and Utah Division of Oil, Gas, and Mining data found approximately 422 abandoned mine lands and oil and gas well features that are relevant to the plan. The TMA's evaluated routes provide access to mining activities, energy production, transportation of mineral resources, and exploration. Changes to routes such as closing, opening, or seasonal restrictions has the potential to impede geology, mineral resources, and energy production. Mineral site development traffic may consist of haul trucks, semi-trucks, drill rigs, heavy equipment, or work crew vehicles. For more details on oil/gas and mineral development in the Richfield Field Office in general, see pages 3-107 to 3-117 of the 2008 Richfield Proposed RMP/EIS (BLM 2008c).

Access to permitted or leased mineral development sites in the TMA is included in each mineral site's Mine Plan, Plan of Operations, Notice, or Application for Permit to Drill. Authorized access is not changed by any OHV designations resulting from this plan however, modifications to Mine Plans, Plans of Operations, Notices, and Applications for Permit to Drill and additional NEPA may be required to cover the additional acreage of a route if it is closed in the selected alternative. If a mining claimant requires access to develop their claim, BLM will work with the claimant to authorize access consistent with applicable laws and regulations.

The potential effects of public OHV access on mineral development activities are those related to conflicts with recreation users including equipment or facility vandalism, theft, disruption of operations, or operation safety concerns. Designating evaluated routes as OHV-Open or OHV-Limited would reduce the amount of new access routes required for mining access; however, it would provide public access to these mineral sites. Designating routes as OHV-Closed prevents OHV access altogether, though non-OHV access may still occur. Figure 27 shows the number of evaluated routes by designation and alternative with the potential for impacts described above.

Figure 27: Number of Evaluated Routes Providing Primary Access to Active Mining Operation Locations



Routes that currently exist for authorized or approved mineral uses would not be reclaimed even if designated as OHV-Closed so long as the authorization remains in place. Operators would be required to modify their Mine Plan, Plan of Operations, Notice, or Application for Permit to Drill, to include the additional acreage of the OHV-Closed routes used for access and would be required to reclaim the road once operations are complete.

In conclusion, route designation decisions would not preclude access for mineral lease or permit holders and other authorized users. None of the proposed alternatives would result in the loss or gain of authorized access to mineral development leases or sites. Even routes that are designated OHV-Closed would remain available for authorized use once the required modification is reviewed and any additional NEPA is complete. Route designation decisions could impact public access to mineral sites. However,

maintenance and public safety regulatory requirements would reduce opportunities for conflicts with recreation users. There are no other anticipated relationships with other resources. Therefore, no additional analysis is needed.

A.6 AIB-6: PALEONTOLOGICAL RESOURCES

How would the route designation alternatives affect paleontological resources within the TMA?

The analysis area for paleontological resources is the TMA, because that unit contains the paleontological resources that could potentially be affected by the route designation alternative. The temporal scope of analysis is 20 years (see Section 3.2). Paleontological resources are defined by the Paleontological Resources Preservation Act of 2009 as the fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth (16 United States Code [U.S.C.] 470aaa[1][c]). The Paleontological Resources Preservation Act directs the BLM to "preserve, manage, and protect paleontological resources" (43 CFR § 49.1(a) and 49.30(b)). Collection of vertebrate and other paleontological resources is limited to those holding BLM-issued permits (43 CFR § 49.100(a)), whereas recreational (casual) collection is allowed for common invertebrate and plant paleontological resources (43 CFR § 49.805(a)). Petrified wood, as defined at 30 U.S.C 611, is managed as a mineral resource (P.L. 87.713) and individuals may collect limited quantities of petrified wood (43 CFR Subpart 3620).

The Potential Fossil Yield Classification (PFYC) system is used to assess resource effects and mitigation needs by providing estimates of the potential for paleontological resources within a geologic unit (BLM PIM 2022-009). The PFYC system is based on numeric classes of 1 very low, to 5 very high, and unknown (U). A geologic unit identified as PFYC 1 is not likely to contain recognizable paleontological resources, whereas a geological unit identified as a PFYC 5 is a highly fossiliferous geologic unit that consistently and predictably produces significant paleontological resources. A class U assignment indicates that there is not enough information available for a formal class assignment. Until additional information is available and a provisional assignment is made, geologic units that have an unknown potential have medium to high management concerns. The geologic units on BLM-administered (Federal) lands within the TMA range in PFYC from 1-5 or U with the majority of the route mileage being in PFYC 3, 4, and U (see Table 35 and Table 36). Per the Utah Geologic Survey, there are approximately 297 known fossil localities within the TMA.

Table 35: Acreage within the TMA by PFYC

PFYC	BLM Acres	Miles of Evaluated Routes
1	31,243	37
2	55,693	79
3	487,943	659
4	454,664	550
5	155,653	266
U	266,155	693
Totals	**1,451,339***	**2,282**

* PFYC data includes a classification of water. The total acreage for water was not accounted for in this table.

Table 36: Miles in Alternatives by PFYC

Type by Alternative	PFYC 1	PFYC 2	PFYC 3	PFYC 4	PFYC 5	PFYC U
Alternative (Alt) A OHV-Open	29	63	524	413	213	539
Alternative (Alt) A OHV-Limited	0	15	24	35	0.2	4
Alternative (Alt) A OHV-Closed	7	2	111	102	53	147
Alt B OHV-Open	25	52	364	293	167	421
Alt B OHV-Limited		0.5	0.3	2	0	0
Alt B OHV-Closed	11	27	295	255	99	269
Alt C OHV-Open	30	67	504	430	213	510
Alt C OHV-Limited	0	0.3	5	5	0	0.7
Alt C OHV-Closed	6	12	151	116	53	180
Alt D OHV-Open	31	71	555	464	224	552
Alt D OHV-Limited	0	0.2	6	3	0	2
Alt D OHV-Closed	6	8	98	84	42	137

Long-term OHV use and maintenance of the travel network within the TMA could affect paleontological resources including incidental use such as passing, parking, and staging, and associated maintenance (see Section E.4 in Appendix E). These activities may result in crushing or other damage to exposed or shallowly buried paleontological resources on or near the routes. Since these actions could increase rates of erosion (see Section 3.4.5), the erosion may also expose buried paleontological resources or cause degradation of already exposed paleontological resources. Some routes would be closed under all route designation action alternatives to protect known vulnerable paleontological resources.

OHV access to areas with known paleontological resources or high potential to contain them increases opportunities to view paleontological resources in the field, as well as the authorized removal of paleontological resources by the public through casual collection and paleontologists through permitted survey and surface collection. Documentation of new paleontological localities and individual fossils benefits our understanding of past life and environments. Fossils collected and curated into a public, federally approved repository provide long term educational, research, and museum experiences for the public. However, access also increases the potential for vandalism and unauthorized removal of paleontological resources.

Impact-driving elements and effect types would be anticipated to be the same for all alternatives, but the alternatives would vary in intensity of potential effects. The approximate number of paleontological localities within 500 feet of a route are provided for each alternative in Table 24. This distance was used in the analysis to summarize those localities with immediate proximity to the routes. Users may walk from the routes and access additional areas by foot, increasing the distance to 0.25 miles from the routes approximately doubles the number of localities that could be affected. No direct effects would occur from OHV use or route maintenance because no new surface disturbance would occur. However, some routes were closed during route evaluation to further protect certain known localities. More miles of open routes also increase the potential area for both authorized and unauthorized actions to affect paleontological resources in the TMA.

Table 37: Approximate Known Paleontological Localities within 500 Feet of a Route Type by Alternative

Route Designation	Alt A	Alt B	Alt C	Alt D
OHV-Open	50	45	51	51
OHV-Limited	0	1	0	0
OHV-Closed	10	14	9	9
Note: Per Utah Geologic Survey data, there are 60 known localities included only once per Alternative. If localities are within 500 feet of more than one type of route they were placed in the Open (or Limited) instead of Closed as access is still possible from one of the routes.				

Under all alternatives, if implementation is proposed that would include ground disturbance, additional site-specific NEPA may be required before the activity could occur. If paleontological resources are encountered during minimal ground disturbance associated with maintenance activities, the activity would stop, and the BLM would be notified. Following BLM practice, the public would continue to be informed about paleontological resource management which includes casual collection of reasonable amounts of common invertebrate and plants (non-vertebrates), leaving vertebrate and scientifically important non-vertebrate fossils in place and reporting possible paleontological resource discoveries to the BLM.

The cumulative impact scenario described in Section 3.3 provides a quantitative overview of acres influenced by actions in the TMA that contribute to cumulative effects on paleontological resources. The risk of adverse cumulative effects from past, present, and reasonably foreseeable actions combined with the incremental contribution of each route designation alternative would depend on the locations of disturbance relative to PFYC class. When the route designation decision is combined with these other actions, the cumulative effects to paleontological resources are anticipated to be limited to the implementation activities and motorized use of the routes.

A.7 AIB-7: FIRE AND FUELS MANAGEMENT

How would the route designation alternatives affect existing fuel breaks and difficulty of access for fire suppression personnel within and adjacent to the TMA?

The spatial analysis area for fire and fuels management is the TMA and the lands within its boundaries. The temporal scope of analysis is 20 years (see Section 3.2). Wildfire suppression crews use existing routes in the TMA to transport equipment and access areas during fire events. Per review of burn scar locations using historic imagery data and NRCS ecological site descriptions, the BLM determined that wildfires have been infrequent in the TMA and have tended to be small in scale (less than 50 acres), and of low (low flame length, slow fire spread) to moderate (mid flame length, moderate spread) intensity. Large fires have been infrequent (two per decade). See Western Fire Chiefs Association 2024 for more information on fire intensity descriptions.

Existing routes in the TMA constitute an important travel network for fire suppression access, allowing shorter response time to fire locations. When possible, suppression personnel use the most expeditious and direct existing routes to access fire locations. In roadless areas or designated wilderness areas, suppression personnel must walk to fire locations.

Further, existing routes (whether open to OHV use or not) have an absence of vegetation and fuels, so can serve as fire breaks to limit the size and intensity of wildfires by slowing or stopping fire spread.

Route designations under alternatives would not directly affect accessibility of fire locations for suppression personnel because they are exempt from the definition of OHV. However, routes designated as OHV-Closed by the selected TMP could naturally rehabilitate in the absence of OHV use by the public and could become overgrown to a state that vehicle access would no longer be physically possible. The response time to some wildfire locations would increase, indirectly increasing potential for fires to grow larger. As vegetation encroached on OHV-closed routes, their function as fire breaks would diminish or be negated.

The level of cumulative effects to fuel breaks and suppression personnel access from cumulative actions (see Section 3.3) would depend on the locations and nature of the activities. The indirect effects from the route designation alternatives described above, combined with cumulative level of effects from these other actions, would be anticipated to be below a level meriting detailed analysis due to the infrequent nature and the limited size of wildfires in the TMA.

Effects to fire and fuels management are not analyzed further because no route designations would prevent suppression forces from administratively accessing areas when a wildland fire occurs within the TMA. There are no past, present, or reasonably foreseeable future actions that would change this conclusion.

A.8 AIB-8: FORESTRY AND WOODLAND PRODUCTS

How would the route designation alternatives affect forestry and woodland product gathering?

The spatial analysis area for woodland and forestry products is the TMA and the lands within its boundaries. More specifically, this includes areas that have an abundance of woodland and forestry products such as the Henry Mountains and Miners Mountain within the TMA. The temporal scope of analysis is 20 years (see Section 3.2). Within the TMA are areas used for firewood cutting/gathering, fence post cutting, Christmas tree cutting, and seed and pine nut collection. In general, woodland and forestry resources within the TMA are limited in abundance and mostly contained to the more mountainous areas within the Henry Mountains. Access to these resources within the Henry Mountain areas are limited due to a number of WSAs found within this region which are closed to commercial and non-commercial use of forest and woodland products; and live plant and seed collecting. Exceptions for traditional Native American use may be considered. For more detailed information, see the "Forestry and Woodland Products" section of the 2008 RMP (BLM 2008d, page 105). Areas that are open to the collection of woodland and forestry products are limited to areas outside of these WSAs. Access to these areas are through the use of existing routes. Collection of forestry or woodland resources is limited to those holding a BLM-issued personal use or commercial use permit.

The ability to collect woodland and forestry products would not be affected based on the alternative selected because of the low volume of resource collection when compared to the total availability of the resource. However, if OHV-Closed designations make an area inaccessible by OHV, collection of these products could become concentrated to other areas.

Cumulative effects from past, present, and reasonably foreseeable actions on woodland and forestry products includes large vegetation manipulation projects. Specifically, pinyon and juniper reduction projects within the Henry Mountains. These projects include the use of physical and mechanical means to reduce tree populations.

Effects to woodland and forestry products are not analyzed in detail because only routes which physically exist on the ground (open or closed) were evaluated for this plan because the alternatives would not redistribute resource use levels from high use areas to low use areas. Additionally, none of the alternatives would authorize the construction of routes, authorize use of a route that has not already been subject to ongoing use even if such use was unauthorized, add or remove access to major area destinations, authorize events, create or remove an attraction that would draw new visitors, or authorize an action (such as construction) that would involve worker access.

A.9 AIB-9: LIVESTOCK GRAZING AND RANGELAND HEALTH

How would the route designation alternatives affect livestock grazing operations and rangeland health within the TMA?

The analysis area is the entire TMA; 2,193 of its 2,282 miles of evaluated routes overlap 33 livestock grazing allotments covering approximately 1,341,825 acres of BLM lands within the TMA (see Map 6). The temporal scope of analysis is 20 years (see Section 3.2). A total of 529 evaluated routes (30% of the travel network's routes) provide key access to corrals, fences, gates, mineral supplement locations, tanks/troughs, ponds, springs, wells, watering access, or water haul sites. These routes are utilized by grazing permittees and BLM range staff for compliance checks, monitoring, range improvement inspections, and range improvement project maintenance. Many other routes throughout the TMA are used by permittees to check livestock and by BLM range specialists to conduct compliance inspections. Traffic related to livestock grazing may include semi-trucks, vehicles, horseback, herding along roadways, etc. For overall details on livestock grazing in the TMA, see pages 3-91 to 3-93 of the 2008 Richfield Proposed RMP/EIS (BLM 2008c). For more details on the specific allotments in the TMA, see the reports available through the BLM's Rangeland Administration System at https://reports.blm.gov/reports/ras/. Authorized uses associated with livestock permits will not be affected by the route designations in the final TMP. Authorized uses can continue, as authorized.

Utah's Rangeland Health Standards for Livestock Grazing (BLM 1997) are comprised of the following: upland soils, riparian and wetlands, desired plant species, and water quality. "The purpose of the standards and guidelines....is to provide a measure (standard) to determine land health, and methods (guidelines) to improve the health of the public rangelands." BLM's job is "...to maintain the health of the land or make appropriate changes on the ground where land health standards are not being achieved" (BLM 2001). Soils; water quality, riparian, and wetlands; and desired plant species composition are addressed separately in Sections 3.4.5; 3.4.6; 3.4.2; and Appendix A.10 of this EA. The analysis in those sections focuses on disclosure of the effects of the route designation alternatives and those resources. Rangeland health standards for livestock grazing would not be affected by the route designations because no new disturbance would be authorized under the TMP.

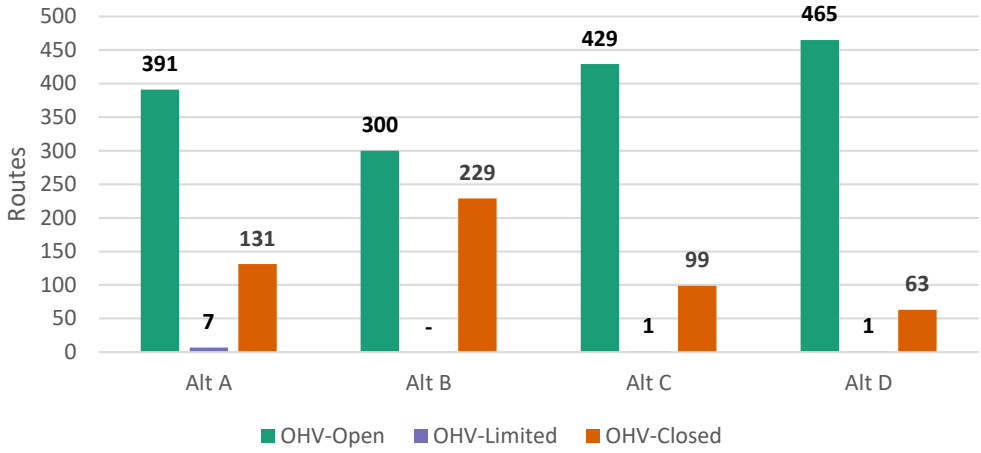
OHV use, including incidental use such as passing, parking, staging, and associated maintenance (see Section E.4 in Appendix E) could result in conflicts between recreation users and livestock operators (e.g., vandalism to facilities, open gates, OHV collisions with livestock, disturbance, and displacement of livestock from OHV and recreational use, etc.), particularly during seasons with more public OHV use (spring, summer, and fall). The majority of grazing allotments within the TMA are late fall, winter, and early spring use, which reduces the potential for conflict to a short period in the late fall and early spring. Heavy OHV traffic can directly interfere with cattle truck or water truck access to the allotments or livestock (blocking routes or access gates/corrals for instance). Other potential indirect effects include lost time and revenue associated with repairs or replacement of vandalized range improvements or facilities, displacement of livestock from opened gates and subsequent retrieval, livestock mortality, etc.

Closing or limiting OHV use on a particular route can minimize or eliminate conflicts between the permittee and OHV users by removing or reducing the OHV traffic on the route. Closure of a route to OHV use would not close the route to authorized uses such as permittee access to range improvements where the grazing permit authorizes access. BLM authorizations for access to TLA lands for authorized range/livestock management purposes would not be affected by route designations.

TMP implementation activities that could affect livestock grazing include route maintenance (surface and ditch grading and drainage structure replacement or installation, etc.), and sign installations. Sign installation would direct recreation users to their destinations and inform users of allowable uses for a particular route.

Figure 28 shows the number of evaluated routes providing primary access to range improvement locations and can be used to assess the potential for the effects noted above.

Figure 28: Number of Evaluated Routes Providing Primary Access to Range Improvement Locations



Under Alternative A, there would be no route designation changes in the TMA. Effects from ongoing OHV use would reflect a continuation of current conditions, and overall incremental change to rangeland health and grazing effects within the analysis area is not anticipated.

Under alternatives B-D, no new construction of routes are proposed. Opportunity for conflicts between permittees and public OHV users would vary across Alternatives B-D (see Figure 28) would decrease or increase relative to the miles of route designated as closed or limited versus open for public OHV use. However, separation between peak seasons of use between the two user groups as previously described would reduce conflicts. Additionally, BLM proposes to manage the travel network through the TMP Implementation Guide (Appendix E), which would clarify the route designations and provide structured management and operation through activities such as signing, reclamation, and adaptive management protocols. These implementation actions would further reduce the overall effects to rangeland health and livestock grazing operations.

This issue does not warrant further analysis because route designations would not prevent livestock grazing permittees or BLM from accessing facilities or locations necessary for rangeland and grazing operations and management. Under the action alternatives, opportunity for conflicts between permittees and public OHV users would be reduced due to season of peak use and management under the TMP Implementation Guide. There are no past, present, or reasonably foreseeable future actions that would change this conclusion.

A.10 AIB-10: WEEDS

How would the route designation alternatives affect the introduction and spread of noxious and invasive weeds?

The analysis area for invasive and noxious weeds is the TMA, because the route designation alternatives are in its boundaries and OHV use of the routes is the impact-driving element of the alternatives for weeds. The temporal scope of analysis is 20 years (see Section 3.2). Weeds in the analysis area are categorized by the Utah Noxious Weed List (Utah Administrative Code 2020) and Garfield County and Wayne County weed control boards. Patches of noxious weeds and invasive weeds have been observed by BLM around campgrounds and along routes within the analysis area. The counties control weeds on all county-claimed maintenance class routes and routes. Treatment of weeds will continue in the TMA

and existing routes provide access to noxious weed locations for weed treatment personnel to manage the spread of noxious weeds (see BLM 2020b).

Past, present, and reasonably foreseeable activities from Section 3.3 such as mining, construction, OHV-use, dispersed camping, hiking and livestock grazing all have potential to introduce or contribute to spreading invasive and noxious weeds. Route maintenance (e.g., surface and ditch blading.), reclamation (e.g., raking), and sign placement (e.g., digging post holes) during TMP implementation would have potential to spread weeds. Signs would be placed to direct OHVs away from known weed infestation areas during TMP implementation (see Appendix E). This could reduce weed spread by OHV users, a beneficial effect expected to last for the TMP lifetime of approximately 20 years. Alternatives designating previously undesignated or OHV-Closed routes as OHV-Open or OHV-Limited would contribute to the spread of weeds adjacent to those routes by allowing access for public OHV traffic. Alternatives designating routes as OHV-Closed would remove an element contributing to the spread of weeds along those routes.

All existing routes within the TMA are corridors where invasive species or noxious weeds have the potential to be introduced or spread throughout the travel network. Because of this, the magnitude of potential introduction or spread of invasive and noxious weeds in the TMA was assessed by comparing miles of routes proposed for OHV-Open or OHV-Limited designation to miles of routes proposed as OHV-Closed by alternative (see Figure 1 and Table 6 in Section 2.2.2). To compare the location of potential effects, see Appendix B, Map 2 – Map 5. To compare the locations of route designations for the spatial context of potential weed spread, see Appendix B, Map 2 – Map 5. Alternative A would result in continuation of the current level of weed spread from existing OHV use or increase commensurate with visitation to the TMA (see Section 3.3.5). Alternatives B and C would decrease the current level of potential for OHV-related weed spread in proportion with the miles of OHV use reduced under each route designation. Alternative D would increase potential for OHV-related weed spread in proportion with the increase in miles of OHV-Open and OHV-Limited route designations under each route designation. Introduction and spread of noxious and invasive weeds would be controlled by past, present, and reasonably foreseeable weed treatments in the TMA.

A.11 AIB-11: WILD HORSE AND BURRO MANAGEMENT

How would the route designation alternatives affect wild burros within the Canyonlands Herd Management Area?

The BLM is responsible for the protection, management, and control of wild free-roaming horses and burros. Under the Wild Free-Roaming Horses and Burros Act, wild horses and burros are considered an integral part of the national system of public lands in the areas where they were found in 1971. The BLM's goal is to manage healthy wild horse and burro populations on healthy rangelands. To achieve this goal, the BLM designates Herd Management Areas (HMAs) for the long-term maintenance of herds and collects data about the animals and their habitat. The BLM also prescribes management to assure populations are in balance with other uses of the public lands and that a thriving, natural ecological balance is achieved and maintained (BLM 2010). Herd management activities are carried out with the objective of maintaining free-roaming behavior and at the minimum feasible level of management necessary to attain the objectives identified in the 2008 RMP. Per the 2008 RMP, the Canyonlands HMA is managed with an appropriate management level of 60- 100 wild burros and an allocation of 600 Animal Unit Months for wild burros (an Animal Unit Month is the amount of forage necessary for the sustenance of one cow or its equivalent for a 1-month period). Within the Canyonlands HMA, the BLM monitors the vegetation, completes trend studies, monitors precipitation, and counts burros on the ground each spring.

Under Alternative A, there would be no route designation changes in the TMA. Ongoing OHV use would reflect a continuation of current conditions and overall incremental change to wild burro management within the analysis area is not anticipated as a result.

Alternatives B-D do not authorize the construction of new routes, designate routes that do not exist, authorize events, create or remove a destination that would draw new visitors, or authorize an action such as construction of recreation facilities or utility lines. Closure of a route to OHV use would not close the route to authorized uses such as BLM administrative access within the HMA. Therefore, access for wild burro management would be the same across alternatives even though the magnitude and location of the routes would vary compared to Alternative A (see Appendix B, Map 2 – Map 5) depending on which routes are designated OHV-Open, OHV-Limited, and OHV-Closed in each alternative.

This issue does not warrant further analysis because route designations would not prevent the BLM from managing burros within the HMA.

A.12 AIB-12: WILDLIFE: MIGRATORY BIRDS

How would the route designation alternatives affect migratory birds, including raptors?

Various migratory birds (including raptors, waterfowl, songbirds, neotropical migrants, special status and T&E birds) utilize habitat throughout the TMA. In the context of this EA, a "migratory bird" is one protected under the Migratory Bird Treaty Act (MBTA). As part of addressing the MBTA, the USFWS has developed listings of Birds of Conservation Concern (BCC), which are high conservation priority MBTA species that are not already protected by the ESA. Based on the USFWS's Information for Planning and Consultation (IPaC) system, migratory birds in the TMA include those listed in Table 38.

Table 38: Migratory Birds in the TMA

Common Name	Scientific Name	Level of Concern[16]	Breeding Season
Bald Eagle	*Haliaeetus leucocephalus*	Non-BCC Vulnerable	Breeds Dec 1 to Aug 31
Bendire's Thrasher	*Toxostoma bendirei*	BCC Rangewide (CON)	Breeds Mar 15 to Jul 31
Black Rosy-finch	*Leucosticte atrata*	BCC Rangewide (CON)	Breeds Jun 15 to Aug 31
Black-chinned Sparrow	*Spizella atrogularis*	BCC Rangewide (CON)	Breeds Apr 15 to Jul 31
California Gull	*Larus californicus*	BCC Rangewide (CON)	Breeds Mar 1 to Jul 31
Cassin's Finch	*Haemorhous cassinii*	BCC Rangewide (CON)	Breeds May 15 to Jul 15
Clark's Grebe	*Aechmophorus clarkii*	BCC Rangewide (CON)	Breeds Jun 1 to Aug 31
Clark's Nutcracker	*Nucifraga columbiana*	BCC - BCR	Breeds Jan 15 to Jul 15
Evening Grosbeak	*Coccothraustes vespertinus*	BCC Rangewide (CON)	Breeds May 15 to Aug 10
Golden Eagle	*Aquila chrysaetos*	Non-BCC Vulnerable	Breeds Dec 1 to Aug 31
Grace's Warbler	*Setophaga graciae*	BCC - BCR	Breeds May 20 to Jul 20
Lewis's Woodpecker	*Melanerpes lewis*	BCC Rangewide (CON)	Breeds Apr 20 to Sep 30
Long-eared Owl	*Asio otus*	BCC Rangewide (CON)	Breeds Mar 1 to Jul 15
Olive-sided Flycatcher	*Contopus cooperi*	BCC Rangewide (CON)	Breeds May 20 to Aug 31
Pectoral Sandpiper	*Calidris melanotos*	BCC Rangewide (CON)	Breeds elsewhere
Pinyon Jay	*Gymnorhinus cyanocephalus*	BCC Rangewide (CON)	Breeds Feb 15 to Jul 15
Virginia's Warbler	*Leiothlypis virginiae*	BCC Rangewide (CON)	Breeds May 1 to Jul 31
Western Grebe	*Aechmophorus occidentalis*	BCC Rangewide (CON)	Breeds Jun 1 to Aug 31

[16] Non-BCC Vulnerable: This is not a BCC in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
BCC Rangewide (CON): This is a BCC throughout its range in the continental USA and Alaska.
BCC – BCR: This is a BCC only in particular Bird Conservation Regions in the continental USA.

Routes in the TMA have been used for over 80–100 years and wildlife species have adapted to vehicle traffic in the areas they use. With the implementation of a travel plan, the 2008 RMP closed 1,418,453 acres (98%) of the TMA to cross country travel, restricting the remaining 32,920 acres to designated routes and three OHV-open areas, wildlife species have benefited by having vehicle traffic confined to those designated routes and open areas. Further changes in route designation could potentially impact migratory bird species using the habitat where those routes occur. In areas where route density is high, migratory bird species may avoid the area due to increased disturbance from vehicle traffic. Areas with a high density of routes could experience negative impacts to migratory birds resulting in habitat avoidance and abandonment, daily movement interference, increased physical stress that can result in decreased health, parturition, and increased vehicle collisions resulting in injury or mortality (Ouren et al. 2007, Ortega 2012). In areas where route densities are low or completely closed to cross country travel due to the TMP, migratory bird species benefit from the reduction of OHV traffic.

Cumulative impacts (past, present, and foreseeable future actions) affect migratory birds in different ways. For example, a fuels treatment would increase habitat potential for some species, while the same action would decrease habitat potential based on individual species habitat requirements. Some actions, such as the 2008 TMP decision which reduced cross country travel within the TMA by 98%, benefits migratory birds by providing a wide variety of habitats not affected by OHVs. Based on this, impacts to migratory bird species does not warrant a detailed analysis.

A.13 AIB-13: WILDLIFE: SPECIAL STATUS SPECIES

How would the route designation alternatives affect BLM Utah sensitive wildlife species?

Utah BLM sensitive wildlife species utilize habitat throughout the TMA. The Utah BLM sensitive wildlife species list changes periodically and is updated accordingly with species being added to or deleted from the list. This species list was last updated in December 2018. The Utah BLM sensitive species that are known to occur or may occur in the TMA are summarized in Table 39.

Table 39: Utah BLM Sensitive Wildlife Species Habitats

Species	Habitat
Amphibians	
Western toad (*Anaxyrus boreas*)	Found throughout much of Utah in a variety of habitats, including slow-moving streams, wetlands, desert springs, ponds, lakes, meadows, and woodlands.
Birds	
American goshawk (*Accipiter atricapillus*)	Prefers mature mountain forest and riparian zone habitats. Nests are constructed in trees in mature forests.
American three-toed woodpecker (*Picoides dorsalis*)	Found in Engelmann spruce, subalpline fir, Douglas fir, ponderosa pine, tamarack, aspen, and lodgepole pine forests. Habitat is found in the higher elevations of the TMA.
Bald eagle (*Haliaeetus leucocephalus*)	Habitat consists of communal winter roosting habitat and foraging habitat. In Utah, eagles nest in mature cottonwoods.
Black swift (*Cypseloides niger*)	Nest in small colonies with nest sites typically surrounded by coniferous forests, often mixed conifer or spruce-fir forests.

Species	Habitat
Bobolink (*Dolichonyx oryzivorous*)	Habitat generally consists of moderate to tall, moderate to dense vegetation primarily in grass lands or agricultural fields. Nests are on the ground in small hollows concealed by herbaceous vegetation.
Burrowing owl (*Athene cunicularia*)	Known to inhabit abandoned animal burrows, this species prefers open areas within deserts, grasslands, and sagebrush steppe communities. Habitat consists of level-to-gently sloping areas characterized by sparse vegetation and bare ground.
Ferruginous hawk (*Buteo regalis*)	Known to inhabit grasslands, agricultural areas, shrub lands, and the periphery of pinyon-juniper forests, breeding in semiarid open country, typically near prairie dog colonies. Additionally, desert shrub and desert grassland vegetation habitat types are often used by this species.
Golden eagle (*Aquila chrysaetos*)	Known to inhabit open and semi-open country especially in hilly or mountainous regions in areas with sufficient mammalian prey base. Nesting habitat includes rock ledges of cliffs, rock outcroppings, and large trees. The species forages over most vegetation types.
Grasshopper sparrow (*Ammodramus savannarum*)	Prefers moderately open grasslands and prairies with patchy bare ground; selects different components of vegetation, depending on grassland ecosystem. Occupies lusher areas with shrub cover in arid grasslands of the Southwest. Nests are built of grass on the ground at the base of grass clumps.
Lewis's woodpecker (*Melanerpes lewis*)	Nests in cavities of tall trees that are often dead or blackened by fire. Prefers ponderosa pine, cottonwood, or sycamore and a good understory of grasses and shrubs.
Long-billed curlew (*Numenius americanus*)	Lives and breeds in relatively high and dry meadowlands. Nesting habitat requirements include short grass, bare ground components, shade, and abundant vertebrate prey.
Short-eared owl (*Asio flammeus*)	Usually found in grasslands, shrublands, and other open habitats. Nest on the ground in small depressions usually lined with a small amount of grass and other plant material.
Fish	
Bluehead sucker (*Catostamus dicobolus*)	Bluehead suckers are widespread in rocky riffle habitats of small to large rivers in the Upper Colorado River Basin. They now occupy about 50% of their historical range in the Upper Colorado River Basin (UDWR 2006).
Colorado River cutthroat trout (*Oncorhyncus clarkii pleuriticus*)	Prefers cool, clear water of high-elevation streams and lakes. Spawns in streams over gravel substrate in the spring. Within the TMA, this species occurs in headwater streams and mountain lakes of the Fremont River drainage.
Flannelmouth sucker (*Catostamus latipinnis*)	Prefers large streams, where it is often found in deep pools of slow-flowing, low-gradient reaches. Young flannelmouth are found in quiet, shallow riffles and near-shore eddies while adults use deeper riffles and runs (UDWR 2006).

Species	Habitat
Roundtail chub (*Gila robusta*)	Habitat consists of rocky runs, rapids, and pools of creeks, streams, and rivers. Often found in murky pools near strong currents. This species has been observed in canyon-bound waters with deep pools and eddies.
Southern leatherside chub (*Lepidomeda aliciiae*)	Habitat includes small to medium rivers in sluggish pools and backwaters, usually over sand or mud.
Invertebrates	
Western bumble bee (*Bombus occidentalis*)	Ground-nesting species with three basic habitat requirements: suitable nesting sites for the colonies, nectar and pollen from floral resources available throughout the duration of the colony period (spring, summer, and fall), and suitable overwintering sites for the queens. Western bumblebee has been observed in the southern and far western portions of the TMA (USFWS Bee Tool).
Mammals	
Bats	All five BLM sensitive bat species (Allen's big-eared bat (*Idionycteris phyllotis*), big free-tailed bat (*Nyctinomops macrotis*), fringed myotis (*Myotis thysanodes*), spotted bat (*Euderma maculatum*), and Townsend's big-eared bat (*Corynorhinus townsendii*)) are nocturnal insectivores that roost in caves, rock crevices, trees, and mines, and hibernate to some degree during the winter. Individuals forage for insects over desert scrub, sagebrush steppe, montane meadows, and various riparian habitats (UDWR 2024).
Kit fox (*Vulpes macrotis*)	Found exclusively in arid and semi-arid landscapes. Occupies habitats that provide favorable combinations of low predator abundance, sufficient prey, and soils suitable for denning. This species is found in scattered areas throughout Utah and associated with sparsely vegetated arid habitat, primarily greasewood, shadscale, and sagebrush-dominated habitat.
Reptiles	
Common chuckwalla (*Sauromalus ater*)	In Utah, the species occurs only in the southern portion of the state, including areas of Garfield County within the TMA. Chuckwallas are predominantly found near cliffs, boulders, or rocky slopes, where they use rocks as basking sites and rock crevices for shelter.
Desert night lizard (*Xantusia vigilis*)	Found in arid and semi-arid habitats among fallen leaves and trunks of yuccas, cacti, and other large plants as well as in crevices of rock outcroppings and under logs and bark of foothill pines; it ranges locally into pinyon-juniper, sagebrush-blackbrush, and chaparral-oak. In Utah, this species occurs in a few small areas in the southern part of the state. It has been found in Garfield County within the TMA.

Further information about these species can be found in the "Fish and Wildlife" section of the 2008 Richfield Proposed RMP/EIS (BLM 2008c, pages 3-70 to 3-77), Utah Division of Wildlife Resources (UDWR) Wildlife Action Plan 2015-2025 (UDWR 2015), NatureServe Explorer (NSE 2024), UDWR Utah Species Field Guide (UDWR 2024), and BLM Instruction Memorandum No. UT IM-2019-005 (BLM 2019).

Public visitation and route use levels within the TMA vary by season. For most wildlife species in the TMA, the high-visitation months March - October coincide with mating and young-rearing periods. Human activity can trigger behavioral changes like increased flight and vigilance, and result in the disruption or displacement of other essential behaviors including breeding, foraging, hunting, and predator-avoidance activities (Larson et al. 2016, Ouren et al. 2007, Trombulak and Frissell 2000).

Species' responses may range from brief, immediate responses, such as alerting or flushing, to more long-term responses like abandonment of preferred habitat (Kaseloo and Tyson 2004, Ortega 2012). These behavioral changes result in increased expenditures of time and energy towards avoiding humans and decreased expenditures of time and energy towards beneficial activities like foraging or caring for young, ultimately causing declines in abundance and occupancy, reduced reproductive success, and altered species richness and community composition (Larson et al. 2016, Ouren et al. 2007). As noted in Section AIB-12, areas with a high density of routes would have more negative impacts on special status species compared to areas with low route density. In areas where route densities are low or completely closed to cross country travel due to the TMP, special status species benefit from the reduction of OHV traffic.

Concerning fish species, most water ways are ephemeral and will not contain fish. Travel along routes within the TMA near perennial waterways, such as the Dirty Devil River, Fremont River, and Muddy Creek, which have fish species, would lead to increased sediment and contaminants deposited into those water ways, affecting fish habitat and water quality, refer to sections 3.4.4 and 3.4.6. Areas of high route density would lead to more sediment and contaminants entering waterways compared to areas of low route density.

Cumulative impacts (past, present, and foreseeable future actions) affect special status species in different ways. For example, some mining operations provide migratory shelter or hibernacula for some bat species, while the same action would decrease habitat potential for other special status species based on individual species habitat requirements. Some actions, such as the 2008 TMP decision which reduced cross country travel within the TMA by 98%, benefit special status species by providing a wide variety of habitats not affected by OHVs.

Impacts to BLM Sensitive Species are not analyzed further because this TMP would not authorize construction of new routes or use of routes that have not already been subject to ongoing use. Therefore, no measurable change from the current level of effects to habitat for the species would be expected. The TMP could cause changes in the amount of OHV use in an area, however changes to wildlife abundance, occupancy, or reproductive success would be indistinguishable from the ongoing effects.

A.14 AIB-14: WILDLIFE: GENERAL WILDLIFE

How would the route designation alternatives affect general wildlife species?

General wildlife utilize habitat throughout the TMA. In the context of this EA, "general wildlife" refers to wildlife not previously discussed. Table 40 summarizes the general wildlife species present in the TMA. While this is not an exhaustive list, it represents known species within the TMA. The BLM acknowledges that very little is known about herps and insects within the TMA.

Table 40: General Wildlife Species

Category	Species
Wildlife with Crucial Habitat in the TMA	Bison (*Bison bison*), black bear (*Ursus americanus*), chukar (*Alectoris chukar*), desert bighorn (*Ovis canadensis* nelson), Gambel's quail (*Callipepla gambelii*), mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), and wild turkey (*Meleagris gallopavo*)
Amphibians	Great Basin spadefoot toad (*Spea intermontane*), red-spotted toad (*Bufo punctatus*), and Woodhouse's toad (*Anaxyrus woodhousii*)
Mammals	Black-tailed jackrabbit (*Lepus californicus*), bobcat (*Lynx rufus*), California myotis (*Myotis californicus*), canyon bat (*Perimyotis Hesperus*), cliff chipmunk (*Neotamias dorsalis*), cougar (*Puma concolor*), coyote (*Canis latrans*), desert cottontail (*Sylvilagus audobonii*), Mount Ellen Uinta chipmunk (*Neotamias umbrinus sedulous*), North American beaver (*Castor canadensis*), Ord's kangaroo rat (*Dipodomys ordii*), pallid bat (*Antozous pallidus*), red fox (*Vulpes vulpes*) and Yuma myotis (*Myotis yumanensis*)

Category	Species
Migratory and Year-Round Birds	American goldfinch (*Spinus tristis*), American kestrel (*Falco sparverius*), ash-throated flycatcher (*Myiarchus cinerascens*), barn swallow (*Hirundo rustica*), Bell's vireo (*Vireo bellii*), Bewick's wren (*Thryomanes bewickii*), black-billed magpie (*Pica hudsonia*), black-capped chickadee (*Poecile atricapillus*), black-chinned hummingbird (*Archilochus alexandri*), black-headed grosbeak (*Pheucticus melanocephalus*), black-rosy finches (*Leucosticte atrata*), black-throated gray warbler (*Setophaga nigrescens*), black-throated sparrow (*Amphispiza bilineata*), blue grosbeak (*Passerina caerulea*), blue-gray gnatcatcher (*Polioptila caerulea*), Brewer's blackbird (*Euphagus cyanocephalus*), Brewer's sparrow (*Spizella breweri*), broad-tailed hummingbird (*Selasphorus platycercus*), brown-headed cowbird (*Molothrus ater*), Bullock's oriole (*Icterus bullockii*), bushtit (*Psaltriparus minimus*), Canada goose (*Branta canadensis*), canyon wren (*Catherpes* mexicanus), Cassin's finch (*Haemorhous cassinii*), chipping sparrow (*Spizella passerine*), cinnamon teal (*Spatula cyanoptera*), Clark's nutcracker (*Nucifraga Columbiana*), cliff swallow (*Petrochelidon pyrrhonota*), common nighthawk (*Chordeiles minor*), common poorwill (*Phaleaenoptilus nuttallii*), common raven (*Corvus corax*), common yellowthroat (*Geothlypis trichas*), Cooper’s hawk (*Accipiter cooperii*), dark-eyed junco (*Junco hyemalis*), downy woodpecker (*Dryobates pubescens*), dusky flycatcher (*Empidonax oberholseri*), dusky grouse (*Dendragapus obscurus*), Eurasian collared-dove (*Steptopelia decaocto*), European starling (*Sturnus vulgaris*), flammulated owl (*Psiloscops flammeolus*), gray flycatcher (*Empidonax wrightii*), gray vireo (*Vireo vicinior*), great blue heron (*Ardea herodias*), great horned owl (*Bubo virginianus*), green-tailed towhee (*Pipilo chlorurus*), Hammond's flycatcher (*Empidonax hammondii*), horned lark (*Eremophila alpestris*), house finch (*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), house wren (*Troglodytes aedon*), juniper titmouse (*Baeolophus ridgwayi*), killdeer (*Charadrius vociferus*), lark sparrow (*Chondestes grammacus*), lazuli bunting (*Passerina amoena*), lesser goldfinch (*Spinus psaltria*), loggerhead shrike (*Lanius ludovicianus*), long-eared owl (*Asio otus*), Lucy's warbler (*Leiothlypis luciae*), mallard (*Anas platyrhynchos*), mountain bluebird (*Sialia currucoides*), mountain chickadee (*Poecile gambeli*), mourning dove (*Zenaida macroura*), Northern flicker (*Colaptes auratus*), Northern harrier (*Circus hudsonius*), Northern mockingbird (*Mimus polyglottos*), Northern pygmy owl (*Glaucidium californicum*), Northern rough-winged swallow (*Stelgidopteryx serripennis*), Northern saw-het owl (*Aegolius acadicus*), osprey (*Pandion haliaetus*), peregrine falcon (*Falco peregrinus*), pine siskin (*Spinus pinus*), pinyon jay (*Gymnorhinus cyanocephalus*), plumbeous vireo (*Vireo plumbeus*), prairie falcon (*Falco mexicanus*), red-breasted nuthatch (*Sitta canadensis*), red crossbill (*Loxia curvirostra*), red-tailed hawk (*Buteo jamaicensis*), red-winged blackbird (*Agelaius phoeniceus*), ring-necked pheasant (*Phasianus colchicum*), road runner (*Geococcyx californianus*), rock wren (*Salpinctes obsoletus*), ruby-crowned kinglet (*Corthylio calendula*), sagebrush sparrow (*Artemisiospiza nevadensis*), Say’s phoebe (*Sayornis saya*), Scott's oriole (*Icterus parisorum*), sharp-shinned hawk (*Acipeter striatus*), spotted sandpiper (*Actitis macularius*), spotted towhee (*Pipilo maculatus*), Stellar's jay (*Cyanocitta stelleri*), tree swallow (*Tachycineta bicolor*), turkey vulture (*Cathartes aura*), vesper sparrow (*Pooecetes gramineus*), violet-green swallow (*Tachycineta thalassina*), Virginia's warbler (*Oreothlypis virginiae*), warbling vireo (*Vireo gilvus*), Western kingbird (*Sialia Mexicana*), Western meadowlark (*Sturnella neglecta*), Western screech owl (*Megascops kennicottii*), Western tanager (*Piranga ludoviciana*), Western wood-pewee (*Contopus sordidulus*), white-crowned sparrow (*Zonotrichia leucophrys*), white-throated swift (*Aeronautes saxatalis*), Willamson's sapsucker (*Sphyrapicus thyroideus*), Woodhouse's scrub-jay (*Aphelocoma woodhouseii*), yellow warbler (*Setophaga petechia*), yellow-breasted chat (*Icteria virens*), yellow-headed blackbird (*Xanthocephalus xanthocephalus*), and yellow-rumped warbler (*Setophaga coronate*)
Reptiles	Bull snake (*Pituophis catenifer*), Eastern collared lizard (*Crotaphytus collaris*), desert spiny lizard (*Sceloporus magister*), Great Basin collard lizard (*Crotaphytus bicinctores*), greater short-horned lizard (*Phrynosoma hernandesi*), long-nosed leopard lizard (*Gambelia*

Category	Species
	wislizenii), Northern sagebrush lizard (*Sceloporus graciosus*), plateau striped whiptail (*Cnemidophorus velox*), and Western rattlesnake (*Crotalus viridis*)

For more detailed information on big game and upland game and their habitats, see the "Fish and Wildlife" section of the 2008 Richfield Proposed RMP/EIS (BLM 2008c, pages 3-70 to 3-77), Bison unit management plan Henry Mountains Unit #15 (UDWR 2022a), the Utah Black Bear Management Plan (UDWR 2023a), the Utah Bighorn Sheep Management Plan (UDWR 2018), the Utah Upland Game Management Plan (UDWR 2022b), the Utah Mule Deer Statewide Management Plan (UDWR 2019), the Utah Pronghorn Statewide Management Plan (UDWR 2017), the Utah Wild Turkey Management Plan (UDWR 2023b), the UDWR Utah Species Field Guide (UDWR 2024), and NatureServe Explorer (NSE 2024).

Public visitation and route use levels within the TMP vary by season. For most wildlife species in the TMA high-visitation months, March - October coincide with mating and young-rearing periods. Human activity can trigger behavioral changes like increased flight and vigilance, and result in the disruption or displacement of other essential behaviors including breeding, foraging, hunting, and predator-avoidance activities (Larson et al. 2016, Ouren et al. 2007, Trombulak and Frissell 2000). Species' responses may range from brief, immediate responses, such as alerting or flushing, to more long-term responses like abandonment of preferred habitat (Kaseloo and Tyson 2004, Ortega 2012). These behavioral changes result in increased expenditures of time and energy towards avoiding humans and decreased expenditures of time and energy towards beneficial activities like foraging or caring for young, ultimately causing declines in abundance and occupancy, reduced reproductive success, and altered species richness and community composition (Larson et al. 2016, Ouren et al. 2007). As noted in Sections AIB-12 and -13, areas with a high density of routes would have more negative impacts on special status species compared to areas with low route density. In areas where route densities are low or completely closed to cross country travel due to the TMP, special status species benefit from the reduction of OHV traffic.

Cumulative impacts (past, present, and foreseeable future actions) affect general wildlife species in different ways. For example, livestock grazing occurs throughout the TMA, but affects a small amount of acreage since cattle generally do not stray from utilized water sources and trailing areas, leaving the majority of grazing acreage and water sources not utilized by livestock, available to wildlife. Some actions, such as the 2008 TMP decision which reduced cross country travel within the TMA by 98%, benefit general wildlife species by providing a wide variety of habitats not affected by OHVs.

Impacts to general wildlife are not analyzed further because this TMP would not authorize construction of new routes or use of routes that have not already been subject to ongoing use. Therefore, no measurable change to the current level of effects on habitat for wildlife species would be expected. The TMP could cause changes in the amount of OHV use in an area, however it would not change to an extent that it would reduce abundance, occupancy, or reproductive success.

A.15 AIB-15: PUBLIC SAFETY AND EMERGENCY SERVICES

How would the route designation alternatives affect public safety and emergency services within and adjacent to the TMA?

The analysis area for public safety and emergency services is the TMA for 20 years because that is the area and timeframe influenced by the route designation alternatives. Emergency vehicles are excluded from the 43 CFR § 8340.0-5 definition of OHVs so emergency service access within the analysis area would not be impacted by the final TMP or vary across alternatives.

OHV use and the attendant dangers to human health and safety from OHV operation would only occur on any routes designated as OHV-Open or OHV-Limited under each alternative (see Map 2 through Map 5 and Section 2.2.2). According to the United States Consumer Product Safety Commission (CPSC) the dangers to public health and safety from OHV[17] use include vehicle collisions, overturns, and occupant ejection. Collisions can occur with other vehicles, stationary objects, or living beings and can occur simultaneously with an overturn (Topping 2021). Collisions and overturns are often preceding events that lead to ejection, the danger most frequently associated with fatality (Topping 2021).

Overturns occur because of steep terrain, changes in surface terrain, sharp turns, or operating at high speeds (Topping 2021). Vehicle collisions can occur due to driver error, vehicle malfunctions, hazardous road conditions, or a combination of issues (NHTSA 2008). Hazardous road conditions are influenced by route conditions (sharp curves, steep inclines, width, and terrain), route use levels or conditions (e.g., vehicle type limitations), and environmental conditions (e.g., weather) (NHTSA 2008). The Implementation Guide (Appendix E) includes measures to reduce hazardous road conditions such as signs to direct and inform traffic on the route and maintenance of the routes appropriate to the route classification.

The latest CPSC report showed 2,156 OHV fatalities nationwide from 2016-2018 (Topping 2021). Less than one percent of the reported fatalities occurred in Utah (Topping 2021), though the number of fatalities that occurred in the TMA is unknown.

Alternative D may pose an increased risk to public health and safety. Many routes to Abandoned Mine Lands features and other mining exploration routes in a deteriorated condition that are closed in Alternatives B and C are open in Alternative D.

As described in the cumulative recreation paragraph (Section 3.3.5) and the Recreation analysis (Section 3.4.7), while recreation use is expected to increase with population growth, the primary recreation areas are not expected to change across alternatives. Therefore, effects to public health and safety and emergency access are not analyzed in detail.

A.16 AIB-16: ENVIRONMENTAL JUSTICE

How would the route designation alternatives affect environmental justice populations?

Environmental justice (EJ) refers to the fair treatment and meaningful involvement of people of all races, cultures, and incomes with respect to the development, implementation, and enforcement of environmental laws, regulations, programs, and policies (CEQ 1997). Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 16, 1994), requires federal agencies to determine whether proposed actions would have disproportionately high and adverse environmental effects to minority, low-income, and American Indian populations of concern. BLM policy, as contained in BLM Land Use Planning Handbook H-1601-1 (BLM 2005) and BLM IM 2022-059 (BLM 2022), provides direction on how to fulfill agency responsibilities under Executive Order 12898.

The CEQ developed guidance (CEQ 1997) to assist federal agencies with their NEPA procedures so that EJ concerns are effectively identified and addressed. The guidance focuses on identifying minority and low-income EJ populations using census data. The BLM's IM 2022-059 builds upon CEQ's guidance and provides further direction for considering EJ concerns in BLM-prepared NEPA documents, including a detailed framework for identifying EJ populations using census data as well as several other recommended data sources.

[17] The United States Consumer Product Safety Commission identifies a definition for OHV that differs slightly from 43 CFR§ 8340.0-5. A link to the latest report and OHV definition can be found here: OHV Report 2021 (cpsc.gov).

The analysis area is Garfield and Wayne counties because those are the counties most affected by recreation in the TMA. The temporal scope of analysis is 20 years (see Section 3.2). The reference area is the State of Utah. Additionally, two census block groups intersecting the travel management area are included. Information on demographics of the analysis area is included in Table 41.

Table 41: Demographic Data

Geography	Population (2022)	Low Income	Minority	Native American
Garfield County	4,947	36.3%	11.7%	2.9%
Wayne County	2,505	34.7%	2.8%	0.0%
Census Block Group 490170004001(Garfield)	1,112	47%	12%	2.0%
Census Block Group 490559791002 (Wayne)	1,198	39%	13%	0.0%
Reference Area: State of Utah	3,283,809	26%	23.9%	2.0%[18]

Data sources: EPA EJScreen: http://www.epa.gov/ejscreen (accessed May 2024); BLM Environmental Justice Mapping Tool; not publicly available (accessed May 2024). Both rely on the same Census Bureau American Community Survey data. The Census Bureau reports low-income data and Native American population data for these geographies as varying from medium to low reliability, due to small populations and resulting sampling error.

A low-income community of concern is present if a low-income population in one or more study area geographies is at or above the low-income level of the reference area or is at or above 50 percent. This screening identified that both counties and the very sparsely populated census block groups met or exceeded these criteria. A low-income EJ community of concern, therefore, is identified for the purposes of this analysis. It should be noted that the low-income data for these areas is of varying reliability, according to the Census Bureau, due to sampling error inherent in small populations.

A minority community of concern is present if the percentage of the population identified as belonging to a minority group in a study area is equal to or greater than 50 percent, or it is more than 10 percentage points higher than that of the reference area; neither county meets this threshold. BLM has defined a separate threshold for Native American populations, to distinguish this group from other minority populations. The Native American population in Garfield County and Census Block Group 490170004001 meets or exceeds the state reference level; it is considered a population of concern (BLM 2024a).

The alternatives are not anticipated to affect the number of visitors and vehicle miles traveled within the TMA. Changes to the number of visitors to the recreation area are not directly or indirectly tied to the action being considered by the BLM, because all alternatives deal with designating OHV use on existing routes. In addition, none of the alternatives would authorize the construction of new routes, designate routes that do not exist, authorize events, create or remove a destination that would draw new visitors, or authorize an action such as construction of recreation facilities or utility lines. Therefore, changes to designation of existing routes (open, limited, or closed) is unlikely to affect low income or Native American populations identified above. For this reason, BLM is not carrying this resource forward for detailed analysis. Additionally, there are no past, present, or reasonably foreseeable future actions in the planning area, considered cumulatively with the travel plan alternatives, that would have a disproportionately adverse effect on identified environmental justice populations.

The BLM realizes that adverse effects may be identified by local communities as specific plan alternatives are proposed. The TMA is far removed from population centers and is very sparsely populated, reducing the likelihood of disproportionately adverse effects to local residents, including identified EJ communities. The BLM would provide EJ communities of concern with opportunities to identify any perceived adverse environmental effects during the planning process. The BLM would

[18] The Utah Native American population is 1.0%, but BM recommends 2.0% as the statewide threshold.

continue to work with potentially affected communities of concern to identify and address additional EJ issues as they arise.

A.17 AIB-17: SOCIOECONOMICS

What socioeconomic effects would the route designation alternatives have?

The analysis area includes Garfield and Wayne Counties and Green River City in Emery County. These are the areas most affected by recreation in the TMA. The temporal scope of analysis is 20 years (see Section 3.2). Any effects to the socioeconomics of the analysis area would come from changes in recreation visitation to the TMA and resultant changes in expenditures by visitors to the TMA. As discussed in the recreation cumulative effects description in Section 3.3.5, Richfield Field Office expects little if any change in recreation visitation from the various alternatives. Nonetheless, it is useful to describe the current contribution of visitation to the TMA to the economy of the analysis area.

A common tool used by economists to estimate economic contributions is the Impact for Analysis (IMPLAN) model. IMPLAN takes spending inputs, in this case spending by recreationists in a variety of sectors (lodging, restaurants, groceries, etc.) to estimate economic output. Assumptions for the following models are:

- The socioeconomics analysis area consists of Garfield and Wayne Counties and Green River City in Emery County, as most spending by visitors to the TMA are likely to occur in these localities.
- All models use latest available IMPLAN data (2022).
- Segment data (e.g., local vs nonlocal, day use vs overnight, camping vs lodging, etc.) provided by Richfield Field Office recreation staff.
- Spending profiles for each segment based on USFS National Visitation Use Monitoring data for Fishlake National Forest, with hotel rates adjusted for 2022 county-specific data (Leaver 2024).
- Total HMFG TMA visitation data for FY23 from the BLM Recreation Management Information System (RMIS).
- Richfield Field Office recreation staff estimate visitation to the TMA at 360,432 visitor days, which is not expected to vary by alternative.
- All output is in 2024 dollars.
- IMPLAN estimates are strictly linear. For example, increasing the estimate of recreation visitation by ten per cent will increase all outputs by the same ten per cent (see Table 42, below).

Table 42 shows the estimated economic contribution of recreation visitation to the TMA.

Note: Economic effects are divided into three main categories (Direct, Indirect, and Induced). Direct effects are those caused by the specified activity (e.g., the purchase of restaurant meals). Indirect effects are supply chain effects from the direct effects (e.g., purchases of food by restaurants from suppliers). Induced effects are the economy-wide ripple effects (e.g., the local businesses supported by direct employee spending).

Table 42: Economic Effects of Recreation Visitation to TMA, FY23 – All Alternatives

Visitor Days: 360,432 (Richfield Field Office recreation staff estimate)

	Employment	Labor Income	Value Added	Output
Direct Effect	124.8	$2,889,341.9	$5,177,512.9	$9,849,936.8
Indirect Effect	7.8	$319,853.7	$670,914.2	$1,566,236.0
Induced Effect	5.9	$214,084.2	$549,248.3	$975,763.0
Total Effect	138.5	$3,423,280	$6,397,675	$12,391,936

Since BLM estimates that visitation would not change across the alternatives, the current economic contribution based on current visitation will remain unchanged across alternatives. The estimates above could be affected by a wide range of local, regional and even national events (e.g., changes in travel costs). IMPLAN estimates are strictly linear, meaning that a doubling of recreation visitation would produce a doubling of the estimated economic contributions discussed above. Table 43 provides the marginal economic contribution per 10,000 visitor days to the TMA.

Table 43: Economic Effects of Recreation Visitation to TMA Per 10,000 Visitor Days

	Employment	Labor Income	Value Added	Output
Direct Effect	3.5	$80,163.3	$143,647.4	$273,281.4
Indirect Effect	0.2	$8,874.2	$18,614.2	$43,454.4
Induced Effect	0.2	$5,939.7	$15,238.6	$27,072.0
Total Effect	3.8	$94,977	$177,500	$343,808

Non-Market Values

In addition to the economic effects described above, it is important to also consider non-market values associated with BLM activities. The term *nonmarket values* refers to the benefits individuals attribute to experiences of the environment or uses of natural and cultural resources that do not involve market transactions and therefore lack prices. Examples include the benefits received from wildlife viewing, hiking in a wilderness, or hunting for recreation. Nevertheless, such values are important to consider because they help tell the entire economic story. Estimates of nonmarket values supplement estimates of income generated from commodity uses to provide a more complete picture of the economic implications of proposed resource management decisions. Unlike gasoline or employee wages, these values either do not have a market or do have a market but are difficult to quantify. Nevertheless, such values are important to consider because they help tell the entire economic "story." This is especially important regarding recreation activities on BLM which are typically "free" to the user, but still have value even if not expressed in monetary terms. Despite the difficulties associated with measurement of these values, it is well-accepted that the natural, recreational, and cultural resources of an area, and the open space the area may provide, have value, even if difficult to quantify in dollars.

Nonmarket use values have been studied extensively for a wide variety of recreation "goods." Examples of a range of typical nonmarket use values—consumer surplus values—for recreation activities can be found in a recent Oregon State University report (Rosenberger 2016). That report summarizes the findings from 421 studies (totaling 3,192 different value estimates) covering the U.S. and Canada from 1958–2016 and separates the studies by region. This data is revealing, in that it indicates that visitors may be getting great value for their recreation activities in the socioeconomic study area and may be more willing as a result to visit here and continue to contribute their spending to the local economy.

Based on the above analysis, BLM believes there would be no meaningful changes to the planning area's economy under any alternative, and detailed analysis is not required. There are no past, present or reasonably foreseeable actions that would alter this conclusion.

A.18 AIB-18: CONGRESSIONALLY DESIGNATED WILDERNESS AREAS

How would the route designation alternatives affect Congressionally designated Wilderness Areas within the TMA?

The TMA is adjacent to the following wilderness areas in Emery County designated by Congress under the 2019 Dingell Act (P.L. 116-9): Lower Last Chance Wilderness, Muddy Creek Wilderness, Middle

Wild Horse Mesa Wilderness, Big Wild Horse Mesa Wilderness, and Labyrinth Canyon Wilderness[19]. These five wilderness areas total just under 230,000 acres, and they are the analysis area. The temporal scope of analysis is 20 years (see Section 3.2).

While the TMA per se does not contain designated wilderness, the linear feature route inventory contains routes in close proximity or adjacent to the above-mentioned wilderness areas in Emery County. This TMP will not designate any OHV routes within wilderness but does consider route designations that could facilitate OHV use near wilderness boundaries. Table 44 shows the number of routes that provide access to, are proximate to, or connect to the Wilderness Areas.

Table 44: Number of OHV-Open or OHV-Limited Routes Providing Access to Wilderness Areas

Wilderness Area	Alternative A	Alternative B	Alternative C	Alternative D
Big Wild Horse Mesa	3	2	2	2
Labyrinth Canyon	2	2	2	2
Lower Last Chance	0	0	1	1
Middle Wild Horse Mesa	3	3	3	3
Muddy Creek	2	2	3	3

Some routes connect with wilderness area routes that are cherry-stemmed[20] or boundary routes. Continued OHV use on routes accessing, proximate to, or connecting to wilderness areas is likely to create localized and transient effects to wilderness character for short distances depending on local topography and weather conditions. Temporary audible and visual effects to wilderness character can be expected from the passage of OHVs on designated routes. The sights and sounds of motor vehicles adjacent to wilderness may temporarily disturb visitors' experience of outstanding opportunities for solitude or primitive recreation. However, in most circumstances, visitors can venture further into the wilderness out of visual and audible range of vehicle routes.

OHV use near a wilderness boundary may also introduce noxious weeds, affecting the natural quality of wilderness. Unauthorized vehicle incursions and/or dispersed camping in wilderness may also occur from time to time, affecting the undeveloped and natural qualities. Other potential adverse effects in wilderness can occur near travel routes from human waste, litter and trash dumping, woodcutting, target shooting, vandalism, and wildfires affecting to naturalness and supplemental values such as cultural sites, scenery, wildlife, geology, paleontology, or scientific values.

In remote arid desert regions like the TMA, OHV routes adjacent to wilderness areas also provide critical access for realizing the public purposes of wilderness, including recreational, scenic, scientific, education, conservation, and historic uses. The travel network within the TMA provides public access routes to

[19] Under the Dingell Act, Congress designated these wilderness areas for inclusion in the National Wilderness Preservation System and directed that the BLM manage them in accordance with the Wilderness Act of 1964. Motorized and mechanized travel is a prohibited use under Section 4(c) of the Wilderness Act. Additionally, per Dingell Act, §1232(e)(2): "The fact that non-wilderness activities or uses can be seen or heard from areas within a wilderness area shall not preclude the conduct of those activities or uses outside the boundary of the wilderness area." Congress also stated at § 1232(e)(1) that it "does not intend for the designation of the wilderness areas to create protective perimeters or buffer zones."

[20] Cherry-stem routes are a colloquial term for when the wilderness boundary has been drawn around a specific route that terminates within the interior of the wilderness.

wilderness trailheads, range improvements, and scenic overlooks supporting hiking, backpacking, canyoneering, and other non-motorized activities. The same can be said for authorized livestock grazing or scientific research within wilderness.

With TMP implementation actions and partnership assistance, Richfield Field Office BLM will coordinate and assist Price Field Office BLM in reclaiming, mitigating, and minimizing adverse effects on wilderness character to the greatest extent practicable. Reclamation of unauthorized OHV use in wilderness includes minimum-tool practices such as trash removal, erosion control, mulching, revegetation, signing, and weed eradication. Management actions within wilderness require the preparation of minimum requirements analysis and possibly additional NEPA, as necessary.

A.19 AIB-19: FOREST SERVICE ROADLESS AREAS

How would the route designation alternatives affect the Forest Service roadless area adjacent to the TMA?

The analysis area is the Dixie Forest Roadless area adjacent to the TMA. This area was selected, because while the TMA does not contain any Roadless areas, five evaluated route segments in the TMA connect to trails in the Forest Service's transportation plan within the Roadless area. The temporal scope of analysis is 20 years (see Section 3.2).

The route designation alternatives could facilitate OHV use near the Roadless area. However, two of the five route segments are acknowledged as open roads under the Forest Service transportation plan. The other three routes are spurs that dead-end short distances into the Forest Service Roadless area.

Continued OHV use of routes designated Open or Limited which access, are proximate to, or connect to the roadless area would be likely to cause temporary effects to its auditory and visual characteristics. The sights and sounds of motor vehicles adjacent to the Roadless area may temporarily disturb its visitors' experience. However, in most circumstances, visitors can venture further into the Roadless area out of visual and auditory range of vehicle routes.

Unauthorized vehicle incursions and/or dispersed camping in or near the Roadless area may also occur from time to time. Other potential adverse effects from human waste, litter and trash dumping, hazardous fluid leaks, woodcutting, target shooting, vandalism, and wildfires could occur in or near the Roadless area near routes designated Open or Limited.

Adverse effects to the Roadless area would be localized and transient, extending short distances and with varying intensity based on local topography and weather conditions. With TMP implementation actions and partnership assistance, the BLM will coordinate with the Forest Service and assist in minimizing any adverse effects on the Roadless area from the route designation effects where possible and necessary. For these reasons, effects to the Dixie Forest Roadless area would not be to a level meriting detailed analysis.

A.20 AIB-20: SUITABLE WILD AND SCENIC RIVER CORRIDORS

How would route designation alternatives affect suitable Wild and Scenic River corridors adjacent to the TMA?

The analysis area is public lands in the TMA west of Capitol Reef National Park plus the adjacent suitable Wild and Scenic River corridor because that is the area of the TMA that may impact the WSR. The temporal scope of analysis is 20 years (see Section 3.2).

The 2008 RMP established 5.0 miles in the Fremont River Gorge as a suitable wild and scenic river with a tentative classification as wild. The RMP further established an OHV-closed area within roughly 0.25 miles of each side of this river segment.

The Wild and Scenic Rivers Act of 1968 (P.L. 90-542, as amended; 16 U.S.C. 1271-1287) establishes the criteria for river classifications. Per Section 2(b) of this legislation, a wild river classification is for "those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America."

BLM Manual 6400 - Wild And Scenic Rivers provides guidance on management of suitable wild and scenic rivers in Chapter 3. It states, "To the extent possible under existing legal authorities (e.g., FLPMA, Clean Water Act, Endangered Species Act, and Archaeological Resources Protection Act), the BLM's policy goal for eligible and suitable rivers is to manage their free-flowing condition, water quality, tentative classification, and any outstandingly remarkable values to assure a decision on suitability can be made for eligible rivers; or in the case of suitable rivers, until Congress designates the river or releases it for other uses. To that end, the BLM has broad discretionary authority, on a case-by case basis through project-level decision making and the NEPA processes, not to impact river values or to make decisions that might lead to a determination of ineligibility or nonsuitability" (BLM 2012d).

In accordance with the 2008 RMP and BLM policy for managing wild and scenic river values, any portion of TMA routes WYPM0456k, WYPM0461, and WYPM0469a that falls within the suitable wild Fremont River Gorge corridor remain closed under all alternatives. Prior public data releases that indicated these routes would be open under some alternatives were made in error. Closure of all routes within the river corridor limits public motorized access to the river but supports protection of river values determined in the RMP, particularly the tentative classification as wild. This resource issue does not require detailed analysis since the proposed action would not change the OHV closed designation for the Fremont River Gorge.

A.21 AIB-21: NATIONAL PARKS AND NATIONAL RECREATION AREAS

How would the route designation alternatives affect National Parks and National Recreation Areas in or adjacent to the TMA?

The analysis area for national parks and national recreation areas is the TMA plus Canyonlands National Park, Capitol Reef National Park, and Glen Canyon National Recreation Area because those are the parks and areas that TMA route designations access. The temporal scope of analysis is 20 years (see Section 3.2).

While the TMA does not overlap Capitol Reef National Park or the Glen Canyon National Recreation Area (Parks), the linear feature route inventory contains routes in close proximity or adjacent to them. The TMA does overlap the Horseshoe Canyon sub-unit of Canyonlands National Park. This overlap contains 3,449 acres (See Section 1.4, Table 1). This TMP will not designate any OHV routes within the Parks but does consider route designations that could facilitate OHV use near them. Figure 29 – Figure 31 show the number of routes that provide access to and terminate near the Parks.

Figure 29: Number of Evaluated Routes Providing Direct or Indirect Access to Canyonlands National Park

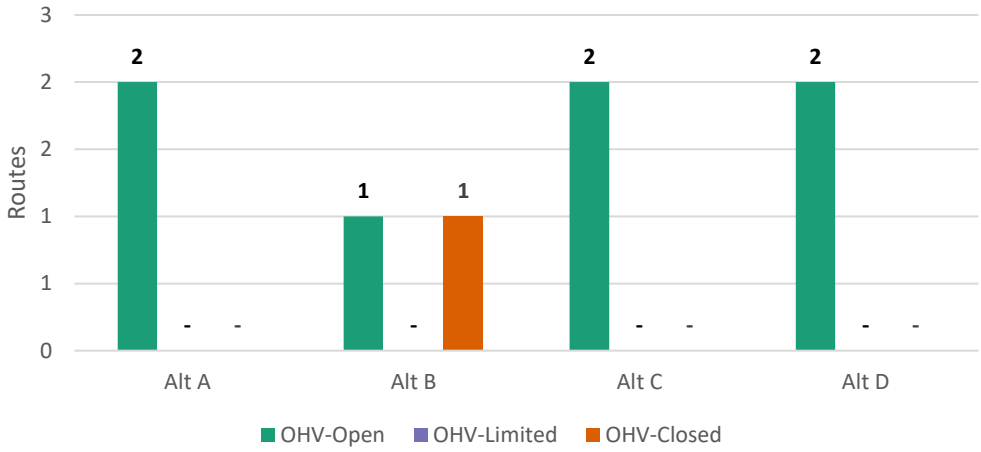


Figure 30: Number of Evaluated Routes Providing Direct or Indirect Access to Capitol Reef National Park

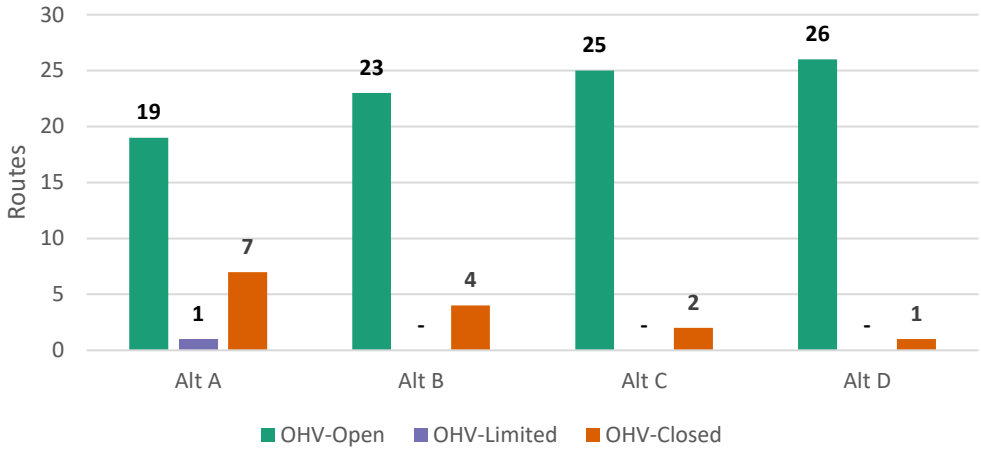
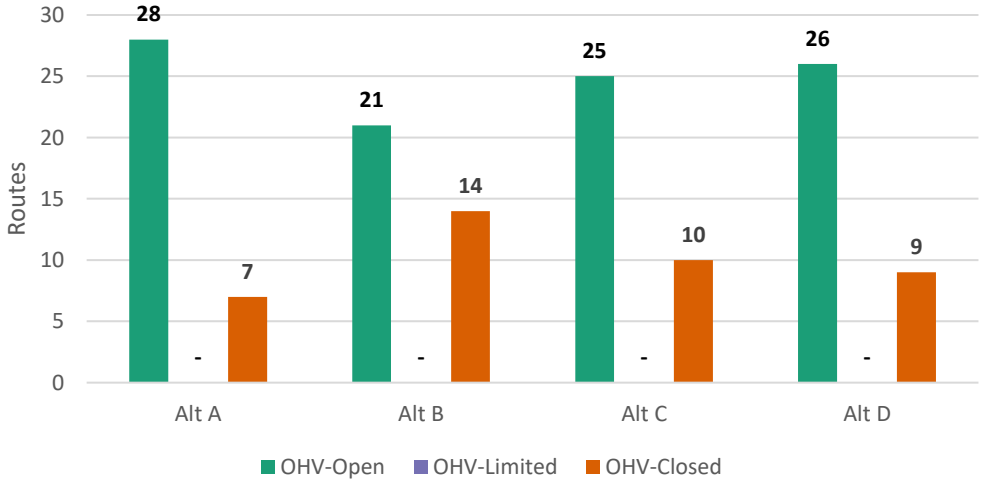


Figure 31: Number of Evaluated Routes Providing Direct or Indirect Access to Glen Canyon National Recreation Area



Continued OHV use on routes accessing, proximate to, or connecting to the Parks is likely to create temporary auditory and visual impacts for short distances depending on local topography and weather conditions. The sights and sounds of motor vehicles may temporarily disturb Park visitors' experience. Dispersed camping near the Parks may also occur from time to time, impacting the undeveloped and natural qualities. Other potential human impacts adjacent to the Parks can occur near travel routes from human waste, litter and trash dumping, hazardous fluid leaks, woodcutting, target shooting, vandalism, and wildfires. In remote arid desert regions like the TMA, OHV routes also provide critical access for realizing the public purposes of the Parks. The travel network within the TMA provides public access routes to trailheads supporting uses located within the Parks.

With TMP implementation actions and partnership assistance, Richfield Field Office BLM will coordinate with the Parks regarding addressing issues resulting from OHV use near the Parks. This may include reclaiming or mitigating impacts from OHV use.

A.22 AIB-22: LANDS AND ACCESS

How would the route designation alternatives affect public access to existing rights-of-way, private land, and lands administered by the State of Utah?

The analysis area for lands and access is the entire TMA plus connecting routes because that is the smallest unit showing effects to public access within the TMA. The temporal scope of analysis is 20 years (see Section 3.2).

No route designation alternative would preclude existing or future BLM-authorized uses of existing routes, as OHV designations only apply to public access and not authorized uses. The BLM used high quality GIS data to identify existing OHV access to federal land, state land, and private land within the TMA. The current condition for lands and access is established by the route designations under the 2008 TMP (Alternative A). Under the 2008 TMP, 1,254 routes were designated as OHV-Open and 76 routes were designated as OHV-Limited. Figure 32 and Figure 33 show the number of those routes accessing state and private lands. Routes designated as OHV-Closed were not considered in this portion of the analysis because they do not allow for public access. Effects to public access to private and state lands were estimated by comparing the number of OHV-Open or OHV-limited routes providing access to these lands. See Figure 32 and Figure 33 below for this information.

No route designation alternative would preclude existing or future BLM-authorized uses of existing routes, as OHV designations only apply to public access and not authorized uses. Public visitation and route use levels within the TMA vary by season and by elevation. Retaining and adding OHV-Open and OHV-Limited (to vehicle type) designations tend to preserve and add motorized public access while OHV-Limited (seasonally) and OHV-Closed designations tend to reduce motorized access to federal, state, and private land; because some private and state lands have multiple access points, OHV-Closed designations do not always directly equate to loss of access. BLM assumed that OHV-Open/OHV-Limited route designations generally equate to additional access. During the analysis, the BLM discovered that many routes were redundant to one another and did not have a clear purpose and need. In those instances, the BLM prioritized the OHV-Open or OHV-Limited designations for routes providing access to state, and private lands within the TMA and considered the OHV-closed designation for redundant routes that were not important to the connectivity of the travel network. Minimization criteria were considered in developing route designation alternatives, especially where route redundancies and multiple access points were prevalent.

OHV use is closely correlated with the need for access by the public. The BLM tracked and documented each route providing OHV access to private or state land in each route evaluation form. The number of routes is a better indicator than miles traveled in determining access. See figures below, which display the number of routes by alternative providing access to private and state lands.

Figure 32: Number of Evaluated Routes Accessing State Land

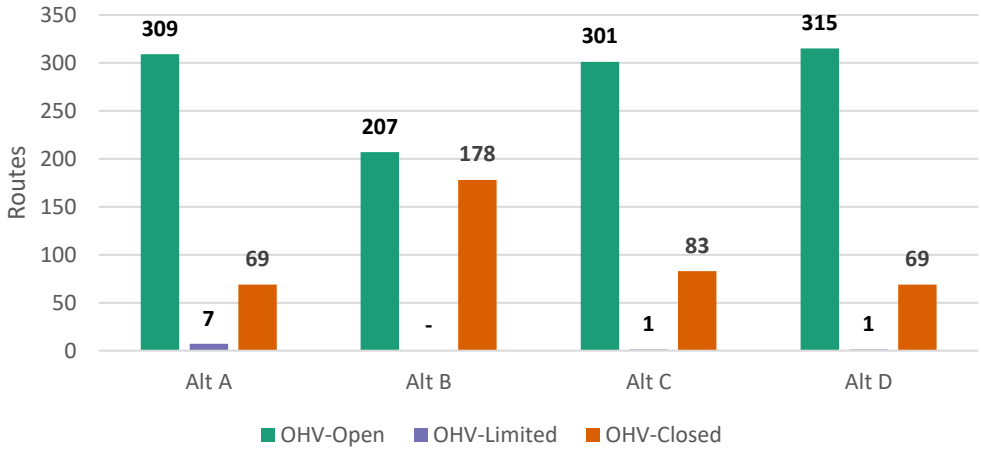
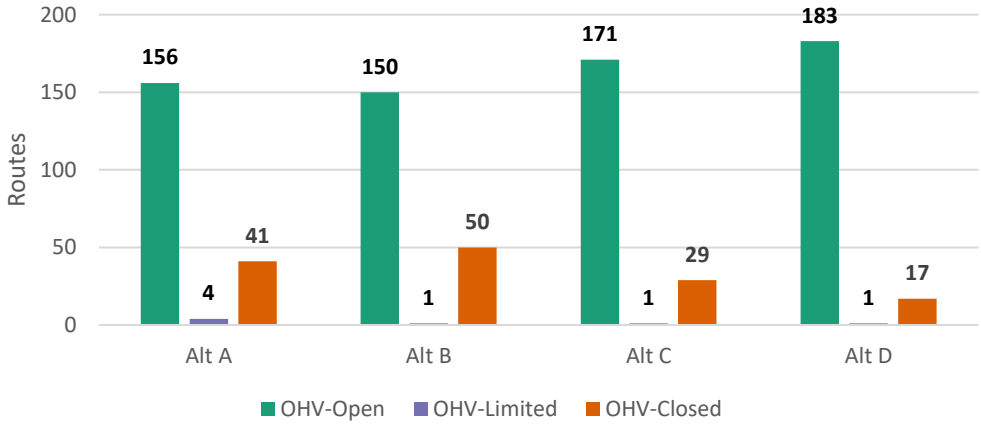
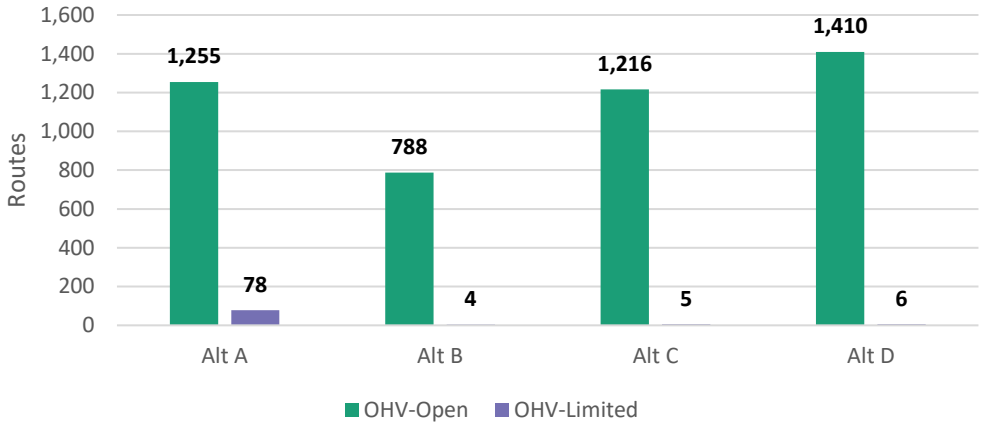


Figure 33: Number of Evaluated Routes Accessing Private Land



Current authorized uses may continue and BLM may issue new authorizations in the future despite the public OHV designations made in the TMP, when finalized. Route designation decisions will not preclude access for lease or permit holders and other authorized users. However, designating as OHV-closed routes that were designated OHV-Open to the public under the 2008 TMP could require users not currently holding a BLM authorization to apply for authorization or right-of-way with associated costs should that alternative be selected.

Figure 34: Total Open and Limited Routes in the TMA by Alternative for Access Overview



The no action alternative would not change the current mileage of OHV-Open routes providing public access within the TMA. The current mileage of OHV-Open routes that is being used for public access is 1,847 miles or 1,333 routes. Sixty-six miles of access routes or 78 routes would continue to be designated as OHV-Limited under this alternative.

Under Alternative B, OHV-Open route mileage would be reduced in the TMA from 1,781 to 1,323. Accordingly, the total number of OHV-Open routes in the TMA would be reduced from 1,255 to 788. Routes designated as OHV-Limited in the TMA would be reduced from 66 miles to 3 miles and 78 routes to 4 routes.

Under Alternative C, OHV-Open route mileage in the TMA would be reduced from 1,781 to 1,754. Accordingly, the total number of OHV-Open routes in the TMA would be reduced from 1,255 to 1,224. Routes designated as OHV-Limited in the TMA would be reduced from 66 miles to 10 miles and from 76 routes to 5 routes.

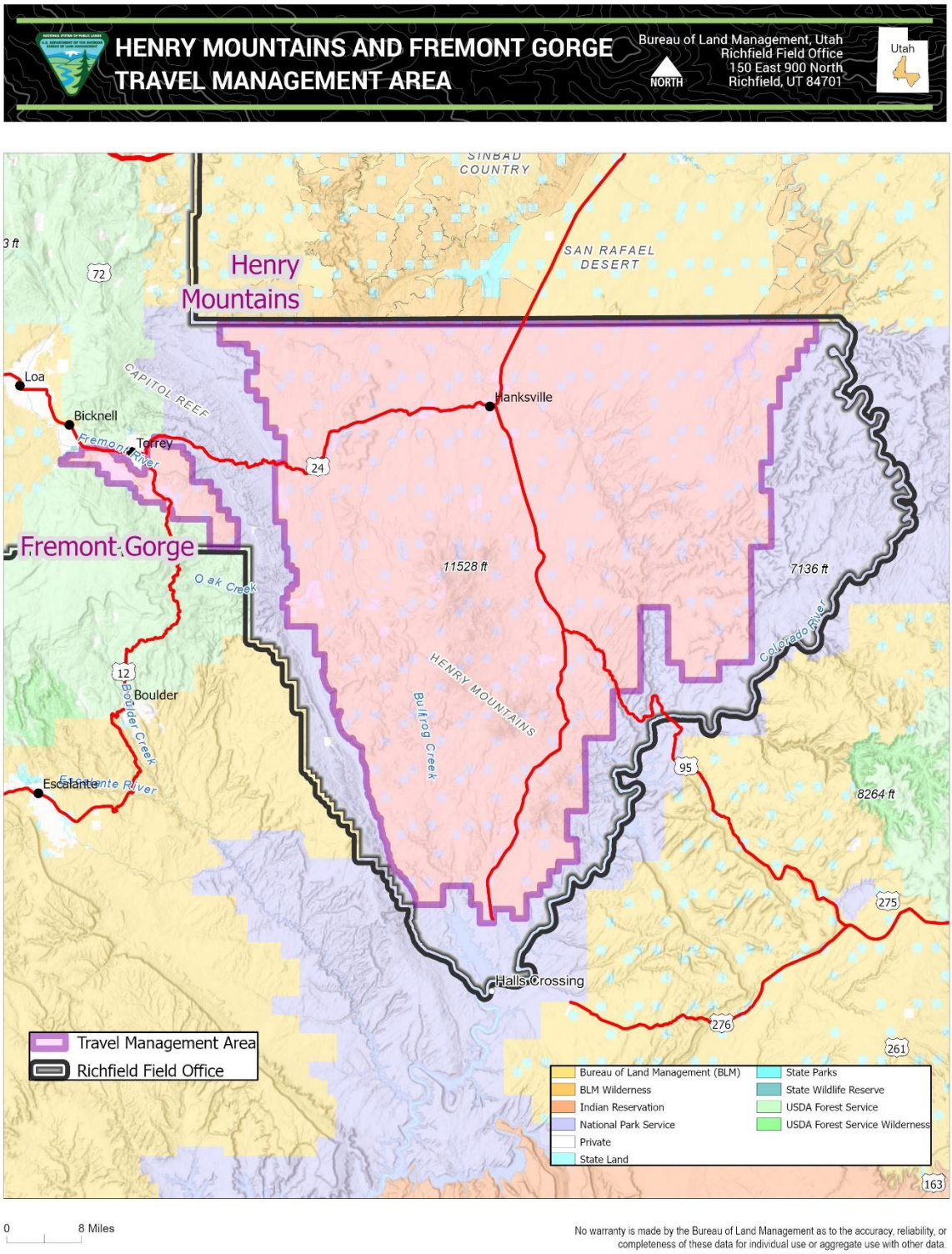
Under Alternative D, OHV-Open route mileage in the TMA would be increased from 1,781 to 1,898. Accordingly, the total number of OHV-Open routes in the TMA would be increased from 1,255 to 1,410. Routes designated as OHV-Limited in the TMA would be reduced from 66 miles to 11 miles and from 76 routes to 6 routes.

The cumulative effects analysis area includes the TMA and connecting routes. Cumulative effects to lands and access arise from conflicts with competing resources. Specifically, increased access generally results in higher levels of surface disturbance (see Section 3.2). Conversely, consideration was given by the evaluation team to keeping existing routes open where possible to concentrate motorized travel on designated routes and reduce off-route motorized travel within the TMA. BLM has documented permitted public access needs for each identified route within the TMA bounds. Notable utility/realty actions that are reasonably foreseeable in the region are listed in this document (see Section 3.3). It is not anticipated that any of the reasonably foreseeable lands and realty actions in the area would meaningfully change public access.

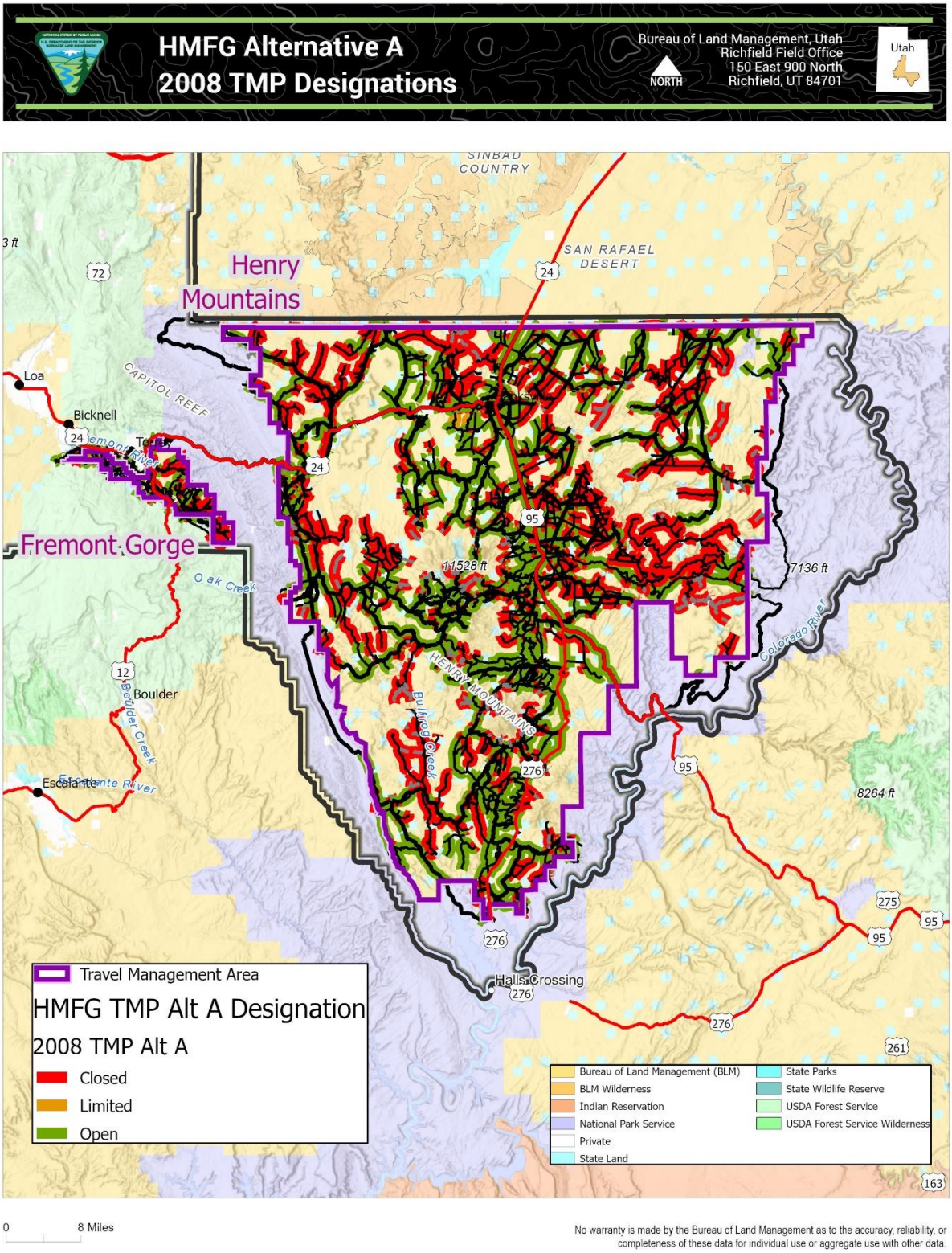
The cumulative effects analysis area is directly affected by the need for motorized access. The BLM anticipates motorized visitation will increase over time (Leaver 2024). Each alternative provides for OHV and non-motorized access for a wide array of opportunities and experiences within the TMA's unique management areas. Public and private users would experience a notable reduction of access for actions on lands outside BLM jurisdiction under Alternative B. Users would experience some reduction of access for activities and destinations under Alternative C. Public access reductions under Alternatives B and C would incrementally add to reduction of access under other TMPs in the region. Under Alternative D, users would have more access to lands outside BLM jurisdiction within the TMA than other alternatives.

APPENDIX B MAPS

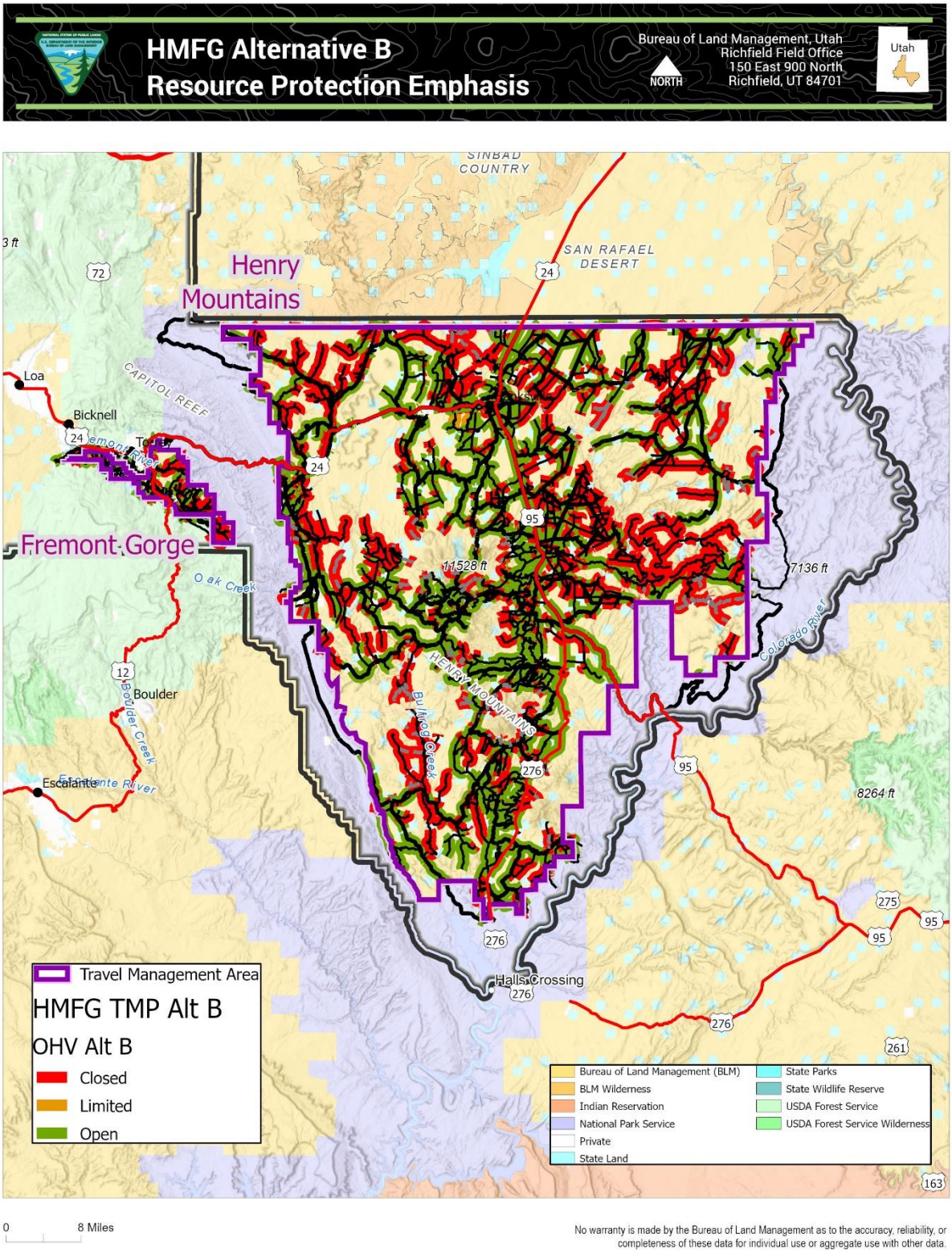
B.1 MAP 1: HENRY MOUNTAINS/FREMONT GORGE TMA



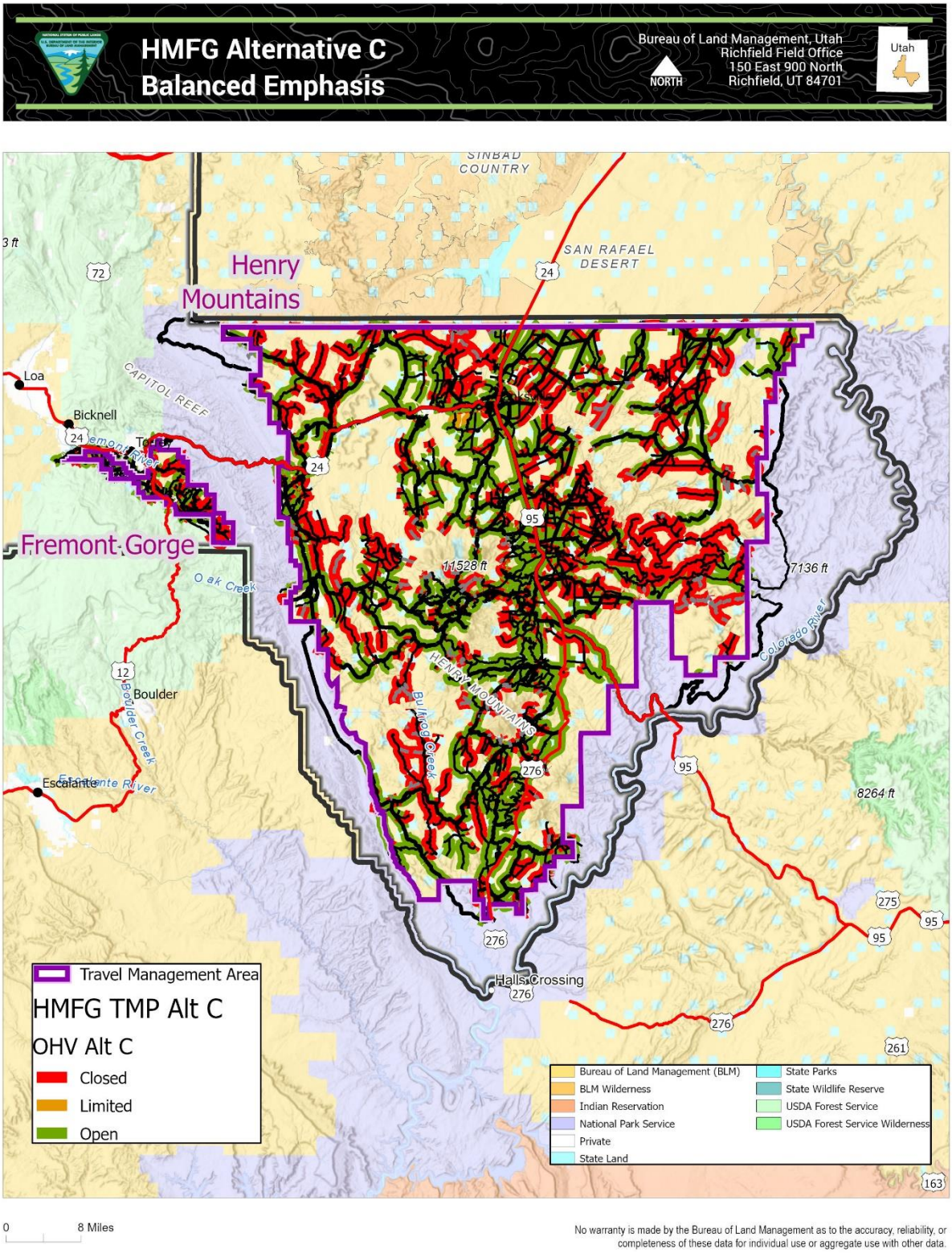
B.2 MAP 2: ALTERNATIVE A ROUTE DESIGNATIONS



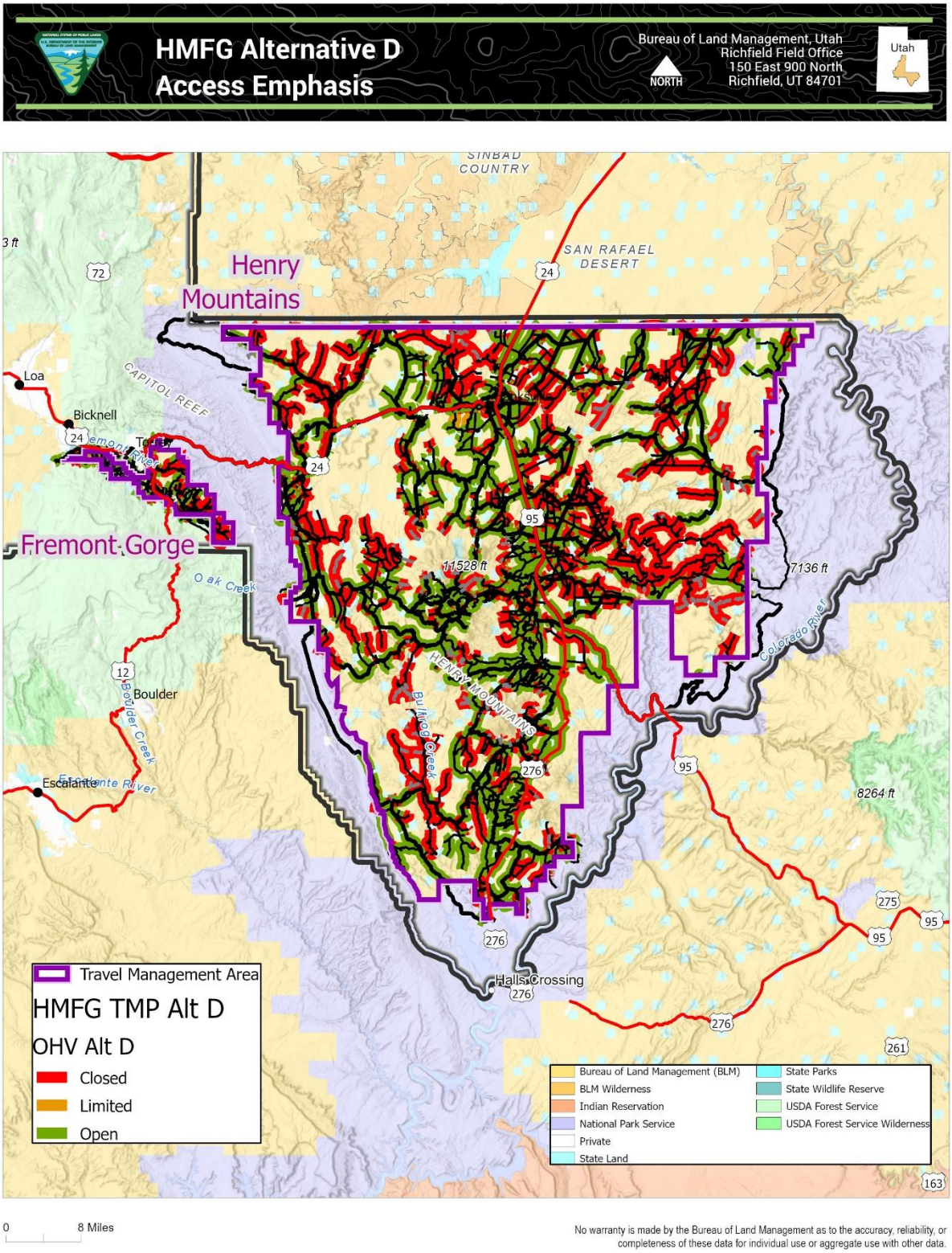
B.3 MAP 3: ALTERNATIVE B ROUTE DESIGNATIONS



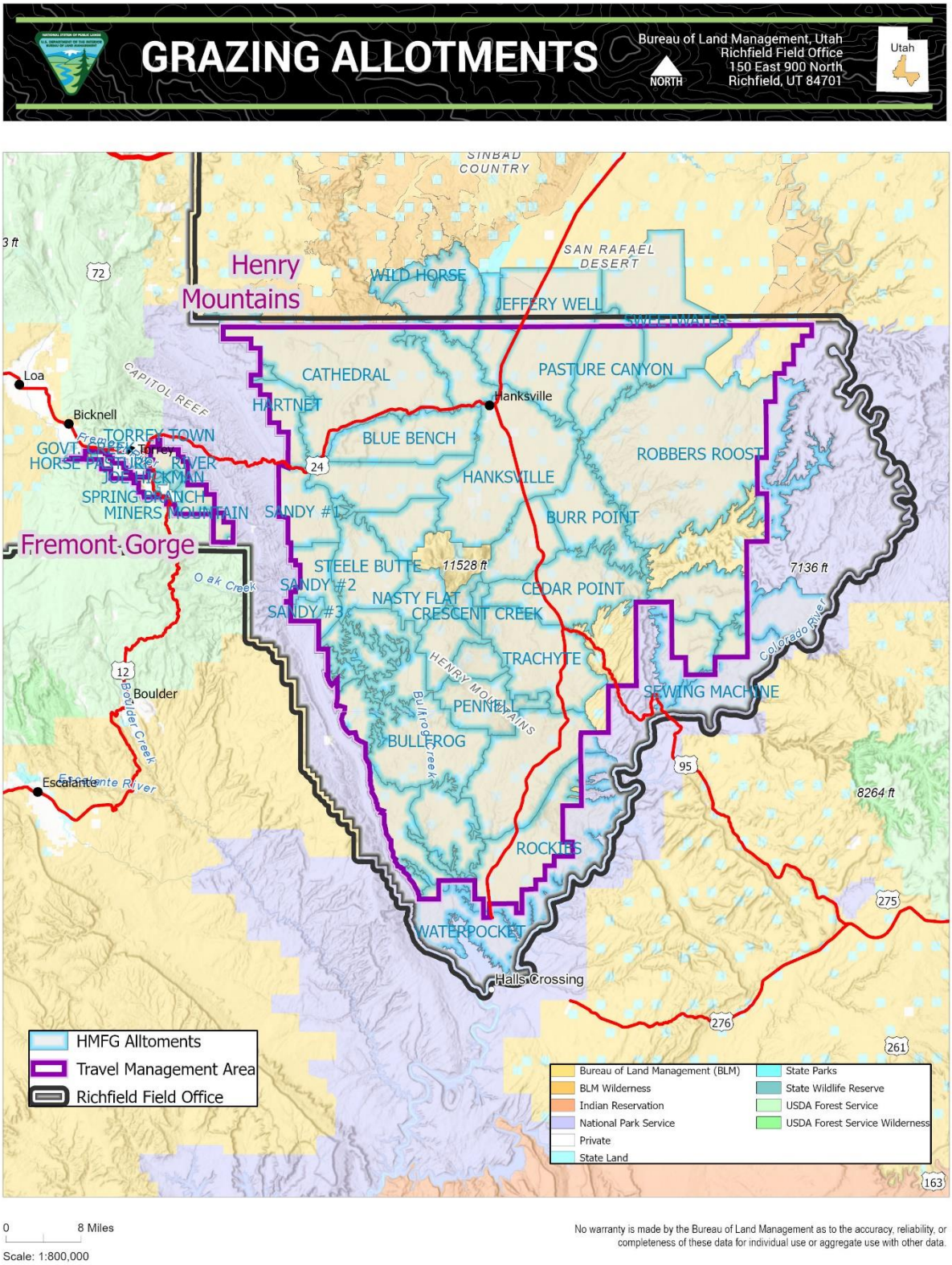
B.4 MAP 4: ALTERNATIVE C ROUTE DESIGNATIONS



B.5 MAP 5: ALTERNATIVE D ROUTE DESIGNATIONS



B.6 MAP 6: GRAZING ALLOTMENTS



APPENDIX C CONFORMANCE TO SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT THROUGH THE TRAVEL AND TRANSPORTATION PROGRAMMATIC AGREEMENT

Introduction:

The 2018 Programmatic Agreement among the Advisory Council on Historic Preservation, the Bureau of Land Management – Utah, and the Utah State Historic Preservation Office Regarding National Historic Preservation Act Responsibilities for Travel and Transportation Management Undertakings (Travel PA) was developed and signed to "establish greater clarity in how BLM-Utah's travel and transportation management undertakings should make "a reasonable and good faith" effort to identify historic and traditional cultural properties in accordance with 36 CFR 800.4(b)(1)." The Travel PA also establishes BLM-Utah's procedures towards comprehensively meeting its obligations under 36 CFR Part 800 to identify, evaluate, and resolve potential adverse effects to historic properties (including traditional cultural properties) for travel and transportation management undertakings. To illustrate BLM's adherence to the stipulations of the Travel PA, Table 45, below, lists the requirements of the Travel PA and summarizes BLM's efforts to adhere to those requirements.

Table 45: Stipulations of the Travel PA and the BLM's Actions to Adhere to those Requirements

Travel PA and the 2017 Settlement Agreement	Process for Completing these Requirements
Identifying Areas of Potential Effects (APEs) for OHV Route Designations - Travel PA Stipulation III.A.1.b. Under this stipulation the BLM must invite and seek consulting party (including the SHPO) input when defining the width of the APE and seek any additional cultural resources information a consulting party wishes to share.	The BLM completed consultation regarding establishing an APE width in 2016.
Travel PA Stipulation III.A.2. Literature Reviews and Cultural Resource Potential Maps for Open OHV Area and OHV Route Designations Under this stipulation the BLM must complete and/or update a literature review and cultural resource potential map. BLM must also invite and seek consulting party comments regarding these identification efforts.	The BLM completed a cultural resource potential map in 2016 and literature reviews for each of the seven Class III surveys conducted in the TMA between 2022 and 2024.
Travel PA Stipulation III.A.4.b Class III Surveys for OHV Route Designations Prior to approving OHV route designations, BLM will complete Class III surveys within all routes or portions of routes that are located within a cultural resource potential map's identification of a high potential cultural resource area. **2017 Settlement Agreement Stipulations 24 (b)(ii) and (c), – Class III survey in certain ACECs and Class III surveys in high potential areas** Prior to approving a TMP within certain ACECs the BLM must conduct Class III survey along all routes or portions of routes that are designated as open.	In accordance with the 2017 Settlement Agreement, BLM completed Class III surveys within all 2,282 miles of routes in the TMA. These were completed in seven phases between 2022 and 2024.

Travel PA and the 2017 Settlement Agreement	Process for Completing these Requirements
The 2017 Settlement Agreement also requires Class III survey along all routes or portions of routes that are located in areas of high cultural resource potential that the BLM has identified in a Class I cultural resource inventory. ***Travel PA Stipulation IV.D. Stipulation Adverse Effects (36 CFR 800.5)*** Under this stipulation, the BLM must invite and seek consulting party input regarding BLM-Utah's finding of adverse effect.	The BLM anticipates reaching of Finding of Adverse Effects for the TMP and will invite and seek consulting party input regarding that finding.
Travel PA Stipulation III.A. 3. Site Revisits for Open OHV Areas and OHV Route Designations Site revisits serve as a component of BLM's efforts to identify historic properties for undertakings that would designate OHV routes.	BLM completed site revisits as part of the Class III surveys.
Travel PA Stipulation III.B.1 Determining the Need for Phased Class II Surveys for Travel Management Plans This stipulation requires that the BLM invite and seek consulting party input regarding the need to conduct additional cultural resource surveys after the TMP has been approved.	BLM completed Class III surveys on all routes within the TMP.
Travel PA Stipulation V. Resolution of Adverse Effects Through Historic Property Treatment Plans BLM's resolution of adverse effects from the approval of the TMP are to be accomplished through the development of Historic Properties Treatment Plans (Treatment Plan). BLM must provide an opportunity for SHPO, Indian tribes and consulting parties an opportunity to provide input on the Treatment Plan.	The BLM will develop a Treatment Plan and consult with SHPO, Tribes and consulting parties to allow them to provide input on the Treatment Plan.

APPENDIX D ROUTE REPORTS

Using the linear feature route inventory, the BLM and their cooperators met for multiple planning sessions to systematically review and evaluate each of the routes. During route evaluation, the BLM interdisciplinary team used the ARS Route Evaluation software and GIS to systematically review, discuss, and document each route's location, physical characteristics, current management, operation and maintenance, authorized and permitted uses, public uses, purpose and need of the route, associated biomes, all known natural and cultural resources, proximity to resources of concern, specially designated areas, and resource issues. Each intensive evaluation session included ongoing interactive BLM and cooperator discussions of each route's resource and resource use concerns, as well as any route-specific public review information and cooperator input available at the time of the evaluation process.

For each route, the BLM also considered and addressed the 43 CFR § 8342.1 Designation Criteria, selecting applicable rationale demonstrating how the route would minimize impacts for each of the route's preliminary alternative designations. The process resulted in extremely thorough data capture, produced a preliminary range of reasonable route designation alternatives for each route based on the alternative themes, and created a complete record of the process as documented in the route reports.

The full collection of route reports is available on the BLM's ePlanning site. Route reports provide a record of the BLM's evaluation of each route. The header of each page of a route report displays the number that was used to identify the route during evaluation (e.g., WYHM0014). The number placed on published maps and used on route signs may not be the same. Each route report includes three sections: "General Background," "Evaluation Information," and "Designation Alternatives."

Disclaimer: Not all route reports will match perfectly with the analysis work completed in the Environmental Assessment (EA). Route reports are how BLM documented its process for reviewing routes on a route-by-route basis using the best data available at the time of evaluation. Since the original evaluations, new resource inventories have been completed and improved GIS layers have also been developed. BLM again chose to use the most current and best available data for the resource analysis work. Because of this situation and time gap, there may be some discrepancies between the route forms and the EA. BLM has attempted updating the routes forms periodically but recognizes that some mistakes may still be present. When a discrepancy is found between the EA/GIS layers and a route forms, what is said in the EA and most recent GIS layers will supersede.

General Background

The first part of the "General Background" section of a route report shows the route's evaluation session date, the name of the session's contracted facilitator (in this case, planners working for BLM's contractor), and the BLM resource specialists (biologists, archaeologists, recreation planners, etc.) responsible for evaluation of the route. The second part of the "General Background" section provides physical information about the route such as length, width, route class, use, jurisdictions over which it passes, and origin (if known). This section also discloses the level of maintenance a route receives, if any. Routes that are noted as *bladed* or *regularly maintained* are likely to see a higher level of use and, because they are bladed and tend to be wider as a result of routine blading, minimize the need for vehicles to travel off-route for the purposes of passing or parking. Routes that are *minimally* (i.e., *infrequently*) *maintained* or for which no maintenance is recorded in the route report may occasionally receive light maintenance but tend to be narrower user-created two-track type routes. The route class identified by the BLM (*road*, *primitive road*, or *trail* as defined by Manual 1626 – Travel and Transportation Management Manual) also helps define how the BLM would manage or maintain that specific route. Other information may also be included along with citizen comments and proposals, as applicable.

****SAMPLE** Route Report for D2763b**

Facilitator(s):	Tom Folks	**Initial Evaluation Date:**	12/7/2015

Evaluators:

Jason Anderson, GIS specialist
Brandon Jolley, Range Management Specialist
Brant Hallows, Natural Resource Specialist
Michael Utley, Realty Specialist
Dave Cook, Wildlife Biologist
John Reay, Geologist
Mark Dean, Hydrology and Air Resources
Lauren Kingston, Archaeologist
Myron Jeffs, Outdoor Recreation Planner
Sue Fivecoat, Asst. Field Manager (ORP, initial evaluation)
Wayne Wetzel, Field Office Manager

TMA:	Wayne County			
Length: 2.12 mi.	**Width:** ATV Track	**Class:**	Primitive Road	**Use Level:** Low
Route Type(s):	Spur			
Surface:	None identified by BLM	**Maintained:**	Minimally	
Origin:	None identified by BLM	**Constructed:**	None identified by IDT	
Jurisdictions:	BLM			

Additional Information: None.

General Evaluation Questions

Does this route:	
• either wholly or in part, have a right-of-way grant or is it simply an officially-recognized route maintained by a county or another government agency?	**NO**
• provide commercial, private property, or administrative access, e.g., via permit, ingress/egress rights or other jurisdictional responsibility?	**YES**
• provide a principal means of connectivity within a Travel Management Area or Management Zone?	**NO**
• exist as a result of a previous agency land use or implementation-level planning document decision and is managed as a transportation facility asset?	**NO**
• provide an important linkage between Travel Management Areas or Management Zones?	**NO**
Does this route provide network connectivity that contributes to recreational opportunities, access to specific recreation sites, public safety, or other public multi-use access opportunities enumerated in agency Organic laws?	**YES**
Might the continued use of this route potentially impact:	
• State or Federal special status species or their habitat?	**YES**
• cultural or any other specially-protected resources or objects identified in Agency planning documents?	**YES**
• any special area designations, e.g., National Monuments?	**YES**
• any other resources of concern?	**YES**
Can the anticipated potential impacts to the identified resources be avoided, minimized, i.e., reduced to acceptable levels, or be mitigated?	**YES**
Can the commercial, private property, recreation or public uses of this route be adequately met by another route or routes that may minimize impacts to the resources identified as part of this evaluation or that may minimize cumulative effects on various other resources?	**NO**

Evaluation Information

Introduction

Evaluation information in a route report is divided into three colored boxes that address the topics of commercial, administrative, property, and economics (yellow); public uses (blue); and special resource concerns (green).

Commercial, Administrative, Property, and Economics

The first part of the "Evaluation Information" section focuses on commercial, administrative, property, and economic issues. In this section, a listing of facilities and access is provided. There are three types of access identified:

- Primary = Main access
- Alternate = Secondary or backdoor access
- Link = Route necessary for use of the primary access

Evaluation Information

Commercial, Administrative, Property and Economics

The following items help to identify the purpose and need of this route. This route provides access to the following facilities and/or jurisdictions for the purpose of carrying out administrative and/or authorized operations or for jurisdictional access.

Primary Access *(leads directly to the listed jurisdiction or facility, and IS the main route used for access)*

Type	Description
Agency Facilities	Monitoring Site
Lease Facilities	2920 Lease/Permit
	Commercial Rec Permit
Range Facilities	Active Allotment

Alternate Access *(leads directly to the listed jurisdiction or facility, but IS NOT the main route used for access)*

Type	Description
None identified by BLM	

Link Access *(does not lead directly to the listed jurisdiction or facility, but is required to access a primary access route)*

Type	Description
Agency Facilities	Monitoring Site
Lease Facilities	2920 Lease/Permit

Recreational Uses

The second part of the "Evaluation Information" section focuses on public uses and provides a list identifying the facilities, modes of transportation, and activities associated with the route. If a facility, mode of transportation, or activity was not identified as associated with the route, it is not listed. As in the Commercial, Administrative, Property, and Economics section, facility access is listed using the categories of "Primary," "Alternate," and "Link." Mode of transportation and activity are indicated by:

- Primary = Main mode or activity on the route
- Secondary = Other common modes and activities
- Infrequent = Uncommon modes or activities

Recreational Uses

The following items help to identify the purpose and need of this route. This route:
- provides public travel access to the listed recreation sites using the listed travel modes, and/or
- provides for recreational activity and experience opportunities in the area, and/or
- provides important route network connectivity for recreational access between two or more other routes.

Primary Access/Uses *(main route used to access the destinations or use activities listed)*

Type	Description
Recreation Destination	Campground-Undeveloped
Activities	General Recreation
	Dispersed Camping
	Special Rec Permit Route
	Rockhounding
Modes of Transportation	UTV
	ATV

Alternate Access / Secondary Uses *(used to access the destinations or use activities listed, but not considered the main route)*

Type	Description
Activities	Motorcycle Riding
	ATV / UTV Riding
Modes of Transportation	Motorcycle

Link Access / Infrequent Uses *(rarely used to access the destinations or use activities listed)*

Type	Description
Activities	Hunting
	Photography / Landscape Artists

Resource and Resource Use Issues

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

- Biome
- Special status animals
- Managed species
- Resource issues, etc.

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

- In = Route or a portion of the route is in the resource area or area of concern
- Leads To = Route provides access to the resource area or area of concern but is not in the resource or area
- Crosses = Route crosses the resource (e.g., a route crossing a stream or a cultural site directly on the route)
- Within "x" = Proximate to; the route is near the resource or area of concern as indicated by the distance

Resource and Use Issues

The following items help to identify potential natural and cultural resource issues associated with the location and use of this route. This route is located in, leads to, crosses, or is within a set distance of the following resources or issues.

Resource Type	Description
Biomes	In Salt Desert Shrub
	In Desert Shrub
	Within - of Riparian
Managed Species	Within 1/4 mile of Mule deer crucial year-long habitat
VRM/RSC	In VRM Class IV - Major Modification
	In VRM Class II - Retain existing character
Special Management Areas	In SRMA - Special Recreation Management Area (Henry Mountains)
	In Lands w/ Wilderness Character (Inventoried Road)
Water Resources	In HUC Area - Route Density
	In Wash
	In Streams Proximity
	In High Density Stream Crossing

Note: *Specific sensitive resources, such as cultural resources, paleontological resources, or threatened or endangered species are not listed in this report for their protection, but were considered during the evaluation of this route.*

Designation Alternatives

The route report also contains the BLM's evaluation of alternative designations for each route. Alternative A (No Action) simply states the current route and area designation (no color). The action alternatives (Alternatives B, C, and D in this example) are color-coded to "Open w/Management" or "Open" (green), "Limited w/Management" or "Limited" (orange), and "Closed" (pink).

For Open and Limited designations, "w/ Management" indicates that there are types of limitations, and that there would be adaptive management or other specific mitigation, maintenance, and/or monitoring that was identified during evaluation. The "w/ Management" portion of Limited and Open designation labels are route specific; it is not used in designation labels found earlier in this document. All potential management actions are listed in the tables of Appendix E (Implementation Guide).

Limited alternatives include specific limitations regarding route use (e.g., limited by season, vehicle width, etc.). For Closed alternatives, information is provided about how routes would be closed/decommissioned. Also, if a route is redundant to another route, that is specified.

The Designation Alternatives also documents how the BLM assessed the manner in which each potential route designation within the TMA is consistent with 43 CFR § 8342.1.

Potential Alternative Route Designations

Alternative A (Current Management, No Action Alternative)

Area Designation:
Limited to Designated Routes

Designation per 43 CFR § 8342.1:
LIMITED
This route was designated limited as part of a planning and NEPA process. Public use of this route is limited to other restriction(s). The public may use this route by Limited to vehicle size as laid out in the RMP

Alternative B

Designation per 43 CFR § 8342.1:
LIMITED
Public use of this route is limited to transportation type. The public may use this route by UTV, ATV, MC and NM modes, year-round.

Specific Designation Criteria Addressed and Relevant to Route Issues:
• 43 CFR § 8342.1 (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.
• 43 CFR § 8342.1 (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.

How Designation Addresses Criteria Above: By limiting vehicle width, larger vehicles would be prevented from adding to surface impacts and route widening. Additionally, the potential for conflicts between users of different vehicle types would be reduced. Allowing continued use of this existing route, which provides the best access to Sand Wash Spring development, would minimize the potential for new disturbances to documented resources from cross-country use or the need for construction of new routes to provide similar access. Due to the low traffic volume and low speeds expected, allowing continued use of this route would contribute to the overall route network minimizing the potential for harassment of wildlife.

Designation Criteria Addressed but Not Relevant to Route Issues:
(no known conflicts among users or no known resource concerns to minimize for)
• 43 CFR § 8342.1 (c)
• 43 CFR § 8342.1 (d)

Alternative C

Designation per 43 CFR § 8342.1:
LIMITED
Public use of this route is limited to transportation type. The public may use this route by UTV, ATV, MC and NM modes, year-round.

Specific Designation Criteria Addressed and Relevant to Route Issues:
• 43 CFR § 8342.1 (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.
• 43 CFR § 8342.1 (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.

How Designation Addresses Criteria Above: By limiting vehicle width, larger vehicles would be prevented from adding to surface impacts and route widening. Additionally, the potential for conflicts between users of different vehicle types would be reduced. Allowing continued use of this existing route, which provides the best access to Sand Wash Spring development, would minimize the potential for new disturbances to documented resources from cross-country use or the need for construction of new routes to provide similar access. Due to the low traffic volume and low speeds expected, allowing continued use of this route would contribute to the overall route network minimizing the potential for harassment of wildlife.

Designation Criteria Addressed but Not Relevant to Route Issues:
(no known conflicts among users or no known resource concerns to minimize for)
• 43 CFR § 8342.1 (c)
• 43 CFR § 8342.1 (d)

Alternative D

Designation per 43 CFR § 8342.1:
OPEN
This route is open to all users, year-round.

Specific Designation Criteria Addressed and Relevant to Route Issues:
• 43 CFR § 8342.1 (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.
• 43 CFR § 8342.1 (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.

How Designation Addresses Criteria Above: The low traffic volume and low speeds that characterize the overall use of this route would reduce the potential for continued use of the route to impact documented resources. This is generally the best location of this existing route for users of the area. Relocation to eliminate route-related impacts would likely create greater impacts to documented resources than application of appropriate mitigation or management of the existing alignment. Allowing continued use of this route would minimize the potential for impacts to documented resources by providing targeted recreation activity and experience opportunities that reduce or eliminate the inclination for users to travel off-route.

Designation Criteria Addressed but Not Relevant to Route Issues:
(no known conflicts among users or no known resource concerns to minimize for)
• 43 CFR § 8342.1 (c)
• 43 CFR § 8342.1 (d)

APPENDIX E IMPLEMENTATION GUIDE

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E.1 INTRODUCTION

This document, the TMP Implementation Guide (Guide), discusses the steps to be taken after the BLM adopts the new TMP. These include:

- Conduct education and outreach.
- Install signs.
- Maintain routes as appropriate.
- Enforce the TMP.
- Monitor effects.
- Reclaim routes as appropriate.

Implementation timing is subject to available staff and funding. Grants, new appropriations, partnerships, and volunteers may be used to supplement budgets and workforce when possible.

E.2 EDUCATION AND OUTREACH

The objectives of education and outreach for the TMP are to attain voluntary public compliance with the designations. The BLM will develop education and outreach materials specific to the TMP. Potential methods of education and outreach include:

- News releases and social media posts
- Brochures and guides
- BLM maps (hard copy and georeferenced)
- Commercial maps (e.g., National Geographic and Latitude 40)
- Signs (see Section E.3 in this appendix)
- Field Office displays
- In-person public presentations
- Website/electronic media distribution (e.g., ArcGIS Online map server, Google Earth keyhole markup language (KML) and keyhole markup language zipped (KMZ) files, and universal global positioning system (GPS).
- Partnerships with a broad range of local, county, state, tribal, and federal agencies, as well as service-oriented volunteers, schools, and non-governmental organizations (e.g., Tread Lightly! Inc. and Leave No Trace education and outreach resources).

Policy for education and outreach on BLM lands can be found in the BLM's 1996 Volunteer Manual (BLM 1996), Travel and Transportation Management Handbook (BLM 2012a), Sign Handbook (BLM 2016a), and Sign Manual (BLM 2004c).

E.3 SIGN INSTALLATION

The objectives of sign installation are to make the route designations obvious, to promote the health and safety of visitors to public lands, meet visitor needs for information and direction, and reduce user or management issues. As determined necessary based on professional judgement, the BLM will place TMP signs at route intersections, periodically along the route, at route ends, at route closures, and in areas of resource or user issues. Sign categories that may be installed include identification, guide (navigation), informational, traffic control devices, regulatory/warning/safety, and miscellaneous (e.g., temporary,

special event, etc.) (BLM 2016a). Where necessary, techniques will be used to put multiple numbers on one route post to reduce sign density.

Signs will be updated, repaired, or replaced as soon as possible; signs that are found to be unnecessary will be removed. Route signs and kiosks already occur along many routes within the TMA and those would be maintained or replaced as appropriate. This TMP would authorize the installation of signs including sign posts and kiosks in previously disturbed areas and adjacent to the road. The sign types may include directional, portal, and informational. The BLM will use the minimum necessary sign type to achieve route clarity. Installation of signs and kiosks not authorized through this implementation guide could be categorically excluded from NEPA (516 Departmental Manual 11.9(G)(2). The BLM will prioritize placing signs:

- At the beginnings, intersections, and ends of routes
- In areas with public health and safety concern (e.g., mining districts, back-country airstrips)
- Adjacent to or within WSAs and BLM Natural Areas
- Areas with cultural resource concerns when required to provide route clarity or education
- At areas of high recreational use or where it may enhance visitor experience and convenience (e.g., recreation sites, trailheads, backcountry byways, etc.)
- Where route use limitations exist (e.g., limited to a vehicle type, route closed to public motorized use, etc.)
- Where users may become confused about the direction, terminus, designation, or alignment of the route
- Where resource conflicts may occur such that route clarity or reminders to stay on route are necessary (e.g., routes through special status species habitats, riparian habitat)

Policy for signs on BLM lands (installation, ordering, etc.) can be found in the BLM's 2016 National Sign Handbook (BLM 2016a) and the Federal Highway Administration's Manual on Uniform Traffic Control Devices (FHWA 2019). Policies for sign design, use, and location are also included in the BLM's Roads Manual (BLM 2015a), Primitive Roads Manual (BLM 2012e), Sign Manual (BLM 2004c), and Travel and Transportation Management Handbook (BLM 2012a).

E.4 MAINTENANCE

The objective of maintenance under the TMP is to ensure safety and navigability for designated routes without changing the class, character, function, or recreational experience of the route. The BLM will maintain the routes[21] at an intensity level appropriate for the route, on an as needed basis and as staffing and funding allows. For example, the routes receiving the heaviest use are the routes subject to level 5 maintenance intensity (see Table 46).

Table 46: Maintenance Intensities Under the Chosen Alternative

Maintenance Intensity	Descriptions of Routes Under Each Intensity Level
Level 0	Existing routes that would no longer be maintained or declared as routes. Routes identified for removal from the Transportation System entirely.

[21] Some routes in the TMP are subject to maintenance by authorized users in accordance with their authorizations (e.g., county roads, mine roads, and utility maintenance roads). They also must maintain the route at an intensity level consistent with their authorization.

Maintenance Intensity	Descriptions of Routes Under Each Intensity Level
Level 1	Routes where minimal (low-intensity) maintenance is required to protect or access adjacent lands and resource values. These roads may be impassable for extended periods of time.
Level 3	Routes requiring moderate maintenance due to low volume use (for example, seasonally or year-round for commercial, recreational, or administrative access). Maintenance intensities may not provide year-round access but are intended to generally provide resources appropriate to keep the route in use for the majority of the year.
Level 5	Routes for high (maximum) maintenance because of year-round needs, high-volume traffic, or significant use. May also include routes identified through management objectives as requiring high intensities of maintenance or to be maintained open year-round.

In addition to routine, as-needed maintenance as described above, site-specific route maintenance needs may occur based on resource specialist direction. Examples would be based on the Findings of Effect and the Historic Properties Treatment Plan, to address seasonal weather events, or to harden stream crossings thus continuing to allow motorized use within the disturbance footprint and reduce unauthorized use.

Policy for road maintenance on BLM lands can be found in the BLM's Manual 9113 – Roads (BLM 2015a), Handbook H-9113-2 – Roads Inventory and Condition Assessment Guidance & Instructions (BLM 2015b), and Handbook H-9115-2 – Primitive Roads Inventory and Condition Assessment Guidance & Instructions (BLM 2012b).

E.5 ENFORCEMENT

The objective of enforcement under the TMP is to provide user safety and respond to use issues (e.g., user conflicts, resource concerns, etc.). The BLM will conduct routine patrols by BLM staff to maintain an effective authoritative presence in the field as staffing and funding allows. Personnel from partner agencies, such as the National Park Service (NPS), Utah Division of Wildlife Resources (UDWR), Garfield and Wayne County Sheriff's Departments, and the Utah Highway Patrol may also supplement enforcement operations. The BLM will prioritize patrols:

- In areas with public health and safety concern
- At areas or times of high recreational use or where it may enhance visitor experience and convenience (e.g., recreation sites, trailheads, backcountry byways, etc.)
- Where route use limitations exist (e.g., limited to a vehicle type, route closed to public motorized use, etc.)
- Where users may become confused about the direction, terminus, designation, or alignment of the route
- Where resource conflicts may occur (e.g., routes through special status species habitats)
- Routes identified for monitoring (see Section E.6 below)

Regulations for enforcement are described in 43 CFR Subpart 8340, 43 CFR Subpart 8360, and 43 CFR § 9268.3. They may be supplemented as deemed necessary by Supplementary Rules, which may be established pursuant 43 CFR § 8360 under a separate action to implement use restrictions identified in RMP decisions. Policy for enforcement is found in Travel and Transportation Management Handbook (BLM 2012a).

E.6 MONITORING

The objective of monitoring is to ensure that desired outcomes and conditions are achieved, and to document how the decision affects resources over time. The BLM will conduct ad-hoc and strategic

monitoring using staff as time and funding permit. Ad-hoc monitoring occurs when BLM staff or the public report any observed issues to the appropriate resource staff (Field Manager, Assistant Field Manager, Outdoor Recreation Planner). Strategic monitoring occurs when BLM-staff check implementation of requirements from the TMP (for example, from the Richfield Field Office Motor Vehicle Impact Monitoring Report, Biological Opinion, Historic Properties Treatment Plan, or specific route evaluation reports). When monitoring identifies issues, the BLM will address the issues identified at that time if possible, or prioritize in conjunction with staffing and workload demands. The monitoring program will be used to determine:

- If resource protection and resource use objectives are being met
- If the plan addresses visitor satisfaction, use patterns, use volumes, and other needs
- The condition of the routes and compliance with route designations and use restrictions

TMP monitoring priorities include:

- Areas with public health and safety concern (e.g., mining districts, back-country airstrips)
- Adjacent to or within WSAs (per BLM Manual 6330 (BLM 2012c)) and BLM Natural Areas
- Areas with cultural resource concerns per the HPTP
- Areas or times of high recreational use or where it may enhance visitor experience and convenience (e.g., recreation sites, trailheads, backcountry byways, etc.)
- Where route use limitations exist (e.g., limited to a vehicle type, route closed to public motorized use, etc.)
- Where resource conflicts may occur (e.g., routes through special status species habitats, riparian habitat)
- OHV-Open or OHV-Limited routes that include "with Management" requirements
- Closed and reclaimed routes

TMP long-term monitoring protocol includes:

- All WSA boundary and cherry-stemmed routes will be monitored in conjunction with routine monthly WSA monitoring per BLM Manual 6330 (BLM 2012c). Any route designated OHV-Open or OHV-Limited within a WSA would be monitored a minimum of once annually for the life of the plan.
- Routes within or directly adjacent to BLM Natural Areas would be monitored in conjunction with Natural Area monitoring per the 2008 RMP.
- Compliance monitoring for route proliferation, off-route travel, and littering/dumping will be completed annually with a minimum of 50 miles being visited.
- Cultural resources monitoring will be completed as detailed in the HPTP.
- Routes would be monitored for soils in accordance with the Utah Standards for Rangeland Health per the 2008 RMP, with a minimum of ten routes in potentially affected areas visited annually.
- Routes in occupied habitat of listed species will be actively managed using reclamation techniques listed below in Section E.7 to minimize off-route OHV travel, and monitoring for listed species will record attributes to document impacts and habitat damage associated with off-route travel.
- Routes within or adjacent to riparian resources would be monitored and assessed in conjunction with proper functioning condition assessments, watershed condition assessments, and any other protocols as needed in accordance with BLM Manual 6720 (BLM 2024b).

Regulations for TMP Monitoring is contained in 43 CFR § 8342.3. Policy for Travel Management Monitoring, BLM's Travel and Transportation Management Manual (BLM 2016b), and pages 120 and 127 in the 2008 RMP (see Table 47).

Table 47: 2008 RMP Travel Management-Related Monitoring Methodologies

2008 RMP	
Travel Management	Travel management and OHV use monitoring within the planning area will focus on compliance with specific route and area designations and restrictions. Staff will identify specific actions, including timeframes, methods and anticipated resources needs following the established protocols for Comprehensive Travel and Transportation Management. Various methods of monitoring may be employed including: ground patrol, traffic counters, aerial monitoring, photos of problem areas (erosion, users short cutting, etc.) and "citizen watch". Involve volunteers to assist in monitoring where appropriate and feasible. Cooperation with other agencies in travel management and OHV use monitoring will continue to be emphasized, and improved wherever possible. Primary emphasis will be on designated routes (ways) within WSAs and BLM natural areas, and those routes or areas having the highest potential for user conflicts or adverse impacts to resources. Monitoring will assess whether routes meet the objectives set forth in the RMP and to ensure resource conditions such as water quality, wildlife or recreational values are maintained, and resource values are not compromised. Route or area closures will be regularly monitored for compliance. The monitoring data will be used to assess the effectiveness of the RMP and the associated implementation actions. Modifications to the RMP and route designations may be considered if monitoring indicates that goals and objectives are not being met. Monitoring actions will be reported through the BLM annual workload measure accomplishments and in the Annual Program Summary and Planning Update.
Recreation	Monitoring of recreation resources will continue to occur throughout the planning area. Levels and intensities of monitoring will vary depending on the sensitivity of the resource or area and the scope of the proposed management activities. Monitoring baseline data will be used to develop Limits of Change determinations, manage visitor use, plans and projects to reduce visitor impacts, and to assess whether the desired outcomes of the RMP are being met. Priority will be placed on developed recreation sites and Special Recreation Management Areas (SRMAs) to develop baseline data to be used in SRMA Activity Plans. Periodic patrols of popular undeveloped use areas will be conducted where recreation use is concentrated. Special Recreation Permits will be monitored for compliance with terms, conditions and special stipulations and post-use requirements. Condition assessments of developed recreation sites will be conducted to determine maintenance requirements and ensure public health and safety. Monitoring will emphasize signing, visitor use, identification of areas where there may be problems with compliance with rules and regulations resulting in user conflicts or resource damage, and determining current impacts, levels and patterns of recreational use. Any appropriate methodology will be used including visitor surveys, traffic counters, developed recreation site visitor data, documentation of user conflicts and photo documentation of the changes in resource conditions over time. Visitor use will be reported in RMIS. Monitoring actions will be reported through the BLM annual workload measure accomplishments and in the Annual Program Summary and Planning Update.

E.7 ROUTE RECLAMATION

The objective of reclamation is to discontinue use of a route and allow it to return to a natural state. An OHV-Closed designation does not automatically mean that a route will be actively reclaimed because, for example, the route may still be needed by authorized users or for authorized uses. The TMP does not identify any route-specific reclamation strategies. Route-specific reclamation strategies will be identified in the future by BLM resource specialists consistent with BLM policies and may require further site-specific NEPA analysis, as appropriate. When reclaiming routes, the BLM will use the minimum

necessary reclamation technique to achieve reclamation. BLM will inform Garfield and/or Wayne counties before any county-classified roads are reclaimed.

Reclamation techniques include:

- Natural reclamation, where the route would revegetation naturally. This level of reclamation may also include installation of "route closed" or other information signs. In some cases, mechanical tools such as shovels, rakes, and other hand tools may be employed to obliterate tracks, embankments, ruts, water bars and ditches.
- Disguising routes with natural materials, sometimes referred to as "vertical mulching", where the BLM would place rocks, dead wood and plants in line-of-sight along the route in a natural-looking arrangement. In some cases, mechanical tools such as shovels, rakes, and other hand tools may be employed to obliterate tracks, embankments, ruts, water bars and ditches.
- Barrier installation where the BLM would install natural or human-made barriers such as large boulders or fences with gates to physically prevent unauthorized use. Where possible and practical, these measures may be removed when routes are reclaimed or fully disguised.
- Ripping and reseeding routes, where the BLM mechanically breaks up the route and reseeds it using heavy equipment (e.g., excavators, bulldozers, or harrow or seed drills). Herbicides may also be used for revegetation. Reseeding within Wilderness Study Areas should use predominantly native seed mixes.

Reclamation effort priorities include:

- Routes that pose a public safety hazard
- Routes leading into a designated Wilderness Study Areas or a BLM Natural Area
- Routes causing resource damage, or routes in areas with a high risk for potential impacts to resources such as special status species or their habitat, or any other resources requiring special management or protection

APPENDIX F GLOSSARY

Access: The opportunity to approach, enter, and/or cross public lands. (BLM 2016b)

Adaptive management: A system of management practices based on clearly identified outcomes and monitoring to determine whether management actions are meeting desired outcomes; and, if not, facilitating management changes that will best ensure that outcomes are met or re-evaluated. Adaptive management recognizes that knowledge about natural resource systems is sometimes uncertain. (43 CFR 46.30 Definitions)

Administrative use: Travel-related access for official use by BLM employees and agency representatives during the course of their duties using whatever means is necessary. Access is for resource management and administrative purposes and may include fire suppression, cadastral surveys, permit compliance, law enforcement, and resource monitoring or other access needed to administer BLM-managed lands or uses. (BLM 2016b)

All-terrain vehicle (ATV): A motorized, wheeled vehicle other than a snowmobile, which is defined as having a wheelbase and chassis of 50 inches in width or less, handlebars for steering, generally a dry weight of 800 pounds or less, three or more low-pressure tires, and a seat designed to be straddled by the operator. (BLM 2012a)

Alternatives: Options by which the BLM can meet its purpose and need. The BLM is directed by the NEPA to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources…." (BLM 2008a)

Asset: A non-building facility and transportation construction, which include roads, primitive roads, and trails that are included in FAMS. The BLM maintains assets through the annual and deferred maintenance programs. (BLM 2016b)

Authorized use: Travel-related access for users authorized by the BLM or otherwise officially approved. Access may include motorized access for permittees, lessees or other authorized users, along with approved access across BLM-administered public lands for other state and federal agencies. (BLM 2016b)

Categorical Exclusion: A category of actions that the agency has determined, in its agency NEPA procedures, normally do not have a significant effect on the human environment (40 CFR 1508.1). A categorical exclusion is a form of NEPA compliance, without the analysis that occurs in an EA or an EIS. It is not an exemption from the NEPA (BLM 2008a).

Code of Federal Regulations (CFR): The codification of the general and permanent rules published in the Federal Register by the departments and agencies of the Federal Government. It is divided into 50 titles that represent broad areas subject to Federal regulation. (https://www.govinfo.gov/help/cfr)

Cooperating agency: Assists the lead Federal agency in developing an environmental assessment or environmental impact statement. These can be any agencies with jurisdiction by law or special expertise for proposals covered by NEPA (40 CFR 1501.6). Any tribal, Federal, State, or local government jurisdiction with such qualifications may become a cooperating agency by agreement with the lead agency. (BLM 2008a)

Critical habitat: An area occupied by a Threatened or Endangered species on which are found physical and biological features that are (1) essential to the conservation of the species, and (2) may require special management considerations or protection. (16 USC 1532(5))

Cultural resource: A definite location of human activity, occupation, or use identifiable through field inventory (survey), historical documentation, or oral evidence. The term includes archaeological, historic, or architectural sites, structures, or places with important public and scientific uses, and may include definite locations (sites or places) of traditional cultural or religious importance to specified social and/or cultural groups. Cultural resources are concrete, material places and things that are located, classified, ranked, and managed through the system of identifying, protecting, and utilizing for public benefit. They may be but are not necessarily eligible for the National Register of Historic Places (NRHP). (BLM 2004a)

Cultural resource inventory classes:

- Class I - existing information inventory: a study of published and unpublished documents, records, files, registers, and other sources, resulting in analysis and synthesis of all reasonably available data. Class I inventories encompass prehistoric, historic, and ethnological/sociological elements, and are in large part chronicles of past land uses. They may have major relevance to current land use decisions.
- Class II - probabilistic field survey: a statistically based sample survey designed to help characterize the probable density, diversity, and distribution of archaeological properties in a large area by interpreting the results of surveying limited and discontinuous portions of the target area.
- Class III - intensive field survey: a continuous, intensive survey of an entire target area, aimed at locating and recording all archaeological properties that have surface indications, by walking close-interval parallel transects until the area has been thoroughly examined. Class III methods vary geographically, conforming to the prevailing standards for the region involved. (BLM 2004a)

Cumulative effects: According to the Code of Federal Regulations, a cumulative effect "is 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 other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7). In other words, these effects are the sum of the direct and indirect effects of an action and the direct and indirect effects of other actions on the same affected resources/uses.

Decision Record: The BLM document associated with an EA that describes the action to be taken when the analysis supports a finding of no significant impact. (BLM 2008a)

Decommission: The process of removing travel routes (i.e., transportation linear features) that are unauthorized or no longer needed. Transportation linear features that are not part of the defined travel network or transportation system are transportation linear disturbances. The process for decommissioning routes may include site-specific reclamation actions, natural revegetation, or a toolset to complete reclamation should opportunities arise. Reclamation actions must be consistent with the goals and objectives for the area in which they occur. Reclamation can be passive or active. Linear features identified as transportation linear disturbances will remain in the national geospatial dataset until reclamation and subsequent monitoring is complete or all on-the-ground indications of the route have vanished. After that, the BLM will remove these features from the national ground transportation linear feature dataset(s) but store them in a secondary local dataset of decommissioned and reclaimed routes. (BLM 2016b)

Designated routes: Specific roads and trails identified by the BLM where some type of use is appropriate and allowed. Route designations are implementation decisions that govern OHV activities on routes. (BLM 2016b)

Direct effect: Caused by the action and occur at the same time and place (40 CFR 1508.8(a)).

Easement: An authorization for a non-possessory, non-exclusive interest in lands which specifies the rights of the holder and the obligation of the BLM to use and manage the lands in a manner consistent with the terms of the easement. (43 CFR 2920.05 Definitions)

E-bike: Two- or three-wheeled cycle with fully operable pedals and an electric motor of not more than 750 watts (1 h.p.) that meets the requirements of one of the following three classes:

- Class 1 electric bicycle shall mean an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 20 miles per hour.
- Class 2 electric bicycle shall mean an electric bicycle equipped with a motor that may be used exclusively to propel the bicycle, and that is not capable of providing assistance when the bicycle reaches the speed of 20 miles per hour.
- Class 3 electric bicycle shall mean an electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 28 miles per hour. (85 FR 69223, Nov. 2, 2020)

Effect: Impact to the human environment brought about by an agent of change, or action. Effects analysis predicts the degree to which the environment will be affected by an action. The CEQ uses both the terms "effect" and "impact" in the NEPA regulations; these terms are synonymous in the NEPA context. As a noun, other synonyms include consequence, result, and outcome. Effects can be both beneficial and detrimental, and may be direct, indirect, or cumulative. (BLM 2008a)

Eligible cultural resource: Cultural resources that are listed or recommended eligible for inclusion on the National Register of Historic Places (National Register); this includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet National Register listing criteria (36 CFR 800.2(e)). A district, site, building, structure, object, traditional cultural property, historic landscape, or discrete group of thematically related properties, that represents America's history, architecture, archaeology, engineering, or culture may be eligible for the National Register (BLM 2004b). To be judged eligible, a property must possess integrity of location, design, setting, materials, workmanship, feeling, and association, and must meet at least one of the following criteria:

1. Property is associated with an event or events that have made a significant contribution to the broad patterns of America's history.
2. Property is associated with the lives of persons significant in our past.
3. Property embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic value, or represents a significant and distinguishable entity whose components may lack individual distinction.
4. Property has yielded or may be likely to yield information important in prehistory or history.

Endangered species: Any species which is in danger of extinction throughout all or a significant portion of its range. (16 USC 1532 Definition)

Endangered Species Act (ESA): The Endangered Species Act establishes protections for fish, wildlife, and plants that are listed as Threatened or Endangered; provides for adding species to and removing them from the list of Threatened and Endangered species, and for preparing and implementing plans for their recovery; provides for interagency cooperation to avoid take of listed species and for issuing permits for otherwise prohibited activities; provides for cooperation with States, including authorization of financial assistance; and implements the provisions of the Convention on International Trade in Endangered Species of Wild Flora and Fauna. (https://www.fws.gov/law/endangered-species-act)

Environmental assessment (EA): A concise public document that provides sufficient evidence and analysis for determining the significance of effects from a proposed action and that serves as a basis for reasoned choice. Based upon the EA analysis, either an EIS or a FONSI will be prepared. (BLM 2008a)

Environmental Impact Statement (EIS): Federal agencies prepare an EIS if a proposed federal action will have a significant environmental impact (BLM 2008a). The regulatory requirements for an EIS are more detailed and rigorous than the requirements for an EA.

Erosion: Detachment and movement of soil or rock fragments by water, wind, ice, gravity; the land surface worn away by running water, wind, ice, or other geological agents, including such processes as gravitational creep. (BLM 2020a)

Facility: All or any portion of a building, structure, site improvement, element, pedestrian route, or vehicular way located on a site. An element is an architectural or mechanical component, generally including toilets, picnic tables, grills, registration kiosks, etc. at a site (including a staging site). (BLM 2016b)

Facility Asset Management System (FAMS): The BLM's official database for the management of transportation system assets and facilities. (BLM 2016b)

Finding of No Significant Impact (FONSI): A finding that explains that an action will not have a significant effect on the environment and, therefore, an EIS will not be required. (BLM 2008a)

Geographic Information System (GIS): "System designed to capture, store, manipulate, analyze, manage, and present all types of geographical data. The key word to this technology is Geography – this means that some portion of the data is spatial. In other words, data that is in some way referenced to locations on the earth. Coupled with this data is usually tabular data known as attribute data. Attribute data can be generally defined as additional information about each of the spatial features. An example of this would be schools. The actual location of the schools is the spatial data. Additional data such as the school name, level of education taught, student capacity would make up the attribute data. It is the partnership of these two data types that enables GIS to be such an effective problem-solving tool through spatial analysis. GIS is more than just software. People and methods are combined with geospatial software and tools, to enable spatial analysis, manage large datasets, and display information in a map/graphical form." (University of Wisconsin-Madison Libraries)

Ground Transportation Linear Feature (GTLF): A geospatial database of all transportation linear features (from motorized to foot use) as they exist on the ground, not just those in the BLM transportation system (refer to the Ground Transportation Linear Features Data Standard Report, October 22, 2014, version 2.0 or later, for detailed information on the GTLF data standard). (BLM 2016b)

Hard look: A reasoned analysis containing quantitative or detailed qualitative information. (BLM 2008a)

High Density of Routes: this term along with "high route density" and "Watersheds with a high density of routes" is used in the Water Resources section to describe areas where there is a relative abundance of routes. Route miles were divided by acres in a watershed and the highest 10% of sub-watersheds were identified as having "high density of routes."

Historic property: Any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria. (BLM 2004a)

Impact: See "effect."

Impassable: Roads intended for full-size vehicle passage that are otherwise impassable as a result of road deterioration or vegetation overgrowth; project-level road maintenance is required to make these roads passable. Road deterioration or vegetation overgrowth may be a result of neglect, irregular maintenance, or management decisions. (BLM 2014a)

Implementation decisions: Decisions that take action to implement land use planning; generally appealable to Interior Board of Land Appeals under 43 CFR 4.410 (BLM 2000). These decisions are generally more site-specific than land-use plan decisions.

Implementation plan: An area or site-specific plan written to implement decisions made in a land use plan. Implementation plans include both activity plans and project plans. (BLM 2000).

Indirect effect: Caused by the action and later in time or farther removed in distance, but still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on water and air and other natural systems, including ecosystems. (40 CFR 1508.8(b))

Interdisciplinary Team: A group of individuals with different training, representing the physical sciences, social sciences, and environmental design arts, assembles to solve a problem or perform a task. The members of the team proceed to a solution with frequent interaction so that each discipline may provide insights to any stage of the problem and disciplines may combine to provide new solutions. The number and disciplines of the members preparing the plan vary with circumstances. A member may represent one or more disciplines or BLM program interests.

Invasive plants: Plant species that are typically not found on the ecological site or should only be in the trace or minor categories under the natural disturbance regime and have the potential to become a dominant or codominant species on the site if their establishment and growth are not actively controlled by natural disturbances or management interventions. (BLM 2020a)

Land use plan: A set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of FLPMA; an assimilation of land-use-plan level decisions developed through the planning process outlined in 43 CFR 1600, regardless of the scale at which the decisions were developed (BLM 2000). The term includes both resource management plans (RMPs) and management framework plans (MFPs).

Linear disturbance: A human-made linear travel or transportation related disturbance that is not part of the BLM's route designations or travel network. Transportation linear disturbances may include engineered (planned) but no longer needed features, as well as unplanned routes that have been identified for decommissioning and reclamation either passively or actively. Linear disturbances may also include permitted realty features (e.g., pipelines or power lines) that may or may not have travel routes maintained in association with them. (BLM 2012a, BLM 2016b)

Linear feature: Linear features represent the broadest category of physical disturbance (planned and unplanned) on BLM land. A linear feature is a linear ground disturbance that results from travel across or immediately over the surface of BLM-administered public lands. These features include engineered roads and trails, as well as user-defined, non-engineered routes, created as a result of public or unauthorized use. Linear features may also include permitted realty features (e.g., pipelines or power lines) that may or may not have travel routes maintained in association with them. (BLM 2012a, BLM 2016b)

Linear Feature Route Inventory: Collection of route data for maps (may also include collection of point data and photos) to inform the travel planning effort (BLM 2016b). Data may be collected in the field with GPS units or drawn on a computer screen from aerial imagery.

Maintained road: A road that is constructed, regularly maintained by mechanical means, and receives regular use.

Mechanized travel: Moving by means of mechanical devices not powered by a motor, such as a bicycle. (BLM 2016b)

Minimally maintained route: Route which receives low or minimal maintenance (i.e., maintained to a Maintenance Intensity Level 1 in accordance with Appendix A of BLM's 9113 Roads Manual (BLM 2015a) and Appendix A of BLM's 9115 Primitive Roads Manual (BLM 2012e)). These routes tend to be narrower than maintained routes (grading and brushing is not performed), maintenance is limited to that necessary to protect adjacent land and resource values, and they receive low use at low speeds.

Minimize: Limit the degree or magnitude of. (BLM 2008a)

Mitigation: Measures that could reduce or avoid adverse impacts. Mitigation measures have not been incorporated into the proposed action or an alternative (BLM 2008a). Mitigation can include: (a) avoiding the impact, (b) minimizing the impact, (c) rectifying (i.e., repairing, rehabilitating, or restoring) the impact (d) reducing or eliminating the impact through operations during the life of the project, or (e) compensating by replacing or substituting resources (40 CFR 1508.20).

Monitoring: The process of tracking whether decisions were implemented as designed, their effectiveness in achieving desired outcomes, and the effectiveness of mitigation measures. Monitoring can also determine whether the impact analysis was accurate. (BLM 2008a)

Motorized vehicles: Vehicles propelled by motors or engines, such as cars, trucks, off-highway vehicles, motorcycles, snowmobiles, and boats. (BLM 2016b)

Multiple use: The management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output. (43 USC 1702(c))

Native vegetation: Species that historically occurred or currently occur in a particular ecosystem and were not introduced (BLM 2008b)

Naturalness: Refers to an area that "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable" (Section 2[c] of the Wilderness Act of 1964).

Non-mechanized travel: Moving by foot or by stock or pack animal. (BLM 2016b)

Noxious weed: Any plant designated by a federal, state, or county government to be injurious to public health, agriculture, recreation, wildlife, or any public or private property. (BLM 2020a)

Objective: A description of a desired condition for a resource. Objectives can be quantified and measured and, where possible, have established time frames for achievement. (BLM 2000)

Off-highway vehicle (OHV): Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding: 1) any non-amphibious registered motorboat; 2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; 3) any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved; 4) vehicles in official use; and 5) any combat or combat support

vehicle when used in times of national defense emergencies (as defined in 43 CFR 8340.0-5(a)). OHV is synonymous with off-road vehicle. (BLM 2016b)

Off-highway vehicle (OHV) area designation: A land use planning decision that permits, establishes conditions for, or prohibits OHV activities on specific areas of public lands. The BLM is required to designate all public lands as open, limited, or closed to OHVs. Below are definitions of these designations as taken from the 2016 BLM Travel and Transportation Management Manual (BLM 2016b):

OHV-Closed Areas: An area where OHV use is prohibited. Access by means other than OHVs, such as by motorized vehicles that fall outside the definition of an OHV or by mechanized or non-mechanized means, is permitted. The BLM designates areas as closed, if necessary, to protect resources, promote visitor safety, or reduce user conflicts (see 43 CFR § 8340.0-5(h)).

OHV-Limited Areas: An area where OHV use is restricted at certain times, in certain areas, and/or to certain vehicular use. Examples of restrictions include numbers or types of vehicles; time or season of use; permitted or licensed use only; use limited to existing, designated roads and trails; or other restrictions necessary to meet resource management objectives, including certain competitive or intensive use areas that have special limitations (43 CFR § 8340.0-5 (g)).

OHV-Open Areas: A designated area where all types of OHV travel is permitted at all times, anywhere in the area subject only to the operating restrictions set forth in subparts 8341 without restriction (43 CFR § 8340.0-5(f)). Open area designations are made to achieve a specific recreational goal, objective and setting and are only used in areas managed for intensive OHV activity where there are no special restrictions or where there are no compelling resource protection needs, user conflicts, or public safety issues to warrant limiting cross-country travel.

Off-highway vehicle (OHV) route designations: Implementation decisions that govern only OHV (43 CFR 8340.0-5(a)) activities on routes. The route designation is one of several decisions required to govern travel and transportation comprehensively. The BLM designates routes as open, limited, or closed, and the designation must be included in all route-specific decisions and recorded in the national ground transportation linear feature dataset(s). Definitions and the designation criteria used in this decision-making process stem from those provided for OHV areas in 43 CFR 8340.0-5(f), (g), and (h). (BLM 2016b)

- **OHV-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.
- **OHV-Limited:** OHV travel on routes, roads, trails, or other vehicle ways is subject to restrictions to meet specific resource management objectives. Examples of restrictions include numbers or types of vehicles; time or season of use; permitted or licensed use only; or other restrictions necessary to meet resource management objectives, including certain competitive or intensive uses that have special limitations.
- **OHV-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.

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. (BLM 2016b)

Primitive route: Any transportation linear feature located within a WSA or lands with wilderness characteristics designated for protection by a land use plan and not meeting the wilderness inventory road definition. (BLM 2016b)

Proper Functioning Condition (PFC): PFC describes both the assessment method and a defined, on-the-ground condition of a riparian area. The on-the-ground condition termed PFC refers to how well physical processes are functioning. A lotic riparian area is considered to be in PFC, or "functioning properly," when adequate vegetation, landform, or woody material is present to:

- Dissipate stream energy associated with high waterflow, thereby reducing erosion and improving water quality.
- Capture sediment and aid floodplain development.
- Improve floodwater retention and ground-water recharge.
- Develop root masses that stabilize streambanks against erosion.
- Maintain channel characteristics.

A riparian area in PFC will, in turn, provide associated values, such as wildlife habitat or recreation opportunities. (Dickard et al. 2015)

Reclamation: Returning disturbed lands to a form and productivity that will be ecologically balanced and in conformity with a predetermined plan.

Record of Decision (ROD): Decision document associated with an EIS (BLM 2008a).

Recreation Management Information System (RMIS): The official BLM database for recording and tracking visitor use and acres with OHV area designations on BLM-managed lands; the BLM also uses it to track TMP completion and implementation. (BLM 2016b)

Recreation Management Zone (RMZ): Subunits within a SRMA managed for distinctly different recreation products. Recreation products are comprised of recreation opportunities, the natural resource and community settings within which they occur, and the administrative and service environment created by all affecting recreation-tourism providers, within which recreation participation occurs. (BLM 2005)

Regularly maintained route: Route that receives moderate or high levels of maintenance (i.e., maintained to a Maintenance Intensity Level 3 or 5 in accordance with Appendix A of BLM's 9113 Roads Manual (BLM 2015a) and Appendix A of BLM's 9115 Primitive Roads Manual (BLM 2012e)). These routes tend to be wide enough for two vehicles to pass, are generally maintained to keep the route in use for the majority of the year and see moderate to high use at moderate speeds.

Resource Management Plan (RMP): (Also known as Land Use Plan or Management Framework Plan). A set of decisions that establish management direction for land within an administrative area, as prescribed under the planning provisions of the Federal Land Policy and Management Act of 1976, as amended, P.L. 94-579, 90 Stat. 2743; an assimilation of land use plan-level decisions developed through the planning process outlined in 43 CFR 1600, regardless of the scale at which the decisions were developed. (BLM 2008a)

Restoration: The process of assisting the recovery of a resource (including its values, services, and/or functions) that has been degraded, damaged, or destroyed to the condition that would have existed if the resource had not been degraded, damaged, or destroyed. (BLM 2021a)

Right-of-way: Authorization of rights and privileges for a specific use of the land for a specified period of time appropriate for the life of the project. The BLM has discretion to grant a right-of-way if doing so is in the public interest. (https://www.blm.gov/programs/lands-and-realty/rights-of-way)

Rilling: Shallow channeling from water that creates small, intermittent watercourses with steep sides, usually only several centimeters deep. Rills generally are linear erosion features running parallel to a slope. (BLM 2020a)

Riparian area: A specialized form of wetland restricted to areas with characteristic vegetation along, adjacent to, or contiguous with perennially and intermittently flowing stream, lake, spring, and reservoir shore areas. Characteristic vegetation may range from hydrophilic plants such as pondweed through more terrestrial forms such as sycamores, cottonwoods, conifers, and willows. This habitat is transitional between true bottomland wetlands and upland terrestrial habitats, and while associated with water courses, may extend inland for considerable distances. (BLM 1991)

Road: A linear route declared a road by the owner, managed for use by low-clearance vehicles which have four or more wheels, and maintained for regular and continuous use. (BLM 2016b)

Route: Generic description for a component of the transportation system or travel network. (BLM 2016b)

Route Evaluation: The careful and systematic review of each route by a BLM interdisciplinary team in conjunction with resource data collection and discussion of minimizing potential impacts during preliminary alternative designations. It is the process through which a BLM interdisciplinary team of resource specialists assess individual routes and documents potentially affected resources and/or resource uses associated with each route. During route evaluation, BLM staff will:

- Propose individual route designations for each route in a TMA based on individual alternative themes.
- Address how each route will minimize impacts on resources per 40 CFR § 8342.1.
- Document rationales for each alternative designation choice.

Sensitive Species: Species that require special management consideration to avoid potential future listing under the ESA and that have been identified in accordance with procedures set forth in BLM Manual 6840 – Special Status Species Management. (BLM 2008b)

Solitude: The state of being alone or remote from others; isolation. A lonely or secluded place. Factors contributing to opportunities for solitude may include size, natural screening, topographic relief, vistas, physiographic variety, and the ability of the user to find a secluded spot. (BLM 2021b)

Special recreation management area (SRMA): An administrative unit where the existing or proposed recreation opportunities and recreation setting characteristics are recognized for their unique value, importance, or distinctiveness, especially compared to other areas used for recreation. (BLM 2014b)

Special recreation permits (SRPs): SRPs are issued to authorize specified and often time-restricted recreational uses of the public lands and related waters. The BLM issues SRPs to manage visitor use; to protect natural and cultural resources; to achieve the goals and objectives of Field Office recreation program as outlined in a land use plan; and to authorize specific types of recreational activities. There are five types of activities for which SRPs are required: commercial use, competitive use, vending, special area use, and organized group activity and event use. (BLM 2007)

Special status species: Collectively, federally listed or proposed and Bureau sensitive species, which include both Federal candidate species and delisted species within 5 years of delisting. (BLM 2008b)

State Historic Preservation Officer (SHPO): The State historic preservation officer (SHPO) reflects the interests of the State and its citizens in the preservation of their cultural heritage. In accordance with section 101(b)(3) of the National Historic Preservation Act, the SHPO advises and assists Federal agencies in carrying out their section 106 responsibilities and cooperates with such agencies, local governments and organizations and individuals to ensure that historic properties are taking into consideration at all levels of planning and development. (36 CFR 800.2)

Substantial habitat: According to the UDWR: "[Substantial] habitat [is] that which is used by a wildlife species but is not crucial for population survival. Degradation or unavailability of substantial value habitat will not lead to significant declines in carrying capacity and/or numbers of the wildlife species in question" (UDWR 2022c).

Threatened species: Any species which is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range. (16 USC 1532 Definitions)

Traditional uses: Longstanding, socially conveyed, customary patterns of thought, cultural expression, and behavior, such as religious beliefs and practices, social customs, and land or resource uses. Traditions are shared generally within a social and/or cultural group and span generations. (BLM 2004a)

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. (BLM 2016b)

Travel Management Area (TMA): An administrative planning unit used to provide a strategic approach to inventory, planning, management, monitoring, and administration of the travel network, transportation system, and OHV use on public lands. TMAs can be used to separate areas with a different travel management focus from the larger planning area for a specific reason, such as the area's complexity or level of controversy, the need for a higher level of public involvement, consideration of special resource characteristics, or manageability of the area. A TMA's boundary may be altered as needed to reflect changes in priority, additional available resources, or any other change in circumstance. (BLM 2016b)

Travel Management Plan (TMP): A document that describes decisions related to the selection and management of a travel network and transportation system. (BLM 2016b)

Travel network: Routes occurring on public lands or within easements granted to the BLM that are recognized, designated, decided upon, or otherwise authorized for use through the planning process or other travel management decisions. These may or may not be part of the transportation system and may or may not be administered by the BLM. (BLM 2016b)

Unevaluated (to the Natural Register): A cultural site to which the NRHP eligibility criteria have not been applied. (BLM 2004a)

Utility Terrain Vehicle (UTV): Any recreational motor vehicle other than an ATV, motorbike or snowmobile designed for and capable of travel over designated unpaved roads, traveling on four (4) or more low-pressure tires, maximum width less than seventy-four (74) inches, usually a maximum weight less than two thousand (2,000) pounds, or having a wheelbase of ninety-four (94) inches or less. Utility type vehicle does not include vehicles specially designed to carry a person with disabilities. (BLM 2012a)

Visual Resource Inventory (VRI): The visual resource inventory process provides BLM managers with a means for determining visual values. The inventory consists of a scenic quality evaluation, sensitivity level analysis, and a delineation of distance zones. Based on these three factors, BLM-administered lands are placed into one of four visual resource inventory classes. These inventory classes represent the relative value of the visual resources. Classes I and II being the most valued, Class III representing a moderate value, and Class IV being of least value. The inventory classes provide the basis for considering visual values in the RMP process. (BLM 1986)

Visual Resource Management (VRM): The inventory and planning actions taken to identify visual values and to establish objectives for managing those values; and the management actions taken to achieve the visual management objectives. (BLM 1984)

Visual resources: The visible physical features on a landscape, (topography, water, vegetation, animals, structures, and other features) that comprise the scenery of the area. (BLM 1984)

Wetlands: Areas that have a predominance of hydric soils and that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions. Marshes, shallows, swamps, muskegs, bogs, and wet meadows are examples of wetlands. (BLM 1991)

Wilderness characteristics: These attributes include the area's size, its apparent naturalness, and outstanding opportunities for solitude or a primitive and unconfined type of recreation. They may also include supplemental values. Lands with wilderness characteristics are those lands that have been inventoried and determined by the BLM to contain wilderness characteristics as defined in section 2(c) of the Wilderness Act. (BLM 2021b)

Wilderness Inventory Road: Routes which have been improved and maintained by mechanical means to ensure relatively regular and continuous use. (BLM 2021b)

APPENDIX G REFERENCES

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