U.S. Department of the Interior
Bureau of Land Management

September 2023

Labyrinth/Gemini Bridges Travel Management Plan Environmental Assessment

DOI-BLM-UT-Y010-2020-0097-EA

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1. INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

The Labyrinth/Gemini Bridges Travel Management Plan (TMP) will designate a comprehensive travel network of motorized routes and trails, and provide for the long-term operation, monitoring, and maintenance of the network within the Labyrinth/Gemini Bridges Travel Management Area (TMA).

This Environmental Assessment (EA) analyzes potential impacts of the proposed travel network alternatives on the TMA's natural and human environment and is focused on issues raised during scoping. The final selected travel network will be developed from the range of alternatives considered in this EA and may include the modification of an alternative or a combination of the alternatives.[1] This EA was prepared in compliance with the National Environmental Policy Act (NEPA) and will assist the Bureau of Land Management (BLM) decision maker in determining whether any significant impacts could result from implementing the project. If there are no significant impacts anticipated, the BLM will prepare a Finding of No Significant Impact and a signed Decision Record will be issued. The Decision Record documents the decision regarding the selected travel network. The TMP may then be implemented after all other program-specific procedural requirements (i.e., any appeals) have been met.

1.2 BACKGROUND

The BLM's Moab Field Office (MFO) is proposing to designate routes within the TMA to form an off-highway vehicle (OHV) travel network. The proposed network alternatives were developed from 1,127.7 miles of evaluated travel routes on an estimated 303,994 acres of BLM lands in the Labyrinth/Gemini Bridges TMA (see map in Appendix K). Though the term "OHV" is generally associated with off-road vehicles, the regulatory definition includes full-size cars and trucks as well as utility terrain vehicles (UTVs), all-terrain vehicles (ATVs), motorcycles, e-bikes[2], etc., *when in use by the general public*; the regulations exempt military, fire, emergency, or law enforcement vehicles from the OHV definition while being used for emergency purposes. Also exempt are vehicles in official BLM use and those that have been authorized by BLM or otherwise officially approved.

The designated travel network will be implemented, operated, and maintained according to the network's route designations and the TMP Implementation Guide (see Appendix N). The travel network designation chosen for this project will replace the route designations assigned in the TMA by the BLM's 2008 Moab Field Office Record of Decision and Approved Resource Management Plan (2008 RMP) and TMA route designations that have been modified from those established in the 2008 RMP. For details on these earlier designation efforts, see pages 18-20 and 36-37 as well as Appendix N (page N-1) of the 2008 RMP (BLM 2008c). The travel network

[1] See Section 2.1.4 for details on route designations within the range of alternatives.
[2] Under 43 C.F.R. § 8340.0-5(a)(5), e-bikes are considered OHVs unless an authorized officer expressly determines, as part of a land-use planning or implementation-level decision, that e-bikes should be treated the same as non-motorized bicycles.

alternatives in this EA incorporate updated consideration and evaluation of all inventoried routes in the TMA. Any subsequent route designation(s) would be completed in compliance with regulatory and legal requirements, including NEPA.

1.3 PURPOSE AND NEED

The BLM needs to comply with a settlement agreement reached in 2017 (2017 Settlement Agreement).[3] As part of the 2017 Settlement Agreement, the BLM committed to issue a new TMP for the Labyrinth/Gemini Bridges TMA.

In addition to meeting its commitment in the 2017 Settlement Agreement, revisiting the designated travel network within the Labyrinth/Gemini Bridges TMA will allow BLM to ensure the network designated in the 2008 RMP continues to meet the goals and objectives of the resource values and uses and evaluate whether previously designated routes still have a purpose and need. Additionally, revisiting the designated travel network will enable BLM to ensure compliance with Presidential Executive Orders 11644 and 11989 and regulations at 43 C.F.R. § 8342.1, which require that BLM will 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.

Any newly designated travel network will provide for a variety of public OHV opportunities in conformance with applicable laws, regulations, and BLM travel management policies (see Section 1.5 and Appendix D for more details on compliance). Additionally, a comprehensive TMP Implementation Guide (Appendix N) would set direction for long-term operation and maintenance of the network, and for enhancements such as new signing and maps to aid users in navigating the network.

1.4 TMA OVERVIEW

The TMA is comprised of four separate units located north and west of Moab (see map in Appendix K), entirely within Grand County, Utah. The TMA is generally west of Arches National Park, east of the Green River, south of Interstate 70 and north of the Island in the Sky District in Canyonlands National Park. The majority of the TMA is west of U.S. Highway 191 while smaller sections including Klondike Bluffs and Bar M are east of Highway 191. The TMA includes popular destinations and recreation opportunities such as Poison Spider Mesa, Bar M, Klondike Bluffs, the State Route 313 corridor, Gemini Bridges, Mill Canyon, Mineral Point, White Wash Sand Dunes open OHV area[4], and the Green River. Traffic counts on State Route 313, which is the principal access into the TMA, show that use of the TMA peaks each spring and fall (BLM 2022b). TMA features include canyons, mesas, arches, and scenic byways, and the area is popular for many types of motorized and non-motorized recreation, including scenic driving, OHV use, mountain biking, BASE jumping, hiking, and equestrian use. The entire TMA

[3] The 2017 Settlement Agreement was a result of *Southern Utah Wilderness Alliance, et al. v. U.S. Department of 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://www.doi.gov/sites/doi.gov/files/agreements-settlements/document/suwa-ex-1-settlement-agreement-101718.pdf

[4] The White Wash Sand Dunes Open Area (1,866 acres) is within the TMA. Routes are not designated within the area because it is open to cross-country OHV use.

is managed under the 2008 RMP as a Special Recreation Management Area (SRMA) and contains a number of focus areas and many high-use routes. It also contains the 4,980-acre Ten Mile Wash Area of Critical Environmental Concern (ACEC) and a 1,081-acre portion of the Highway 279 / Shafer Basin / Long Canyon ACEC.

As part of its 2008 RMP process, an interdisciplinary team (IDT) of BLM specialists and cooperators completed a travel plan for the entire MFO (see Appendix N of the 2008 RMP). During the 2008 travel planning process, BLM considered 6,199 miles of routes for possible designation throughout the MFO. Of those 6,199 miles, 1,886.7 miles were located within the TMA. The final 2008 travel plan designated a travel network consisting of 1,127.7 miles for OHV use within the TMA. In the intervening years, the 2008 Travel Plan has been amended as part of ongoing adaptive management (see Section N.10 in Appendix N of the 2008 RMP for more on this process); some routes have been added to the 2008 Travel Plan, including in areas located within the TMA, because of, among other reasons, a demonstrated purpose and need. Also, other routes were removed, including within the TMA, because of, among other things, redundancy, resource concerns, or because they showed no use and are reclaiming.

The BLM expects that once a new route network is adopted, additional efforts may be pursued to improve the designated nonmotorized trail network, as needed. Note that, except for mountain bike use, non-motorized use of the existing route network is allowed regardless of designation (i.e., hikers and horseback riders are not restricted to designated travel routes). For the Labyrinth/Gemini Bridges EA, the BLM will continue to address changes to non-motorized designations on an as-needed basis. The MFO has a long track record of considering non-motorized routes via NEPA reviews when presented with reasonable requests.

Table 1, below, depicts a breakdown of the major jurisdictional surface management categories in the TMA. Though the BLM is only proposing route network designations on BLM-administered lands, routes, actions, resources, and resource uses on these other jurisdictional lands are considered as part of the BLM's travel management cumulative effects analysis.

Table 1: TMA Approximate Acreage by Major Landowner/Agency Administrator

Jurisdiction	Acres	% of TMA
BLM	303,994	90.2%
SITLA[5]	32,400	9.6%
Private	649	0.2%
Other	75	0.02%
Total	337,118	100%

1.5 CONFORMANCE WITH MANAGEMENT PLANS AND POLICIES

The action alternatives described in this document are in conformance with applicable management direction, including 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.

[5] SITLA is an acronym for Utah's School and Institutional Trust Lands Administration.

Table 2: Key ROD/RMP Travel-Related Management Decisions and Goals

Transportation	
TRV-2	BLM, in preparing its RMP designations and its implementation-level travel management plans, is following policy and regulation authority found at: 43 CFR Part 8340; 43 CFR Subpart 8364; and 43 CFR Subpart 9268.
TRV-3	Provide opportunities for a range of motorized recreation experiences on public lands while protecting sensitive resources and minimizing conflicts among various users. Identification of specific designated routes will be initially established through the chosen Travel Plan accompanying this RMP (see Appendix N) and may be modified through subsequent implementation planning and project planning on a case-by-case basis. These identified routes will be available regardless of other management actions. These adjustments will occur only in areas with limited route designations and will be analyzed at the implementation planning level. These adjustments will be done through a collaborative process with local government and will include public review of proposed route changes. Site-specific NEPA documentation will be required for changes to the route designation system.
TRV-5	BLM could impose limitations on types of vehicle allowed on specific designated routes if monitoring indicates that a particular type of vehicle is causing disturbance to the soil, wildlife, wildlife habitat, cultural or vegetative resources, especially by off-road travel in an area that is limited to designated roads.
TRV-6	OHV access for game retrieval, antler collection and dispersed camping will only be allowed on designated routes (designated routes/spurs and have been identified specifically for dispersed camping; parking areas associated with dispersed campsites will be marked during travel plan implementation). Adherence to the Travel Plan is required for all activities, except where otherwise explicitly permitted.
TRV-7	Only designated roads and managed open areas are available for motorized commercial and organized group use (see Maps 2 and 3 for route designations).
TRV-8	Where the authorized officer determines that off-road vehicles are causing or will cause considerable adverse impacts, the authorized officer shall close or restrict such areas. The public will be notified as to these closures and restrictions.
TRV-9	Any routes that are not baseline routes will be signed "Closed" on the ground. Such routes will be considered as impacts to the area's natural character, and use of such routes will be considered cross country use and not allowed. Non-inventoried routes should be rehabilitated.
The proposed action also supports other RMP Transportation management actions, including TRV-4, TRV-10, and TRV-11	
Recreation and Off-Highway Vehicles	
REC-2	Where unacceptable damage to natural or cultural resources by recreational use is anticipated or observed, BLM will seek to limit or control activities by managing the nature and extent of the activity or by providing site improvements that make the activity more sustainable or by a combination of management controls and facility development. Such management actions will seek to reduce or eliminate the adverse impact while maintaining the economic benefits associated with a wide range of recreation uses.
REC-3	BLM will consider and, where appropriate, implement management methods to protect riparian resources, special status species, and wildlife habitat while enhancing recreation opportunities. Management methods may include limitation of visitor numbers, camping and travel controls, implementation of fees, alteration of when use takes place, and other similar actions to be approved through normal BLM procedures.
REC-5	Recreational off-highway vehicle (OHV) and mechanized travel will be consistent with area and route designations described in the travel management plan. BLM will work with agency and government officials and permit holders to develop procedures, protocols, permits or other types of authorization, as appropriate, to provide reasonable access for non-recreational use of OHVs for military, search and rescue, emergency, administrative, and permitted uses.

REC-6	Dispersed camping is allowed where not specifically restricted. Dispersed camping may be closed seasonally or as impacts or environmental conditions warrant. All vehicle use associated with dispersed camping activities is required to stay on designated routes.
REC-13	Support Grand County's efforts to obtain approval of corridor management plans for Utah Scenic Byways (Utah Highways 128, 313, and 279) and provide assistance, where feasible, in the development of byway facilities consistent with other decisions of the RMP.
REC-33	Focus Areas are Recreation Management Zones (RMZ) for emphasizing particular types of recreation activities while still allowing for other uses in accordance with the Travel Plan. As RMZs, Focus Areas are established as a mechanism for enhancing specific recreation opportunities through facilities and education such as route marking parking, camping and information. Where a single focus SRMA or a specific RMZ is not identified, the default focus of that area is motorized, backcountry touring on designated roads.
REC-39 (excerpts)	Labyrinth Rims/Gemini Bridges SRMA **(excerpts)**: • Front country type use takes place along SR 313 and the Island in the Sky Road. This highway was designated the Dead Horse Mesa Scenic Byway by the State of Utah in the early 2000s. To manage dispersed camping and protect scenic values, BLM establishes a 1-mile-wide corridor along SR 313 and the Island in the Sky Entrance Road where camping is limited to designated sites, wood cutting and firewood gathering are prohibited, and portable toilets are required. BLM currently limits camping in the corridor to the Horsethief Campground, the Lone Mesa, and Cowboy Camp camping areas. BLM also limits camping and prohibits woodcutting and firewood gathering in a one- mile-wide corridor along the Gemini Bridges Road. Manage the small Cowboy Camp for tent camping and manage the Lone Mesa area for group use. Manage Hatch Wash and the lower section of West Coyote Creek for primitive, nonmotorized recreation. • In addition to the Mineral Bottom Takeout, BLM manages several additional facilities in the area including the Mill Canyon Dinosaur Interpretive Trail, the Halfway Stage Station Interpretive Site, and the Copper Ridge Sauropod Trackway Interpretive site. BLM also manages and maintains route markings (with user group assistance) on the Monitor and Merrimac, Seven Mile Rim, Poison Spider Mesa, Golden Spike, Goldbar Rim, Gemini Bridges, Lower Monitor and Merrimac, Bar M, and Klondike Bluffs routes which are used by both motorized and non-motorized visitors. The 3-D, Crystal Geyser, Hellroaring Rim, Secret Spire, and Wipeout Hill routes are authorized for Jeep Safari and other uses. New motorized routes will not be considered in the Hatch Wash Hiking and Backpacking Focus Area. • Manage backcountry areas to facilitate scenic motorized touring on designated routes with special emphasis upon establishment of low-development, end of route parking areas and route signing. • Improve the road to the Mill Canyon Dinosaur Trailhead to accommodate passenger car traffic. • Focus Area -- Scenic Driving Corridors: Highway 313 and the Island in the Sky Road (Utah Scenic Byway): Manage for scenic driving enjoyment. The corridor is defined as having a width of 1/2 mile from centerline (or to border of adjoining Focus Area; see Appendix A). • Focus Areas -- Non-Mechanized Recreation: ○ Goldbar/Corona Arch Hiking Focus Area (4,191 acres) covers the lands below the Golden Spike OHV route inclusive of the Culvert Canyon drainage to the northern rim of Long Canyon exclusive of the main stem of the Day Point Road. Manage the Corona Arch Trail for hiking only. Develop a hiking loop route in Culvert Canyon from the canyon bottom up to Jeep Arch and back on the western bench of Culvert Canyon to the canyon to just canyon from the railroad spur. Apply a no surface occupancy stipulation for oil and gas leasing and preclude other surface-disturbing activities (see Appendix A) to protect primitive hiking opportunities and scenic values. No new motorized routes will be considered.

	○ Spring Canyon Hiking Focus Area (457 acres) will be established upstream from the Spring Canyon Bottom Road. No new motorized routes will be considered. ○ Labyrinth Canyon Canoe Focus Area (7,709 acres) inclusive of the rims along the east side of Labyrinth Canyon from Placer Bottom to Mineral Bottom exclusive of the Hey Joe Mine OHV and mountain bike route. No new motorized routes will be considered. ○ Seven Mile Canyons Equestrian Focus Area (1,026 acres) inclusive of the north and south forks of Seven Mile Canyon westward from the junction of the two canyons. Equestrian use in this area will be restricted to private (non-commercial) horse use. No new motorized routes will be considered. • Focus Areas -- Mountain Bike Backcountry Touring (excerpts): ○ Bar M Mountain Biking Focus Area (2,904 acres) between Arches National Park, U.S. Highway 191, and the Bar M area state lands, exclusive of motorized access for the Copper Ridge Jeep Safari Route and the 191 rock quarry access road. Convert existing routes to mechanized use and provide for a limited number of new and connecting routes to support use of area as the destination for the 191 bike lane. Recommend that the old highway route in Moab Canyon be managed for non-motorized use to facilitate use of the route as part of the 191 bike lane. ○ Mill Canyon/Upper Courthouse Mountain Biking Focus Area (5,744 acres) inclusive of areas within the Mill Canyon and upper Courthouse drainages with continued use of the Seven Mile Rim Jeep Safari route for motorized use, with non-motorized trailheads near the Mill Canyon Dinosaur Trail and the Halfway Stage Station. Manage the Mill Canyon Dinosaur Trail for hiking only (35 miles of road designated for motorized travel; 23 miles of route managed for mechanized use only). ○ Focus Area -- Motorized Backcountry Touring: Gemini Bridges/Poison Spider Mesa Focus Area (16,299 acres) for multiple use, including full-size OHV, ATV, and motorcycle use with consideration given to managing routes suitable for each vehicle type. Travel will be intensively managed on designated routes only. Close the spur route to Gemini Bridges to facilitate public use and help restore damaged lands along the spur route. Construct a parking area near the bridges. • Focus Areas – Specialized Sport Venue (Motorized): ○ Dee Pass Motorized Trail Focus Area (35,290 acres) for motorcycle and ATV use: This is the area for competitive motorized events. Competitive routes within this area will be identified based on site-specific NEPA analysis. All routes designated for motorized use in the accompanying Travel Plan will remain open while Section 106 cultural resource inventories are conducted. If these inventories indicate the presence of eligible sites within the travel corridor, the route will be altered or closed. All new routes will require Section 106 cultural resource inventory prior to designation. Establish a managed OHV route system with provision for ongoing management of existing single-track routes to maintain their singletrack character. ○ Airport Hills Motocross Focus Area (285 acres): Manage the Focus Area for motocross use in partnership with local government under the Recreation and Public Purposes Act. A patent will be issued to local government. • Focus Area – Managed OHV area (cross country travel allowed): White Wash Sand Dunes Open OHV Focus Area, (1,866 acres) encompassing the area around the dunes themselves. Manage the central portion of the White Wash Sand Dunes for motorized sand play with exception of the dune field cottonwood trees and White Wash water sources which will be closed to motorized travel and fenced.
The proposed action also supports other RMP Recreation management actions, including REC-34.	
Other Resources and Off-Highway Vehicles	

SOL-WAT-20	No additional OHV routes will be allowed in saline soils other than those already designated in the Travel Plan accompanying this RMP (see Appendix N). An exception will be considered on a case-by-case basis for proposed routes in the Dee Pass Motorized Focus Area and in the Utah Rims SRMA. Exceptions could also be considered on a case-by-case basis outside these two areas if potential impacts could be mitigated and if the action will benefit other natural and cultural resources.
WSR-4	OHV travel will be limited to designated routes or closed, depending on the river segment.

The action alternatives are also in conformance with the 2018 Labyrinth Rims/Gemini Bridges Recreation Area Management Plan (RAMP), which summarizes the 2008 RMP decisions relevant to management of the SRMA.

The travel network action alternatives were developed in accordance with BLM policy. The proposed travel networks analyzed in the action alternatives were designed in accordance with the requirements and guidance in Executive Orders 11644 and 11989, 43 CFR § 8342.1, Manual 1626, and Handbook 8342. Table 3 provides a summary of the designation criteria in 43 CFR § 8342.1. The BLM's consideration and application of the designation criteria during development of the alternative travel networks is further detailed in Chapter 2.

Table 3: 43 CFR § 8342.1 Designation Criteria

(a)	Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.
(b)	Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.
(c)	Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.
(d)	Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines that off-road vehicle use in such locations will not adversely affect their natural, esthetic, scenic, or other values for which such areas are established.

With respect to the National Historic Preservation Act (NHPA), the BLM considered adverse effects 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 proposed travel network alternatives are in accordance with Executive Order 14008, as applicable, which, among other guidelines, aims to conserve and restore public lands and waters, protect biodiversity, and improve access to recreation.

1.6 SCOPING AND ISSUE IDENTIFICATION

1.6.1 OVERVIEW

Internal (BLM and Cooperators) and external (public) scoping identified route- and network-related issues that could affect the natural and human environment within the TMA. The BLM

NEPA Handbook, H-1790-1, defines an *issue* as "a point of disagreement, debate, or dispute" that "point[s] to environmental effects" (BLM 2008a). Those issues necessary to make a reasoned choice between alternatives or to determine the significance of impacts were brought forward for detailed analysis in this EA and are discussed below. An initial round of public scoping occurred from March 23 to April 26, 2021, and resulted in 9,168 scoping letters. Chapter 4 and Appendix E include more details on scoping issues. A full list of identified resource values, land uses, and special designation areas that occur in the TMA can be found in the IDT checklist in Appendix E.

1.6.2 ISSUES CARRIED FORWARD FOR DETAILED ANALYSIS

In developing a TMP, it is important for decision-makers and the public to understand the potential impacts that each of the proposed alternative travel networks would have on specific resources; to this end, the IDT identified resource and use topic(s) that could potentially be impacted, as recorded in the IDT Checklist in Appendix E. They are presented along with related issue statements in Table 4, below. The resource/use topics and issue statements are organized under two primary headings: 1) Potential impacts on the TMA's natural and human environment, and 2) Potential impacts to recreation user opportunities and experiences. The issue statements help refine the discussions of the affected environment and environmental effects in Chapter 3.

Table 4: Issues Analyzed in Detail

1. POTENTIAL IMPACTS ON THE TMA'S NATURAL AND HUMAN ENVIRONMENT
SPECIFICALLY:
• How would the route designation alternatives impact **cultural resources** within the TMA?
• How would the route designation alternatives impact inventoried wilderness characteristics in **Lands with Wilderness Characteristics (LWC)** areas?
• How would the route designation alternatives impact **soil stability, native vegetation communities,** and introduction and spread of **invasive weeds**?
• How would the route designation alternatives impact the relevant values of the **Ten Mile Wash Area of Critical Environmental Concern (ACEC)** and the **Highway 279 / Shafer Basin / Long Canyon ACEC**? • How would the route designation alternatives impact the **Wild and Scenic River (WSR)** qualities of the Green River segment running along the TMA's western boundary? • How would the route designation alternatives impact the integrity of the **Old Spanish National Historic Trail (NHT)**?
• How would the route designation alternatives impact **visual resources** within the TMA?
• How would the route designation alternatives impact **water resources** within the TMA?
• How would the route designation alternatives impact **wildlife and wildlife habitat (including fisheries, general wildlife, migratory birds and raptors, and special status species)**?
• How would the route designation alternatives impact **recreation** opportunities and experiences in the TMA?

1.6.3 RESOURCE/USE TOPICS IDENTIFIED, BUT ELIMINATED FROM DETAILED ANALYSIS

Some issues raised during scoping were beyond the scope of this project, were not substantive, were not significant, or were not necessary in making reasoned choices between alternatives. Resource/use topics that were identified but eliminated from detailed analysis in the EA can be found in the IDT checklist table in Appendix E. In this table, resource/use topics with a determination of "NI" (Not Impacted) or "NP" (Not Present) were not carried forward for analysis, and relevant details and explanations are provided.

Air Quality and Greenhouse Gas Emissions

This more detailed discussion of Air Quality and Greenhouse Gas Emissions has been added here in response to comments received during the public comment period.

Travel management has the potential to create emissions of air pollutants both directly from construction and maintenance of routes, and indirectly from vehicle exhaust and wind erosion. Since many of the routes are unpaved the primary pollutant is particulate matter, also known as PM_{10} and $PM_{2.5}$. Vehicle exhaust can also produce emissions of nitrogen oxides, sulfur dioxide, carbon monoxide, and carbon dioxide and other greenhouse gases (GHG).

Existing air quality and air quality-related values conditions in the area are incorporated by reference from the BLM Utah 2021 Air Monitoring Report. Air pollutant concentrations are reported using design values. A design value is a statistic that describes the air quality status of a given location relative to the level of the National Ambient Air Quality Standards (NAAQS). The TMA is designated unclassified for all NAAQS pollutants. It is assumed that 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 closest reported design values from Mesa County, Colorado, show annual and 24-hour $PM_{2.5}$ design value concentrations of 5.7 $\mu g/m^3$ and 17 $\mu g/m^3$ respectively, which are approximately 50% of the NAAQS. Visibility trends from 1990 through 2020, as measured at Canyonlands National Park, show substantial improvement over the period of record.

Direct emissions resulting from the action alternatives are expected to be the same or slightly less than the No Action alternative. No new routes are proposed so there will be no construction-related emissions. Routes being closed would potentially result in lower emissions since there are fewer miles of road to maintain. As a result, the direct emissions would result in little to no improvement in air quality of the affected environment.

Indirect emissions from vehicle exhaust and dust lifted into the air from vehicle travel is directly related to vehicle usage which is a function of the number of visitors and vehicle miles traveled. The number of OHV visitors to the area is not anticipated to change directly or indirectly for any of the alternatives. Users of routes being closed may choose to utilize other routes that remain open, but the BLM cannot reasonably determine at this time if visitors will use shorter or longer mileage routes. Since routes being closed are lightly used, the change in vehicle miles traveled compared to total visitor days will be minimal. Also, closed routes that are reclaimed would have less dust emissions from wind erosion. With the number of visitors and vehicle miles traveled anticipated to roughly remain the same between alternatives, it is concluded that emissions will also remain the same between alternative and no change to the air quality and GHG affected environment will occur.

Dust plumes created by vehicles traveling on unpaved routes may be visible at distances from the routes, thereby affecting adjacent public lands, including lands with wilderness characteristics and Class I airsheds. Airborne dust will eventually deposit on vegetation and other objects, but this usually happens within a short distance from routes. Deposition on roadside vegetation may affect photosynthesis, respiration, transpiration, and the structure of plant communities. As described above, the dust emissions are already occurring and the TMP will not change the affected environment for visibility or deposition.

In summary, an analysis of air pollutants and GHG emissions will not help make a reasoned choice between alternatives (BLM Handbook H-1790-1, section 6.4.1 (BLM 2008a)) and will not concentrate on the issues that are truly relevant to the action in question (40 CFR 1500.1(b)), since there will be no emission differences between the alternatives and little to no change in the affected environment.

2 ALTERNATIVES

2.1 TRAVEL NETWORK DEVELOPMENT METHODOLOGY

2.1.1 OVERVIEW

During several sessions in 2019, the BLM's IDT evaluated all OHV travel routes considered for designation in the Labyrinth/Gemini Bridges TMA and created a preliminary range of alternative travel networks. In evaluating each travel route, the IDT applied and documented compliance with the 43 CFR § 8342.1 designation criteria (i.e., minimization criteria). BLM Manual 1626 explains that the minimization of impacts "means to limit the degree or magnitude of the action and its implementation (40 CFR § 1508.20(b) – CEQ Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act)" (BLM 2016). The BLM route evaluation process along with further review and scoping contributed to the development of a range of reasonable network alternatives. Reasonable alternatives are those that "are *practical or feasible* from the technical and economic standpoint and using common sense, rather than simply *desirable*. . ." (BLM 2008a). Each of the proposed travel network action alternatives meets the purpose and need and responds to the issues described in Chapter 1.

2.1.2 ROUTE INVENTORY

The Labyrinth/Gemini Bridges TMA route inventory consists of the travel network designated as part of the 2008 RMP and includes only routes designated for OHV use in the 2008 RMP and subsequent route designation revisions. Unauthorized off-route OHV use in the TMA occurs only occasionally and, due to extensive management (such as monitoring and enforcement), new route proliferation is generally not a significant issue. The addition of new routes beyond those designated for OHV use as part of the 2008 Travel Plan or subsequent amendments, including the 766.0 miles closed in the TMA in 2008, are not considered in this EA.

The travel network designated in the 2008 Travel Plan was verified in 2017 and 2018 using field surveys, aerial imagery, and IDT input. The BLM collected inventory data, which include GPS-collected lines showing route locations and attributes. Data also include GPS-collected points describing travel management-related features on or near routes. During the 2008 Travel Plan, some linear features (see Glossary for definition), generally old seismic exploration lines, were identified that are not, nor were ever, routes intended to become part of the travel network. BLM staff examined these linear features as part of the 2008 Travel Plan and determined that they were not appropriate for designation under any alternative; none of these linear disturbances were included in any of the route network alternatives.

2.1.3 ROUTE EVALUATION

In 2019, the BLM IDT and cooperating agencies (see Section 4.1.2 for a list of cooperating agencies) began evaluating the 1,127.7 miles of inventoried routes, all of which were designated as OHV-Open or OHV-Limited in the 2008 RMP Travel Plan or its subsequent route designation

revisions. The results of these route evaluations are shown, route by route, in each of the route reports (Appendix J). There is a separate route report for each route or route segment in the TMA. The route reports catalogue the resources relating to each route, along with route attributes. The reports include the proposed designation for the subject route under each alternative travel network. For example, a route with serious or multiple resource conflicts may have been closed in one or more network alternatives. The IDT weighed the purpose and need for each route against the resource conflicts, along with the route's role in the overall travel network, to determine in which, if any, of the action alternatives B-D the route would be designated for OHV use.

All routes designated for OHV use (OHV-Open or OHV-Limited) in the 2008 RMP are also designated for OHV use in Alternative A; the route evaluation process (e.g., resource conflicts vs. purpose and need for the route) was used to inform proposed route designations across the action alternatives. Except for 2.5 miles in Alternative B, all regularly maintained roads (see Section 2.2, below) were proposed as available for OHV use in all action alternatives.

In conducting evaluation of each inventoried route, the BLM IDT:

- Considered the goals and objectives for resource values and uses established in the 2008 RMP
- Considered best available information from surveys, data sets, and professional expertise
- Considered, discussed, and documented any purpose and need of the route, including but not limited to activities relating to existing motorized and non-motorized uses for recreation, livestock grazing, law enforcement, search and rescue, fire suppression, access to private or SITLA (School and Institutional Trust Lands Administration) lands, mineral exploration and development, administrative access, and authorized motorized travel
- Considered, discussed, and documented any known or asserted resource or user conflict; and consideration of designating spur routes leading to SITLA lands, facilities, campsites, and other points of interest, which may include overlooks and natural and historic features; and whether there are multiple routes leading to the same location
- Considered and discussed route locations and characteristics and exploration of alternative opportunities and techniques for avoiding or mitigating project effects to minimize damage, disruption, and conflict with various resources and among users. The IDT also proposed leaving routes open in areas where doing so would result in minimal resource damage or redirecting travel to routes in less sensitive areas
- Identified routes that were redundant (i.e., a route leading to the same destination and serving the same purpose and need as another nearby route)
- Proposed individual route designations based on alternative themes
- Considered whether OHV use of the route conflicts with resources and other uses of the public lands and whether those conflicts could be minimized under various proposed designations
- Documented rationale for each proposed route designation

2.1.4 ROUTE DESIGNATIONS

The IDT proposed route designations as part of a TMP process that reflects on-the-ground conditions and the best available GIS data for the Labyrinth/Gemini Bridges TMA.

In Figure 1 (below) and figures throughout Chapter 3, a variety of detailed travel route designations are summarized in broader categories to enable the reader to more easily compare the travel network alternatives. The variety of individual designations proposed during route evaluation are available in the route reports (see Appendix J). 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. This EA focuses on OHV designations that fall into one of the following categories:

- OHV-Open[6] – Open year-round to all motorized vehicle travel.
- OHV-Limited[7] – Allows 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 – Route not available for public motorized vehicle use. The OHV-Closed category includes:
    - Routes that will not become part of the designated OHV network and are often earmarked for natural or manual reclamation.
    - Routes that will remain available for authorized or administrative uses. Some of these routes provide access to authorized facilities (i.e., stock tanks and ponds, corrals, communication sites, etc.).
    - Routes that remain available for non-OHV use, such as hiking or equestrian trails. Some OHV-Closed routes may remain available for mountain biking (where mountain biking was identified as a current use in the range of alternatives), depending on which alternative is selected.

  Regardless of route designations, users can engage in non-motorized forms of transportation such as walking or riding horses anywhere on the TMA's BLM lands (on existing routes or cross-country), unless there is a specific exclusion stating otherwise.

2.1.5 AUTHORIZED USES

The selected travel network, when adopted, will not apply to existing or future authorized uses, which are excluded from the definition of OHV in 43 C.F.R. § 8340.0-5(a)[8]. Examples of authorized users include, but are not limited to, grazing permittees who need access grazing allotments or range improvements, private landowners who obtain a right-of-way to access their inholding, or entities with a valid right-of-way to access SITLA parcels.

Existing authorizations will not be altered by the final TMP, when adopted. The final TMP will not prohibit new authorizations in the future. BLM will continue to work with private

[6] OHV-Open includes routes proposed as Open "with Management" in the action alternatives. (See Section 0.)
[7] OHV-Limited includes routes proposed as Limited "with Management" in the action alternatives. (See Section 0).
[8] Military, fire, emergency, and law enforcement vehicles while being used for emergency purposes, along with vehicles in official use are similarly excluded from the definition of OHV in 43 C.F.R. § 8340.0-5(a), and therefore will also not be affected by the selected route network.

landowners, the State, SITLA permittees, and other authorized users to ensure reasonable access to, among other things, range improvements, private lands, and SITLA parcels. As the need arises, and in accordance with applicable laws and regulations, any route (including those that are designated OHV-Closed) can be made available to authorized uses.

2.1.6 R.S. 2477 Assertions

The State of Utah and counties may hold valid existing rights-of-way within the TMA 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 that is entirely separate from BLM travel planning efforts. Consequently, this planning effort does 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. At such time as administrative or judicial determinations are made acknowledging or adjudicating asserted R.S. 2477 rights-of-ways, the BLM will adjust its TMP accordingly.

2.2 Proposed Travel Networks by Alternative

Figure 1 summarizes the proposed travel network alternatives and the differences in alternatives compared to current management (Alternative A). OHV route designations are defined above in Section 2.1.4 and on page 7-3 of the BLM Travel and Transportation Management Manual (BLM 2016). Maps showing proposed travel networks and designations for Alternatives A, B, C, and D can be found in Appendix K. Note: the sum of mileage in some columns may differ slightly from the total because of rounding. Additional tables can be found in Appendix C.

Figure 1: Miles of Evaluated Routes by Alternative and Designation

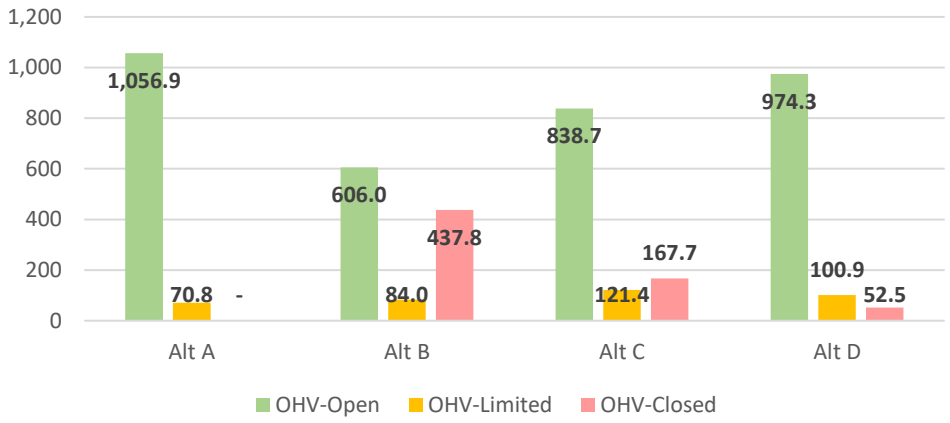


Figure 2 and Figure 3, below, show the miles of evaluated routes by alternative that are regularly maintained and the miles of evaluated routes that receive minimal maintenance. For the purposes of this document, *regularly maintained*[9] routes are those roads that receive moderate or high

[9] *Regularly maintained* routes are maintained to a Maintenance Intensity Level 3 or 5 in accordance with Appendix

levels of maintenance; 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, in most cases, see moderate to high use at moderate speeds. *Minimally maintained*[10] routes are those which receive low or minimal maintenance; 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, in most cases, they receive low use at low speeds.

Figure 2: Miles of Regularly Maintained Routes by Alternative and Designation

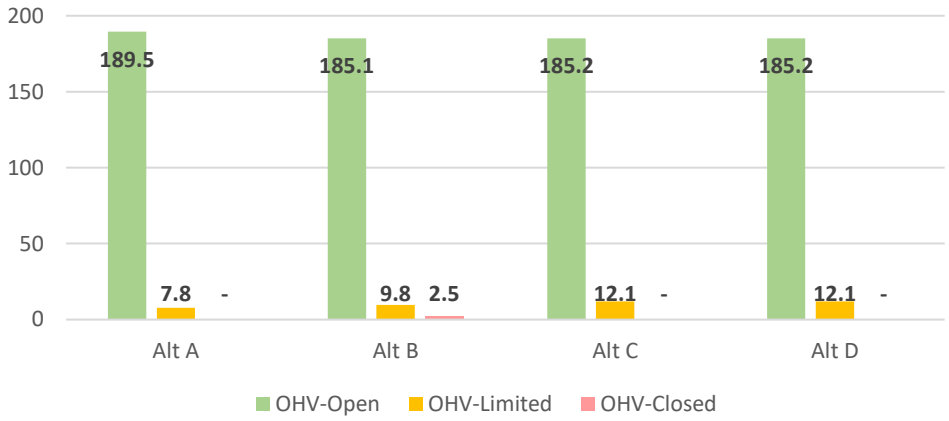
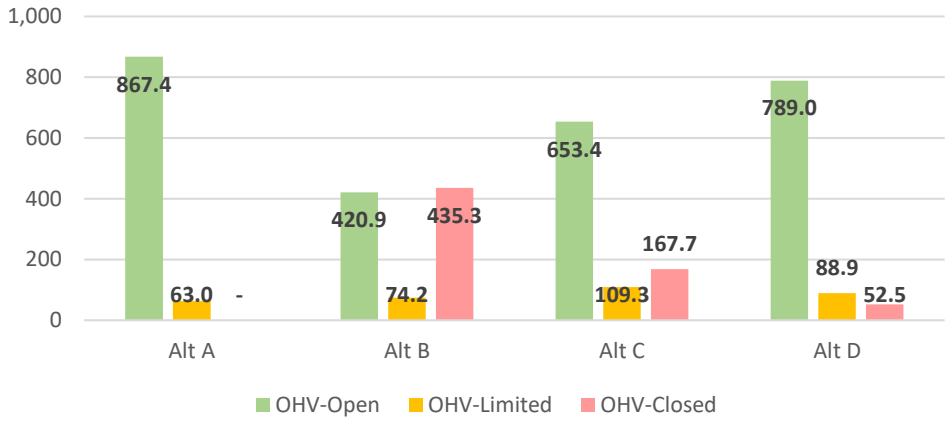


Figure 3: Miles of Minimally Maintained Routes by Alternative and Designation



2.2.1 ALTERNATIVE A (NO ACTION/CURRENT MANAGEMENT)

Alternative A represents the no action or current management alternative and consists of the travel network designation and management objectives made in the 2008 Travel Plan and subsequent route designation revisions. Alternative A reflects the total network of evaluated routes considered for designation in this travel planning effort and is used as a baseline for comparison between the alternatives.

A of BLM's 9113 Roads Manual (BLM 2015) and Appendix A of BLM's 9115 Primitive Roads Manual (BLM 2012e).

[10] *Minimally maintained* routes are maintained to a Maintenance Intensity Level 1 in accordance with Appendix A of BLM's 9113 Roads Manual and Appendix A of BLM's 9115 Primitive Roads Manual.

In Alternative A, route designations for the TMA would remain unchanged—that is, all 1,127.7 miles of currently designated routes would remain available for OHV use. Of these, 1,056.9 miles would remain OHV-Open, 65.3 miles would remain limited by vehicle width, and 5.5 miles would remain limited to e-bikes. The miles of routes designated as OHV-Open or OHV-Limited includes 197.3 miles of regularly maintained routes (17% of total evaluated miles) and 930.4 miles of minimally maintained routes (83% of total evaluated miles). While changes are not proposed under Alternative A, it still provides for continuation of current route use and would have route use-related effects comparable to the action alternatives.

2.2.2 ALTERNATIVE B (NATURAL RESOURCE EMPHASIS)

Alternative B prioritizes protection of resources, including, but not limited to, wildlife habitats, natural and cultural resources, ecosystems, and landscapes. OHV use is more constrained under this alternative than under any other alternative. Maps posted to ePlanning on September 16th, 2021, showed routes to be designated in preliminary Alternative B as follows: 682.0 as OHV-Open, 81.0 as OHV-Limited, and 364.0 as OHV-Closed. After the maps were posted, internal and external comments resulted in further adjustment to the proposed network wherein several proposed designations were changed to further constrain OHV use and reduce resource and user conflicts (see Section 4.2.1).

In Alternative B, 606.0 miles (54% of the evaluated route miles) would be designated OHV-Open, 84.0 miles (7%) OHV-Limited, and 437.8 miles (39%) would be closed. Of the routes designated as OHV-Limited, 75.6 miles would be limited by vehicle size and 8.4 miles would be limited to e-bikes. The routes designated OHV-Open or OHV-Limited would consist of 194.9 miles of regularly maintained routes and 495.1 miles of minimally maintained routes. All but 2.5 miles of routes that would be closed to OHV use under this alternative are minimally maintained. Of the OHV-Closed routes under this alternative, 52.6 miles would remain available for authorized or official use only, 5.0 miles would be reserved for passive non-motorized trail use, and the remaining 380.3 miles would be decommissioned and earmarked for reclamation. This alternative would close some segments that are part of the BLM-recognized Jeep Safari trail system (see Section 3.2.11 for more details).

2.2.3 ALTERNATIVE C (MULTIPLE USE EMPHASIS)

Alternative C represents a balanced approach to OHV access opportunities and a variety of management actions which resolve resource conflict issues and management concerns while still ensuring substantial OHV access. This alternative has OHV-Open, OHV-Limited, and OHV-Closed designations that accommodate natural and cultural resource protections while designating more miles of routes for OHV use than Alternative B. In this alternative, 838.7 miles (74% of the evaluated route miles) would be designated OHV-Open, 121.4 miles (11%) OHV-Limited, and 167.7 (15%) OHV-Closed. Of the OHV-Limited routes, 97.6 miles would be limited by vehicle size, 5.5 miles would be limited to e-bikes, and 18.3 miles would be limited seasonally. The routes designated OHV-Open or OHV-Limited would consist of all 197.3 miles of regularly maintained routes as well as 762.7 miles of minimally maintained routes. All routes that would be closed to OHV use under this alternative are minimally maintained. Of the OHV-Closed routes under this alternative, 23.5 miles would remain available for authorized or official use only, 10.1 miles would be reserved for passive non-motorized trail use, and the remaining

134.1 miles would be decommissioned and earmarked for reclamation. Under this alternative, 99% of the BLM-recognized Jeep Safari trail system would remain designated for OHV use.

2.2.4 ALTERNATIVE D (ACCESS EMPHASIS)

Alternative D is the action alternative that would designate the most miles of evaluated routes as OHV-Open, allowing for the most OHV-based access opportunities of any of the action alternatives, and accommodating a full range of uses while still mitigating travel-related impacts. In this alternative, 974.3 miles (86% of the evaluated route miles) would be designated OHV-Open, 100.9 miles (9%) would be designated OHV-Limited, and 52.5 miles (5%) would be closed. Of the OHV-Limited routes, 93.1 miles would be limited by vehicle size, 5.5 miles would be limited to e-bikes, and 2.4 miles would be limited seasonally. The routes designated OHV-Open or OHV-Limited would consist of all 197.3 miles of regularly maintained routes as well as 877.9 miles of minimally maintained routes. All routes that would be closed to OHV use under this alternative are minimally maintained. Of the OHV-Closed routes under this alternative, 11.2 miles would remain available for authorized or official use only, 2.0 miles would be reserved for passive non-motorized trail use, and the remaining 39.4 miles would be decommissioned and earmarked for reclamation. Under this alternative, all routes in the BLM-recognized Jeep Safari trail system would remain designated for OHV use.

2.3 IMPLEMENTATION ACTIONS COMMON TO ALL ACTION ALTERNATIVES

Although some forms of implementation-related management were specified in conjunction with designations during route evaluation, the following activities identified in the TMP Implementation Guide (Appendix N) would occur with any of the action alternatives described above.

2.3.1 SIGNING

The travel network would be signed to identify routes and inform the public of locations, special conditions, and limitations. Activities associated with signing include ground disturbance (post hole excavation, minor grading) and may involve minor vegetation removal. Sign installation would be done in previously disturbed areas as much as possible but may require installation in previously undisturbed areas outside the roadway and shoulder. Sign placement in areas that have not been previously disturbed is not analyzed in this EA and could be subject to additional NEPA review on a case-by-case basis. According to the Travel PA, Stipulation VI.C., the installation of signs is exempt from cultural resource survey and consultation requirements. See the Implementation Guide (Appendix N) for more details related to signing.

2.3.2 ROUTE MAINTENANCE

Route maintenance is categorized into one of two categories: 1) routine or regular maintenance that meets the purpose and need of the route and that does not extend beyond the edge of previous road prism disturbance; or 2) maintenance of a route that exceeds the standard of routine maintenance by either upgrading, widening, re-aligning, or otherwise creating new

surface disturbance. Maintenance of designated routes would typically be conducted as described in the first category. Maintenance of designated routes that fall into the second category (i.e., more than routine) may be subject to additional site-specific NEPA review. See the Implementation Guide (Appendix N) for more details on route maintenance.

2.3.3 ROUTE ADJUSTMENTS

After the DR is signed for this TMP, adjustments to the designated travel network could be undertaken using the process outlined in the 2008 RMP. That is, as travel planning is an implementation level process, the TMP may be modified through subsequent implementation planning and project planning on a case-by-case basis, as the project area is an area where travel is limited to designated routes. Routes could be considered for addition to the travel network for any number of reasons, including, for example, to add recreational value and to access designated campsites. Routes may also be considered for removal from the travel network using the same processes. See TRV-3, 2008 RMP, page 126. Some adjustments to the network may be categorically excluded from further NEPA review as allowed by 43 CFR 46.210(G)(2) and the BLM NEPA Handbook (BLM 2008a), Appendix 4. However, all changes to the network must still be reviewed consistent with BLM's legal obligations, including NEPA.

2.3.4 DECOMMISSIONING AND RECLAIMING CLOSED ROUTES

Closed routes may be decommissioned and reclaimed through a variety of methods described below and in the Implementation Guide (Appendix N). BLM resource specialists will determine which form of decommissioning and reclamation is appropriate based on the characteristics of each closed route:

- Closed routes may be allowed to revegetate naturally.
- Route reclamation may be done by mechanically ripping the route surface and revegetating through seeding or planting.
- In sandy areas and washes, tracks may be raked out so there is no evidence of vehicle use.
- Grading and recontouring may be used in some areas to restore natural slopes.
- As with maintenance activities, ground disturbance may extend into areas not previously disturbed.
- Signs or barriers (boulders, fences and gates, berms, vegetation) may be placed at the entrances to closed routes.
- Mulching may be used to obscure closed routes or protect disturbed surfaces.

2.3.5 BEST MANAGEMENT PRACTICES AND STANDARD OPERATING PROCEDURES

Under all action alternatives, implementation activities are subject to Best Management Practices (BMPs) and Standard Operating Procedures (SOPs). A list of BMPs and SOPs can be found in the Implementation Guide (Appendix N), Section 0.

2.3.6 CONSERVATION MEASURES

Through consultation with the U.S. Fish and Wildlife Service (USFWS) the following Conservation Measures have been developed and will be adhered to regardless of the alternative selected for this TMP.

The conservation measures from the 2008 Moab RMP will apply to the designated travel network. Additional conservation measures were developed though consultation with the United States Fish and Wildlife Service (USFWS) and referenced in the Biological Opinion on the Labyrinth TMP (received by BLM in June of 2023, attached as Appendix O). These TMP-specific Conservation Measures are detailed below.

Mexican Spotted Owl

The following recommended conservation measures have been provided to minimize the effects of recreation and noise disturbances to Mexican spotted owls. These conservation measures were identified in the 2012 Recovery Plan (USFWS 2012).

1. Recreation Disturbance:
    a. The following guidelines apply to Protected Activity Centers (PACs) during the breeding season, (1 Mar - 31 Aug). If non-breeding is inferred or confirmed that year per the accepted survey protocol, restrictions on noise disturbances can be relaxed depending on the nature and extent of the proposed disturbance (Swarthout and Steidl 2001, 2003).
    b. No construction of new facilities (e.g., trailheads, OHV trails) or expansion of existing facilities should take place in PACs during the breeding season. Any construction within PACs should be considered on a case-specific basis. Modifications to existing facilities pertaining to public health, safety, and routine maintenance are excepted (e.g., removal of dangerous trees in a campground; replacement of road culverts within campgrounds, etc.). However, when implementing such activities, those conducting the work should use all measures possible to avoid potential effects on owls (e.g., use least disruptive machinery; timing of the project to minimize disturbance).
    c. Managers should, on a case-specific basis, assess the presence and intensity of currently allowed (permitted and non-permitted) recreational activities. The assessment should include distance, frequency, duration, and source of the disturbance. If recreation is determined to be a problem (e.g., increased OHV or hiking use), limit human activities during the breeding season in areas occupied by owls (timing may vary depending on local nest chronology). Disturbance here is defined as the presence of 1 to 12 people; group sizes exceeding 12 people should not be allowed. In areas where nest and roost sites are not identified, human disturbance should be limited to ≤ 2 disturbances per hour (averaged over a 24-hour period) throughout the PAC. Where nest and roost sites are known, disturbance should be limited to ≤ 2 disturbances per hour (averaged over a 24-hour period) within line of sight of the nest/roost sites. In some cases, disturbances may be avoided by routing trails and recreational uses (e.g., OHV use) outside of PACs through signing in order to designate zones free from human disturbances during critical periods.

d. Seasonal closures of specifically designated recreational activities (e.g., OHV use, rock climbing, or biking) should be considered where disturbance to breeding owls seems likely.
e. Conduct education through signing, interpretation events, access permitting, or other information sources to inform the public of proper and legal behaviors when encountering owls. For example, land managers in some areas are maintaining permanent, all-weather signs that inform the public that the area is home to a sensitive species; visitors should stay on the trail and be as quiet and unobtrusive as possible.
f. If owls are not detected in a PAC during the breeding season, restrictions on non-habitat-altering recreation can be relaxed depending on the nature and extent of the proposed disturbance.

2. Noise Disturbance:
    a. The following guideline applies to areas within PACs during the breeding season (1 March to 31 August). If non-breeding is inferred or confirmed that year per the accepted survey protocol, restrictions on noise disturbances can be relaxed depending on the nature and extent of the proposed disturbance.
        i. Managers should, on a case-specific basis, assess the potential for noise disturbance to nesting owls.
        ii. Breeding-season restrictions should be considered if noise levels are estimated to exceed 69 dBA consistently (i.e., >twice/hour) or for an extended period of time (>1 hr) within 165 ft. of nesting sites (if known) or within entire PAC if nesting sites are not known.

Southwestern Willow Flycatcher

The following are recommended conservation measures to minimize the effects of recreation and noise disturbance on Southwestern willow flycatcher:

During the breeding season (April 15 to August 31):

1. No construction of new facilities (e.g., trailheads, OHV trails) or expansion of existing facilities should take place within 0.25-mile of occupied habitat.
2. Consider trail closures or restrictions on OHV use (and other activities likely to cause noise disturbance) within 0.25-mile of occupied habitat.
3. If occupancy is unknown (i.e. no protocol-level occupancy surveys were done in the past year), occupancy will be assumed within suitable habitat.
4. Occupancy surveys must be done during the breeding season prior to project activities. Occupancy status determined by protocol-level surveys will apply throughout the following breeding season.

The following measures apply year-round:

5. Avoid alteration of the hydrologic regime and degradation of riparian habitat.
6. If disturbance of riparian vegetation occurs within suitable or designated critical habitat, re-vegetate the disturbed area with native species.
7. If riparian vegetation is lost within suitable or designated critical habitat, mitigate for habitat loss by restoring riparian habitat in an area approved by the Service.

Endangered Plants

Plan and implement surveys for each ESA-listed plant species in all areas of where potentially suitable habitat or critical habitat occurs within 300 ft. of travel routes.

Protect occupied habitat from recreational access and use.

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3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

3.1 OVERVIEW

3.1.1 INTRODUCTION AND GENERAL SETTING

This chapter describes the existing condition and trend of issue-related elements of the human environment that may be affected by the travel network alternatives. It also identifies the known and predicted effects that are related to the issues (BLM 2008a). The affected environment is the TMA and is the same for all alternatives. For an overview of the TMA setting, see Section 1.4. The table in Appendix E lists all relevant resource topics for which issues are analyzed and provides rationales for resources not analyzed in detail in this chapter.

3.1.2 EFFECTS

In this EA, effects analysis was conducted in the context of NEPA planning. The BLM's NEPA Handbook (BLM 2008a) defines "effect" as an "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 Handbook adds that the BLM should analyze relevant short-term and long-term effects and disclose both beneficial and detrimental effects, and that the BLM should consider and analyze three categories of effects: direct, indirect, and cumulative. Beneficial effects are those that would enhance or restore the TMA environment. For example, a well-planned designated travel network can provide travel routes for a variety of desired experiences and reduce user inclination to travel off route and create new disturbance that would impact the area's natural and cultural resources. The Handbook states that effects analysis "must demonstrate that the BLM took a 'hard look' at the impacts." A "hard look" is "a reasoned analysis containing quantitative or detailed qualitative information."

The analysis that follows—unless otherwise noted—focuses on the issues from scoping and concerns associated with potential effects on the TMA's human environment. Analyzing these effects provides a useful comparison between each alternative travel network's capability for addressing the documented issues and concerns.

3.1.3 EFFECTS ANALYSIS ASSUMPTIONS

General Assumptions

The following general assumptions were applied in analysis of each alternative travel network's effects on the TMA environment:

1. Construction of new routes is not in the scope of this project; however, the possibility of future addition of new routes is part of the operation and management of the overall travel network (see Appendix N (TMP Implementation Guide), Section 0). As part of ongoing travel management associated with this TMP, route designations may be added or changed in the future. Any new or changed designations would be subject to site-

specific environmental analysis in accordance with NEPA and Travel-related decisions in the 2008 RMP.

2. Routes designated in this plan may be subject to future planning efforts.
3. Reducing network mileage within the TMA is not anticipated to result in a reduction in OHV use overall. Year-round OHV and non-motorized recreation use is expected to continue to increase slightly in and around the TMA regardless of the designations made as a result of this travel planning effort.
4. Concentration of use as a result of OHV-Closed designations is not anticipated as an issue in this TMA. This conclusion was reached by the BLM IDT and applies for archaeology, wildlife, and other resources. Many of the routes proposed for OHV-Closed designations in the alternative networks are very lightly used, and therefore would not result in any appreciable concentration of use on the remaining open routes.
5. For Alternatives B-D, implementation of a designated route network, including management, maintenance, and appropriate signing, is anticipated to provide predictability and clarity for users along with a variety of OHV opportunities and experiences that could help reduce user inclination to travel off OHV-Open and OHV-Limited routes (GAO 2009).
6. Detrimental effects would be reduced by applying the BMPs and SOPs listed in Sections N.3 through N.7 of the TMP Implementation Guide (Appendix N) for operation and maintenance of the designated travel network.
7. OHV-Open and OHV-Limited designations that include "with management" include some type of additional management (e.g., sign installation, monitoring, maintenance, etc.), but do not necessarily result in additional limitations on user type, season of use, or mode of travel.
8. The implementation discussed in this document and detailed in the TMP Implementation Guide (Appendix N) is subject to available funding and resources. For the purposes of this analysis, it is assumed that funding and resources would be available for implementation.
9. Routes that are designated OHV-Closed would not become part of the designated travel network. They would be allowed to reclaim naturally or be actively reclaimed (e.g., through scarification and seeding), unless they are to remain available for administrative or authorized uses (e.g., access to range facilities or communication sites).
10. Passing and parking: As part of motorized use of designated routes, vehicles may occasionally need to pull off for purposes of passing or parking. As a part of this TMP effort, the BLM documented known parking areas on evaluated routes in the Route Reports (Appendix J). Where existing parking along evaluated routes was not identified, and for instances where passing may be necessary, it is assumed that pulling completely off a route for passing or parking only occurs on the narrowest minimally maintained routes because larger routes typically have adequate width or locations for passing or parking without creating additional disturbance (i.e., additional existing width from roadside ditches, drain dip outlets, or spur route intersections). It is further assumed that, since minimally maintained routes are used infrequently due to rough terrain and vehicle limitations, the probability that vehicles need to park along those routes is low. However, when vehicles do have to park along these routes, it is assumed that they would typically pull off the designated route to the minimum extent possible to safely park, often staying

within the disturbed footprint of the original roadbed. Observation indicates that people often park on slickrock slabs or disturbed areas immediately adjacent to the road. Regardless of travel route widths, impacts associated with the use of the routes are part of the overall designated travel network analysis, and proximity of designated routes to sensitive resources is noted in the route reports. Within the TMA, 930.4 miles of evaluated routes are minimally maintained where off-route passing or parking may occur very infrequently.

11. The total mileage of evaluated routes occupies less than 1% of the acreage within the TMA.
12. Routes limited to ATV use would be 50" wide. Routes limited to UTV use would be 60" wide. These width restrictions are included in the route reports.

3.1.4 EFFECTS ANALYSIS METHODOLOGY

General Effects Analysis

In this chapter, the following methodologies were applied to analyze the alternative travel networks' potential effects on resource/use topics:

- GIS data and resource/use data collected during route evaluation form the basis for disclosing the alternative travel networks' potential effects on issues tied to particular resource/use topics. Data in tables show how many miles or numbers of routes of a particular designation under each alternative are likely to affect resources or uses associated with certain issues and impact analysis questions. These tables are used to disclose and compare effects of the action alternatives (B, C, and D) to the No Action Alternative (A). In many cases, the potential for effects is noted by comparing percentages or miles of routes of a designation with the total miles or numbers of routes associated with a particular resource. Travel routes or route miles are considered as potentially impacting a resource when they cross over it (e.g., species habitat polygons), are within a defined proximity distance of it (e.g., within ½ mile), or are otherwise noted as being associated in route evaluation data.
- Effects analysis is based on the best available data and resource staff knowledge of the TMA (based on observation and analysis of conditions and resources in the area and other similar areas).
- The past actions of assigning individual designations to routes in 2008 and subsequent travel plan amendments were considered as part of direct, indirect, and cumulative effects analysis.
- For some resource topics, more specific methodologies were used to determine effects. These methodologies are described in their respective resource topic sections.
- Mileages, percentages, acreages, and other quantities used in this analysis are approximate projections for comparison and analytical purposes only; they do not always reflect exact measurements or precise calculations. Table mileages and percentages may not total equally in some instances due to rounding.
- Additional tables can be found in Appendix C.

Although the following effects analyses are presented in the context of TMA-wide alternative travel networks, each individual route within a given alternative network has been systematically and carefully evaluated as part of a comprehensive route evaluation and designation process. As part of documenting compliance with the 43 CFR § 8342.1 designation criteria, for each proposed route designation, rationale statements were provided. These statements summarize how proposed designations would minimize potential resource impacts. They were reviewed and chosen by the BLM IDT, discussed as needed, and documented for each route alternative (see sample route report in Appendix J).

Cumulative Effects Analysis

In this chapter, cumulative effects analysis for the TMA's proposed alternative travel networks is based on the best available data and information, and in some cases where quantitative data is not available, analysis is primarily qualitative in nature. Table 5, below, displays the projects, plans, actions, or events that make up the cumulative impact scenario for each relevant resource or use topic. Not all projects, plans, actions, or events necessarily apply to a relevant resource or use topic. Each relevant resource or use topic section that is displayed in the table has an associated cumulative effects analysis and discussion of the scope of the cumulative impact analysis area (CIAA) following its respective direct and indirect effects analysis narrative in this chapter. For some relevant resource or use topics, narrative discussion that would otherwise be repetitive may be summarized.

Table 5: Cumulative Effects Relevant Resource or Use Topics and Projects, Plans, Actions, or Events that Make Up the Cumulative Impact Scenario

Relevant Resource or Use Topic	Projects, Plans, Actions, or Events
Cultural Resources	**Past and Present**: Recreation use of all types, land- and water-based, including motorized and non-motorized recreation, camping and use of the Green River for boating activities; livestock grazing and associated facilities and range maintenance and improvements; Moab Master Leasing Plan and its associated Reasonably Foreseeable Development Scenarios for oil and gas and potash; oil and gas development, mineral activity, including locatable minerals (lithium); drought and occasional wildland fires, including in riparian areas and along rivers and streams **Reasonably Foreseeable**: Travel plan implementation, network operation and maintenance; travel network additions and deletions; ongoing and ever-increasing recreation use; climate change is expected to create warmer and drier conditions on the CO Plateau along with changes to precipitation patterns (less snowpack, increased monsoonal precipitation); livestock grazing is expected to continue at current use levels; livestock water infrastructure development to facilitate better grazing management on soils and vegetation; oil and gas activity is expected to increase at approximately the same rate as it has in the past; additional mineral exploration (such as lithium, helium, and potassium (potash)) demand is expected to increase. Reasonably foreseeable minerals activity within the project area includes A1 Lithium, West Fertilizer Oil and Gas (15 new well pads), Long Canyon Helium, the American Potash Project, as well as the development activity in the Cane Creek Oil and Gas Unit; minerals projects are also on-going on SITLA lands within the TMA
Lands with Wilderness Characteristics	
Soils, Native Vegetation, and Weeds and Invasive Species	
Special Designation Areas	
Visual Resources	
Water Resources: Rivers and Streams, Riparian Areas and Floodplains, and Water Quality	
Wildlife: Fish (T&E and BLM Sensitive Species)	
Wildlife: General Wildlife	
Wildlife: Migratory Birds, Including Raptors	
Wildlife: Special Status Species	
Recreation	

3.1.5 ADDITIONAL MANAGEMENT

During route evaluation, additional measures were considered and documented where appropriate for routes with the designations of "Open with management" or "Limited with management." Measures include but are not limited to such actions as gate installation, parking area creation, and monitoring for cultural sites or recreational uses. Details on monitoring, BMPs, and mitigation may be found in Sections N.4 through N.5 and 0 of the TMP Implementation Guide (Appendix N). Mitigation measures would help reduce the impacts of the alternative travel networks on many of the TMA's natural and cultural resources, and monitoring would serve to track the effectiveness of mitigation measures.

3.2 POTENTIAL IMPACTS ON THE TMA'S NATURAL AND HUMAN ENVIRONMENT

3.2.1 CULTURAL RESOURCES

How would the travel network alternatives affect cultural resources within the TMA?

Affected Environment

BLM Manual 8100 – Foundations for Managing Cultural Resources defines cultural resources as "definite location[s] 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).

Cultural resources are identified though cultural resource inventories and surveys, which are defined as "a representation of the cultural resource content of a geographical locale" by BLM Manual 8110. The BLM cultural resource inventory system is composed of three kinds of inventory: Class I Existing Information Inventory, Class II Probabilistic Field Survey, and Class III Intensive Field Survey (BLM 2004b). All three kinds of inventory were used to identify cultural resources in this TMA.

The TMA contains important cultural resources of prehistoric and historic value, which may take the form of sites (such as lithic debitage scatters), artifacts, buildings, structures, features (such as rock imagery panels), and natural landscapes. Human presence in the TMA spans the last 12,000 years and includes a number of distinctive cultures: Paleo-Indian (12,500-8,000 years ago), Archaic (8,000-2,000 years ago), Formative (including Ancestral Puebloan and Fremont cultures; AD 1 to 1300), Protohistoric (AD 1400 to 1850), and Euro-American (1800s and 1900s) (Beck et al. 2016).

Environmental Effects Analysis

Both incidental and intentional human actions pose a threat to cultural resources (Sampson 2009). Direct and indirect impacts may occur to cultural sites from OHV use of routes designated as OHV-Open or OHV-Limited. For example, OHV travel through or immediately adjacent to a cultural resource site may cause a displacement of cultural artifacts or features at the site that would occur at the time of the activity or cause soil movement that may lead to erosion which could further displace cultural materials. Additional adverse OHV use-related impacts include site vandalism, collectors' piles, unauthorized artifact collection, etc. Impacts to cultural resources from routes designated OHV-Closed will be less than those designated as OHV-Open or OHV-Limited. Travel access restrictions (i.e., OHV-Closed designations) may be effective in reducing unauthorized damage to archaeological resources (Hedquist, Ellison, and Laurenzi 2014).

While it is assumed that route users will behave responsibly and not engage in illegal activities, the BLM acknowledges that the designation of routes as available for OHV use in areas with cultural resources may lead to impacts from vandalism, including looting, graffiti, or the illegal collection of artifacts. The level and nature of these potential impacts are influenced by the fragility of each cultural resource, their collectability, and their location and visibility. Even though a route may be designated as OHV-Open or OHV-Limited and may pass through or near a cultural resource, impacts to the cultural resource may not be major—that is, may not affect the resource's potential to convey the significance that may qualify it for the NRHP.

Closures of redundant routes were assessed in accordance with Stipulation III.B.1.c. of the Travel PA for the potential to shift, concentrate, or expand use on open routes. When designating routes as OHV-Closed, traffic may be concentrated on nearby routes with the same destination. However, this assumes an equal distribution of use across a finite route network; designating a rarely used route as OHV-Closed may not appreciably increase traffic (concentrate use) on others. When evaluating potential impacts to cultural resources from route designations and resultant changes in route concentration (if any) the BLM considered numerous factors, including the use level of the route (primary, secondary, or tertiary), the durability of the route surface (i.e., sandy soil, natural gravels, or bedrock), the durability of the cultural resource, the extent of any impacts (minor, moderate, or major), and the reasons users select the route for travel (as documented in the Route Reports (Appendix J) and in notes from IDT meetings for this project).

Previously documented cultural resources data was recorded during the route evaluation process described in Section 2.1.3. As noted above, cultural resources include archaeological sites that are both eligible and not eligible for the NRHP. Occasionally sites that were recorded prior to 1980 were not assigned an NRHP eligibility status. Sites that are eligible for the NRHP are often a focus in cultural resources management because they contain information, distinctive design and/or construction, or are associated with significant events or persons. Cultural resources that have not been evaluated for the eligibility for the NRHP may or may not possess this significance. As such, route analysis was divided into eligible, not eligible, and unevaluated cultural resources categories. Figure 4 – Figure 6 show the number of routes in each alternative network that are proximate to cultural resource sites. Proximity distances are based on the professional judgment of BLM cultural specialists. For eligible and unevaluated cultural resources, proximate is defined as within ¼ mile of the site. For cultural resources that have been determined not eligible for the NRHP, proximate is defined as being within 15 meters of the site. Both measures of proximity were used as indicators of potential impacts that an alternative network may have on archaeological resources.

Figure 4: Number of Evaluated Routes Proximate to Cultural Resources Eligible for the NRHP

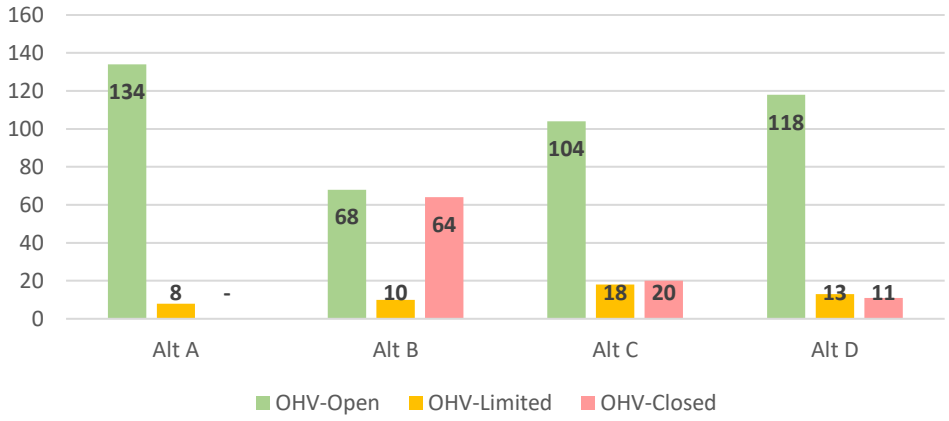


Figure 5: Number of Evaluated Routes Proximate to Cultural Resources Not Eligible for the NRHP

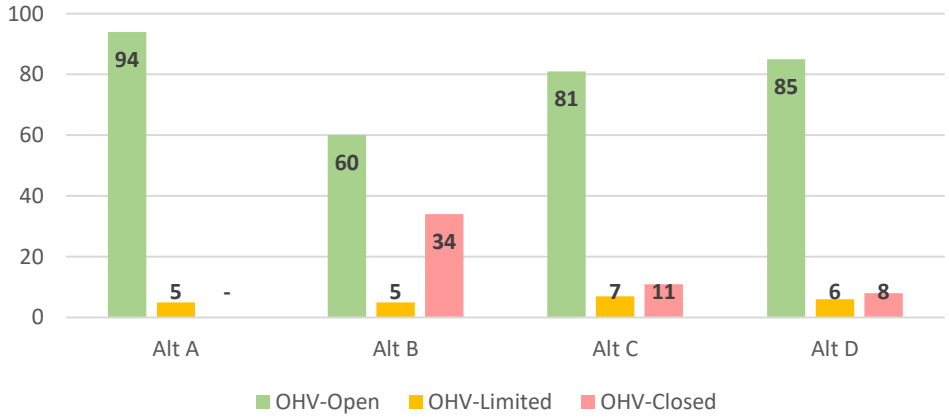
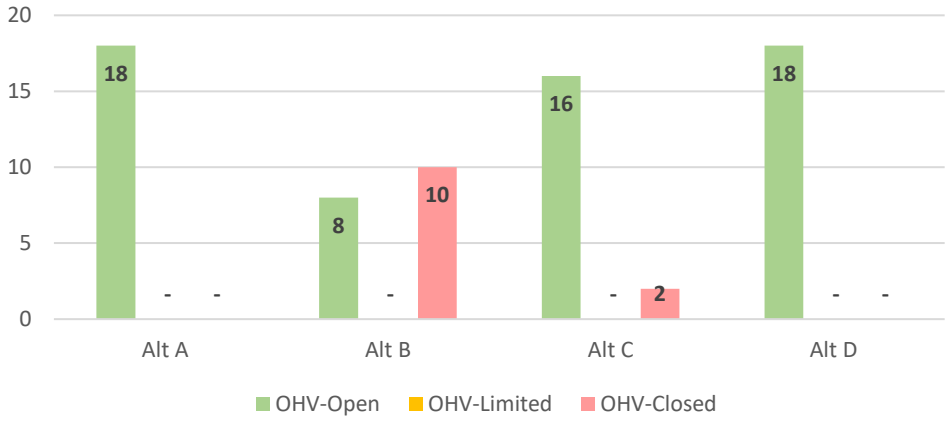


Figure 6: Number of Evaluated Routes Proximate to Unevaluated Cultural Resources



In addition to the NEPA analysis here, the BLM is also currently engaged in compliance with Section 106 of the National Historic Preservation Act. The objective of Section 106 is to identify the effects of these travel plan alternatives to historic properties, which are defined as cultural resources that are eligible for the NRHP. The BLM completed identification efforts as outlined in the 2017 Settlement Agreement and in Stipulation III of the Travel PA. The steps of this

compliance effort are outlined in Appendix I. Based on these identification efforts, the BLM determined that adverse effects may occur to fourteen historic properties. As directed in Stipulation V. of the Travel PA, the BLM prepared a Historic Properties Treatment Plan (HPTP) which outlines the means for avoiding, minimizing, and mitigating these adverse effects. BLM completed Section 106 consultation, as detailed in Section 4.3.1 and Appendix I.

Alternative A (No Action/Current Management)

Under Alternative A, there would be no route designation changes in the TMA. All 142 evaluated routes proximate to (within ¼ mile of) eligible cultural resources would remain available for OHV use (OHV-Open or OHV-Limited). All 99 evaluated routes proximate to (within 15 meters of) not eligible cultural resources would remain available for OHV use. And all 18 evaluated routes proximate to (within ¼ mile of) unevaluated cultural resources would remain OHV-Open. Impacts to cultural resources from ongoing OHV use (including damage from trampling, theft, and vandalism; erosion and exposure of cultural resources from travel-related disturbances that leaves cultural resources more susceptible to loss and damage; access that is beneficial for interpretive or educational opportunities) would reflect continuation of current management.

Alternative B (Natural Resource Emphasis)

Compared to Alternative A, the Alternative B travel network would have 45.1% fewer evaluated routes designated for OHV use (OHV-Open or OHV-Limited) that are proximate to eligible cultural resources. Of the evaluated routes proximate to not eligible cultural resources, 65 would be designated for OHV use, a 34% reduction from Alternative A. And 8 of the evaluated routes proximate to unevaluated cultural resources would be designated for OHV use, a 56% reduction from Alternative A. Under Alternative B, the same types of impacts on cultural resources from OHV use noted above would continue to occur on those routes designated for OHV use. Overall, given reductions in routes designated for OHV use, this alternative would have the least potential of any of the alternatives for OHV-related impacts to cultural resources within the TMA.

Alternative C (Multiple Use Emphasis)

Under Alternative C, 122 routes proximate to eligible cultural resources would be designated for OHV use, a 14% reduction from Alternative A. Of the evaluated routes proximate to not eligible cultural resources, 88 would be designated for OHV use, an 11% reduction from Alternative A. And 16 of the evaluated routes proximate to unevaluated cultural resources would be designated for OHV use, also an 11% reduction from current management. Under Alternative C, the same types of impacts on cultural resources from OHV use noted above would continue to occur on those routes designated for OHV use. Overall, given reductions in routes designated for OHV use, this alternative would have less potential than Alternatives A and D but more potential than Alternative B for OHV-related impacts to cultural resources within the TMA.

Alternative D (Access Emphasis)

Under Alternative D, 131 routes proximate to eligible cultural resources would be designated for OHV use, an 8% reduction from Alternative A. Of the evaluated routes proximate to not eligible cultural resources, 91 would be designated for OHV use, an 8% reduction from Alternative A. All 18 of the evaluated routes proximate to unevaluated cultural resources would be designated

for OHV use, the same as current management. Under Alternative D, the same types of impacts on cultural resources from OHV use noted above would continue to occur on those routes designated for OHV use. Overall, given reductions in routes designated for OHV use, this alternative would have less potential than Alternative A but more potential than Alternatives B and C for OHV-related impacts to cultural resources within the TMA.

Cumulative Impacts

The geographic scope or CIAA for cultural resources is the area within a quarter mile buffer of all routes proposed for designation as OHV-Open or OHV-Limited within each travel network alternative. This encompasses the space in which the BLM has identified direct and indirect impacts that may occur and thus is a reasonable estimation of the space in which cumulative effects may occur given the types of anticipated effects resulting from route designation and the types of cultural resources present within the project area.

Past, present, and reasonably foreseeable plans, projects, or actions contributing to cumulative impacts to cultural resources in the CIAA include the following:

- Land and water-based recreation use
- Moab Master Leasing Plan and its associated Reasonably Foreseeable Development Scenarios for oil and gas and potash
- Mineral exploration and development, including oil and gas, potash, helium, and locatable minerals such as lithium and uranium
- Livestock grazing and related range improvement and facility developments

Accumulating impacts to cultural resources in the CIAA include disturbance and loss of site integrity from development and use activities, and rubbing on or trampling of resources or sites from livestock.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from the existing travel network and ongoing OHV use would be a continuation of current conditions, and an overall incremental change to cultural resources within the CIAA is not anticipated.

None of the action alternatives B-D propose new construction of routes or designating routes that were not already available for OHV use in the 2008 RMP and subsequent amendments. Each of the alternatives would reduce routes designated for OHV use and provide for reclamation of decommissioned routes. The travel network action alternatives would also implement comprehensive route network operation and management activities through a TMP Implementation Guide (Appendix N), with formal guidance for signing, reclamation, and adaptive management protocols that are designed to help offset ongoing route-related impacts to cultural resources that could occur. None of the travel network action alternatives are expected to result in any incremental impacts on cultural resources when added to other past, present, and reasonably foreseeable actions.

3.2.2 LANDS WITH WILDERNESS CHARACTERISTICS

How would the travel network alternatives impact inventoried wilderness characteristics in Lands with Wilderness Characteristics (LWC) areas?

Affected Environment

The TMA has 8 inventoried LWC units comprising 62,594 acres of BLM lands, within which are 40.5 miles of evaluated routes. None of the LWC units within the TMP are managed as Natural Areas in the 2008 RMP. Current LWC unit boundaries are based on LWC inventory completed for the 2008 RMP and on several inventories preceding the 2016 Moab Master Leasing Plan. 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 route network."[11]

Table 6: LWC Units

LWC Unit Name	Acres on BLM Lands	Miles of Evaluated Routes in LWC
Arches LWC	3,032	0.1
Dead Horse Cliffs LWC	760	0.0
Dead Horse Cliffs Additions LWC	0.1	0.0
Goldbar LWC	6,561	7.1
Goldbar Canyon LWC	329	0.0
Horsethief Point LWC	8,322	0.0
Labyrinth Additions LWC	43,588	33.3
UT-020-SRD-Labyrinth Canyon A LWC	2	0.0

Environmental Effects Analysis

Potential effects that OHV use may have on LWCs include degradation or loss of naturalness, sufficient size, and outstanding opportunities for solitude and/or primitive and unconfined recreation, all key components of wilderness character. Designations allowing ongoing OHV use in LWC units may contribute to degradation or loss of these components as a result of OHV-related impacts such as vehicle noise, wheel tracks, dispersed camp sites, resource damage on or along travel routes, and expanded human presence. OHV access and the presence of OHVs may also lead to a loss of solitude and opportunity to experience primitive recreation. Resource damage can occur along routes from parking, passing, staging, authorized roadside camping, fire-wood gathering, etc. resulting in degradation of naturalness; however, users are expected to comply with 43 CFR § 8341.1 and not operate an OHV "In a manner causing, or likely to cause 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." Designating routes as OHV-Closed and earmarking routes for decommissioning and reclamation could help reduce

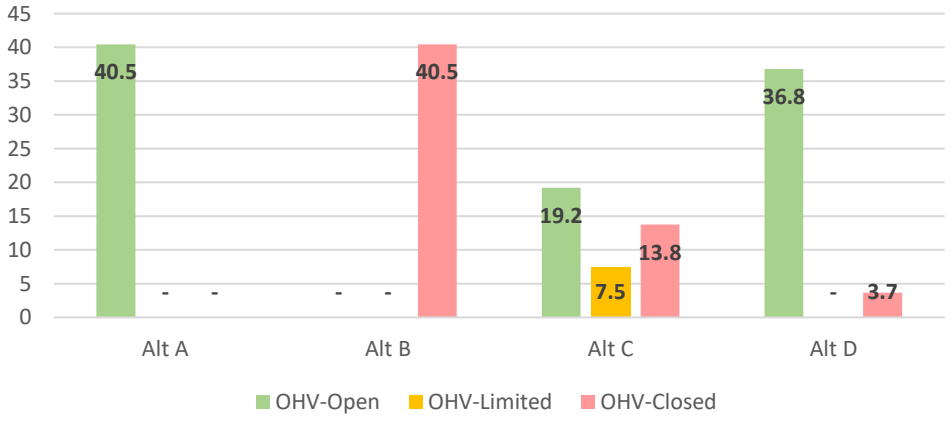
[11] The baseline monitoring report, available on this project's ePlanning page, was made publicly available on September 16, 2021. Any routes showing "damage" have been monitored in the interim in accordance with the 2017 Settlement Agreement.

the overall network footprint within or near LWC units. Also, travel networks that provide for a variety of OHV opportunities could help reduce OHV user inclination to travel off-route and degrade natural character. Continuation of OHV use on designated routes would confine soil and vegetation disturbance caused by motor vehicles to those routes, and may result in no additional change to the natural character of the LWC units. TMP implementation actions such as placement of barriers for closed routes, signing, and route maintenance could result in localized disturbances that would temporarily contribute to degradation of naturalness (see Implementation Guide in Appendix N).

During the LWC inventories, routes that met the definition of a Wilderness Inventory Road, or that otherwise constituted a substantial impact to naturalness, were used as LWC unit boundaries. In some cases, these routes are bounded by areas having LWC on both sides, with the route itself excluded from the unit. Some are through-routes that delineate an entire unit boundary. Others are dead-end routes, stopping short of dissecting the unit. These routes that meet the Wilderness Inventory Road definition, that are otherwise excluded due to their impacts to naturalness, and that dead-end are referred to as "cherry-stems" (see BLM Manual 6310, Glossary, pgs. 10-11). Potential impacts to LWCs from OHV use of cherry-stemmed routes may be considered in two forms: 1) impacts that may occur within the LWC unit as a result of access from a cherry-stemmed route, and 2) impacts to LWCs that may occur on the route itself. Use of cherry-stemmed routes may indirectly contribute to impacts to LWCs because of their proximity to LWC; that is, noise and other access-related impacts such as off-route camping on cherry-stems could indirectly impact the LWC. In addition, some evaluated routes are in LWC units and are not cherry-stemmed.

Figure 7, below, was used to inform effects analysis. It shows network miles that are *in* LWCs (that is, *not* cherry-stems or boundaries). This mileage is used as an indicator of the networks' potential impacts to LWCs.

Figure 7: Miles of Evaluated Routes in LWC



Alternative A (No Action/Current Management)

Of the current designated travel network, about 4% of the mileage designated for OHV use (OHV-Open or OHV-Limited) is located in areas inventoried as having wilderness characteristics. All 40.5 miles of evaluated routes in the TMA's LWC units would remain available for OHV use under Alternative A, which may result in dust, noise, and user conflicts

(i.e., OHV vs. primitive recreation users), potentially diminishing these areas' characteristics of naturalness and potential for solitude and primitive recreation. Impacts to LWCs within the TMA would reflect a continuation of current management.

Alternative B (Natural Resource Emphasis)

Alternative B proposes to designate as OHV-Closed all 40.5 miles of evaluated routes in the LWC units, resulting in a 100% reduction in miles designated for OHV use within LWCs compared to Alternative A. All of the OHV-Closed miles would be decommissioned and earmarked for reclamation. Alternative B's OHV route closures in LWC areas would eliminate the impacts of OHV travel on the fundamental components of wilderness characteristics. Overall, this alternative's potential for OHV use-related impacts to wilderness characteristics of LWC units would be lower than all other alternatives.

Alternative C (Multiple Use Emphasis)

Alternative C would designate 26.7 miles of evaluated routes within LWCs for OHV use, a 34% reduction compared to Alternative A. Of the 13.7 miles that would be closed to OHV use, 0.2 miles would allow authorized use only and the rest would be decommissioned and earmarked for reclamation. Under Alternative C, the same types of effects to LWCs noted above would continue to occur where routes are designated OHV-Open or OHV-Limited. Overall, this travel network alternative's potential for OHV use-related impacts to wilderness characteristics of LWC units would be lower than Alternatives A and D but higher than Alternative B.

Alternative D (Access Emphasis)

Compared to Alternative A, Alternative D proposes to reduce the miles of evaluated routes designated for OHV use within LWCs by 9% (3.7 miles). All 3.7 miles of OHV closures would be decommissioned and earmarked for reclamation. Under Alternative D, the same types of effects to LWCs noted above would continue to occur where routes are designated OHV-Open. Overall, this travel network alternative's potential for OHV use-related impacts to wilderness characteristics of LWC units would be lower than Alternative A but higher than the other action alternatives.

Cumulative Effects

The CIAA for LWC is the LWC units throughout the MFO. If OHV users are diverted from the Labyrinth/Gemini Bridges TMA, it could impact LWCs in those areas not included in the TMA.

Past, present, and reasonably foreseeable plans, projects, or actions contributing to cumulative effects to the LWCs include the following:

- Land and water-based recreation use including use of the Green River for boating activities and land-based recreation use of roads, trails, and campgrounds.
- Moab Master Leasing Plan and its associated Reasonably Foreseeable Development Scenarios for oil and gas and potash
- Mineral exploration and development, including oil and gas, potash, helium, and locatable minerals such as lithium and uranium
- Livestock grazing and related range improvement and facility developments

Accumulating impacts to the LWC units include noise and human activity from recreation use of dispersed campsites, and development activities and equipment use. The noise and human presence from these activities may affect size, solitude, naturalness, and primitive and unconfined recreation or supplemental values of the LWC units. Accumulating impacts also include reduction in naturalness from livestock presence.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from the existing travel network and ongoing OHV use would be a continuation of current conditions, and an overall incremental change to LWC units is not anticipated.

Each travel network action alternative would reduce routes designated for OHV use in LWC units and provide for reclamation of decommissioned routes. All of the action alternatives would also provide for operation and management activities through a TMP Implementation Guide (Appendix N), with formal guidance for signing, reclamation, and adaptive management protocols that are designed to help offset ongoing route-related impacts to LWC that could occur. None of the action alternatives are expected to result in incremental impacts on LWC when added to other past, present, and reasonably foreseeable actions.

3.2.3 SOILS, NATIVE VEGETATION, AND WEEDS AND INVASIVE SPECIES

How would the travel network alternatives impact soil stability, native vegetation communities, and introduction and spread of invasive weeds?

The TMA's native vegetation types exist in a variety of soil types and depths as discussed below in Affected Environment for each vegetation type. Soil disturbance and erosion can create an environment that is conducive to the introduction and spread of noxious weeds and invasive species. Because of this interrelationship, these three resource topics are presented together in this section.

Affected Environment

Soil types in the MFO area, including the Labyrinth Rims/Gemini Bridges TMA, are variable, reflecting the interactions between topography, elevation, parent material, and time. Topography ranges from nearly level valley bottoms to vertical cliffs. The area has a variety of soil types, including highly saline soils and soils with high and moderate erosion potential. Biological soil crusts (also called cryptogamic or cryptobiotic soils) found throughout the MFO area are composed primarily of cyanolichens and cyanobacteria. These crusts are important soil stabilizers. Repeated disturbance or trampling of biological crusts can permanently destroy the living filaments of the organisms, preventing the recovery of the crusts and making them more susceptible to wind erosion. Blowing dust from disturbed soils can cover nearby crusts, depriving them of needed sunlight, ultimately leading to the death of the living organisms that comprise the crusts. Without these crusts, soil stability, fertility, and moisture retention capacity can be lost (BLM 2013). Within the TMA, 859.6 miles of evaluated routes are in areas with highly or moderately erodible soils. Of these, 166.0 miles receive routine maintenance, and 693.6 miles receive very little or no maintenance.

The Colorado Plateau, with its variety of elevations and precipitation zones, provides a range of biodiversity. Vegetation within the TMA is typical of both desert upland and pinyon-juniper environments, including saltbush, greasewood, shadscale, Indian ricegrass, sagebrush, tamarisk,

wild rye, and rabbitbrush. The canyon bottoms themselves contain a wide variety of riparian vegetation, including cottonwood and willows (BLM 2018). The majority of the TMA is comprised of four primary native vegetation communities or biomes: pinyon juniper, salt desert scrub, blackbrush, and sagebrush. Native vegetation provides forage for livestock grazing as well as habitat for wildlife and serves a major role in the hydrologic cycle as an interface between the area's soils and the atmosphere. Some native vegetation communities such as blackbrush show a poor history of revegetation, and some communities such as sagebrush have experienced high percentages of conversion to cheatgrass. Analysis of alternative network designations on native vegetation below will focus on the four predominant native vegetation communities (biomes) within the TMA:

Table 7: Primary Biomes within the TMA

Biome	BLM Acres	% of Total	Miles of Evaluated Routes within Biome	Description
Blackbrush	102,696	34%	467.1	Occurs at elevations of 2,500-8,000 feet in well-drained soils. Occurs in pure stands and as part of several other vegetation types. Blackbrush communities are generally bounded by big sagebrush and juniper in this area, and they are associated with sagebrush, shadscale, winterfat, greasewood, and rabbitbrush. This vegetation type has a poor history of revegetation. (BLM 2013, USFS 2001)
Pinyon-Juniper	92,125	30%	262.0	Occurs at elevations of 4,700-8,600 feet on landscapes of varied topography. Pinyon—which is a valuable resource for firewood harvest and wildlife habitat—tends to dominate at higher elevations, juniper at lower elevations. This vegetation community is typically associated with sagebrush, Mormon tea, and blackbrush. (BLM 2013)
Salt Desert Scrub	65,361	22%	219.0	Occurs at elevations of 4,000-5,400 feet in saline or alkaline soils with low moisture that are susceptible to wind and water erosion from surface disturbances. Salt desert scrub communities are associated with shrubs such as shadscale, greasewood, blackbrush, four-wing saltbush, Nuttall's saltbush, mat saltbush, Mormon tea, spiny hopsage, horsebrush, and rabbitbrush. Associated forbs include snakeweed and buckwheat. And associated grasses include wildrye, galleta, Indian ricegrass, and sand dropseed. (BLM 2013)
Dunes	21,451	7%	88.2	On the Colorado Plateau, dunes are found primarily in the canyonlands and high plateaus. Dune lands are characterized by mounds of sand 4 to 20 feet in height and 10 to 200 feet in diameter. Dunes support little vegetation, if any. The present vegetation in most areas consists of sand sage, Havard oak, slender buckwheat, Indian ricegrass, James galleta, sand dropseed, sandhill muhly, and a variety of forbs. In the lower-lying areas where the water collects it can support Fremont cottonwood and greasewood. Dune communities occur in elevation from 4,100 to 5,660 feet with an average precipitation of 5 to 10 inches annually. (BLM 2013)

The presence of noxious weeds and invasive species is often related to disturbances and loss of native species in those systems. Weed species are abundant, especially tamarisk and Russian olive. Encroachment of noxious and invasive species presents a problem both along river corridors as well in large areas of uplands and rangelands. OHV use on routes has the potential to introduce or spread invasive species and noxious weeds. Travel routes can serve as corridors where invasive species and noxious weeds can be introduced or spread throughout connecting

routes. For more information on exotic and introduced plants as well as invasive and noxious weeds in the MFO's jurisdiction, see pages 3-173 through 3-174 of BLM 2008b. Noxious weeds are also problematic in riparian areas. For more on travel-related effects to riparian resources, see Section 3.2.6. Within the TMA, 164.4 miles of evaluated routes are in areas of current weed infestations.

Environmental Effects Analysis

Travel network alternatives that limit the number of routes available for OHV use would provide higher levels of protection to soils from surface disturbances (decision SOL-WAT-11, SOL-WAT-16, and SOL-WAT-17 in the 2008 RMP direct the MFO to protect soils and watersheds) and, indirectly, would provide higher levels of protection to native vegetation and riparian areas. Because some routes in the TMA cross through areas of cryptobiotic soils, travel network alternatives with fewer miles open to OHV use in these areas would better protect these important soil crusts. A single vehicle pass will reduce nitrogen fixation by cyanobacteria and increase wind and water erosion of surface soils (Davidson et al. 1996). Additionally, travel routes, particularly those that do not receive regular maintenance, can serve as a conduit for saline-laden sediment transport into ephemeral, intermittent, or perennial drainages and riparian areas during runoff events; see section 3.2.6 for more on potential effects to water resources. Surface disturbances from occasional off-route vehicle travel (e.g., passing or parking, particularly along minimally maintained routes, which tend to be narrower) can also remove soil-stabilizing agents, such as vegetative cover, soil crusts, and woody debris. Loss of one or more of these agents increases potential erosion and sediment transport into water bodies and riparian areas.

OHV and related anthropogenic use can alter soil properties and cause changes in vegetation composition, contributing to land degradation and desertification. More specifically, compaction from OHV use increases soil bulk density and decreases porosity (Assaeed 2019). As soil compaction increases, the soil's ability to support vegetation diminishes because loss of porosity inhibits root penetration from accessing nutrients and water, and reduces the infiltration and availability of water. Thus, the size and abundance of vegetation may be reduced. Additionally, the above-ground portions of plants may be crushed or damaged, leading to reduced photosynthetic capacity and poor reproduction; fugitive dust from OHV use can also disrupt photosynthetic processes, suppressing plant growth and vigor (Ouren et al. 2007). Effects from soil alteration can extend beyond the route corridor and contribute to indirect landscape effects on plants. Particularly on hillslopes, OHV use can accelerate water erosion by decreasing infiltration rates, loosening surfaces, and channeling run-off (Brooks and Lair 2005). Ouren et al. conclude, "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).

Such soil changes may exacerbate the introduction and spread of invasive plant species or noxious weeds. Routes are a primary pathway for plant invasions into arid and semi-arid ecosystems (Brooks and Lair 2005). A study by Von der Lippe and Kowarik (2007) showed that dispersal of seeds, particularly those of non-native species, by vehicles may accelerate plant invasions and induce changes in biodiversity patterns. Along travel routes, cover of native species can decrease, giving more opportunity for weeds to flourish (Assaeed 2019). On the Colorado Plateau, invasive cover is higher along verges of paved roads compared to primitive

roads, indicating a greater effect along roads that receive higher levels of construction and maintenance (Gelbard and Belnap 2003). Overall, habitat alteration, fragmentation, and deterioration lead to competition for water, space, and nutrients, which results in decreased reproductive success for native vegetation.

Travel network implementation activities include installing new signs, road maintenance (grading, installing, and maintaining water control structures, surfacing, etc.), route decommissioning or reclamation (including ripping or scarifying road surfaces and planting seed, and grading/recontouring), installing fencing or barriers, or mulching on closed routes. If implementation is proposed that falls outside of the previously disturbed road prism area, additional site-specific NEPA may be required before the activity could occur.

Indicators of potential OHV route impacts on soil health and stability include miles of routes located in areas classified as soils with high or moderate erosion potential, and miles of routes located in areas of saline soils, as presented in Figure 8 and Figure 9, below.

Figure 10 – Figure 14, which present the miles of evaluated routes in the TMA's primary vegetation communities and areas of noxious weeds and invasive plants, are used as indicators of the TMA's overall vegetation and rangeland health.

Figure 8: Miles of Evaluated Routes in Highly or Moderately Erodible Soils

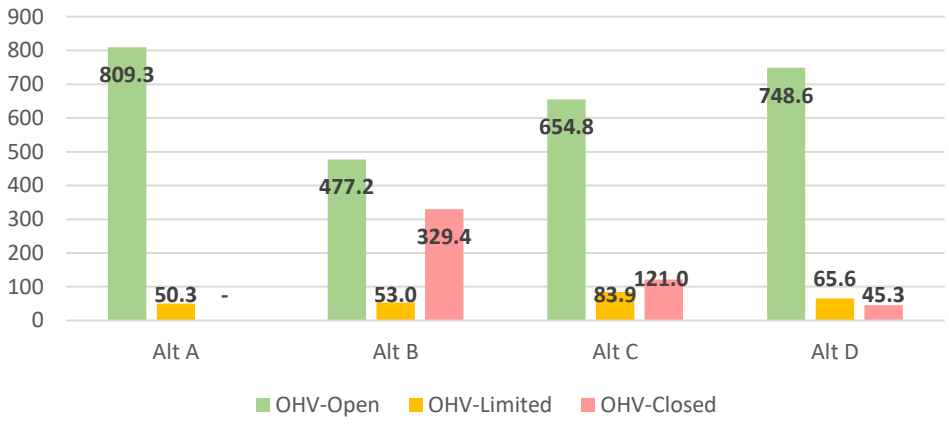


Figure 9: Miles of Evaluated Routes in Saline Soils

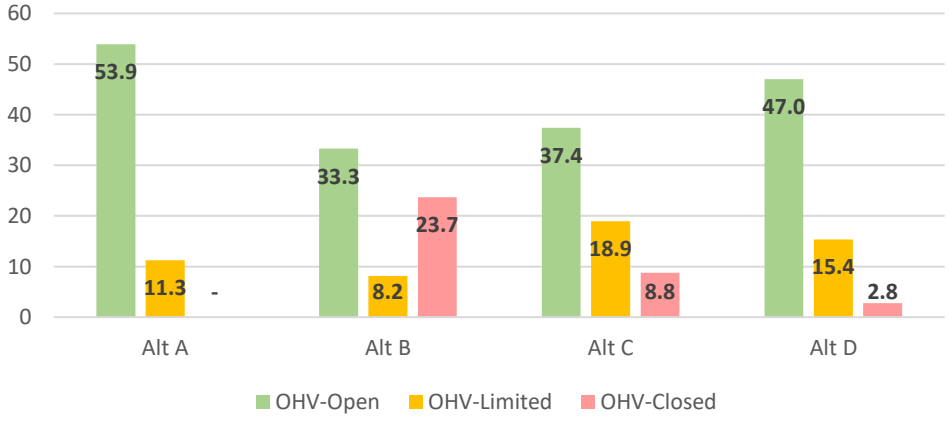


Figure 10: Miles of Evaluated Routes in Blackbrush

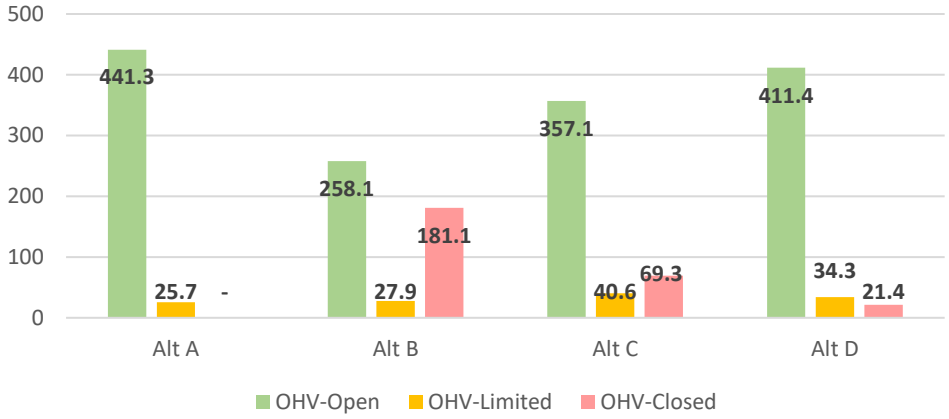


Figure 11: Miles of Evaluated Routes in Pinyon and Juniper Woodlands

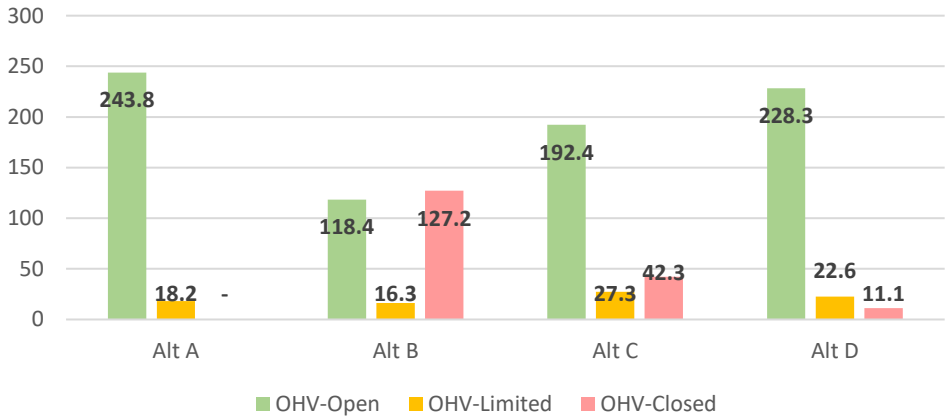


Figure 12: Miles of Evaluated Routes in Salt Desert Scrub

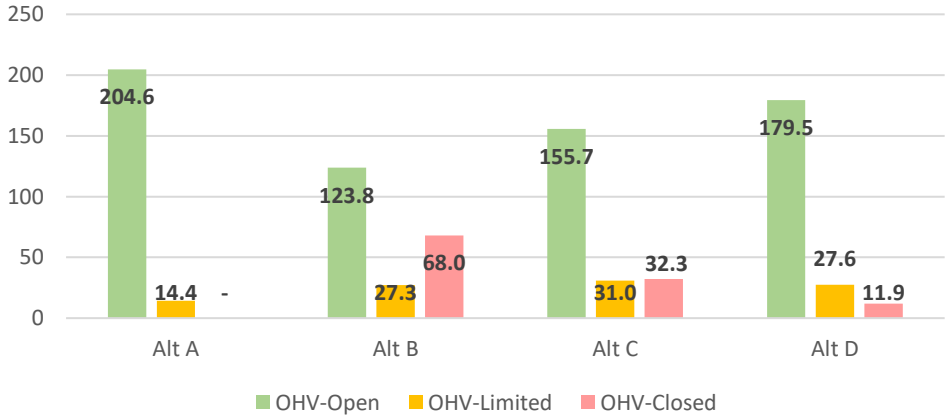


Figure 13: Miles of Evaluated Routes in Dunes

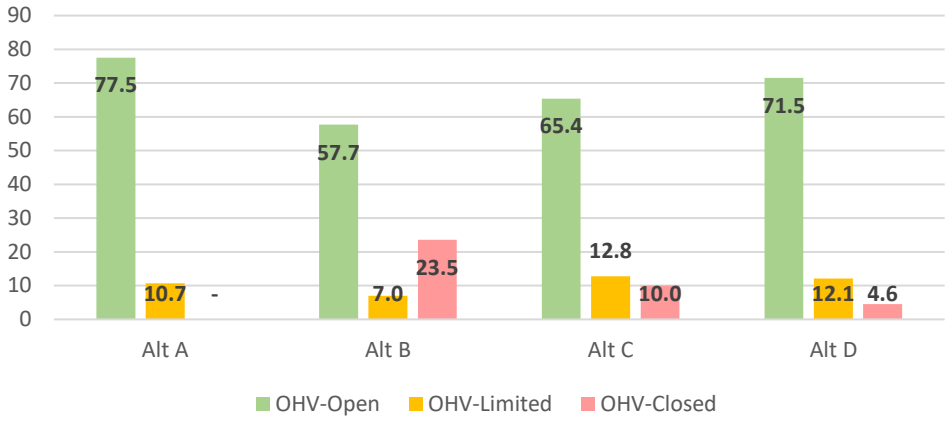
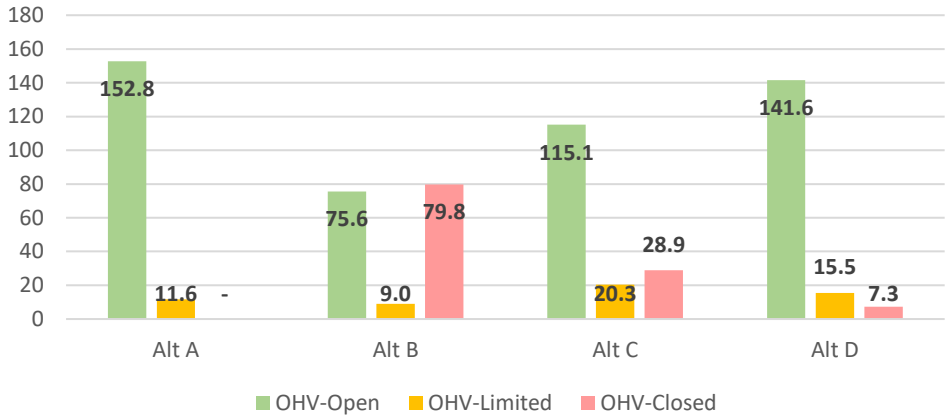


Figure 14: Miles of Evaluated Routes in Existing Weed Infestation Areas



Alternative A (No Action/Current Management)

Of the current designated travel network, 76% (859.6) of the miles are located in areas with erosive soils and 6% (65.1) are located in saline soils. Some of these routes currently designated for OHV use (OHV-Open or OHV-Limited) are located in riparian areas or in the vicinity of perennial streams, and nearly all routes in riparian areas are located in erosive soils, increasing the potential for sediment transport and salinization in the Green River drainage. Additionally, biologic soil crusts are found in various areas within the TMA, and Alternative A's travel network leaves these soil crusts susceptible to access-related human impacts (i.e., damage or crushing from camping, exploring, and unauthorized off-road travel).

With all evaluated routes designated for OHV use, Alternative A would extend the potential for ongoing OHV use-related impacts such as crushing or trampling plants (driving on partially vegetated roadways, roadside parking, camping, exploring, etc.) as well as general loss of plants and loss of health and vigor from travel-related dusting and disturbance along routes. The Alternative A network also has 164.4 miles of evaluated routes designated for OHV use in existing weed infestation areas.

Impacts to soil stability and native vegetation from ongoing OHV use (i.e., increased soil compaction and susceptibility to erosion, surface rutting from OHV use during wet periods,

increased sedimentation into waterways, increased vegetation damage or loss, spread of invasive plants and noxious weeds, etc.) would reflect continuation of current management.

Alternative B (Natural Resource Emphasis)

Alternative B would designate a travel network consisting of 530.2 miles of evaluated routes in erodible soils for OHV use, a 38% reduction from Alternative A. In areas of saline soils, Alternative B would designate 41.5 miles of evaluated routes for OHV use, a 36% reduction from Alternative A. In the four primary biomes within the TMA, Alternative B would reduce the miles of routes designated for OHV use from 27% (in dunes) to 49% (in pinyon-juniper woodland). In areas of invasive species and noxious weeds, this alternative would designate 84.6 miles of evaluated routes for OHV use, a 49% reduction compared to Alternative A. Under Alternative B, the same types of effects on soil stability and native vegetation from OHV use noted above would continue to occur on those routes designated OHV-Open or OHV-Limited. Overall, this alternative would have the lowest potential of any alternative for OHV-related weed and invasive species spread, and for overall OHV-related impacts on native vegetation and soil stability.

Alternative C (Multiple Use Emphasis)

In areas of erodible soils, Alternative C would designate 738.7 miles of evaluated routes for OHV use, a 14% reduction from Alternative A. In areas with saline soils, Alternative C would designate 56.3 miles for OHV use, a 13% reduction from Alternative A. In the four primary biomes within the TMA, Alternative C would reduce the miles of routes designated for OHV use from 11% (in dunes) to 16% (in pinyon-juniper woodland). In areas of invasive species and noxious weeds, this alternative would designate 135.4 miles of evaluated routes for OHV use, an 18% reduction compared to Alternative A. Under Alternative C, the same types of effects on soil stability and native vegetation from OHV use noted above would continue to occur on those routes designated OHV-Open or OHV-Limited. Overall, this alternative's potential for OHV-related impacts to soil stability, native vegetation, and spread of invasive species and noxious weeds is lower than Alternative A but higher than Alternative B.

Alternative D (Access Emphasis)

In areas of erodible soils, Alternative D would designate 814.2 miles of evaluated routes for OHV use, a 5% reduction from Alternative A. In areas with saline soils, Alternative D would designate 62.4 miles for OHV use, a 4% reduction from Alternative A. In the four primary biomes within the TMA, Alternative D would reduce the miles of routes designated for OHV use from 4% (in pinyon-juniper woodlands) to 5% (in dunes). In areas of invasive species and noxious weeds, this alternative would designate 157.1 miles of evaluated routes for OHV use, a 4% reduction compared to Alternative A. Under Alternative D, the same types of effects on soil stability and native vegetation from OHV use noted above would continue to occur on those routes designated OHV-Open or OHV-Limited. Overall, this alternative's potential for OHV-related impacts to soil stability, native vegetation, and spread of invasive species and noxious weeds is lower than Alternative A but higher than the other action alternatives.

Cumulative Effects

The CIAA for soils, native vegetation, invasive species, and noxious weeds includes the entire TMA. This boundary was chosen because cumulative effects for soils resulting from travel route designation decisions for the purposes of this analysis are considered localized relative to the location of the travel route-related impact, collectively the TMA network. Impacts from displaced soil transported downstream are accounted for as water quality issues and analyzed under water quality (section 3.2.6).

Past, present, and reasonably foreseeable plans, projects, or actions contributing to cumulative effects to soils and native vegetation in the CIAA include the following:

- Land-based recreation, including motorized and non-motorized use (e.g., dispersed camping)
- Moab Master Leasing Plan and its associated Reasonably Foreseeable Development Scenarios for oil and gas and potash
- Mineral exploration and development, including oil and gas, potash, helium, and locatable minerals such as lithium and uranium
- Livestock grazing and related range improvement and facility developments; livestock water infrastructure development to facilitate better grazing management on soils and vegetation
- Noxious weed and invasive species proliferation and treatment

Accumulating impacts to soils, crusts and native vegetation in the CIAA include surface disturbance from development and use activities, soil compaction on existing roads during use, trampling of native vegetation and soil crusts from livestock grazing and off-route recreation uses such as camping and exploring; loss of vegetation and soil nutrients from wildland fires; and spread of invasive species.

Under Alternative A, there would be no route designation changes to the existing travel network. Impacts from the existing route network and ongoing OHV use would reflect a continuation of current conditions, and an overall incremental change to soils and native vegetation within the CIAA is not anticipated.

None of the travel networks in action alternatives B-D propose construction of new routes, and each of these travel network alternatives would reduce routes designated for OHV use and provide for decommissioning and reclamation of closed routes. The action alternatives would also implement comprehensive route network operation and management activities through a TMP Implementation Guide (Appendix N), with formal guidance for signing, reclamation, and adaptive management protocols that are designed to help offset ongoing route-related impacts to soils and native vegetation that could occur. None of the action alternatives are expected to result in incremental impacts on soil stability and native vegetation when added to other past, present, and reasonably foreseeable actions, while helping to reduce overall weed and invasive species spread within the CIAA.

3.2.4 SPECIAL DESIGNATION AREAS

How would the travel network alternatives impact the important and relevant values of the Areas of Critical Environmental Concern (ACECs) within the TMA, the Wild and Scenic River (WSR) quality of the Green River segment running along the TMA's western boundary, and the integrity of the Old Spanish National Historic Trail (NHT) within the TMA?

Affected Environment

ACEC designations highlight areas where special management attention is needed to protect important and relevant values such as historical, cultural, and scenic values, or fish and wildlife or other natural resources. ACEC designations indicate to the public that the BLM recognizes that an area has significant values and has established special management measures to protect those values (BLM 1988). The Federal Land Policy and Management Act directs the BLM to prioritize the identification and potential designation of ACECs through the land-use planning process. The types of activities allowed within an ACEC depend on the resource and natural values the area is designated to protect.

The Ten Mile Wash ACEC (4,988 acres; contains 22.4 miles of evaluated routes) is designated to protect cultural, wildlife, and the natural systems or processes, as well as natural hazards that are found within the ACEC. Ten Mile Wash drains into the Green River just downstream of White Wash and upstream of Spring Canyon. The ACEC consists of the Ten Mile drainage from the Green River to two miles upstream of Dripping Spring. The ACEC's high-quality scenery includes sandstone buttes, cliffs, side canyons, and alcoves; the scenery is enhanced by the presence of a riparian greenbelt that is located within the bottom of the canyon. The ACEC contains significant cultural resources, including important habitation sites and unusual artifacts. The wash provides a favorable environment for wildlife within an extremely arid portion of the MFO and contains a rich mixture of riparian, wetland, and hydrologic resources. The riparian/wetland ecosystems in Ten Mile Wash are exemplary and rare; they serve as attractors for wildlife and for human activities, making the wash extremely susceptible to adverse impacts. The wash is subject to extreme flooding, posing potential safety hazards to OHV and camping activities. The potential for flooding is great because the Ten Mile Wash watershed basin drains an estimated 175,185 acres (BLM 2013).

The Highway 279/Shafer Basin/Long Canyon ACEC (1,081 acres within the TMA; contains 0.9 miles of evaluated routes within the TMA) is a corridor along the scenic byway of Highway 279 providing extraordinary scenery and ancient rock imagery. Shafer Basin itself is not within the TMA. For more information on this ACEC, see pages 3-130 through 3-131 and 3-136 through 3-137 of the 2008 RMP.

The Wild and Scenic Rivers (WSR) Act of 1968 established legislation for a National Wild and Scenic Rivers System to protect and preserve designated rivers in their free-flowing condition and also to protect and preserve their immediate environments. In 2019, the 49.2-mile segment of the Green River forming the TMA's western boundary was officially designated as "Scenic" in the Wild and Scenic Rivers System by the 2019 John D. Dingell, Jr. Conservation, Management, and Recreation Act, Public Law 116-9, for its outstandingly remarkable scenery, recreation, wildlife, fish, cultural, and ecological values. The designation of "Scenic" means the section of river is free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped but accessible in places by roads (BLM 2012d). Rock art and

other features in areas along this stretch of the Green River remain significant to some Native American populations. Cultural sites in the area are important for interpreting regional prehistory and many are eligible for the NRHP. This stretch of river provides excellent recreation opportunities, including canoe paddling, backcountry paddling, dispersed camping, and hiking. The deeply incised Labyrinth Canyon was named by explorer John Wesley Powell for its many intricate twists and turns and is within the 49.2-mile WSR corridor. Varnished cliffs are cut in places by the narrow mouths of shaded side canyons with mature cottonwood trees. In the lower parts of the canyon, vertical cliffs of Wingate sandstone rise 1,000 feet above the river. Fossilized dinosaur bones are also visible from the river. This portion of the Green River provides habitat for four endangered fish: the Colorado pikeminnow, humpback chub, bonytail chub, and razorback sucker. The river contains critical habitat as designated by U.S. Fish and Wildlife Service for these species (Appendix J of BLM 2008b). The provisional[12] Labyrinth Canyon WSR corridor extends 0.25 miles out from the ordinary high-water mark on both banks of the river, as required by the WSR Act. As such it is considerably smaller in area that the geographical feature commonly known as Labyrinth Canyon. The provisional WSR corridor within the TMA contains 27.8 miles of evaluated routes. Some of this mileage, although in the WSR corridor, is not in the canyon itself but on the upland rims of the actual canyon.

In 2002, Congress designated several branches of the Old Spanish Trail as America's 15th National Historic Trail (P. L. 107-325), through an amendment to the National Trail Systems Act. This designation acknowledged the significant role that this pack trail network played in the exploration and settlement of the interior Mountain West and southern California. The Old Spanish NHT is a 700-mile trail that extends from Santa Fe, New Mexico to Los Angeles, California. The Old Spanish Trail, which was a Native American thoroughfare until the Spanish capitalized on the route in the 1700s and early 1800s, connected missions in southern California to the New Mexico trade centers of Taos and Santa Fe on the east. Continued use of the Old Spanish Trail in the middle 1800s eventually resulted in Euro-American settlement in the area by Mormon colonizers. Although few traces of the Old Spanish Trail routes have survived, the travel corridors through which the pack mule trains and New Mexico traders passed remain, and the challenges that faced these travelers can still be vicariously experienced. The Old Spanish NHT within the TMA parallels U.S. Highway 191 north of the Colorado River and then generally follows the Blue Hills road toward the town of Green River. The majority of visitors to the Old Spanish NHT experience the trail via a motorized vehicle. This 40-mile portion of the trail in the TMA is subject to potential effects of erosion, littering, and damage or degradation that could diminish its importance (i.e., condition) as a National Historic Trail. Within the TMA, 113.1 miles of evaluated routes are within 1 mile of the Old Spanish NHT.

Environmental Effects Analysis

Regarding scenic values in the ACECs and the WSR corridor, travel route use can increase damage and disruption to the natural appearance of landscapes by providing opportunities for route proliferation, illegal off-road landscape damage, littering, and other harmful activities. Routes also impact visual resources by creating contrasting lines where they do not follow natural landscape contours. Changes in color and form from road cut backslopes and fill slopes create visible impacts. Potential effects on the riparian vegetation communities, wildlife habitat, and cultural values of the ACECs and WSR corridor include trampling of vegetation from off-

[12] A permanent corridor will be established for the WSR during the RMP Amendment process.

route motorized or non-motorized use; soil disturbance; route proliferation; and exposure, loss, or damage of cultural resources. WSR qualities can be negatively impacted where travel routes serve as a conduit for sediment transport (indirect) into intermittent or perennial drainages and riparian areas during runoff events. Motorized travel in areas of highly erosive soils or in sensitive areas, such as stream channels and riparian habitats, increases the potential for surface runoff (i.e., soil displacement) and the resultant water quality impacts. OHV use on routes crossing or in proximity to the Old Spanish NHT increases the potential for damage to the trail's historic integrity and increases the potential for disruption of travelers' vicarious experiences along the trail. Travel routes can also provide beneficial access for recreational opportunities as well as interpretive and educational opportunities for cultural resources. For mileage/designation breakdowns of routes in the ACECs, WSR corridor, and in proximity to the Old Spanish NHT, see Figure 15 – Figure 18.

Figure 15: Miles of Evaluated Routes in Ten Mile Wash ACEC

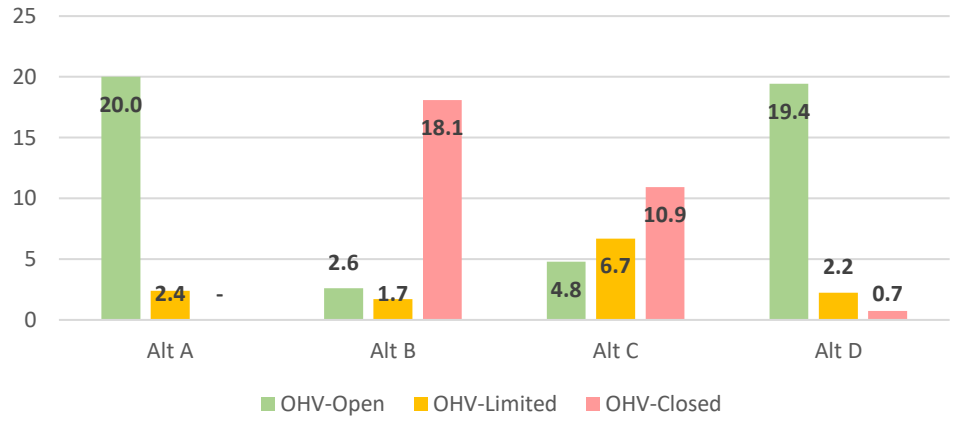


Figure 16: Miles of Evaluated Routes in Highway 279 / Shafer Basin / Long Canyon ACEC

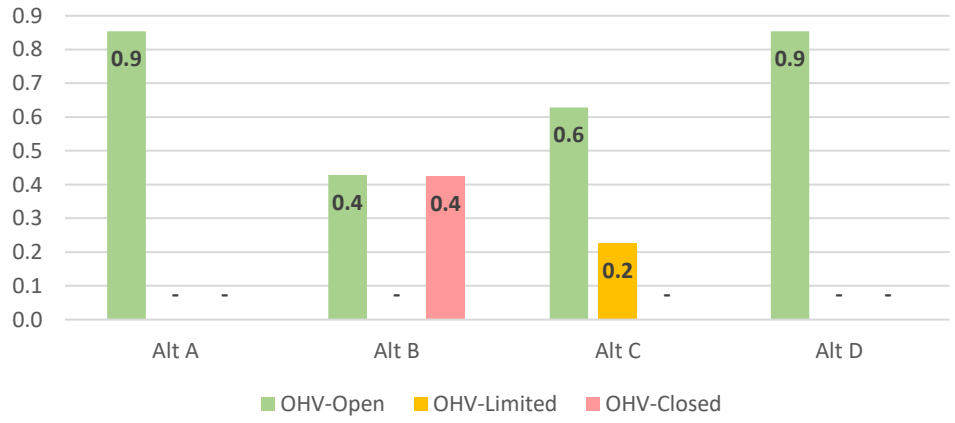


Figure 17: Miles of Evaluated Routes in Green River Scenic WSR Corridor

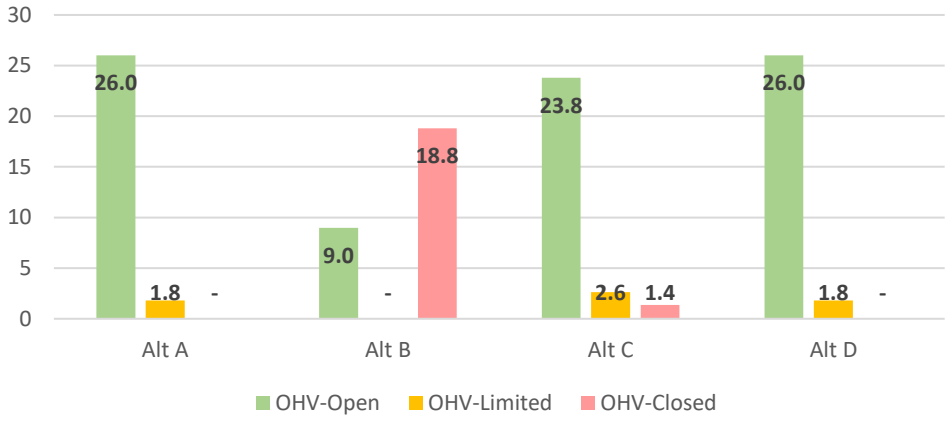
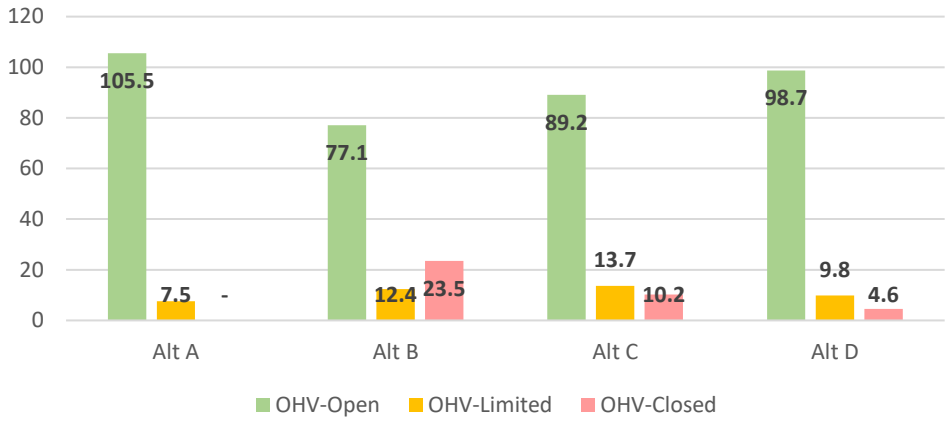


Figure 18: Miles of Evaluated Routes within 1 Mile of the Old Spanish NHT



Alternative A (No Action/Current Management)

Under Alternative A, all 22.4 miles of evaluated routes within the Ten Mile Wash ACEC and all 0.9 miles of evaluated routes within the Highway 279/Shafer Basin/Long Canyon ACEC would remain designated for OHV use (OHV-Open or OHV-Limited). These travel designations leave the ACECs susceptible to travel-related effects such as those discussed above which could potentially impact the ACECs' scenic qualities, increase the potential for damage to their cultural resources, and damage or destroy plant and wildlife habitat. Impacts to the ACECs' relevant and important values from ongoing OHV use would reflect a continuation of current management.

The WSR corridor within the TMA contains 27.8 miles of evaluated routes. Because these route miles would remain designated for OHV use under Alternative A, the WSR's outstandingly remarkable values (scenery, recreation, wildlife, fish, cultural resources, and ecology) would remain susceptible to travel route-related adverse effects of route proliferation, increases or decreases in recreation opportunities, sediment transport and water quality degradation, illegal off-road landscape damage, degradation of cultural resources, littering, etc. Overall, impacts to the WSR's outstandingly remarkable values from ongoing OHV use would reflect a continuation of current management.

Under Alternative A, all 113.1 miles of evaluated routes proximate to (within 1 mile of) the Old Spanish NHT would remain designated for OHV use. These OHV designations would leave the trail susceptible to travel-related effects which could potentially impact the resource values (i.e., historic, scientific, educational, interpretive, and recreational) that affect the purpose of the trail. Impacts would reflect a continuation of current management.

Alternative B (Natural Resource Emphasis)

Within the Ten Mile Wash ACEC, the Alternative B travel network would designate 4.3 miles of evaluated routes for OHV use (1.7 miles of which would be limited by vehicle width), an 81% reduction from Alternative A. Within the Highway 279/Shafer Basin/Long Canyon ACEC, Alternative B would designate 0.4 miles of evaluated routes for OHV use, a 44% reduction from Alternative A. The same effects on the ACECs' relevant and important values noted above would continue to occur on those routes designated OHV-Open or OHV-Limited. Overall, the potential for OHV-related impacts to the ACECs under this travel network alternative would be the lowest of any alternative.

Alternative B would designate 9.0 miles of evaluated routes in the WSR corridor for OHV use, a 68% reduction compared to Alternative A. Under Alternative B, some effects on the corridor's outstandingly remarkable values would continue to occur on the miles of evaluated routes designated OHV-Open. Overall, the potential for OHV use-related impacts to the corridor under this travel network alternative would be lower than all other alternatives.

Of the evaluated routes proximate to the Old Spanish NHT, Alternative B would designate 89.5 miles for OHV use, a 21% reduction from Alternative A. The effects noted above to the trail's purpose and integrity would continue to occur on those routes designated OHV-Open or OHV-Limited. Overall, the potential for OHV-related impacts to the Old Spanish NHT under Alternative B would be the lowest of any alternative

Alternative C (Multiple Use Emphasis)

Within the Ten Mile Wash ACEC, the Alternative C travel network would designate 11.5 miles of evaluated routes for OHV use, a reduction of 49% compared to Alternative A. And within the Highway 279/Shafer Basin/Long Canyon ACEC, Alternative C would designate all 0.9 miles for OHV use, the same as Alternative A. The same effects on the ACECs' relevant and important values noted above would continue to occur on those routes designated OHV-Open or OHV-Limited; however, 5.0 miles of the evaluated routes designated OHV-Limited within the two ACECs would be restricted seasonally to help protect wildlife. Overall, the potential for OHV-related impacts to the ACECs under this travel network alternative would be lower than Alternative A but higher than Alternative B.

Alternative C would designate 26.4 miles of evaluated routes in the WSR corridor for OHV use, a reduction of 5% compared to Alternative A. Under Alternative C, effects on the corridor's outstandingly remarkable values would continue to occur on the miles of evaluated routes designated OHV-Open or OHV-Limited (routes proposed as OHV-Limited in the WSR corridor would be limited by vehicle width). Overall, the potential for OHV use-related impacts to the corridor under this travel network alternative would be lower than Alternative A but higher than Alternative B.

Of the evaluated routes proximate to the Old Spanish NHT, Alternative C would designate 102.9 miles for OHV use, a 9% reduction from Alternative A. The effects noted above to the trail's purpose and integrity would continue to occur on those routes designated OHV-Open or OHV-Limited. Overall, the potential for OHV-related impacts to the Old Spanish NHT under Alternative C would be lower than Alternative A but higher than Alternative B.

Alternative D (Access Emphasis)

Within the Ten Mile Wash ACEC, the Alternative D travel network would designate 21.6 miles of evaluated routes for OHV use, a reduction of 3% compared to Alternative A. And within the Highway 279/Shafer Basin/Long Canyon ACEC, Alternative D would designate all 0.9 miles of evaluated routes for OHV use, the same as in Alternative A. The same effects on the ACECs' relevant and important values noted above would continue to occur on those routes designated OHV-Open or OHV-Limited. Overall, the potential for OHV-related impacts to the Ten Mile Wash ACEC under Alternative D would be lower than Alternative A but higher than the other action alternatives. The potential for OHV-related impacts to the Highway 279/Shafer Basin/Long Canyon ACEC would be the same as in Alternative A, higher than the other action alternatives.

Under Alternative D, there would be no route designation changes within the WSR corridor in the TMA. Effects on the corridor's outstandingly remarkable values would continue to occur on the 27.8 miles designated for OHV use. Overall, the potential for OHV use-related impacts to the corridor under this alternative would be the same as the Alternative A travel network and higher than the other action alternatives.

Of the evaluated routes proximate to the Old Spanish NHT, Alternative D would designate 108.5 miles for OHV use, a 4% reduction from Alternative A. The effects noted above to the trail's purpose and integrity would continue to occur on those routes designated OHV-Open or OHV-Limited. Overall, the potential for OHV-related impacts to the Old Spanish NHT under Alternative D would be lower than Alternative A but higher than the other action alternatives.

Cumulative Effects

The CIAA for the ACECs is the entire TMA, which accommodates the setting of both ACECs. The CIAA for the WSR corridor is the Green River from Ruby Ranch to the Canyonlands National Park Boundary. The CIAA for the Old Spanish NHT is the trail segment north of the Colorado River up to the Green River crossing; this includes the trail within the TMA as well as the "tails" of the trail north and south of the TMA, which creates a geographic and topographic unit that people are likely to experience.

Past, present, and reasonably foreseeable plans, projects, or actions contributing to cumulative effects to these special designation areas include the following:

- Land- and water-based recreation, including land-based recreation use of roads, trails, campgrounds, and dispersed campsites and water-based use of the Green River for boating activities
- Moab Master Leasing Plan and its associated Reasonably Foreseeable Development Scenarios for oil and gas and potash
- Mineral exploration and development, including oil and gas, potash, helium, and locatable minerals such as lithium and uranium

- Livestock grazing and related range improvement and facility developments; livestock water infrastructure development to facilitate better grazing management on soils and vegetation

Accumulating impacts to the ACECs include visual impacts from development activities and equipment use; disturbance and loss of cultural site integrity from development and use activities; disturbance of wildlife and wildlife habitat from human activity and development and equipment use; stream sedimentation and contamination from the presence of road prisms in areas with steep slopes or high erosion potential; livestock trampling of riparian vegetation. Accumulating impacts to the WSR corridor include loss of solitude and naturalness due to human activity and development in the vicinity of the river. Accumulating impacts to the Old Spanish NHT include loss of integrity from human activity on and around the trail as well as disruption of travelers' experiences from human activity or livestock grazing in the trail's vicinity.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from the existing route network and ongoing OHV use would be a continuation of current conditions, and an overall incremental change to the ACECs, WSR, and Old Spanish NHT is not anticipated.

The route network action Alternatives B-D do not propose construction of any new routes. Alternatives B and C would reduce miles of routes designated for OHV use in all of the specially designated areas. Alternative D would reduce miles of routes designated for OHV use in the Ten Mile Wash ACEC and proximate to the Old Spanish NHT but would not reduce miles designated for OHV use in the Highway 279/Shafer Basin/Long Canyon ACEC or the Green River Scenic WSR corridor. The action Alternatives would all provide for reclamation of decommissioned routes. The action alternatives would also implement comprehensive route network operation and management activities through a TMP Implementation Guide (Appendix N), with formal guidance for signing, reclamation, and adaptive management protocols that are designed to help offset ongoing route-related impacts to the TMA's special designation areas. None of the action alternatives are expected to result in incremental impacts on the TMA's specially designated areas when added to other past, present, and reasonably foreseeable actions.

3.2.5 VISUAL RESOURCES

How would the travel network alternatives impact visual resources within the TMA?

Affected Environment

The Labyrinth/Gemini Bridges TMA is an internationally recognized, world-famous scenic destination containing many areas that possess a high degree of scenic quality and a high level of visual sensitivity. The area draws an increasing number of visitors each year who come to the area to recreate and sightsee. The TMA contains a high level of visual appeal, as far-range views are attainable throughout much of the area. The Green River and its four major eastern canyons (Mineral, Hell-Roaring, Spring, and Ten Mile) drain much of the western portion of the TMA and provide dramatic canyon scenery. The Highway 313 corridor leading to Dead Horse Point State Park and the Island in the Sky entrance of Canyonlands National Park offers high scenic quality and visual sensitivity; Highway 313 is designated as a State Scenic Byway.

The quality of visual resources is *measured* with visual resource inventory (VRI) classes. VRI classes are assigned through an inventory process and serve as the basis for considering visual values. As noted in the BLM's visual resource inventory manual, "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.

Visual resources in the TMA are *managed* in accordance with the 2008 RMP. Visual resource management (VRM) is a process the BLM uses to manage scenic values to reduce visual impacts of 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 3-174 to 3-177 of the 2008 Moab Proposed RMP/EIS (BLM 2008b)

Table 8: Miles of Evaluated Routes by VRI Class

VRI Class	BLM Acres	Miles
VRI Class I	0	0.0
VRI Class II	189,736	729.0
VRI Class III	50,120	168.5
VRI Class IV	63,960	230.1

Table 9: Miles of Evaluated Routes by VRM Class

VRM Class	BLM Acres	Miles
VRM Class I	0	0.0
VRM Class II	108,365	392.0
VRM Class III	153,212	560.5
VRM Class IV	42,415	175.3

Environmental Effects Analysis

Existing travel routes and OHV use can inadvertently contribute to damage and disruption to the natural appearance of landscapes by providing OHV access opportunities for route proliferation (i.e., unauthorized user-created OHV routes extending off existing routes). Other travel-related surface disturbances such as roadside camping can lead to expansion of invasive species and noxious weeds and subsequently higher potential for disruptive wildfire events. OHV use on dirt 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 impact visual resources by creating contrasting lines where they do not follow natural landscape contours. Because they lack formal design and construction standards, user-created routes may not follow ground contours and can extend up

slopes, leading to rilling, erosion, and contrasting lines. Changes in color and form from road cuts and fills create visible impacts. However, a travel network that includes operation and management components (such as those provided in the action alternatives) can help minimize the potential effects noted above of route proliferation and future degradation of visual resources. Under all travel network action alternatives, the application of specified operation and management tools provided in the TMP Implementation Guide (Appendix N)— such as human-made barriers, route markers, and signs to educate OHV users of low-impact and responsible use—would help reduce or prevent impacts to the visual elements of line, form, and color.

Regardless of the final designation of each travel route, it is assumed there may be some form of follow-up action on the ground. For routes designated OHV-Closed, some such actions may include the placement of closure signs, reclamation, or installation of barricades. For routes designated for OHV use, maintenance actions may include the use of heavy equipment for grading and drainage maintenance or hand tools for directional signing. The effects of these actions on visual resources are expected to be minor and short-term but are included in this analysis. Overall, the route designations will result in some routes being closed, thereby eventually reducing the overall footprint of the route network on the landscape. Fewer routes mean that there would be fewer impacts to the natural-appearing landscape, thus enhancing visual resources. More site-specific analysis of maintenance or management actions may be needed if such actions could affect high-quality visual landscapes.

Figure 19 and Figure 20, below, inform the effects analysis. They present the miles of routes in VRI and VRM Class II areas in the TMA. Analysis does not include Class I, as there are no evaluated routes within Class I areas. It also does not include Class III and IV because they allow for changes in form, line, and color and would not provide for a useful comparison between alternatives.

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

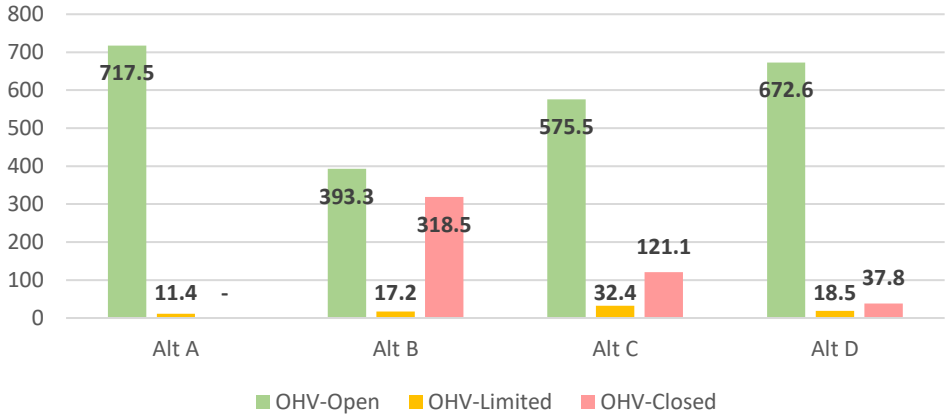
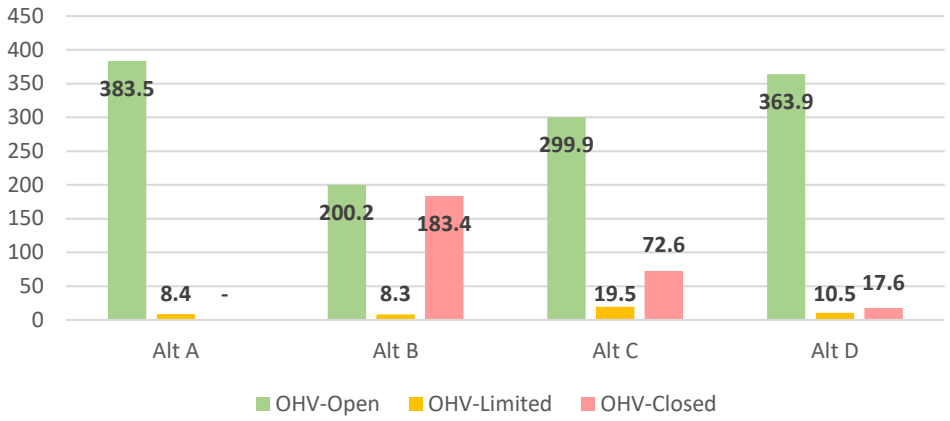


Figure 20: Miles of Evaluated Routes in VRM Class II Areas



Alternative A (No Action/Current Management)

Under Alternative A, there would be no change to the existing travel network in the TMA. All of the 729.0 miles of evaluated routes in VRI Class II areas and all 392.0 miles of evaluated routes in VRM Class II areas would remain designated for OHV use (OHV-Open or OHV-Limited). Impacts to the TMA's visual resources (i.e., degradation of visual quality, disruption of natural appearance, etc.) would reflect a continuation of current management.

Alternative B (Natural Resource Emphasis)

In VRI Class II areas, the travel network in Alternative B would designate 410.5 miles for OHV use, a 44% reduction from Alternative A. Of the 318.5 miles of evaluated routes in VRI II areas that would be closed to OHV use under this alternative, 33.1 miles would remain designated for authorized or administrative use only, 5.0 miles would be designated for non-motorized use, and 280.5 miles would be decommissioned and earmarked for reclamation. In VRM Class II areas, Alternative B would designate 208.5 miles of evaluated routes for OHV use, a 47% reduction compared to Alternative A. Of the 183.4 miles of evaluated routes in VRM II areas that would be closed to OHV use under this alternative, 14.6 miles would remain designated for authorized or administrative use only, 5.0 miles would be designated for non-motorized use, and 163.8 miles would be decommissioned and earmarked for reclamation. The same types of impacts to the TMA's visual resources from OHV use noted above would continue to occur on those routes designated OHV-Open; however, given the number of routes that would be closed to OHV use as well as the number of routes that would be decommissioned and reclaimed, Alternative B's potential for OHV use-related impacts to the TMA's visual resources would be the lowest of any alternative.

Alternative C (Multiple Use Emphasis)

In VRI Class II areas, the travel network in Alternative C would designate 607.9 miles for OHV use, a 17% reduction from Alternative A. Of the 121.1 miles of evaluated routes in VRI II areas that would be closed to OHV use under this alternative, 16.5 miles would remain designated for authorized or administrative use only, 10.1 miles would be designated for non-motorized use, and 94.5 miles would be decommissioned and earmarked for reclamation. In VRM Class II areas, Alternative C would designate 319.4 miles of evaluated routes for OHV use, a 19%

reduction compared to Alternative A. Of the 72.6 miles of evaluated routes in VRM II areas that would be closed to OHV use under this alternative, 6.1 miles would remain designated for authorized or administrative use only, 10.1 miles would be designated for non-motorized use, and 56.4 miles would be decommissioned and earmarked for reclamation. The same types of impacts to the TMA's visual resources from OHV use noted above would continue to occur on those routes designated OHV-Open. Overall, given the number of routes that would be decommissioned to OHV use as well as the number of routes that would be closed and reclaimed, Alternative C's potential for OHV use-related impacts to the TMA's visual resources would be lower than Alternative A but higher than Alternative B.

Alternative D (Access Emphasis)

In VRI Class II areas, the travel network in Alternative D would designate 691.1 miles for OHV use, a 5% reduction from Alternative A. Of the 37.8 miles of evaluated routes in VRI II areas that would be closed to OHV use under this alternative, 9.2 miles would remain designated for authorized or administrative use only, 2.0 miles would be designated for non-motorized use, and 26.7 miles would be decommissioned and earmarked for reclamation. In VRM Class II areas, Alternative D would designate 374.4 miles of evaluated routes for OHV use, a 4% reduction compared to Alternative A. Of the 17.6 miles of evaluated routes in VRM II areas that would be designated OHV-Closed under this alternative, 2.5 miles would remain designated for authorized or administrative use only, 2.0 miles would be designated for non-motorized use, and 13.1 miles would be decommissioned and earmarked for reclamation. The same types of impacts to the TMA's visual resources from OHV use noted above would continue to occur on those routes designated OHV-Open. Overall, given the number of routes that would be closed to OHV use as well as the number of routes that would be decommissioned and reclaimed, Alternative D's potential for OHV use-related impacts to the TMA's visual resources would be lower than Alternative A but higher than the other action alternatives.

Cumulative Effects

The CIAA for visual resources is the TMA and the lands within its viewshed. This covers the area that could be incrementally impacted by the action Alternatives.

Past, present, and reasonably foreseeable plans, projects, or actions contributing to cumulative effects to the visual quality in the CIAA include the following:

- Land- and water-based recreation, including land-based recreation use of roads, trails, campgrounds, and dispersed campsites and water-based use of the Green River for boating activities
- Moab Master Leasing Plan and its associated Reasonably Foreseeable Development Scenarios for oil and gas and potash
- Mineral exploration and development, including oil and gas, potash, helium, and locatable minerals such as lithium and uranium
- Livestock grazing and related range improvement and facility developments

Accumulating impacts to visual quality in the CIAA include changes in form, line, and color from increased recreation use, development activities and equipment use; dust plumes from use of existing roads; livestock presence and changes in form, line, and color from range

improvements and facility development; and changes in form, line, and color from wildland fires.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from the existing route network and ongoing OHV use would be a continuation of current conditions, and an overall incremental change to visual resources in the CIAA is not anticipated.

None of the action alternatives B-D propose any new construction of routes or other surface-disturbing activities that could degrade the TMA's visual appearance. Each of the network alternatives would reduce OHV-Open designations and provide for reclamation of decommissioned routes. Over time these reclaimed route footprints would blend back in with the surrounding landscape. The action alternatives would also implement new comprehensive route network operation and management activities through a TMP Implementation Guide (Appendix N), with formal guidance for signing, reclamation, and adaptive management protocols that are designed to help offset ongoing route-related impacts to the TMA's physical environment and visual appearance. None of the travel network action alternatives are expected to result in incremental impacts on visual resources when added to other past, present, and reasonably foreseeable actions.

3.2.6 WATER RESOURCES: RIVERS AND STREAMS, RIPARIAN AREAS AND FLOODPLAINS, AND WATER QUALITY

How would the travel network alternatives impact water resources within the TMA?

Affected Environment

Water resources—particularly important in this arid portion of the MFO—are managed to ensure that water quality standards, stream conditions, and floodplain and riparian function are not diminished as a result of BLM actions such as travel route designations (see goals, objectives, and management decisions for riparian and soil and water, pages 99-105 of the 2008 RMP). The surface waters of the TMA consist primarily of 44 miles of the Green River as well as numerous springs, several perennial and intermittent streams, and seasonal vernal/ephemeral pools. The area includes a number of tributaries to the Green River, including Ten Mile Canyon, Spring Canyon, Hell Roaring Canyon, and Mineral Canyon. Perennial streams within the TMA are spring fed with increased flows and recharge occurring in conjunction with spring snowmelt and monsoonal precipitation events. Interrupted flow in both perennial and intermittent stream systems is common, and the dimensions of the wetted area may vary seasonally based upon available precipitation. All stream systems are flashy. The subbasins and watersheds within and adjacent to the TMA typically have a lower snowpack than others in the MFO. Numerous stock ponds in the area provide water to cattle and wildlife.

Riparian areas are a form of wetland transition between permanently saturated wetlands and upland areas. In the arid Southwest, the riparian ecosystems depend on water availability, defined by the amount, timing, duration, and source. Stream systems supporting riparian areas are characterized as perennial (yearlong), intermittent (seasonal), or ephemeral (storm). Riparian areas are defined as areas of land directly influenced by permanent (surface or subsurface) water. They have visible vegetation or physical characteristics reflective of permanent water influence. Lakeshores and streambanks with perennial water flow are typical riparian areas. They include wetlands and those portions of floodplains and valley bottoms that support riparian vegetation

(Meehan 1991). Although prevalent within the TMA, excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil (BLM 1991). It is important to note that an ephemeral stream is one that flows only in direct response to precipitation and whose channel is at all times above the water table. In some cases, intermittent or ephemeral streams which do not currently exhibit riparian characteristics may in fact be connected to a water table and could potentially develop riparian attributes with management changes.

Riparian areas comprise less than one percent of the 22 million acres of public lands administered by the BLM in Utah. However, these small but unique areas are among the most important, productive, and diverse ecosystems in the state. Riparian areas—occurring on streambanks and floodplains, at springs, seeps, potholes, wet meadows, sloughs, marshes, swamps, and bogs—are all important resources for aquatic organisms, wildlife, grazing, and recreation. Riparian areas, which constitute 18,106 acres within the TMA, provide many benefits in the area, including filtering and purifying water, reducing sediment loads and enhancing soil stability, contributing to groundwater recharge, dissipating high-energy flows (floods), providing thermal refugia and habitat for obligate species, and supporting greater biodiversity. Healthy and productive riparian areas provide water, food, cover, and travel corridors for many aquatic and terrestrial wildlife species, some of which are obligate to the riparian area and not found in xeric upland areas. Native riparian plants and their root systems contribute to improved water quality and quantity by holding soils in place while filtering sediments, increasing ground water recharge, and protecting streambanks. The value of riparian areas to the general public has been increasing by providing opportunities for a wide variety of recreation activities and aesthetic attributes. However, riparian ecosystems are fragile resources that are among the first indicators of impacts from disturbance.

The 2013 Analysis of the Management Situation for the 2016 Master Leasing Plan states that "Some notable differences in riparian/wetland condition and priorities have occurred in areas with popular OHV use (and associated dispersed camping), reoccurring livestock grazing, and increased use of county access roads" (BLM 2013). Due to the rarity of lotic and lentic systems within the TMA, the IDT gave specific attention to riparian, wetland, and aquatic systems during the route evaluation process, considering these systems as an important factor in proposing alternative route designations. Surface runoff and transport of saline soils has been linked to increased salinity levels in the Colorado River, of which the Green River is a major tributary. Surface-disturbing activities from travel-related disturbances in or near areas of highly erosive soils or in sensitive areas, such as stream channels and riparian habitats, increase the potential for surface runoff (i.e., soil displacement), vegetation loss, geomorphic change, sediment transport and water quality impacts in streams and riparian areas. In general, travel route proximity to riparian areas or intermittent or perennial drainages is an important factor relating to the condition of aquatic and riparian habitats including impacts to water quality.

Within the TMA, 8 evaluated routes cross perennial streams, 16 evaluated routes cross intermittent streams, and 382 evaluated routes cross ephemeral streams. Of the 79.3 miles of evaluated routes that are in riparian areas, 17.6 miles are subject to routine maintenance. The TMA's 303(d)-listed waters, which means they are impaired or threatened, include the Ten Mile Canyon - Grand, Courthouse Wash, Green River-5, Colorado River-3, and Colorado River 4 (see Table 35 in Appendix F).

A summary of available BLM/UDWQ water quality data is included in Appendix F.

Environmental Effects Analysis

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

- In addition to routes that directly cross a riparian area or intermittent, perennial, or ephemeral drainage, routes or portions of routes that are located within 100 meters of riparian areas are included in analysis.
- In general, travel network alternatives that designate more miles as OHV-Closed in and near riparian areas and streams would provide higher levels of protection from surface disturbances and indirectly help reduce and minimize effects to water resources including aquatic habitats, riparian areas, and water quality.
- Minimally maintained routes are not armored or culverted at stream crossings, and therefore in and near riparian areas and streams these routes can cause greater impacts to those resources than maintained routes.
- Impacts to water resources would be reduced and minimized by applying BMPs for operation and maintenance of all routes designated for motorized use (see 0 in Appendix N).
- Access to stock ponds/reservoirs would continue for permittees and other authorized users, as authorized.
- Proper Functioning Condition (PFC) assessments were considered in the analysis. Only 2010 and newer assessments were utilized because older assessments may not adequately capture current conditions.

Travel routes, wheel cuts, and tracks can serve as water conduits that direct contaminants and sediment into stream systems and riparian areas during runoff events (Miniat et al. 2019, Ouren et al 2007). Spill or emission contaminants may include 1,3 butadiene, benzene and ethylbenzene, xylenes, and toluene (Ouren et al. 2007). Surface disturbances from motorized and non-motorized travel can also remove soil-stabilizing agents, such as vegetative cover, soil crusts, and woody debris. Travel routes parallel to or within the active channel can reduce channel sinuosity in low gradient systems, reducing the ability of the channel to meander, one mechanism by which streams naturally attenuate flood energy. Loss of one or more of these agents increases the potential for erosion and sediment transport into water bodies and riparian areas, elevating turbidity in watersheds. Routes in areas of erosive soils that are proximate to, leading to, or crossing drainages will result in higher amounts of sediment travel and deposition in water bodies and riparian areas during storms and runoff events (Ouren et al. 2007). Indicators are rills and gullies leading to and from travel routes and draining into existing perennial or intermittent streams or riparian areas and declining riparian zone vegetation health, diversity, density, and vigor. Impacts to floodplains primarily consist of loss of vegetation and geomorphic changes to bank angle, bank stability, increasing channel width, decreased sinuosity, increasing width/depth ratios, and in some cases creating artificial flow channels at or near route/stream intersections. Floodplain connectivity may be impaired due to increased erosion and channel downcutting resulting from accelerated flood velocities linked to loss of vegetation or soil compaction.

The Ten Mile Wash ACEC is one specific example of this concept within the TMA. A PFC assessment performed by an IDT in 2012 at Ten Mile Wash concluded that the area from Dripping Springs to Trail Canyon is Functioning at Risk. Specifically, this PFC report on Ten Mile states, “roads are impacting banks” and there is “accelerated bank erosion” and the

presence of gullies and active "downcutting" within the roadway. PFC assessments also indicate the presence of "cut banks, unnatural overflow channels" and that "roads influence overflow channels . . . and old roads become overflow channels." The PFC report shows that the banks are not laterally stable because the channel follows the roads resulting in less sinuosity. Therefore, point bars are not forming nor is vegetation establishing on them. The PFC report summary states that "road impacts have become major since the 1980s" and that the road in Ten Mile Wash may be one of the biggest influences on riparian condition.

PFC assessment condition ratings dating back to 2010 were analyzed. PFC assessments older than 2010 were excluded because they may not capture the impact of increased anthropogenic pressures and prolonged drought. The majority of PFC assessments show systems are in PFC with the exception of Ten Mile Wash, parts of White Wash (open OHV area), and portions of the Green River which are Functioning at Risk. An assessed reach of Tusher Canyon is Non-Functional. (See Figure 39 in Appendix F.)

TMP implementation activities that could result in compaction or increased sediment or contaminant load include route maintenance (i.e., surface and ditch blading, drainage structure installations, etc.), ripping and seeding of closed routes, and sign placement (digging post holes). These effects are likely to be minor and temporary because they occur infrequently. If implementation is proposed that falls outside of the previously disturbed area, additional site-specific NEPA may be required before the activity could occur. Some of the activities listed above could have a long-term beneficial effect on water resources. For example, sign placement could encourage managed travel on stable designated routes that are less disruptive to waterways; drainage structures installed at appropriate intervals and locations (i.e., with adequate buffer areas at outlets) could help minimize route-related erosion and sediment transport into waterways; and seeding and planting of closed routes could help reestablish native vegetation communities, thereby improving soils' resiliency to water impairment-related erosion.

Indicators of potential route network impacts on the TMA's water resources include the number of routes in or crossing streams, and the number of routes in or proximate to (within 100 meters of) riparian areas or springs. Figure 21 – Figure 24, below, show the number of evaluated routes in each alternative network that are crossing or proximate to TMA streams and riparian areas.

Figure 21: Number of Evaluated Routes In or Crossing Perennial Streams

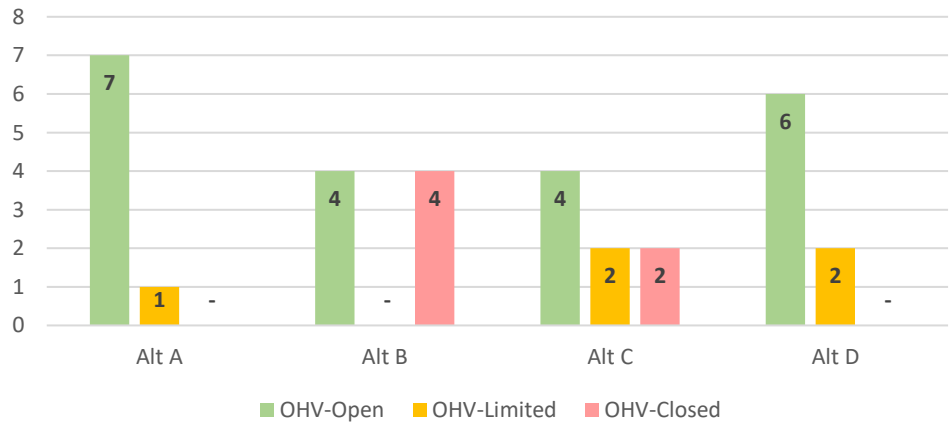


Figure 22: Number of Evaluated Routes In or Crossing Intermittent Streams

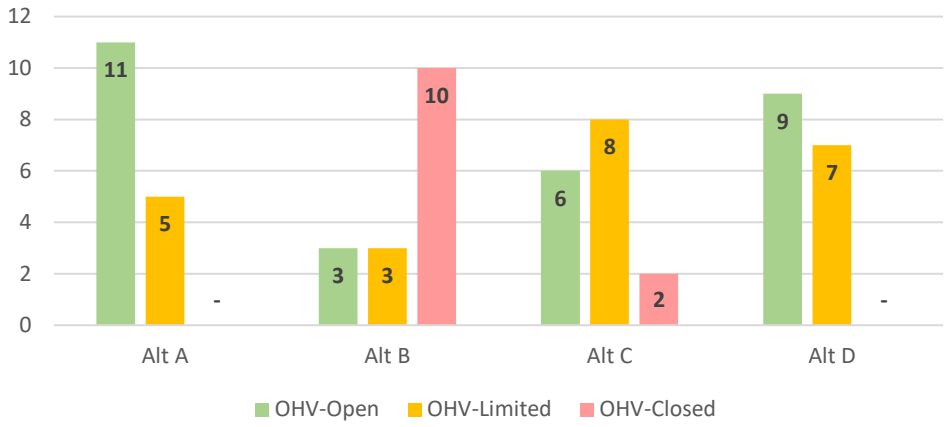


Figure 23: Number of Evaluated Routes In or Crossing Ephemeral Streams

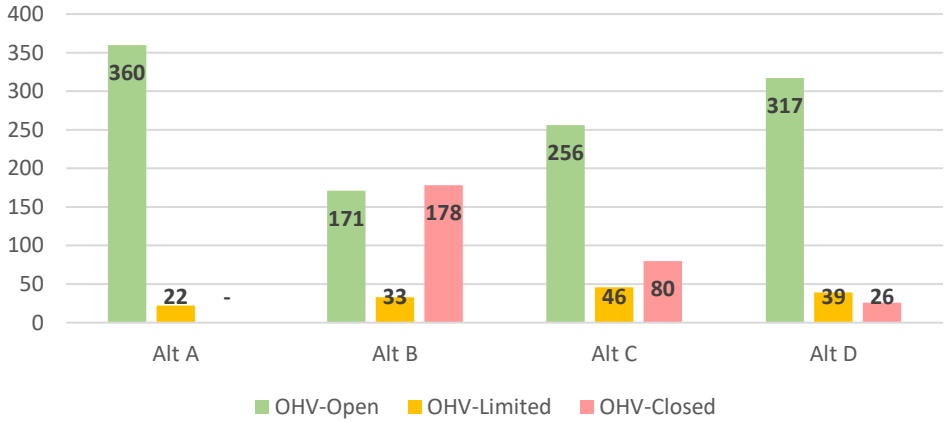
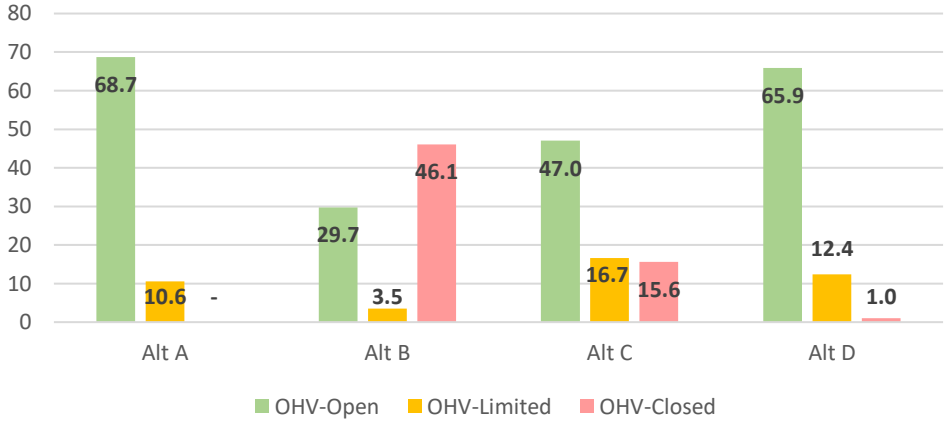


Figure 24: Miles of Evaluated Routes In, Crossing, or within 100 Meters of Riparian Areas or Springs



Alternative A (No Action/Current Management)

Within the current designated travel network, 24 evaluated routes cross perennial or intermittent streams and 382 evaluated routes cross ephemeral streams. A total of 79.3 miles of evaluated

routes (7% of the network) are within 100 meters of riparian areas or springs. All of the Alternative A routes associated with streams, riparian areas, and springs would remain designated for OHV use under this alternative. This OHV and associated human use (i.e., 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. Impacts to water quality from ongoing OHV use (i.e., erosion, sedimentation and salination, loss of important streamside and riparian vegetative cover, etc.) would reflect continuation of current management.

Alternative B (Natural Resource Emphasis)

Under the Alternative B route network, 10 evaluated routes designated for OHV use would cross perennial or intermittent streams, a 58% reduction compared to Alternative A. Of the evaluated routes crossing ephemeral streams, Alternative B would designate 204 for OHV use, a 47% reduction from Alternative A. Of the evaluated routes in or proximate to riparian areas or springs, Alternative B would designate 33.2 miles for OHV use, a 58% reduction from Alternative A. Specifically, Alternative B would emphasize natural resources by closing the Ten Mile route within the Ten Mile ACEC, including the section that is Functioning at Risk, and the Tubes and Dead Cow motorcycle routes, eliminating impacts of OHV use on water resources in these systems. 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 impacts to water resources within the TMA.

Alternative C (Multiple Use Emphasis)

Under the Alternative C route network, 20 evaluated routes designated for OHV use would cross perennial or intermittent streams, a 17% reduction compared to Alternative A. Of the evaluated routes crossing ephemeral streams, Alternative C would designate 302 for OHV use, a 21% reduction from Alternative A. Of the evaluated routes in or proximate to riparian areas or springs, Alternative C would designate 63.7 miles for OHV use, a 20% reduction from Alternative A. Specifically, Alternative C would emphasize multiple use by allowing the Dripping Springs to Midway route within the Ten Mile ACEC, currently Functioning at Risk, to remain open while closing to OHV use the Midway to Green River section, which experiences less OHV use and contains riparian areas that are currently in PFC. The Tubes and Dead Cow motorcycle routes would remain open. Under Alternative C, 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. Overall, this alternative would have lower potential for ongoing OHV-related impacts to water resources than Alternative A but higher potential than Alternative B.

Alternative D (Access Emphasis)

Under Alternative D, all 24 evaluated routes crossing perennial or intermittent streams would be designated for OHV use, the same as Alternative A. Of the evaluated routes crossing ephemeral streams, Alternative D would designate 356 for OHV use, a 7% reduction from Alternative A. Of the evaluated routes in or proximate to riparian areas or springs, Alternative D would designate 78.3 miles for OHV use, a 1% (1.1-mile) reduction from Alternative A. Specifically, Alternative D would emphasize OHV-based access by allowing the Ten Mile, Tubes, and Dead Cow routes

to remain open. Under Alternative D, 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. Overall, this alternative would have similar potential for ongoing OHV-related impacts to water resources as Alternative A but higher potential for such effects compared to the other action alternatives.

Cumulative Effects

The CIAA for rivers and streams, riparian areas, and floodplains includes the entire MFO area. Riparian areas within the MFO are incredibly diverse and important habitats comprising 1-2% of the landscape. Due to their rarity, impacts to any riparian areas should be analyzed in relation to the entire "population" of such habitats.

Past, present, and reasonably foreseeable plans, projects, or actions contributing to water quality, riparian areas, and wetlands cumulative effects in the CIAA include the following:

- Land- and water-based recreation, including land-based recreation use of roads, trails, campgrounds, and dispersed campsites and water-based use of the Green River for boating activities
- Livestock grazing and related range improvement and facility developments; livestock water infrastructure development to facilitate better grazing management on soils and vegetation
- Moab Master Leasing Plan and its associated Reasonably Foreseeable Development Scenarios for oil and gas and potash
- Mineral exploration and development, including oil and gas, potash, helium, and locatable minerals such as lithium and uranium

Accumulating impacts to water quality, riparian areas, and wetlands in the CIAA include sedimentation and contamination from loss of vegetation; exposed soils and soil disturbance and displacement resulting from development and use activities; compaction on existing roads during use; trampling of soils and riparian vegetation from livestock grazing and off-route recreation uses such as camping and exploring; and loss of vegetation and soil nutrients resulting from wildland fires. Some soil instability, erosion, and sediment travel into waterways can occur from road prisms in areas with steep slopes or high erosion potential in combination with natural snowmelt and runoff events.

Under Alternative A, there would be no change to the existing route networks in the TMA. Impacts from the existing route network and ongoing OHV use would reflect a continuation of current conditions, and an overall incremental change to water quality, wetlands, and riparian areas within the CIAA is not anticipated.

None of the travel network action alternatives B-D propose any new construction of routes, and each of these alternative networks would reduce routes designated for OHV use and provide for reclamation of decommissioned routes. The action alternatives would also implement a comprehensive route network operation and management activities through a TMP Implementation Guide (Appendix N), with formal guidance for signing, reclamation, and adaptive management protocols that are designed to help offset ongoing route-related impacts to the TMA's water resources. None of the action alternatives are expected to result in incremental

impacts on water resources when added to other past, present, and reasonably foreseeable actions.

3.2.7 WILDLIFE: FISH (T&E[13] AND BLM SENSITIVE SPECIES)

How would the travel network alternatives impact Threatened and Endangered and BLM Sensitive fish species and habitat within the TMA?

Affected Environment

The fish-bearing waters of the TMA consist primarily of 44 miles of the Green River, known as Labyrinth Canyon, as well as seasonally inundated side channels, backwaters, and confluence habitats associated with tributaries to the Green River, including Ten Mile Canyon, Spring Canyon, Hell Roaring Canyon, and Mineral Canyon. Critical habitat for federally listed fish species and important habitat for BLM Sensitive fish species extends from the wetted channel to the elevation of the 100-year floodplain. These special status species fish have declined due to streamflow regulation, competition with and predation by nonnative fish species, and habitat modification resulting in habitat loss, degradation, and fragmentation caused by watershed changes, including increased sedimentation and negative water quality changes (e.g., pollutants and pesticides). More information on the habitat requirements of these Endangered and BLM Sensitive fish species can be found below.

In terms of fisheries, the Green River is important in comparison with other rivers in the Colorado River Basin region because of the uniqueness of fish species and connectivity within the river system. The Green River is also recognized on a national level due to the high level of fish migration through its river system and is often referred to as the "superhighway for fish." This river is considered regionally important for the recovery of the four federally listed species.

The Labyrinth Canyon segment, sometimes called the "nursery" reach, provides key connectivity, migration, nursery, and/or spawning areas for an intact native fish species assemblage consisting of four federally listed species, the Colorado pikeminnow, humpback chub, razorback sucker, and bonytail chub; three conservation agreement species, the roundtail chub, bluehead sucker, and flannelmouth sucker; and two other native species, the mottled sculpin and speckled dace. These fish species have overlapping needs and occupy different habitat in different stretches along the river as they migrate through the river system.

Labyrinth Canyon contains critical habitat, as designated by U.S. Fish and Wildlife Service, for the Colorado pikeminnow and the razorback sucker. This segment is unique in that its gravel bars provide important spawning habitat while the lower-gradient meandering character provides critical slackwater nursery habitats (e.g., backwaters, side channels, etc.) for larval and young-of-year Colorado pikeminnow and razorback sucker. The following information, extracted from Utah Division of Wildlife Resources (UDWR) reports, highlights the relative importance of the Labyrinth segment of the Green River. In 2020, 125 young-of-year Colorado pikeminnow were encountered on the lower Green River (Labyrinth/Stillwater), and none on the middle Green River (Split Mountain to Sand Wash). Over the 2000-2013 sample period, weighted regression indicated abundance of adult Colorado pikeminnow declined in the Green River Subbasin but in the Desolation-Gray Canyon and lower Green River reaches numbers were stable. The total

[13] See Section 4.3.2 for information regarding the Section 7 consultation process.

number of razorback sucker larvae captured annually by light trapping has increased significantly on the lower Green River (Labyrinth/Stillwater) since sampling began in 2009, with the exception of 2020, when sampling was suspended due to COVID-19. Additionally, one young-of-year razorback was collected from the lower Green River in 2020 during seine sampling while none were encountered in other locations (Bestgen, et al. 2018; UDWR 2018a, 2020a, UDWR 2020b).

Bluehead sucker (*Catostomus discobolus*) – BLM Sensitive

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).

Bonytail chub (*Gila elegans*) – Endangered

The bonytail chub was listed as endangered on April 23, 1980. It is a medium-sized fish species in the minnow family that is endemic to the large rivers of the Colorado River Basin. The species is adapted to mainstem rivers, where it has been observed in pools and eddies (USFWS 2008). Primary threats include stream flow regulation and habitat modification, competition with and predation from nonnative fishes, hybridization with other native *Gila* species, and pesticides and pollutants (USFWS 2002a). Historically widespread and abundant in mainstem rivers, its populations have been greatly reduced; currently, remnant populations occur in the wild in low numbers (USFWS 2008). For more details on habitat, threats, and trends, see page viii of Bonytail (*Gila elegans*) Recovery Goals: Amendment and Supplement to the Bonytail Chub Recovery Plan (USFWS 2002a).

Colorado pikeminnow (*Ptychocheilus lucius*) – Endangered

The Colorado pikeminnow was federally listed as an endangered species in 1967 before being fully protected by the ESA on January 4, 1974. It is the largest fish in the minnow family, is native to North America, and evolved as the main predator in the Colorado River system. The species is a long-distance migrator that requires long sections of river with unimpeded passage as well as pools, deep runs, and eddy habitats with high spring flows. Primary threats include stream flow regulation and habitat modification, competition with and predation from nonnative fishes, and pesticides and pollutants (USFWS 2002b). Historically found throughout warm-water reaches of the Colorado River Basin, the species is currently restricted to the Upper Colorado River Basin and inhabits warm-water reaches of the Colorado, Green, and San Juan River and associated tributaries (USFWS 2008). 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 2011).

Flannelmouth sucker (*Catostomus latipinnis*) – BLM Sensitive

The flannelmouth sucker is typically found in mainstem and tributary streams. Young flannelmouth are found in quiet, shallow riffles and near-shore eddies while adults use deeper riffles and runs. The species now occupies about 50% of its historical range in the Upper Colorado River Basin (UDWR 2006).

Humpback chub (*Gila cypha*) – Endangered

The Humpback chub was listed as endangered on March 11, 1967 before being fully protected by the ESA on January 4, 1974. It is a medium-sized fish in the minnow family that is endemic to the Colorado River Basin. Humpback chub migrate very little and seem to prefer canyon reaches. In Utah, humpback chub occur in a few whitewater areas of the Green River. Primary threats include stream flow and habitat modification, competition with and predation by nonnative fishes, parasitism, hybridization with other native *Gila* species, and pesticides and pollutants (USFWS 2008). Historically, humpback chub were distributed throughout much of the Green River and tributaries; present concentrations in the Upper Colorado River Basin occur in canyon-bound river reaches. For more details on habitat, threats, and trends, see pages 3 to 11 of Humpback Chub (*Gila cypha*) 5-Year Review: Summary and Evaluation (USFWS 2018a).

Razorback sucker (*Xyrauchen texanus*) – Endangered

The razorback sucker was designated as endangered on October 23, 1991. It is endemic to warm-water portions of the Colorado River system. It is found most commonly in low-velocity habitats such as backwaters, floodplains, flatwater river reaches, and reservoirs (USFWS 2018b). Threats include stream flow regulation and habitat modification, competition with and predation by nonnative fishes, and pesticides and pollutants. Historically, razorback suckers were found in the mainstem Colorado River and major tributaries in Arizona, California, Colorado, Nevada, New Mexico, Utah, Wyoming, and Mexico and were once so abundant they were used as food by early settlers and were commercially marketable in the mid-1900s. Currently, the largest concentration is found in Lake Mohave; the largest populations in the upper basin are found in the upper Green and lower Yampa rivers. In the Upper Colorado River Basin, they are found in limited numbers in both lentic and riverine environments. As of July 7, 2021, the USFWS has proposed to downlist the razorback sucker from an Endangered species to a Threatened species, as the species' status "has improved due to conservation actions and partnerships, and the threats to the razorback sucker identified at the time of listing in 1991 have been eliminated or reduced to the point that the species is no longer currently in danger of extinction throughout all or a significant portion of its range, but it is still likely to become so within the foreseeable future without current active and intensive management" (86 FR 35708 35728). For more details on habitat, threats, and trends see the Species Status Assessment for the Razorback Sucker *Xyrauchen texanus* (USFWS 2018b).

Roundtail chub (*Gila robusta*) – BLM Sensitive

Habitat consists of rocky runs, rapids, and pools of creeks, streams, and rivers. They now occupy about 45% of their historical range in the Upper Colorado River Basin (UDWR 2006).

Environmental Effects Analysis

Consistent with 43 CFR 8342.1(b), the IDT gave special attention to special status fish habitat when developing travel network alternatives. The travel networks analyzed in the action alternatives include measures to minimize impacts to endangered or threatened species and their habitats, such as proposing routes for closure or seasonal limitations under some alternatives.

Use of travel routes in this TMA can potentially have effects on special status fish species that include physical or chemical habitat modification or direct mortality from vehicle strikes at crossings. OHV use and maintenance activities can increase erosion, sedimentation, salinity, and

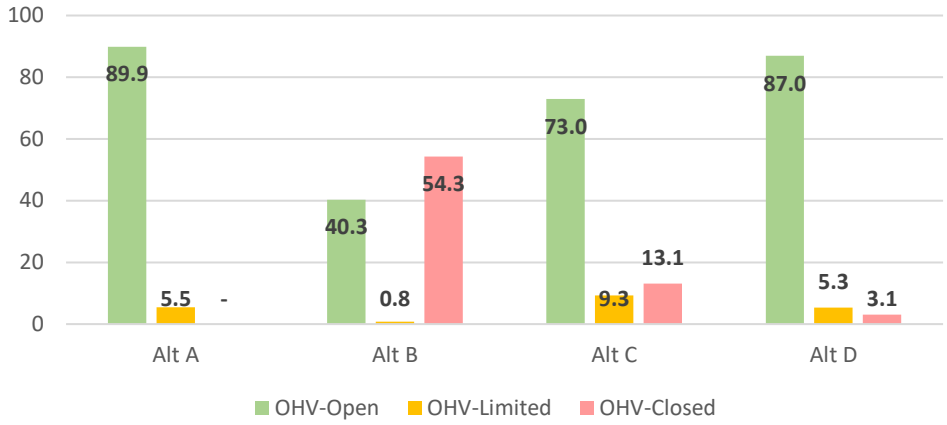
contaminant delivery into critical habitat for ESA-listed fish. Erosion often increases at stream crossings and from OHV use directly within stream channels or upon stream banks. However, upland travel routes can also be a source and a conduit for OHV-related contaminants and sediment directly from the road surface or from uplands draining onto the road, increasing sediment delivery to stream crossings. OHV use during wet periods can result in surface rutting or head-cutting, particularly in washes or streams, which can concentrate and accelerate water flow, erosion, and sediment transport, thereby reducing water quality. Such erosion and head-cutting can lead to channel incision and subsequent lowering of the water table, ultimately causing streams to lose access to their floodplains, resulting in a loss of riparian habitat. Mortality of riparian vegetation and compaction of riparian and wetland soils from OHV travel and maintenance activities can cause reduced infiltration, breakdown of vegetation capillary action, drying up or dusting of wetlands and riparian areas, bank instability, and increased erosion. Travel routes traversing through saline soils may also contribute to increased downstream salinity.

In terms of fish habitat within the TMA, the physical size of tributary confluence habitats can be reduced through increased deposition, and aggradation within critical side-channel and backwater habitat can lead to the degradation or eventual loss of slackwater nursery habitats. Colonization of newly deposited sediment by invasive woody species (e.g., tamarisk, Russian olive) can further imperil these important habitats. In some cases, important gravel and cobble substrates may be buried in finer sediments. Delivery of OHV-related contaminants or increased salinity is likely to degrade water quality. Designations that limit, decommission, or reclaim closed routes on or near waterways, floodplains, riparian areas, and wetlands can reduce or stop the perpetuation of the effects described above by reducing or eliminating OHV use, or limiting the size of the OHV.

TMP implementation activities that can affect special status fish species include route maintenance (i.e., surface and ditch blading, drainage structure installations, etc.), ripping and seedbed preparation of closed routes, and sign installations (digging post holes). These effects are likely to be minor and temporary because they occur infrequently. Some of the activities listed above and other implementation activities can have a positive effect on water resources. For example, sign placement can encourage managed travel on stable designated routes less disruptive to waterways; drainage structures installed at appropriate intervals and locations (i.e., with adequate spacing for road grades, soil types, and buffer areas at outlets) can help minimize route-related erosion and sediment transport into waterways; and seeding and planting of closed routes can help reestablish native vegetation communities, thereby improving the soils' resiliency to water impairment-related erosion.

Effects are analyzed collectively for the special status fish species in the TMA, as the habitat for each species is the same: the portions of the Green River along the TMA's western boundary as well as active channels and adjacent floodplains of perennial or seasonally inundated tributary reaches and confluences connected to the Green River. The miles of evaluated routes within the Conditional Area of Influence (AOI) were used as an indicator of impacts to special status fish. The Conditional AOI includes the 100-year floodplain (the AOI) and ½-mile buffer of the portions of the Green River along the TMA's western boundary, as indicated in the USFWS Information for Planning and Consultation data (USFWS 2021).

Figure 25: Miles of Evaluated Routes in Conditional AOI for Special Status Fish Species



Alternative A (No Action/Current Management)

Under Alternative A, there would be change to the designated travel network in the TMA. The current travel network has 95.4 miles of evaluated routes within the Conditional AOI for special status fish species in the TMA. The effects described above from the evaluated routes and related use and maintenance would continue to occur on those routes designated OHV-Open. Impacts to the TMA's fish species (e.g., degradation of water quality and fish habitat due to erosion; sedimentation; increased salinity; and loss of important streamside and riparian vegetative cover) from the routes and ongoing related use would reflect a continuation of current management.

Alternative B (Natural Resource Emphasis)

Within the Conditional AOI for special status fish in the TMA, the Alternative B travel network would designate 41.1 miles of evaluated routes for OHV use, a 57% reduction from Alternative A. 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. Overall, Alternative B would have the lowest potential of any alternative for OHV use-related impacts to fish and fish habitat within the TMA.

Alternative C (Multiple Use Emphasis)

Within the Conditional AOI for special status fish in the TMA, the Alternative C travel network would designate 82.3 miles of evaluated routes for OHV use, a 14% reduction from Alternative A. 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. Overall, Alternative C would have lower potential than Alternative A but higher potential than Alternative B for OHV use-related impacts to fish and fish habitat within the TMA.

Alternative D (Access Emphasis)

Within the Conditional AOI for special status fish in the TMA, the Alternative D travel network would designate 92.3 miles of evaluated routes for OHV use, a 3% reduction from Alternative A. 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. Overall, Alternative

D would have lower potential than Alternative A but higher potential than the other action alternatives for OHV use-related impacts to fish and fish habitat within the TMA.

Cumulative Effects

The CIAA for special status fish species is a ½-mile IPaC buffer that intersects the TMA. This represents the likely inputs of salinity or sediment delivery related to the proposed Alternatives.

Past, present, and reasonably foreseeable plans, projects, or actions contributing to cumulative effects to special status fish species in the CIAA include the following:

- Amendments to the Recovery Plans for bonytail chub, Colorado pikeminnow, and razorback sucker
- Range-wide Conservation Agreement and Strategy for Roundtail Chub (*Gila Robusta*), Bluehead Sucker (*Catostomus Discobolus*), and Flannelmouth Sucker (*Catostomus Latipi*)
- Land-based recreation, including use of roads, trails, campgrounds, and dispersed campsites; water-based use of the Green River and its corridor for boating activities and camping
- Livestock grazing and related range improvement and facility developments; livestock water infrastructure development to facilitate better grazing management on soils and vegetation
- Moab Master Leasing Plan and its associated Reasonably Foreseeable Development Scenarios for oil and gas and potash
- Mineral exploration and development, including oil and gas, potash, helium, and locatable minerals such as lithium and uranium

Accumulating impacts to special status fish species in the CIAA include sedimentation and contamination from loss of vegetation, exposed soils and soil disturbance and displacement resulting from development and use activities, compaction on existing roads during use, trampling of riparian vegetation and soils from livestock grazing and off-route recreation uses such as camping and exploring; and from loss of vegetation and soil nutrients resulting from wildland fires. Some soil instability, erosion, and sediment travel into fish habitat can occur on routes in areas with steep slopes or high erosion potential in combination with natural snowmelt and runoff events.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from the existing route network and ongoing OHV use would reflect a continuation of current conditions, and an overall incremental change to special status species within the CIAA is not anticipated.

None of the travel network action alternatives B-D propose the construction of new routes, and each of these alternatives would reduce miles of routes designated for OHV use and provide for reclamation of decommissioned routes. The action alternatives would also implement comprehensive route network operation and management activities through a TMP Implementation Guide (Appendix N), with formal guidance for signing, reclamation, and adaptive management protocols that are designed to help offset ongoing route-related impacts to the TMA's fish and special status fish species. None of the action alternatives are expected to result in incremental impacts on the TMA's special status fish species and their habitats when added to other past, present, and reasonably foreseeable actions.

3.2.8 WILDLIFE: GENERAL WILDLIFE

How would the travel network alternatives impact general wildlife species and habitat within the TMA?

Affected Environment

The TMA supports various big game and other general wildlife habitat and species. Due to its varied terrain, the presence of the Green River, and a wide range in elevation, wildlife resources in the Labyrinth/Gemini Bridges TMA are quite rich. Large game and predator mammals include desert bighorn sheep, pronghorn, mule deer, mountain lion, black bear, coyote, and fox. The desert bighorn herd is endemic to the area having been present prior to European settlement. Some of the bird species found in the TMA include turkey vulture, red-tailed hawk, golden eagle, bald eagle, great-horned owl, burrowing owl, cliff swallow, pinyon jay, common raven, canyon wren, mountain bluebird, and American dipper. Reptiles found in the area include several types of lizard and snake, including the collared lizard, gopher snake, night snake, and Western rattlesnake.

Not all TMA wildlife, wildlife habitat, and potential effects on these resources from the alternative travel networks are discussed below; rather, analysis focuses on those that are necessary for making a reasoned choice between alternatives and were identified as issues in scoping. This includes potential impacts to **desert bighorn sheep**, **pronghorn antelope**, and **amphibians**.

Table 10: Acres of General Wildlife Habitat and Miles of Evaluated Routes in Habitat

Species	Habitat Acres on BLM Lands within TMA	Miles of Evaluated Routes within Habitat
Desert bighorn	93,098	294.2
Pronghorn	111,742	394.6
Amphibians	18,106	79.3

Desert bighorn sheep (*Ovis canadensis nelsoni*)

Desert bighorn sheep inhabit remote and rugged terrain—slickrock canyons, rocky slopes, and canyonlands—and are one of the resources managed in the Highway 279/Shafer Basin/Long Canyon ACEC. Bighorns are native to Utah and were well known to the prehistoric inhabitants of the state; they inhabited nearly every mountain range in the state prior to European settlement. The habitat types preferred by bighorn are areas with steep, rough terrain with good visibility (talus slopes and canyons) and flatter valley floors, which have rough terrain or escape cover nearby (BLM 2008b). Bighorn sheep are gregarious; in the Moab area, ewes, lambs, and young rams form small family groups of 8-10 animals while rams tend to form separate bachelor groups and only come in contact with the family groups during the rut. Desert bighorn have struggled to survive human impacts. Today, they generally occur in southern Utah and in the MFO do not migrate, but rather remain in the same canyon systems year-round. The MFO in cooperation with the UDWR, Foundation for North American Wild Sheep, Brigham Young University, Canyonlands Natural History Association, and the National Fish and Wildlife Foundation have done extensive GPS collar studies from 2002 through 2010 (UDWR 2018b) and currently Joel Berger with Colorado State University is conducting additional research via collars the UDWR

placed on animals in 2019. This large pool of collar data has allowed the Moab BLM to further refine the crucial habitats that support this herd. These animals are mostly found in the large canyon systems, making canyon bottoms, talus slopes, and canyon rims vital habitats for this herd. The last population estimate of the number of desert bighorn sheep was 223 animals; the population objective is 300 animals (UDWR 2019). Mineral and Hell Roaring Canyons provide particularly valuable desert bighorn habitat. The UDWR has incorporated this data into their statewide habitat files as lambing habitat, though these areas are utilized yearlong. The TMA is part of UDWR's La Sal, Potash management unit; the bighorn in this unit is under its population objective (UDWR 2019).

Pronghorn antelope (*Antilocapra americana*)

Pronghorn historically ranged widely west of the Mississippi. The late 1800s saw drastic declines in population due to fencing, habitat loss, and unregulated hunting, but populations have since recovered; recent estimates place the North American population around 800,000, including nearly 16,000 in Utah. Pronghorn primarily inhabit grasslands and shrub steppe biomes with succulent forb vegetation and available water (UDWR 2017). Pronghorn prefer areas with large tracts of flat to rolling open terrain where they rely on keen eyesight and swift movement to avoid predators (BLM 2013). The northern half of the TMA contains yearlong crucial pronghorn habitat.

Amphibians

Amphibians common in the TMA include Great Basin spadefoot (*Spea intermontana*), red-spotted toad (*Anaxyrus punctatus*), Woodhouse's toad (*Anaxyrus woodhousii*), tiger salamander (*Ambystoma tigrinum*), northern leopard frog (*Lithobates pipiens*), and canyon tree frog (*Hyla arenicolor*). A UDWR amphibian report states that "of all locations surveyed to date, Kane Creek and Ten Mile Canyon appear to hold the most diverse and thriving amphibian populations" (UDWR 2016).

Environmental Effects Analysis

Motorized visitation and use levels within the TMA varies by season (with March, April, May, September, and October being the most popular months). High-visitation months often coincide with the most crucial seasons for wildlife (especially the spring seasons). This means that the effects of travel on wildlife can be exacerbated because of the timing of that visitation.

The nature and type of impacts on big game and general wildlife and their habitats from travel route designations and route-related uses include habitat avoidance and abandonment, interference of daily movement, increased physical stress that can result in decreased health and parturition, and increased vehicle collisions resulting in injury or mortality (Ouren et al. 2007, Ortega 2012). Studies suggest noise from OHV use is a factor in wildlife disturbance (Naidoo and Burton 2020). Recreational disturbance from motorized and non-motorized activities affects big game behavior by increasing travel time and decreasing feeding and resting time (Naylor et al. 2009). Avoidance of human disturbance can also cause indirect habitat loss and impair forage availability (Dwinnell et al. 2019); species avoidance is strongest for mountain biking and motorized vehicles (Naidoo and Burton 2020). These impacts can escalate seasonally during sensitive birthing, rearing, and breeding seasons and during extreme weather regimes such as

drought, extreme heat or cold, or heavy snowfall. Habitat loss and fragmentation are direct impacts of OHV route designations and OHV use. OHV use can contribute to:

- Increased soil erosion and direct loss of vegetative habitat
- Invasive plants and noxious weed establishment in disturbed areas which in turn increases the potential and frequency for wildland fire
- Surface disturbances that promote growth and spread of invasive plants and noxious weeds into native vegetative communities, reducing habitat quality, foraging availability, and thermal cover
- Increased dusting of crucial native vegetative habitat resulting in plant mortality, and subsequent reduction of habitat quality, foraging availability, and thermal cover

The potential for direct and indirect impacts on big game and general wildlife habitats from OHV use can be estimated by comparing miles of routes and/or percentage of a given travel network designated as OHV-Open, OHV-Limited, and OHV-Closed in areas of wildlife habitats. Hunting and game retrieval access serves to support UDWR management efforts where hunting is used as a management tool to control populations of big game species. UDWR is the agency with jurisdictional authority over the desert bighorn sheep herd within the TMA. The Utah Bighorn Sheep Statewide Management Plan (UDWR 2018) states,

> Bighorn habitat can be degraded, fragmented, or lost to a variety of causes including human disturbance, energy development, and natural succession. Reductions in the quality or quantity of habitat can result in corresponding losses to bighorn populations (DeForge 1972, Hamilton et al. 1982). Human disturbance may cause bighorn sheep to change use areas and abandon certain habitats because of those disturbances. Loss of preferred habitat can compel bighorns into habitats that reduce productivity, decrease survival rates, and increase risk of pathogen transmission. Human disturbance is also thought to be a possible stress inducer, which may lead to disease problems in some populations (DeForge 1981, Bunch et al. 1999). Working with federal land management agencies to protect the habitat needed for healthy herds may improve herd health.

For potential OHV-related impacts to amphibians, see Section 3.2.6, which describes effects from OHV use in riparian areas.

TMP implementation activities that could affect general wildlife and their habitats include preparation of new maps and brochures that would benefit wildlife and wildlife habitat by helping to direct and keep users on designated routes; installation of new signs; route maintenance (grading, installing water control structures, surfacing, etc.); route decommissioning or reclamation (including ripping the ground and planting seed, grading/recontouring); or installation of fencing or barriers. If implementation is proposed that falls outside of the previously disturbed area, additional site-specific NEPA may be required before the activity could occur. Seeding and planting on closed routes could accelerate reclamation and help to reestablish habitat. Implementation activities in riparian areas are of particular concern for general wildlife and migratory birds, though some implementation activities would have a positive effect on riparian habitats; for example, sign placement could encourage managed travel on routes less disruptive to riparian resources.

The wildlife analysis below focuses on desert bighorn sheep, pronghorn antelope, and amphibians, but identified impacts will have similar effects on other wildlife species and habitat

in the TMA. Analysis for bighorn will focus on travel-related effects on lambing habitats identified by the UDWR, as bighorn are particularly sensitive to disturbance during the lambing season but typically reside in these lambing habitats year-round. Analysis for amphibians will focus on riparian areas, which are used as a proxy for amphibian habitat.

Figure 26: Miles of Evaluated Routes in Desert Bighorn Lambing Areas

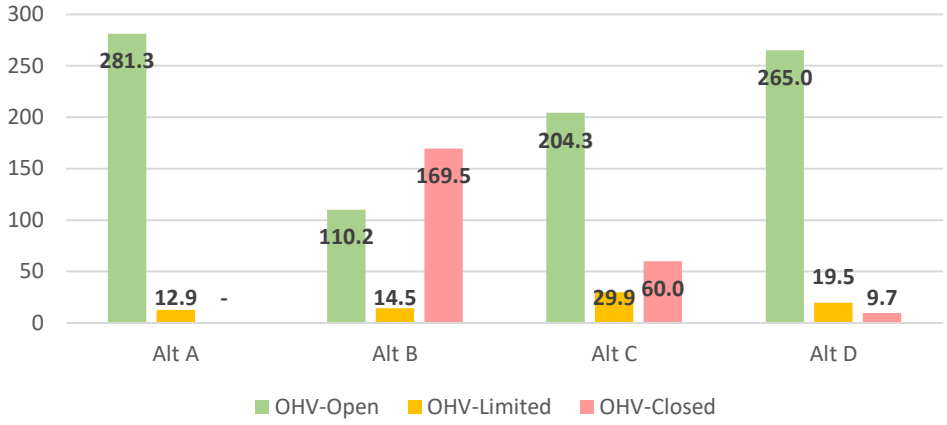


Figure 27: Miles of Evaluated Routes in Pronghorn Antelope Habitat

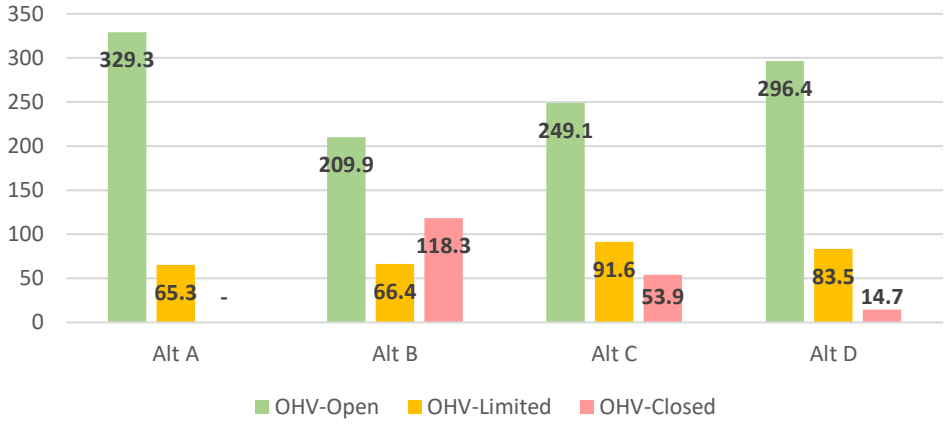
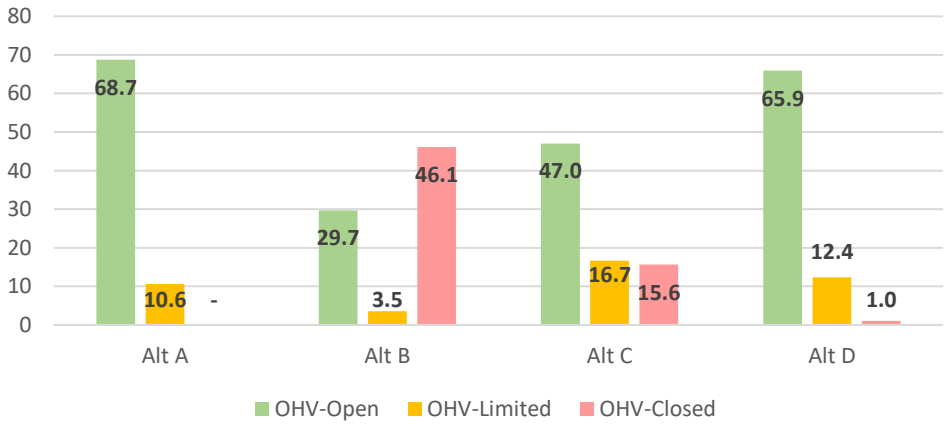


Figure 28: Miles of Evaluated Routes in Amphibian Habitat



Alternative A (No Action/Current Management)

Under Alternative A, there would be no route designation changes in the TMA. The current designated travel route network has 294.2 miles of evaluated routes within desert bighorn crucial lambing areas, all of which would remain designated for OHV use year-round. Within pronghorn yearlong crucial habitat, the current travel network has 394.6 miles of evaluated routes, all of which would remain designated for OHV use. And within amphibian habitat, the current travel network has 79.3 miles of evaluated routes, all of which would remain designated for OHV use under this alternative. Impacts to habitat from ongoing OHV use (i.e., direct mortality, injury, behavioral modifications, habitat alteration, habitat fragmentation, etc.) would reflect a continuation of current management.

Alternative B (Natural Resource Emphasis)

In desert bighorn crucial lambing habitat, the Alternative B travel network would designate 124.7 miles of evaluated routes for OHV use. This would be a 58% reduction in miles designated for OHV use in these areas compared to Alternative A; under this alternative, routes with known resource conflicts for desert bighorn lambing were proposed as closed rather than as seasonally limited. Within pronghorn yearlong crucial habitat, Alternative B would designate 276.3 miles of evaluated routes for OHV use, a 30% reduction from Alternative A. In amphibian habitat, Alternative B would designate 33.2 miles for OHV use, a 58% reduction from Alternative A; specifically, Alternative B would close the Ten Mile route within the Ten Mile ACEC and the Tubes and Dead Cow motorcycle routes, eliminating impacts of OHV use on riparian areas in these systems. Effects noted above to general wildlife and habitat would continue to occur from those routes designated OHV-Open or OHV-Limited. Overall, Alternative B would have the lowest potential of any alternative for OHV-related impacts to general wildlife.

Alternative C (Multiple Use Emphasis)

In desert bighorn crucial lambing habitat, the Alternative C travel network would designate 234.2 miles of evaluated routes for OHV use. This would be a 20% reduction in miles designated for OHV use in these areas compared to Alternative A; additionally, of the routes designated for OHV use, Alternative C would designate 9.6 miles of evaluated routes within desert bighorn crucial lambing areas as OHV-Limited with a seasonal restriction to help protect wildlife such as bighorn sheep, migratory birds, and raptors during lambing and nesting seasons. Within pronghorn yearlong crucial habitat, Alternative C would designate 340.7 miles for OHV use, a 13% reduction compared to Alternative A. Within amphibian habitat, Alternative C would designate 63.7 miles of evaluated routes for OHV use, a 20% reduction from Alternative A; specifically, Alternative C would allow the Dripping Springs to Midway route within the Ten Mile ACEC to remain open while closing the less-used Midway to Green River section, and the Tubes and Dead Cow motorcycle routes would remain open as well. Effects noted above on general wildlife and habitat would continue to occur from those routes designated OHV-Open or OHV-Limited; routes limited seasonally would help protect bighorn sheep, migratory birds, and raptors from OHV-related disturbances during lambing and nesting seasons. Overall, Alternative C's potential for OHV-related impacts to general wildlife would be lower than Alternative A but higher than Alternative B.

Alternative D (Access Emphasis)

In desert bighorn crucial lambing habitat, the Alternative D travel network would designate 284.5 miles of evaluated routes for OHV use; this would be a 3% reduction in miles designated for OHV use in such areas compared to Alternative A. Of the routes designated for OHV use in desert bighorn crucial lambing areas, Alternative D would designate 2.4 miles as OHV-Limited with a seasonal restriction to help protect wildlife such as bighorn sheep, migratory birds, and raptors during lambing and nesting seasons. Within pronghorn yearlong crucial habitat, Alternative D would designate 379.9 miles for OHV use, a 4% reduction compared to Alternative A. In amphibian habitat, Alternative D would designate 78.3 miles for OHV use, a 1% (1.1-mile) reduction from Alternative A. Effects noted above on general wildlife and habitat would continue to occur from those routes designated OHV-Open or OHV-Limited; routes limited seasonally would help protect bighorn sheep, migratory birds, and raptors during lambing and nesting seasons. Overall, Alternative D's potential for OHV-related impacts to general wildlife would be lower than Alternative A but higher than the other action alternatives.

Cumulative Effects

Note: For cumulative effects analysis related to amphibian species, see Section 3.2.6.

The CIAA for bighorn and pronghorn includes habitats south of I-70, north of the Colorado River, east of the Green River, and west of the Dolores River/Colorado River confluence. I-70 and the rivers are reasonable travel corridor impediments for most terrestrial animals.

Past, present, and reasonably foreseeable plans, projects, or actions contributing to cumulative effects to general wildlife in the CIAA include the following:

- Utah Pronghorn Statewide Management Plan
- Utah Bighorn Sheep Statewide Management Plan
- Bighorn Sheep Unit Management Plan: La Sal, Potash/South Cisco WMU #13
- Land-based recreation, including use of roads, trails, campgrounds, and dispersed campsites; water-based use of the Green River and its corridor for boating activities and camping
- Livestock grazing and related range improvement and facility developments; livestock water infrastructure development to facilitate better grazing management on soils and vegetation
- Moab Master Leasing Plan and its associated Reasonably Foreseeable Development Scenarios for oil and gas and potash
- Mineral exploration and development, including oil and gas, potash, helium, and locatable minerals such as lithium and uranium
- Noxious weed and invasive species proliferation and treatment

Accumulating impacts to general wildlife in the CIAA include vegetation alteration and habitat fragmentation from increased human activity and noise from recreation use and development and equipment use; human activity and noise on existing roads during use; collisions with vehicles; livestock trampling and browsing of vegetation; drought; and removal of vegetation from wildfires.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from the existing route network and ongoing OHV use would be a continuation of current conditions, and overall incremental impacts to general wildlife and their habitats within the CIAA is not anticipated.

None of the travel network action alternatives B-D propose any new construction of routes, and each of the alternatives would reduce routes designated for OHV use and provide for reclamation of decommissioned routes. The action alternatives would also implement comprehensive route network operation and management activities through a TMP Implementation Guide (Appendix N), with formal guidance for signing, reclamation, and adaptive management protocols that are designed to help offset ongoing route-related impacts to the TMA's general wildlife species. None of the action alternatives are expected to result in incremental impacts on the TMA's general wildlife species and their habitats.

3.2.9 WILDLIFE: MIGRATORY BIRDS, INCLUDING RAPTORS

How would the travel network alternatives impact migratory birds and their habitat within the TMA?

Affected Environment

Migratory birds, including nesting raptors, use the TMA for foraging, roosting, and nesting. Many migratory birds depend on riparian areas (for more on riparian resources, see Section 3.2.6), so the riparian vegetation found along the Green River corridor and in the canyon bottoms within the TMA are particularly valuable, both during migration and for nesting. Nesting habitat for migratory birds includes tree limbs, ground sites, and rock outcrops. Raptors are widely accepted to be indicator species of environmental health because of their position at the top of food chains. Romin and Muck state that "Each raptor nest, its offspring, and supporting habitats are considered important to the long-term viability of raptor populations and are vulnerable to disturbance by many human activities" (2002). Raptors tend to nest on promontory points such as cliff faces and rock outcrops, but they may also nest in pinyon, juniper, or deciduous trees (BLM 2013). Mineral and Hell Roaring Canyons provide particularly valuable raptor habitat.

Raptors within the TMA include burrowing owl, buteo, Cooper's hawk, ferruginous hawk, golden eagle, great horned owl, Mexican spotted owl, peregrine falcon, prairie falcon, raven, and red-tailed hawk. Mexican spotted owl is addressed in more detail in Section 3.2.10. See Appendix G for a list of migratory birds of particular concern in the TMA, all of which are included in the analysis. Additional information can be found in Appendix R of the 2008 RMP and pages 3-187 to 3-188 of the 2008 Proposed RMP/EIS.

Environmental Effects Analysis

Motorized visitation to the TMA varies by season (with March, April, May, September, and October being the most popular months). These high-visitation months often coincide with the most crucial seasons for birds (especially the spring seasons). This means that the effects of travel on migratory birds can be exacerbated because of the timing of that visitation.

The nature and type of impacts on migratory birds and their habitat suitability from travel route designations and route-related uses include disturbance, mortality or injury from collision, and trampling or damage of brooding, nesting, foraging, and cover habitat. Travel route use can also

cause disturbance or interference with courtship, nesting, brood-rearing, or fledging activities. Because of sensitivity and fidelity to nest territory, abandonment of nest sites due to nearby human disturbances is of particular concern. Habitat-associated indirect risk factors of travel routes and related use include damage, loss, or fragmentation through isolation of habitats, establishment or spread of invasive weeds, and increased wildfire potential. OHV noise disturbances affecting birds can vary from abrupt and brief, like the disturbance caused by a single user passing by, to more extended disturbances like those resulting from high traffic volumes on a busy holiday or dispersed camping taking place within nesting or foraging habitat. Accordingly, species' responses may also range from brief, immediate responses, such as alerting or flushing, to more long-term responses like abandonment of preferred habitat; however, while some species are negatively affected, others occur more frequently nearer roads due to factors such as prey availability or vegetation type (Kaseloo and Tyson 2004). Indirect effects also include altering or influencing of prey species (e.g., rodents, lizards, and snakes) behavior as a result of disturbance to cover vegetation (Romin and Muck 2002).

TMP implementation activities that could affect migratory birds and their habitats include installing new signs, route maintenance (grading, installing water control structures, surfacing, etc.), route decommissioning or reclamation (including ripping the ground and planting seed, grading/recontouring), or installing fencing or barriers. If implementation is proposed that falls outside of the previously disturbed area, additional site-specific NEPA may be required before the activity could occur. Seeding and planting on closed routes could accelerate reclamation and help to reestablish habitat. Implementation activities in riparian areas are of particular concern for migratory birds, though some implementation activities would have a positive effect on riparian habitats; for example, sign placement could direct travel on routes less disruptive to riparian resources.

Because the entire TMA contains some level of potential migratory bird habitat, Figure 29 (identical to Figure 1), which shows total miles of routes by major designation for each alternative, is used as an indicator for potential OHV-related impacts to migratory birds.

Figure 29: Miles of Evaluated Routes in Migratory Bird Habitat

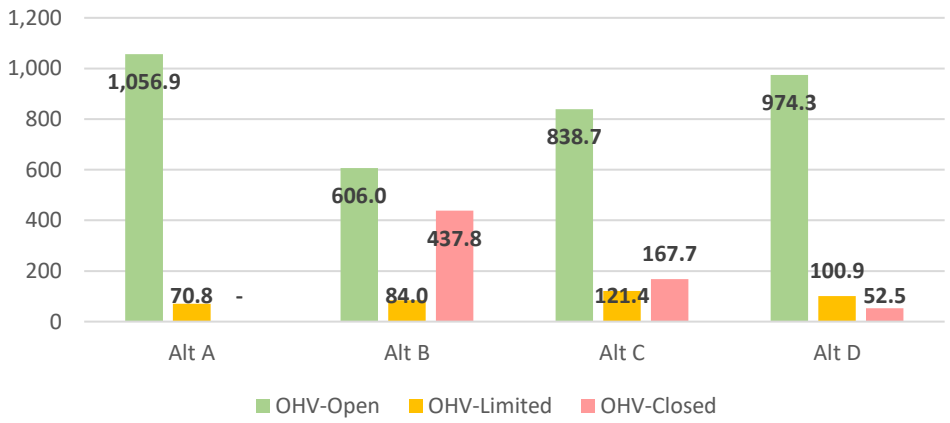
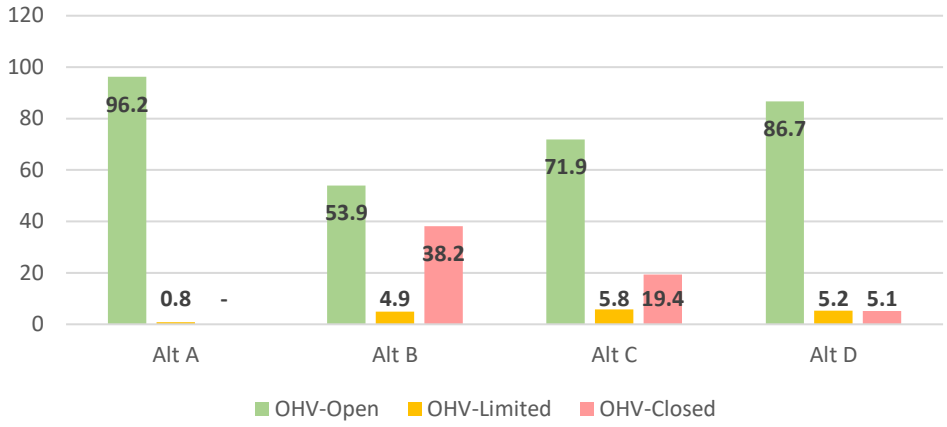


Figure 30, below, shows the miles of routes proximate to known raptor nests (i.e., within a specified buffer distance of nests). Proximity distances are based on those recommended in Appendix R of the 2008 RMP: for peregrine falcon, the proximity distance is 1 mile; for burrowing owl, it is ¼ mile; for other raptor species, it is ½ mile (BLM 2008c, p. R-13).

Figure 30: Miles of Evaluated Routes Proximate to Known Raptor Nests



Alternative A (No Action/Current Management)

The entire TMA provides some level of habitat potential for migratory birds, so all route miles and related uses in the current travel network have the potential to affect migratory birds and their habitat. The current travel network contains 1,127.7 miles of evaluated routes, all of which would remain open year-round to motorized use under Alternative A. Continuation of this level of OHV-Open designations would extend the potential for ongoing direct and indirect adverse impacts to migratory bird and raptor habitat described above throughout the TMA. Additionally, 97.0 miles of evaluated routes are proximate to raptor nests within the TMA, all of which would remain designated for year-round OHV use under Alternative A. Impacts to habitat from route designations and ongoing OHV use (i.e., direct mortality, injury, behavioral modifications, habitat alteration, habitat fragmentation, etc.) would reflect a continuation of current management.

Alternative B (Natural Resource Emphasis)

Within the TMA-wide migratory bird potential habitat, the Alternative B travel network would designate 690.0 miles of evaluated routes for year-round OHV use, a 39% reduction compared to Alternative A. Of the evaluated routes proximate to raptor nests in the TMA, Alternative B would designate 58.8 miles for year-round OHV use, a 39% reduction from Alternative A. Effects on migratory birds and raptors, as noted above, would continue to occur from those routes designated OHV-Open or OHV-Limited under this alternative. Overall, Alternative B would have the lowest potential of any alternative for OHV-related impacts to migratory birds and raptors.

Alternative C (Multiple Use Emphasis)

Within the TMA-wide migratory bird potential habitat, the Alternative C travel network would designate 941.8 miles of evaluated routes for year-round OHV use, a 16% reduction compared to Alternative A. Alternative C would also designate 18.3 miles of evaluated routes as OHV-Limited with a seasonal restriction to help protect wildlife such as migratory birds. Of the evaluated routes proximate to raptor nests in the TMA, Alternative C would designate 74.8 miles for year-round OHV use, a 23% reduction from Alternative A; Alternative C would also designate 3.0 miles of evaluated routes proximate to known raptor nests as OHV-Limited with a

seasonal limitation that would restrict motorized use during nesting season. Effects on migratory birds and raptors, as noted above, would continue to occur from those routes designated for OHV use year-round. Overall, Alternative C's potential for OHV-related impacts to migratory birds and raptors is lower than Alternative A but higher than Alternative B.

Alternative D (Access Emphasis)

Within the TMA-wide migratory bird potential habitat, the Alternative D travel network would designate 1,072.9 miles of evaluated routes for year-round OHV use, a 5% reduction compared to Alternative A. Alternative D would also designate 2.4 miles of evaluated routes as OHV-Limited with a seasonal restriction to help protect wildlife such as migratory birds. Of the evaluated routes proximate to raptor nests in the TMA, Alternative D would designate 89.6 miles for year-round OHV use, an 8% reduction from Alternative A. Alternative D would also designate 2.4 miles of evaluated routes proximate to known raptor nests as OHV-Limited with a seasonal limitation that would restrict motorized use during nesting season. Effects on migratory birds and raptors, as noted above, would continue to occur from those routes designated for OHV use year-round. Overall, Alternative D's potential for OHV-related impacts to migratory birds, including raptors, is lower than Alternative A but higher than the other action alternatives.

Cumulative Effects

The CIAA for migratory birds includes the entire TMA plus a ½-mile buffer, as deemed appropriate by BLM wildlife staff expertise. Many species of migratory birds and raptors nest, migrate through, and over-winter in the MFO and the TMA. Though birds can travel great distances during migration, typically the nesting, migrating, and wintering individuals in or within ½ mile of the TMA will be most directly impacted by all activities with the TMA.

Past, present, and reasonably foreseeable plans, projects, or actions contributing to cumulative effects to migratory birds in the CIAA include the following:

- Land-based recreation, including use of roads, trails, campgrounds, and dispersed campsites; water-based use of the Green River and its corridor for boating activities and camping
- Livestock grazing and related range improvement and facility developments; livestock water infrastructure development to facilitate better grazing management on soils and vegetation
- Moab Master Leasing Plan and its associated Reasonably Foreseeable Development Scenarios for oil and gas and potash
- Mineral exploration and development, including oil and gas, potash, helium, and locatable minerals such as lithium and uranium
- Noxious weed and invasive species proliferation and treatment

Accumulating impacts to migratory birds in the CIAA include vegetation alteration and habitat fragmentation from increased human activity and noise from recreation use and development and equipment use; human activity and noise on existing roads during use; collisions with vehicles; livestock trampling and browsing of vegetation; drought; and removal of vegetation from wildfires.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from the existing route network and ongoing OHV use would be a continuation of current conditions, and overall incremental impacts to migratory birds and their habitats within the CIAA is not anticipated.

None of the travel network action alternatives B-D propose any new construction of routes, and each of the alternatives would reduce routes designated for OHV use and provide for reclamation of decommissioned routes. The action alternatives would also implement comprehensive route network operation and management activities through a TMP Implementation Guide (Appendix N), with formal guidance for signing, reclamation, and adaptive management protocols that are designed to help offset ongoing route-related impacts to the TMA's migratory bird and raptor species. None of the action alternatives are expected to result in incremental impacts on the TMA's migratory bird and raptor species and their habitats.

3.2.10 WILDLIFE: SPECIAL STATUS SPECIES (FEDERALLY LISTED AND UTAH BLM SENSITIVE SPECIES)

How would the travel network alternatives impact special status wildlife species and their habitat within the TMA?

Affected Environment

ESA-Listed Animal Species[14]

The animal species below are listed as Threatened or Endangered under the ESA and have the potential to occur in the TMA. Details on habitat, threats, and trends for the ESA-listed species below as well as the BLM sensitive species listed lower in this section can be found in the "Special Status Species" sections of the 2008 Moab Proposed RMP/EIS (BLM 2008b, pages 3-147 to 3-164), the 2008 Moab RMP Biological Opinion (USFWS 2008), the UDWR Wildlife Action Plan 2015-2025 (UDWR 2015), NatureServe Explorer (NSE 2021), and BLM Instruction Memorandum No. UT IM-2019-005. All species listed below have at least the potential to occur in the TMA. Additional habitat, threat, and trend information sources are listed under each species. For acres of habitat and miles of evaluated routes within habitat in the TMA, see Table 11, below.

[14] See Section 4.3.2 for information regarding the Section 7 consultation process.

Table 11: Acres of Special Status Species Habitats and Miles of Evaluated Routes within Habitat

Species	Habitat Acres on BLM Lands within TMA	Miles of Evaluated Routes within Habitat
Mexican spotted owl	28,210	87.0
Southwestern willow flycatcher	16,606	57.0
Western yellow-billed cuckoo	1,138	5.1
White-tailed prairie dog and burrowing owl	18,700	62.8
Kit fox and special status bats	303,994	1,127.7

Mexican spotted owl (*Strix occidentalis lucida*) – Endangered

The Mexican spotted owl is a medium-sized owl that occurs in the forested mountains and canyonlands of the southwestern United States and Mexico. It is mottled in appearance with irregular white and brown spots on its abdomen, back, and head with several thin white bands that mark an otherwise brown tail. Listed as threatened on March 16, 1993 (58 FR 14248), the initial Mexican Spotted Owl Recovery Plan (1995) partitioned the owl's habitat into eleven distinct recovery units, now called Ecological Management Units. Encompassing the TMA is the 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). In Utah, these habitats, referred to as rocky-canyon habitats, typically include landscapes with complex tributary canyons, a variety of desert scrub and riparian vegetation communities, prominent vertical cliffs, and relatively cooler temperatures, which come from reduced insulation as a result of favorable canyon aspect. Within the rocky-canyon habitat, owls prefer to nest in caves and roost in caves or on rocky ledges, as well as in trees. While they nest and roost predominantly in the narrow, deeply incised sandstones 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 the majority of time spent foraging occurs below the rim (USFWS 2012). Modeled habitat exists within the TMA. Approximately 8,892 acres of designated critical habitat exist within the TMA.

The original listing of the Mexican spotted owl in 1993 cited two primary reasons: historical alteration of its habitat resulting from timber-management practices and the threat of these practices continuing. Currently, threats to its population in the U.S. have transitioned from timber harvest to an increased risk of stand-replacing wildland fire (USFWS 2012). Neither of those two threats are expected to impact the TMA modeled habitat due to spotty tree and ground cover, but habitat alteration and fragmentation have the potential to negatively affect any owls that would be present. For additional details on Mexican spotted owl habitat, threats, and trends see the Mexican Spotted Owl Recovery Plan (USFWS 2012).

Southwestern willow flycatcher (*Empidonax trailii extimus*) – Endangered

The southwestern willow flycatcher 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 (60 FR 10694). The historical range of the species included Arizona, California, Colorado, New Mexico, Texas, and Utah. The current range is similar but the quantity of suitable habitat within

that range has been greatly reduced. Although often considered to use only cottonwood-willow associations, it is known to nest in various exotic species in the southwest, such as tamarisk and Russian olive. In general, its distribution follows its riparian habitat: 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 (Johnson and Essen 2005). On October 19, 2005, 120,824 acres of critical habitat were formally designated across Arizona, New Mexico, California, Nevada, and Utah. Although critical habitat within Utah was only designated along the Virgin River in Washington County, the TMA contains suitable habitat for the species.

Threats to the southwestern willow flycatcher are numerous and complex but the primary factors include habitat loss and modification, invasive species in breeding habitats, brood parasitism, vulnerability of small population numbers, stresses during migration and in wintering habitats. For more details on habitat, threats, and trends, see the Final Recovery Plan for the Southwestern Willow Flycatcher (USFWS 2002c).

Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) – Threatened

The western yellow-billed cuckoo was listed as threatened on October 3, 2014 (79 FR 59991 60038). It is a riparian-obligate species found intermittently throughout the western United States that nests in low to moderate elevation deciduous riparian woodlands (USFWS 2016). Though their current distribution in Utah is poorly understood, they appear to be an extremely rare breeder in lowland riparian habitats statewide. Much of the western yellow-billed cuckoo riparian habitat has been converted to farmland and housing, leading to population declines. Critical habitat was designated on April 21, 2021 (86 FR 20798 21005). It includes 298,845 acres in Arizona, California, Colorado, Idaho, New Mexico, Texas, and Utah. No designated critical habitat exists within the TMA and no known populations exist within the TMA. Suitable habitat within the TMA is limited by dry conditions, narrowness of existing riparian zones, grazing, and the presence of brown-headed cowbirds.

The cuckoo was listed due to loss of riparian habitat from agricultural use, water use, road development and urban development. Ongoing threats include habitat destruction and degradation from the invasion of tamarisk, livestock use of riparian areas, water withdrawals, and human development. For additional details on cuckoo habit, threats, and trends, see the Proposed Threatened Status for the Western Distinct Population Segment of the Yellow-Billed Cuckoo (*Coccyzus americanus*); Proposed Rule (78 FR 61621 61666).

BLM Sensitive Animals

The TMA contains habitat for the following BLM Sensitive animals. For acres of habitat and miles of evaluated routes within habitat in the TMA, see Table 11, below.

Big free-tailed bat (*Nyctinomops macrotis*) – BLM Sensitive

The big free-tailed bat is a UDWR-listed species of concern and a BLM-listed sensitive species that has a wide but discontinuous distribution from western North America to South America. It occupies rocky areas in rugged or hilly country. It is found throughout eastern Utah but tends to migrate out of Utah for the winter. The species roosts and forms maternity colonies near the tops of cliffs, though sometimes they utilize buildings, caves, or tree cavities. The entire TMA has

potential habitat for big free-tailed bat use. For more details on habitat and threats, see NSE 2021, UDWR 2008, and UDWR 2015.

Burrowing owl (*Athene cunicularia*) – BLM Sensitive

This species is migratory, arriving in its northern breeding range around April-May, and known to inhabit open grassland and prairies, using abandoned animal burrows at sites that occur in a variety of shrub-dominated habitats, often in sparsely vegetated areas. Stresses on the western burrowing owl include habitat loss and fragmentation due to urban land conversion and declines in populations of colonial burrowing mammals (USFWS 2003). Within the MFO, most burrowing owl nests are found in prairie dog habitat, as burrowing owls nest in abandoned burrows; because of this interrelationship, white-tailed prairie dog habitat will be used to analyze both species. For more details on habitat, threats, and trends, see NSE 2021.

Ferruginous hawk (*Buteo regalis*) – BLM Sensitive

See discussion for migratory birds and raptors in Section 3.2.9.

Kit fox (*Vulpes macrotis*) – BLM Sensitive

Kit fox habitat within the TMA is comprised of semi-desert and shrub-grass biomes that consist primarily of shadscale, greasewood, and sagebrush. In Utah, dens tend to be on flat, well-drained uplands. Kit foxes may use several dens, especially in summer. The entire TMA has potential habitat for kit fox use. For more details on habitat, threats, and trends, see NSE 2021.

Spotted bat (*Euderma maculatum*) – BLM Sensitive

This species occurs in various habitats from desert to montane coniferous stands, including open ponderosa pine, pinyon-juniper woodland, canyon bottoms, riparian and river corridors, meadows, open pasture, and hayfields. Most records are from deep, narrow, rocky canyons, where crevices in cliff walls are primary roosting sites. They are considered rare in Utah, though potential habitat exists throughout the TMA. For more details on habitat, threats, and trends, see pages 7-13, 85-91, and 97-107 of The Bats of Utah: A Literature Review (UDWR 2000).

Townsend's big-eared bat (*Corynorhinus townsendii*) – BLM Sensitive

Townsend's big-eared bat is found in many different types of habitats but tend to prefer forested areas and roost in caves, mines, and buildings. They are considered particularly sensitive to human disturbance (BLM 2013). The entire TMA has potential habitat for Townsend's big-eared bat use. For more details on habitat, threats, and trends, see pages 7-13, 85-91, and 97-107 of The Bats of Utah: A Literature Review (UDWR 2000).

White-tailed prairie dog (*Cynomys leucurus*) – BLM Sensitive

The white-tailed prairie dog is a UDWR-listed species of concern and a BLM-listed sensitive species. The species was found not warranted for ESA listing in 2017. They require relatively deep, well-drained soils for development of burrows, and they inhabit areas with flat to gently rolling slopes in grasslands and high desert scrub. White-tailed prairie dogs prefer saltbush and sagebrush habitats with an understory of grasses and forbs. Because they obtain most of their water from plants, moist vegetation is crucial to maintaining populations. Their burrows provide habitat for burrowing owls and small mammals, and prairie dogs also serve as an important prey

species for a number of predators. Their current range is similar to their historic range, but their abundance has declined because of control efforts and plague. Populations since a 2008 survey have been relatively stable (UDWR 2015). The TMA contains modeled habitat for white-tailed prairie dog. For more details on habitat, threats, and trends, see UDWR 2007.

Environmental Effects Analysis

Consistent with 43 CFR 8342.1(b), the IDT gave special attention to special status wildlife species and their habitat when developing travel network alternatives. The network alternatives include measures to minimize impacts to special status wildlife species and their habitats, such as proposing routes for closure or seasonal limitations. (A sample route report is found in Appendix J. The full set of route reports can be found on the project's eplanning website).

Motorized visitation to the TMA varies by season (with March, April, May, September, and October being the most popular months). High-visitation months often coincide with the most crucial seasons for special status wildlife species (especially the spring seasons). This means that the effects of travel on special status species can be exacerbated because of the timing of that visitation.

OHV use and related recreation have been shown to have adverse effects on ESA-listed and BLM Sensitive animal species and their habitats. The effects of OHV use can be wide-ranging and detrimental to species and their populations especially if important habitats, like riparian areas, are affected (Gutzwiller et al. 2017). These effects can include direct mortality, injury, habitat destruction, habitat alteration, and habitat fragmentation (Brooks and Lair 2005, Ouren et al. 2007, Trombulak and Frissell 2000). Direct mortality can result from accidental collisions with OHVs, intentional and illegal poaching of special status wildlife, or the inadvertent destruction of eggs, nests, and burrows by unwitting individuals. Injury can result from animal-vehicle collisions or animal exposure to OHV effects such as the inner-ear bleeding found to occur in small mammals exposed to OHV-generated noise (Ouren et al. 2007). Additionally, roadside use, whether by foot, camping, roadside parking, passing, staging, or other means, can lead to the alteration of animal behavior or alteration or destruction of foraging, burrowing, or nesting habitats. Because of this, travel routes that go through or are adjacent to nesting, burrowing, or riparian habitat areas are of particular concern.

Disturbance from OHV use and human presence can also result in indirect impacts to special status species. Because many animal species respond to humans in the same ways they respond to predators, OHV use can trigger behavioral changes like increased flight and vigilance, and result in the disruption or displacement of other essential behaviors including breeding, nesting, foraging, hunting, and predator-avoidance activities (Larson et al. 2016, Ouren et al. 2007, Trombulak and Frissell 2000). Noise from OHVs can negatively impact birds by affecting nest-site selection or masking biologically important sounds, including mating calls or predator and prey sounds (Ortega 2012). These OHV noise disturbances can vary from abrupt and brief, like the disturbance caused by a single user passing by, to disturbances more extended in duration like those resulting from high traffic volumes on a busy holiday or dispersed camping taking place within nesting or foraging habitat. Accordingly, species' responses may also 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).

Impacts from route designations and OHV use affect habitat as well, further reducing resource availability through the introduction of non-native species, reductions in native vegetative cover, and detrimental changes to the physical and chemical environment like altered and amplified erosion patterns, reduced water infiltration, reduced water quality, reduced soil fertility, and increases in pollutants (Brooks and Lair 2005, Ouren et al. 2007, Trombulak and Frissell 2000). These reductions in habitat quality and connectivity exacerbate the direct and indirect impacts to individuals detailed above and can result in effects to native wildlife populations, species richness, and community composition (Larson et al. 2016, Ouren et al. 2007, Trombulak and Frissell 2000). Reduced density, diversity and biomass of lizards, birds, small prey species, and even special status predators like the BLM sensitive kit fox have been associated with OHV use areas (Ouren et al. 2007, Jones et al. 2017). Specialist species, like the kit fox and other special status animals analyzed in this section, are particularly vulnerable to ecosystem alterations. The environmental changes outlined above have historically favored generalist species, like coyotes and ravens, at the expense of specialist species, like kit foxes and burrowing owls (Wilson and Willis 1975, With and Crist 1995, McKinney 1997, Hoffmeister et al. 2005). For more details on species-specific travel-related effects, see the 2008 Moab Proposed RMP/EIS (BLM 2008b), the 2008 Moab Biological Opinion (USFWS 2008), the Utah Wildlife Action Plan 2015-2025 (UDWR 2015b), the Mexican Spotted Owl Recovery Plan (USFWS 2012), the Final Recovery Plan for the Southwestern Willow Flycatcher (USFWS 2002c), and NatureServe Explorer (NSE 2021).

TMP implementation activities that can affect special status animals and their habitats include road maintenance (grading, installing water control structures, etc.), route reclamation (including ripping the ground and planting seed, grading/recontouring), or installing signs or fencing or barriers (digging post holes). Seeding and planting on closed routes can also accelerate reclamation and help to reestablish habitat. If implementation is proposed that falls outside of the previously disturbed area, additional site-specific NEPA may be required before the activity could occur.

Travel networks with more open or limited designations, particularly within close proximity to special status species' habitats, can contribute to the perpetuation of OHV use-related effects as discussed above. Conversely, closed and limited designations that prohibit OHV use wholly or in part in such habitat can reduce or eliminate the perpetuation of the OHV-use effects, thereby benefitting wildlife species.

Figure 31 – Figure 35, below, which show the miles of routes proximate to or within special status wildlife species habitats, are used as indicators of potential impacts to special status wildlife species. Proximity distances for the federally listed species are based on those recommended in Appendix Q of the 2008 RMP.

Figure 31: Miles of Evaluated Routes within ½ Mile of Mexican Spotted Owl Habitat

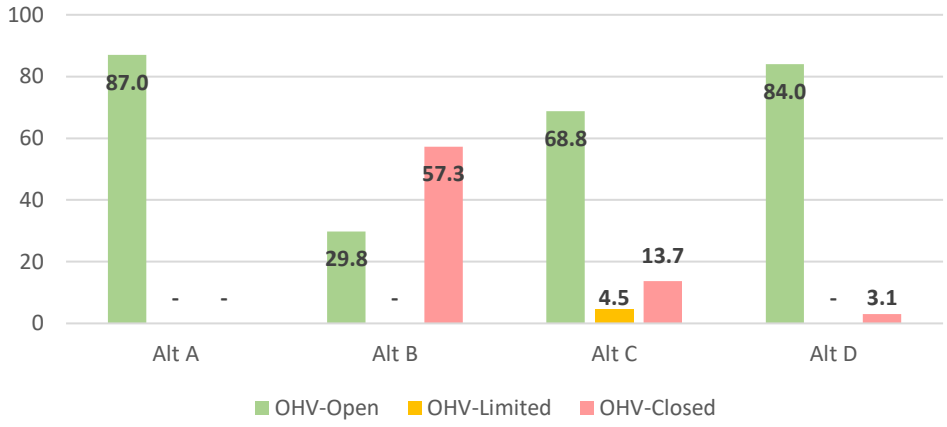


Figure 32: Miles of Evaluated Routes within ¼ Mile of Southwestern Willow Flycatcher Habitat

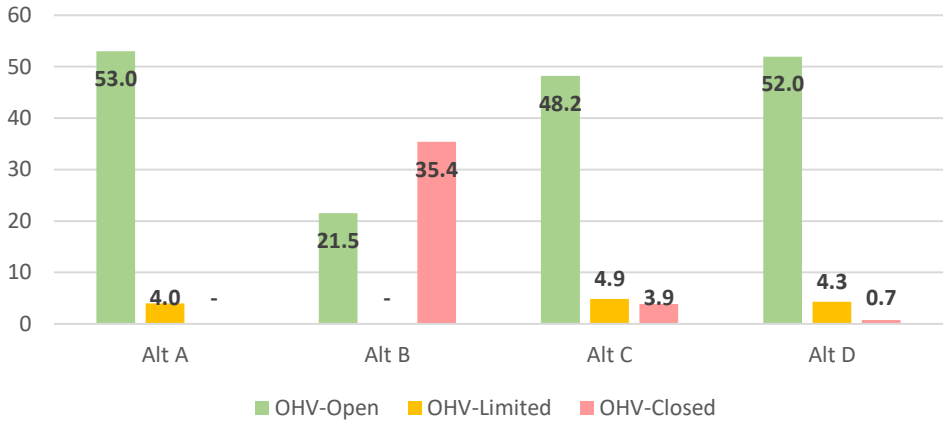


Figure 33: Miles of Evaluated Routes within ½ Mile of Western Yellow-Billed Cuckoo Habitat

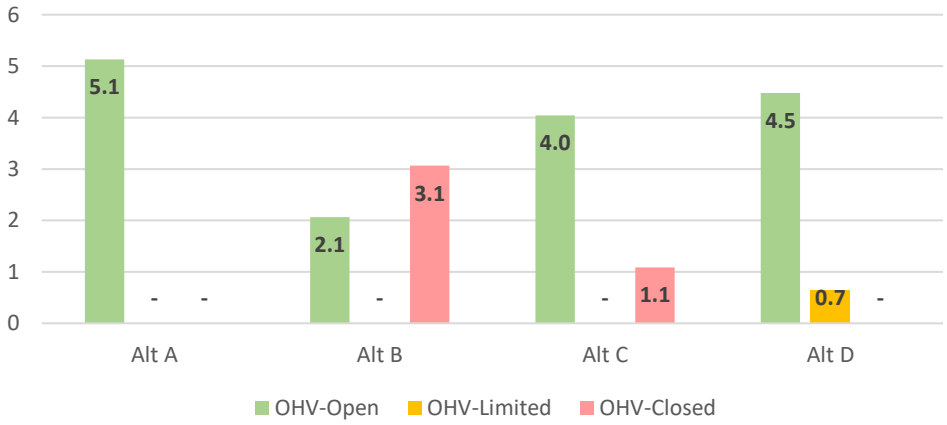


Figure 34: Miles of Evaluated Routes in White-Tailed Prairie Dog Modeled Habitat and Burrowing Owl Territory

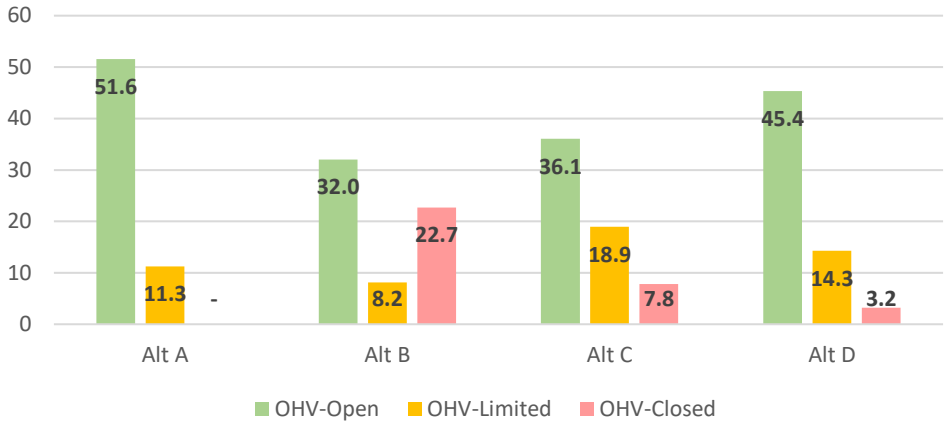
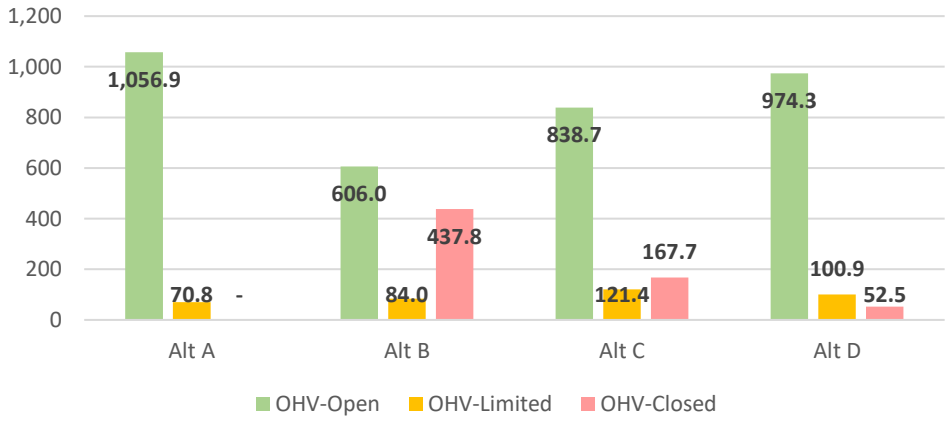


Figure 35: Miles of Evaluated Routes in Kit Fox and Special Status Bat Habitat[15]



Alternative A (No Action/Current Management)

Under Alternative A, there would be no route designation changes in the TMA. Of the evaluated routes in the Alternative A network, 8% (87.0 miles) are within ½ mile of Mexican spotted owl modeled habitat, 5% (57.0 miles) are within ¼ mile of Southwestern willow flycatcher suitable habitat, 0.5% (5.1 miles) are within ½ mile of Western yellow-billed cuckoo suitable habitat, and 6% (62.8 miles) are in white-tailed prairie dog modeled habitat and burrowing owl territory. Some habitat potential for kit fox, big free-tailed bat, spotted bat, and Townsend's big-eared bat, and spotted bat occurs across the entire TMA. Impacts to special status animal habitat from ongoing OHV use (i.e., direct mortality, injury, behavioral modifications, habitat alteration, habitat fragmentation, etc.) would reflect a continuation of current management. The Alternative A travel network, with the most route miles open to OHV use in special status animal habitats, would have the greatest potential for adverse impacts to listed and sensitive species of any of the alternatives.

[15] Note: Some level of habitat potential exists across the entire TMA for these species.

Alternative B (Natural Resource Emphasis)

Under this travel network alternative, routes with known resource conflicts for special status species, particularly in riparian habitat areas, were proposed as closed rather than as seasonally limited. Alternative B would designate 29.8 miles of evaluated routes for OHV use within Mexican spotted owl modeled habitat, a 66% reduction from Alternative A. In Southwestern willow flycatcher suitable habitat, Alternative B would designate 21.5 miles of evaluated routes for OHV use, a 62% reduction compared to Alternative A. In Western yellow-billed cuckoo suitable habitat, Alternative B would designate 2.1 miles of evaluated routes for OHV use, a 60% reduction compared to Alternative A. In white-tailed prairie dog modeled habitat and burrowing owl territory, Alternative B would designate 40.2 miles of evaluated routes for OHV use, a 36% reduction compared to Alternative A. Finally, in kit fox and special status bat potential habitat, which includes the entire TMA, Alternative B would designate 690.0 miles for OHV use, a 39% reduction from Alternative A. The same types of effects to special status animal habitat noted above would continue to occur from those routes designated OHV-Open or OHV-Limited. Overall, Alternative B would have lower potential than all other alternatives for OHV-related impacts to special status animals within the TMA.

Alternative C (Multiple Use Emphasis)

Under the Alternative C travel network, some routes are proposed for seasonal restrictions during sensitive periods for wildlife. Within Mexican spotted owl modeled habitat, Alternative C would designate 73.3 miles of evaluated routes for OHV use, a 16% reduction from Alternative A; of the routes designated for OHV use, 4.5 miles would be limited seasonally. In Southwestern willow flycatcher suitable habitat, Alternative C would designate 53.1 miles of evaluated routes for OHV use, a 7% reduction from Alternative A; of the routes designated for OHV use, 0.5 miles would be limited seasonally. In Western yellow-billed cuckoo suitable habitat, Alternative C would designate 4.0 miles of evaluated routes for OHV use, a 21% reduction compared to Alternative A. In white-tailed prairie dog modeled habitat and burrowing owl territory, Alternative C would designate 55.0 miles of evaluated routes for OHV use, a 12% reduction compared to Alternative A. Finally, in kit fox and special status bat potential habitat, which includes the entire TMA, Alternative C would designate 960.1 miles for OHV use, a 15% reduction from Alternative A. The same types of effects to special status animal habitat noted above would continue to occur from those routes designated OHV-Open or OHV-Limited. Overall, Alternative C would have lower potential than Alternative A but higher potential than Alternative B for OHV-related impacts to special status animals within the TMA.

Alternative D (Access Emphasis)

The Alternative D travel network would designate 84.0 miles of evaluated routes for OHV use within Mexican spotted owl modeled habitat, a 4% reduction from Alternative A. In Southwestern willow flycatcher suitable habitat, Alternative D would designate 56.3 miles of evaluated routes for OHV use, a 1% reduction compared to Alternative A. In Western yellow-billed cuckoo suitable habitat, Alternative D would designate all 5.1 miles of evaluated routes for OHV use, the same as Alternative A; of these, 0.7 miles would be restricted seasonally. In white-tailed prairie dog modeled habitat and burrowing owl territory, Alternative D would designate 59.7 miles of evaluated routes for OHV use, a 5% reduction compared to Alternative A. Finally, in kit fox and special status bat potential habitat, which includes the entire TMA, Alternative D

would designate 1,075.2 miles for OHV use, a 5% reduction from Alternative A. The same types of effects to special status animal habitat noted above would continue to occur from those routes designated OHV-Open or OHV-Limited. Overall, Alternative D would have lower potential than Alternative A but higher potential than the other action alternatives for OHV-related impacts to special status animals within the TMA.

Cumulative Effects

The CIAA for terrestrial special status wildlife species includes habitats south of I-70, north of the Colorado River, east of the Green River, and west of the Dolores River/Colorado River confluence; I-70 and the rivers represent reasonable travel corridor impediments for terrestrial species. The CIAA for burrowing owl includes ¼ mile from potential habitats within the TMA, and for ferruginous hawk includes ½ mile from potential habitats within the TMA (buffer distances are based on guidance in Appendix R of the 2008 RMP); both species nest, migrate through, and over-winter in the MFO and though birds can travel great distances during migration, typically the nesting, migrating, and wintering individuals in or near the TMA will be most directly impacted by activities with the TMA. The CIAA for ESA-listed avian species includes buffered nesting habitat; though birds can travel great distances during migration, the TMA is not identified as a wintering area for any of these species and any potential winter residents would also likely utilize nesting-type habitats.

Past, present, and reasonably foreseeable plans, projects, or actions contributing to cumulative effects to special status wildlife in the CIAA include the following:

- Mexican Spotted Owl Recovery Plan
- Southwestern Willow Flycatcher Recovery Plan
- Land-based recreation, including use of roads, trails, campgrounds, and dispersed campsites; water-based use of the Green River and its corridor for boating activities and camping
- Livestock grazing and related range improvement and facility developments; livestock water infrastructure development to facilitate better grazing management on soils and vegetation
- Moab Master Leasing Plan and its associated Reasonably Foreseeable Development Scenarios for oil and gas and potash
- Mineral exploration and development, including oil and gas, potash, helium, and locatable minerals such as lithium and uranium
- Noxious weed and invasive species proliferation and treatment

Accumulating impacts to special status wildlife in the CIAA include vegetation alteration and habitat fragmentation from increased human activity and noise from recreation use and development and equipment use; human activity and noise on existing roads during use; collisions with vehicles; livestock trampling and browsing of vegetation; drought; and removal of vegetation from wildfires. While not all the actions and events noted above may have contributed to direct or indirect impacts to special status animal species, associated site disturbances, access routes, and OHV use have also resulted in establishment and spread of invasive species and noxious weeds which compete with special status animal habitats.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from the existing route network and ongoing OHV use would be a continuation of current conditions, and overall incremental impacts to special status wildlife and their habitats within the CIAA is not anticipated.

None of the travel network action alternatives B-D propose any new construction of routes, and each of the alternatives would reduce routes designated for OHV use and provide for reclamation of decommissioned routes. The action alternatives would also implement comprehensive route network operation and management activities through a TMP Implementation Guide (Appendix N), with formal guidance for signing, reclamation, and adaptive management protocols that are designed to help offset ongoing route-related impacts to the TMA's special status wildlife species. None of the action alternatives are expected to result in incremental impacts on the TMA's special status wildlife species and their habitats.

3.2.11 RECREATION

How would the travel network alternatives impact recreation opportunities and experiences in the TMA?

Affected Environment

The TMA offers significant opportunities for a variety of outdoor recreation activities, particularly scenic driving and viewing, full-sized vehicle and UTV/ATV exploring, dirt biking, mountain biking, climbing, camping, hiking, and hunting. Tourism and recreation accounts for 48.9% of the Grand County economy (U.S. Department of Commerce, Bureau of Economic Analysis, 2022). The number of visitors continues to grow annually—peaking each year during spring and fall months. The TMA is wholly within the Labyrinth Rims/Gemini Bridges SRMA which is managed as a Destination SRMA, where the majority of the visitation is from outside the community (see the 2008 RMP for management direction specific to the SRMA; BLM 2008b), with sufficient facilities and infrastructure in order to provide opportunities for primarily front-country recreation experiences. Most of the TMA is easily accessible from Moab, and receives moderate to heavy recreation use, both motorized and non-motorized. Recreation infrastructure ranges from developed campgrounds and trailheads to directional signing (BLM 2018). The TMA adjoins Canyonlands National Park and Dead Horse Point State Park, further attracting visitors to the area.

Motorized recreation is popular in the TMA and while the area offers a wide variety of recreation opportunities, it absorbs a particularly high level of OHV use relative to other areas within the MFO. There are several world class 4WD/OHV routes used by the annual Easter Jeep Safari event, including the Secret Spire, Hell Roaring Rim, Gemini Bridges, Copper Ridge, Long Canyon, and Crystal Geyser routes. A 1,866-acre open OHV area (i.e., open to cross-country travel) is located at the White Wash Sand Dunes. Utah Highway 313 is a Utah State Scenic Byway and is popular for scenic driving outings; Highway 313 terminates at Dead Horse Point State Park. One backcountry airstrip in the TMA has been considered for designation (Mineral). There are three other airstrips in the TMA (Big Flat, Spring Canyon and Deadman Point) that are seldom used; while they are not considered for designation in this TMP, they could be considered for designation in the future on a case-by-case basis through a separate implementation-level planning decision.

The TMA also offers well-known non-motorized opportunities. There are 152 miles of popular mountain biking-only routes within the TMA, including those located in the Klondike Bluffs and Bar M Mountain Bike Focus Areas, as well as the Navajo Rocks, Magnificent Seven, and Horsethief trail systems. Hiking and backpacking opportunities include the Spring Canyon drainage and the constructed and maintained Corona Arch, Jeep Arch, Portal, Jewel Tibbets Arch, Longbow Arch, and Dellenbaugh Tunnel hiking trails, as well as numerous backcountry opportunities. Trails accessing paleontological sites are located at the Mill Canyon Tracksite, the Mill Canyon Dinosaur Trail, the Dinosaur Stomping Grounds, and the Copper Ridge Sauropod Site. Canyoneering activities are popular in the side canyons of Long Canyon, as well as in some side canyons of Culvert Canyon. Seven Mile Canyon is a popular equestrian destination. In addition, little-used routes near Jug Rock are popular with horseback riders.

The portion of the Green River forming the western boundary of the TMA is called Labyrinth Canyon, and it is popular for flatwater float trips by canoe or raft. Approximately 28 miles of evaluated routes are within the 100-year floodplain and directly adjacent to the non-motorized float trip route, including the Hey Joe Route, the Tubes, Dead Cow and Hell Roaring Canyon. The BLM has received verbal and written complaints from boaters concerning the noise made by motorized vehicles along the Labyrinth Canyon river corridor. BASE jumping and highlining are also popular in the area, primarily along the Mineral Bottom Road. Hunting access and opportunity is important in some areas of the TMA as well. Camping in the TMA is popular, with hundreds of campsites occupied on busy spring and fall weekends. Each of these campsites is accessed via the route network. Camping is currently limited to designated sites on 90,957 acres of the TMA.[16] In certain locations, such as along Utah Highway 313, all the designated sites are within developed campgrounds. In the remaining areas where camping is restricted, campsites are marked and designated. These areas include lands to the east of the Dubinky Well Road, Bartlett Wash, Gemini Bridges, and Bride Canyon, as well as lands designated as desert bighorn sheep lambing habitat. On the remainder of BLM lands within the TMA, dispersed camping is currently allowed and is enjoyed by many, although driving off designated routes to access campsites is not allowed. As a result of increased visitation, resource damage is occurring and it is likely that additional camping areas may be subject to additional management in the future (BLM 2018).

In fiscal year 2022, the MFO received 1,679,157 visitor days, of which 336,002 were within the TMA (FY2022). Visitor days are not expected to decrease regardless of which alternative travel network is chosen; that is, people will continue to come to the TMA and will drive the roads that are available (see Appendix H for an estimate of the economic impacts to recreation from this plan).

Environmental Effects Analysis

Direct effects that travel networks and their use have on recreation include reductions or gains in access for desired recreation opportunities and experiences and in encounters or conflicts with other users seeking different experiences (e.g., equestrian users on open OHV routes encountering OHV users) or with authorized users. Indirect impacts or effects include the actual gain or loss of recreation user opportunities and experiences afforded by the public lands for

[16] Due to the increase in vehicle camping and its effects on natural and cultural resources, the BLM is considering limiting camping to designated sites in additional areas, increasing from 90,957 acres previously limited to designated sites within the TMA (see DOI-BLM-UT-Y010-2021-0094-EA).

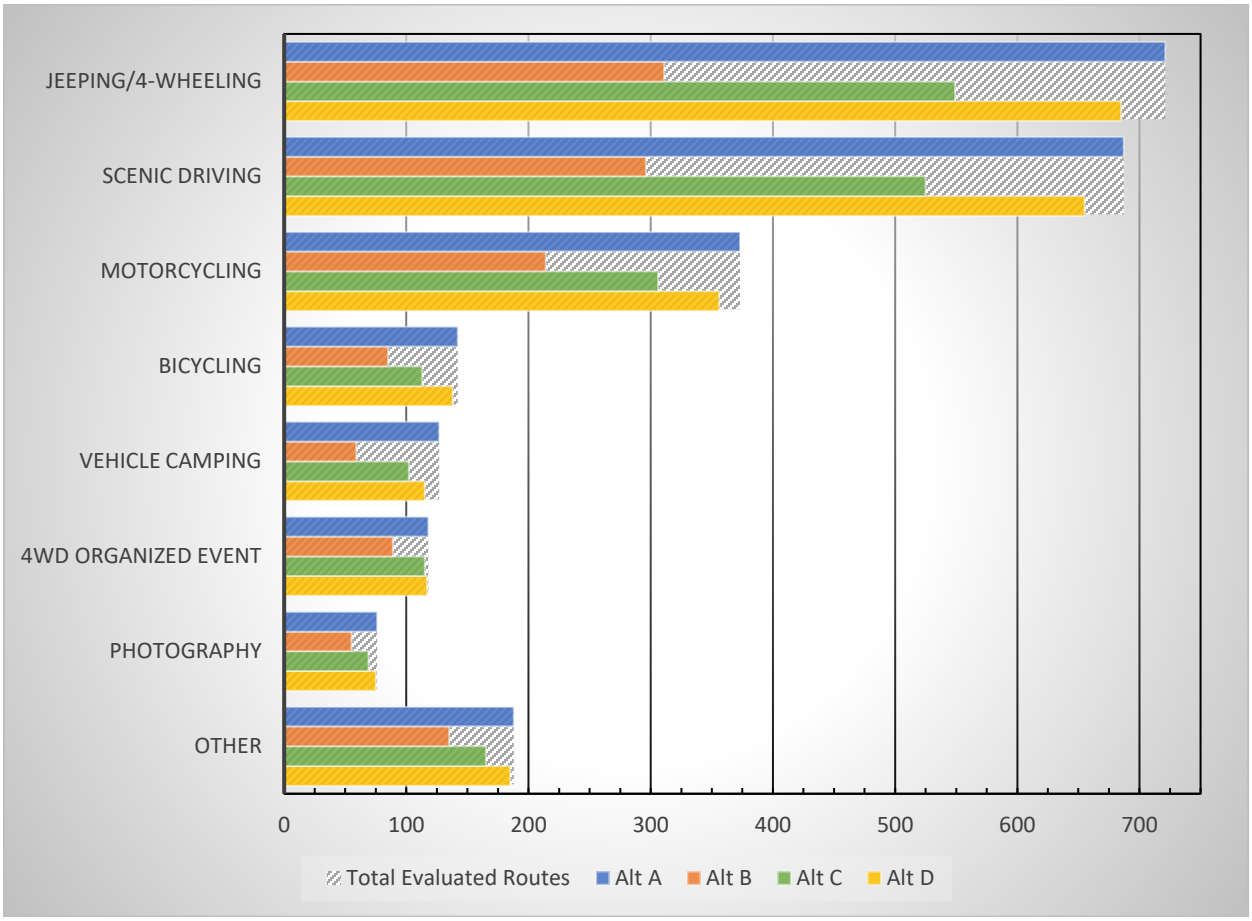
which a given travel network serves to provide access. Past evidence for displacement of users due to route closures is minimal; proposed travel network alternatives would continue to provide recreation opportunities with varying degrees of direct and indirect impacts (See Environmental Effects Analysis for Alternatives A-D).

Based on use trends within the MFO, it is highly likely that visitation and demand for recreation opportunities will continue to increase, with visitors continuing to seek a diverse mix of motorized and non-motorized opportunities. Users seeking quiet, non-motorized recreation experiences (e.g., hiking, biking, hunting, and horseback riding), particularly near the Green River and its tributary canyons in the TMA, may in some cases benefit from a travel network that closes more OHV routes, as these users may encounter fewer conflicts with motorized users. Conversely, those same users may benefit from a travel network that maintains a certain level of access to locations where they will begin their non-motorized activities (e.g., trailheads). Users seeking OHV-based recreation opportunities and maximum vehicle-based dispersed camping options would benefit from a network with more open route designations. In some cases, motorized and non-motorized user conflicts are minimized due to topographic screening. Providing for a broad variety of motorized and non-motorized opportunities would also enhance user safety by, at times, separating motorized users from non-motorized users (e.g., reducing or eliminating encounters between motorcycle and equestrian or mountain bike users). Table 32, in Appendix C, which shows acres of BLM lands within the TMA that are greater than ½ mile, 1 mile, and 2 miles from evaluated routes, provides more context for non-motorized opportunities. For additional analysis of opportunities for primitive and unconfined recreation, see Section 3.2.2 (Lands with Wilderness Characteristics).

TMP implementation activities that could affect recreation include route maintenance (surface and ditch grading and drainage structure replacement or installation, etc.), and sign placement (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. If implementation is proposed that falls outside of the previously disturbed area, additional site-specific NEPA may be required before the activity could occur.

In analyzing the impacts of the various travel network alternatives on recreation, network miles and number of routes accessing recreation destinations (e.g., trailheads, BASE jumping areas, etc.) are used to provide a quantitative comparison of increased or decreased recreation user access for a variety of recreation activities and destinations.

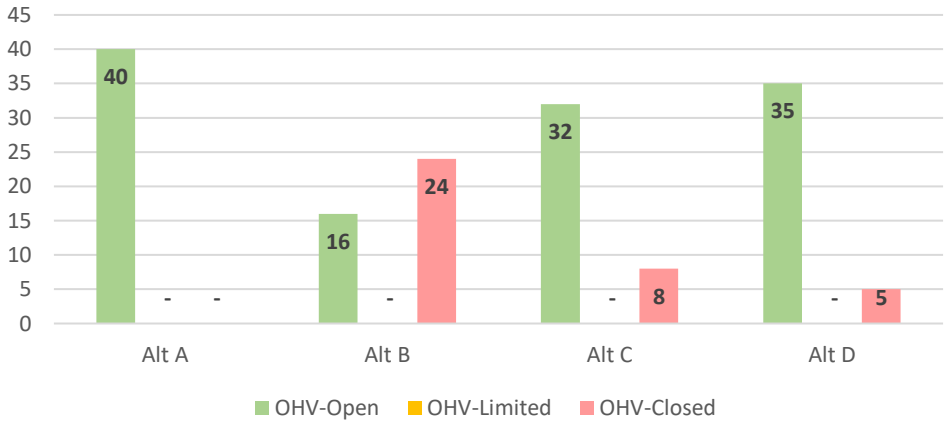
Figure 36: Number of Evaluated Routes Providing Opportunities for Various Recreation Activities



* "Other" activities include hunting, cultural/fossil/historical exploration, wildlife watching, hiking, competitive non-motorized events, rockhounding/fossil collecting, rock climbing, BASE jumping, flatwater canoe trips, backpacking, skydiving, and canyoneering.

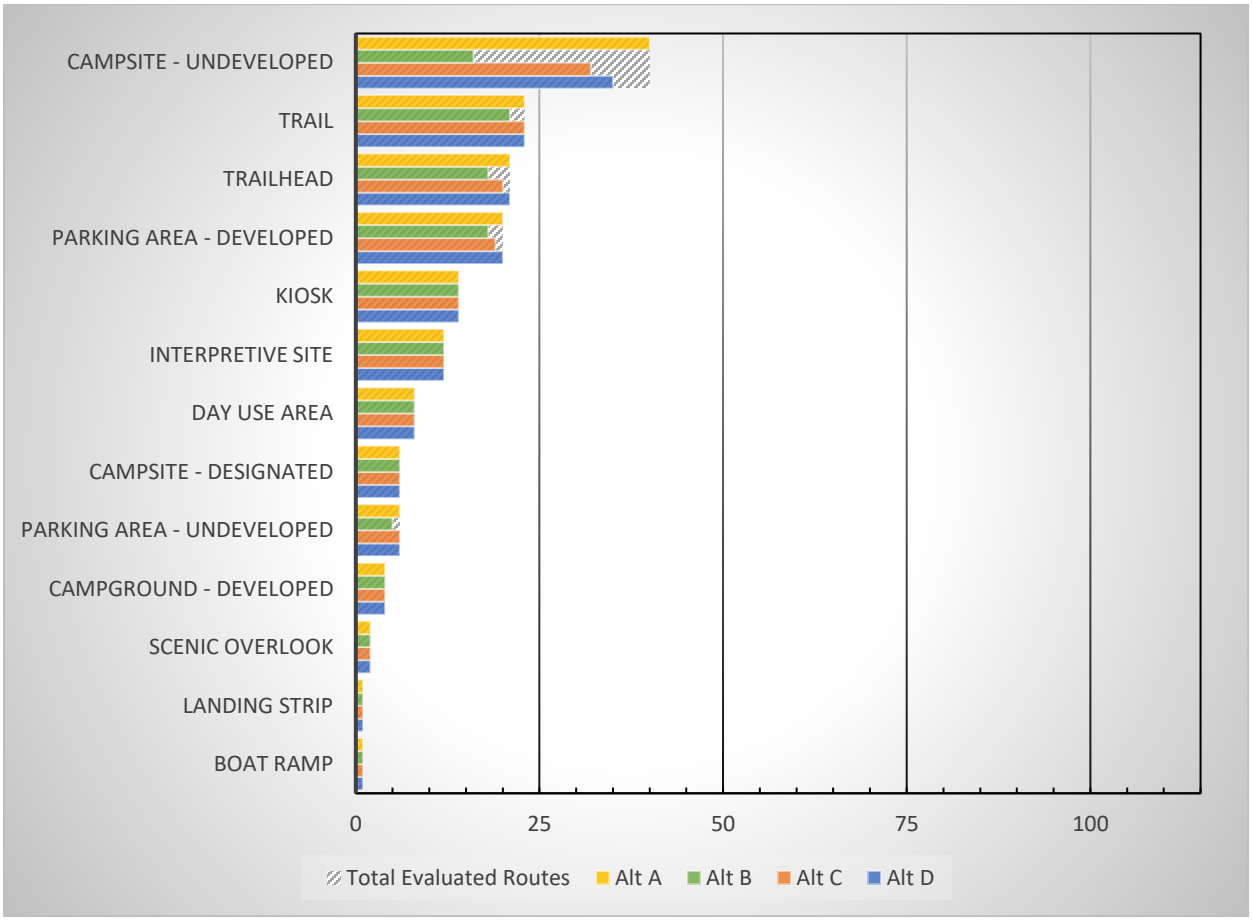
** All 4WD organized events are permitted only on Jeep Safari routes. The 4WD Organized Event category is a subset of the Jeeping/4 Wheeling Category. In the TMA, there are 305 miles of routes in the Jeep Safari trail system.

Figure 37: Number of Evaluated Routes Providing Primary Access to Recreation Destinations



Note: Some routes lead to more than one recreation destination.

Figure 38: Number of Evaluated Routes Providing Primary OHV Access to Recreation Destinations by Type



Alternative A (No Action/Current Management)

Most OHV-Open routes in the 2008 RMP travel network provide access for a variety of motorized and non-motorized recreation activities. Approximately 4.5% of the evaluated routes in the TMA provide primary access to specific recreation destinations, particularly dispersed campsites, trails, and trailheads. Under Alternative A, all evaluated routes accessing recreation destinations and opportunities, including the 27.8 miles of routes near the Green River (i.e., in the Green River WSR corridor) would remain designated for OHV use (OHV-Open or OHV-Limited). With all routes in this alternative remaining designated for OHV use, impacts to user access, conflicts of use (between motorized and non-motorized recreation users and authorized users), route-finding confusion, and route proliferation would reflect a continuation of current management.

Alternative B (Natural Resource Emphasis)

Of the evaluated routes providing OHV-centric opportunities (Jeeping/4-wheeling, scenic driving, and motorcycling), the Alternative B travel network would designate for OHV use 43%–57% fewer routes compared to Alternative A, though the decreases would be less (25%–28%) for routes currently associated with Special Recreation Permits (SRPs) or motorized events. Of the evaluated routes used to access non-motorized activities, Alternative B would designate for OHV use 14%–40% fewer, depending on activity, compared to Alternative A. Most routes

accessing scarce opportunities such as flatwater canoeing, slacklining, and BASE jumping would be designated for OHV use. Of the evaluated routes accessing specific recreation destinations, Alternative B would designate 16 routes for OHV use, a 60% reduction from Alternative A. Routes accessing many of the most popular recreation opportunities, including most of the designated Jeep Safari routes, would be designated for OHV use. Of the evaluated routes near the Green River, which have the potential for user conflicts between OHV users and non-motorized boaters, Alternative B would designate 9.0 miles for OHV use, a 68% reduction from Alternative A. Overall, Alternative B would also provide less OHV-facilitated access for recreation opportunities and experiences compared to the other alternatives, including for those with challenges and with limited physical abilities. However, it would also have the lowest potential of any alternative for conflicts between motorized and non-motorized users, and between recreation users and authorized users.

Alternative C (Multiple Use Emphasis)

Of the evaluated routes providing OHV-centric opportunities (Jeeping/4-wheeling, scenic driving, and motorcycling), the Alternative C travel network would designate for OHV use 18%–24% fewer compared to Alternative A, though the decreases would be less (3%–7%) for routes currently associated with SRPs or motorized events. Of the evaluated routes used to access non-motorized activities, Alternative C would designate for OHV use 6%–21% fewer, depending on activity, compared to Alternative A. Most routes accessing scarce opportunities such as flatwater canoeing, slacklining, and BASE jumping would be designated for OHV use. Of the evaluated routes accessing specific recreation destinations, Alternative C would designate 32 routes for OHV use, a 20% reduction from Alternative A. Routes accessing many of the most popular recreation opportunities, including the designated Jeep Safari routes, would be designated for OHV use. Of the evaluated routes near the Green River, which have the potential for user conflicts between OHV users and non-motorized boaters, Alternative C would designate 26.4 miles for OHV use, a 5% reduction from Alternative A. Overall, Alternative C would provide less OHV-facilitated access for recreation opportunities compared to Alternative A; however, it would also have lower potential than Alternative A for user conflicts within the TMA.

Alternative D (Access Emphasis)

Of the evaluated routes providing OHV-centric opportunities (Jeeping/4-wheeling, scenic driving, and motorcycling), the Alternative D travel network would designate for OHV use 5% fewer compared to Alternative A, though the decreases would be less (1%) for routes currently associated with SRPs or motorized events. Of the evaluated routes used to access non-motorized activities, Alternative D would designate for OHV use 1%–10% fewer, depending on activity, compared to Alternative A; for some opportunities, there would be no change in routes designated for OHV use. All routes accessing scarce opportunities such as flatwater canoeing, slacklining, and BASE jumping would be designated for OHV use. Of the evaluated routes accessing specific recreation destinations, Alternative D would designate 35 routes for OHV use, a 13% reduction from Alternative A. Routes accessing many of the most popular recreation opportunities, including the designated Jeep Safari routes, would be designated for OHV use. Of the evaluated routes near the Green River, which have the potential for user conflicts between OHV users and non-motorized boaters, Alternative D would designate 27.8 miles for OHV use, the same as Alternative A. Overall, Alternative D would provide less OHV-facilitated access for recreation opportunities compared to Alternative A (but more access than the other action

alternatives); however, it would also have slightly lower potential than Alternative A but higher potential than the other action alternatives for user conflicts within the TMA.

Cumulative Effects

The CIAA for recreation is the entire MFO area. The entire MFO area includes lands available for recreation within striking distance of Moab–not just those in the TMA. Moab is the basecamp for recreation users and while they heavily utilize the TMA, it is not the only location near Moab utilized for recreation use.

Past, present, and reasonably foreseeable plans, projects, or actions contributing to cumulative effects to recreation in the CIAA include the following:

- Land-based recreation, including use of roads, trails, campgrounds, and dispersed campsites; water-based use of the Green River and its corridor for boating activities and camping
- Non-motorized trail development
- Labyrinth Rims Recreation Area Management Plan (RAMP)
- Utah Pronghorn Statewide Management Plan
- Utah Bighorn Sheep Statewide Management Plan
- Livestock grazing and related range improvement and facility developments; livestock water infrastructure development to facilitate better grazing management on soils and vegetation
- Moab Master Leasing Plan and its associated Reasonably Foreseeable Development Scenarios for oil and gas and potash
- Mineral exploration and development, including oil and gas, potash, helium, and locatable minerals such as lithium and uranium

Accumulating impacts to recreation in the CIAA are directly associated with loss or gain of OHV recreation user access from travel route designations; user conflicts (i.e., conflicts between authorized users—such as ROW holders or grazing permittees—and public users); conflicts between public users seeking different types of recreation experiences; and loss of solitude for recreation users from increased use and development.

Under Alternative A, there would be no route designation changes in the TMA. Impacts from the existing route network and ongoing OHV use would be a continuation of current conditions, and an overall incremental change to recreation is not anticipated.

Travel network Alternatives B-D do not propose any new construction of routes. Alternatives B-D, with decreases in designations allowing for OHV use, would reduce accumulating conflicts between motorized and non-motorized recreation users and between recreation users and authorized users; however, there would also be incremental reductions in OHV access for recreating users relative to these Alternatives' OHV route closures. All the action alternatives B-D would implement comprehensive route network operation and management activities through a TMP Implementation Guide (Appendix N) that would provide formal guidance for signing, reclamation, and adaptive management protocols and help to effectively reduce ongoing route-related user conflicts between recreation users and between recreation users and authorized users that could occur under any of the action alternatives.

4 CONSULTATION AND COORDINATION

4.1 LIST OF PREPARERS

4.1.1 BUREAU OF LAND MANAGEMENT

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

Name	Title
Gabe Bissonette	Ecologist, Moab Field Office
Nicollee Gaddis-Wyatt	District Manager, Canyon Country District Office
Lori Hunsaker	Archaeologist, Moab Field Office
Beth Lament	GIS Specialist, Moab and Monticello Field Offices
Todd Murdock	Recreation Planner and Project Lead, Moab Field Office
Dave Pals	Field Manager, Moab Field Office
Pam Riddle	Wildlife Biologist, Moab Field Office
Jill Stephenson	Planning and Environmental Specialist, Moab Field Office
Bill Stevens	Recreation Planner/Economist, Moab Field Office
Katie Stevens	Recreation Planner and Project Lead, Moab Field Office
Lisa Wilkolak	Realty Specialist, Moab Field Office
David Williams	Range Management Specialist, Moab Field Office

4.1.2 INTERDISCIPLINARY TEAM INVOLVEMENT AND COOPERATORS

BLM resource and resource use disciplines represented on the IDT during route evaluation included: cultural resources, soils, water quality, riparian and wetlands, geology and minerals, paleontology, GIS, hydrology, law enforcement, natural resources, outdoor recreation planning, public health and safety, minerals, native vegetation and rangeland management, noxious weeds and invasive species, lands and realty, and environmental planning and NEPA. Cooperating Agencies involved with this project included Grand County, the Utah School and Institutional Trust Lands Administration (SITLA), and the State of Utah Public Lands Policy Coordinating Office (PLPCO). After route evaluations, these cooperators reviewed the preliminary alternative travel route networks and provided feedback on the preliminary route designations and the draft alternative route networks.

4.1.3 ADVANCED RESOURCE SOLUTIONS, INC. (ARS)

The following contractor staff also assisted with developing the TMP and EA

Name	Title
Tom Folks	Travel Management Planner
Cameron Gale	Travel Management Planner/Writer
Dennis Gale	Travel Management Planner/Writer
Derek Givens	Travel Management Planner/GIS Specialist
Les Weeks	Company Owner

4.2 PUBLIC REVIEW

Public scoping occurred from March 23 – April 26, 2021, and was intended to solicit input from the public on the issues and potential impacts that could be addressed in this EA. This scoping also provided the public with the opportunity to review the preliminary alternatives prior to the public comment period for the Draft EA. Scoping comments were considered and used in this EA's preparation (see Section 1.6). See the scoping report on this project's ePlanning page for a summary of public scoping.

The public comment period on the Draft EA occurred from September 7, 2022 – October 21, 2022. This comment period provided the public an opportunity to review the proposed alternatives and environmental analysis of the proposed travel and route network. A virtual public meeting was held on September 22, 2022, to provide the public an opportunity to ask questions regarding the Draft EA and submitting comments. In accordance with 40 CFR 1503.4, public comments were considered and used to update information in the EA, including alternatives. See Appendix M for responses to substantive comments

4.2.1 COOPERATOR INPUT

On November 12, 2021, a draft copy of this EA was provided to the Cooperating Agencies (Grand County, PLPCO, and SITLA). Each of these entities provided comments on the draft; their comments are summarized below.

Grand County expressed a desire to see a more robust discussion of user conflicts in the TMA; they asked that 30% of the TMA be more than 0.5 miles from a motorized route and 15% of the TMA be more than one mile from a motorized route. To this end, the County provided a list of routes which they wished to see designated OHV-Closed or OHV-limited in Alternative B. The County further encouraged the BLM to make greater use of "administrative use only" designations, and to consider making certain routes open only to full-sized vehicles because they are quieter, reducing conflicts with "quiet recreation."

PLPCO asked that all asserted R.S. 2477 rights of way be open under all alternatives. PLPCO further stated that Alternative B is not reasonable, would result in a loss of income, and does not reflect the recreational desires of the visiting public. The office asked that hunting opportunities and emergency services be addressed more robustly, and stated that Alternative D aligns more fully with the State of Utah's Resource Management Plan. The State also asked that 21 specific routes be kept open under all alternatives.

SITLA expressed a desire to maintain access to State Lands. SITLA stated that there are situations where one access route to SITLA is insufficient due to topographic or other constraints. SITLA calls out seven routes that are closed in Alternative B and two routes that are closed in Alternative C that they wish to see open in those alternatives to provide multiple access routes to SITLA lands.

The BLM considered cooperator input and updated the alternatives, as the BLM deemed appropriate, to ensure a robust range to analyze in this EA.

4.3 CONSULTATION

4.3.1 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's consultation efforts are further documented in Appendix I.

Tribal Consultation

Tribal consultation was initiated through the NHPA Section 106 consultation process, described at 36 CFR 800 and directed by the Travel PA.

The BLM invited ten tribes that have ancestral and historic ties to the TMA to participate in consultation regarding the Labyrinth/Gemini Bridges TMP. The tribes are: The Navajo Nation, Paiute Indian Tribe of Utah, Pueblo of Jemez, Pueblo of San Felipe, Pueblo of Tesuque, Pueblo of Zuni, Southern Ute Indian Tribe, The Hopi Tribe, The Ute Tribe of the Uintah and Ouray Reservations, and Ute Mountain Ute Tribe.

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. On June 6, 2019, the BLM invited nine additional parties to participate in the Section 106 process as consulting parties. These parties were: Grand County, Grand County Historical Society, Public Lands Policy Coordination Office, State Institutional Trust Lands Administration, Southern Utah Wilderness Alliance, United Four-Wheel Drive Association, Utah Professional Archaeological Council, Utah Rock Art Research Association, and the Utah Statewide Archaeological Society.

4.3.2 ENDANGERED SPECIES ACT SECTION 7

The BLM conducted consultation with the USFWS in accordance with ESA Section 7. Formal consultation commenced in January 2023.

The BLM determined that the TMP may affect and is not likely to adversely affect the Navajo sedge (*Carex specuicola*). The BLM has also determined that TMP designations will have no effect on the Southwestern willow flycatcher (*Empidonax traillii extimus*) and the yellow-billed

cuckoo (*Coccyzus americanus occidentalis*) and is not likely to jeopardize the continued existence of the California condor.

The BLM determined that the TMP may affect and is likely to adversely affect the Mexican spotted owl (*Strix occidentalis lucida*), Colorado pikeminnow (*Ptychochelius lucius*), bonytail chub (*Gila elegans*), humpback chub (*Gila cypha*), and razorback sucker (*Xyrauchen texanus*), and Jones cycladenia (*Cycladenia humilis var. jonesii*), and is not likely to destroy or adversely modify designated critical habitat for Mexican spotted owl, the Colorado pikeminnow, and the razorback sucker.

USFWS issued a Biological Opinion on June 22, 2023 (Appendix O). The USFWS-recommended conservation measures will be incorporated into the Decision Record.

APPENDIX A REFERENCES

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APPENDIX B ACRONYMS

Acronym	Full Terminology
ACEC	Area of Critical Environmental Concern
AOI	Area of Influence
ATV	All-terrain vehicle
BLM	Bureau of Land Management
BMP	Best management practice
CFR	Code of Federal Regulations
CIAA	Cumulative impacts analysis area
EA	Environmental Assessment
GHG	Greenhouse gas
HPTP	Historic Properties Treatment Plan
IDT	Interdisciplinary team
IMPLAN	Impact analysis for planning
LWC	Land with wilderness characteristics
MFO	Moab Field Office
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHT	National Historic Trail
NSE	NatureServe Explorer
NVUM	National Visitor Use Monitoring
OHV	Off-highway vehicle
PAC	Protected Activity Center
PFC	Proper Functioning Condition
PLPCO	State of Utah Public Lands Policy Coordinating Office
RMP	Resource Management Plan
ROW	Right-of-way
SHPO	State Historic Preservation Office
SITLA	Utah School and Institutional Trust Lands Administration
SRMA	Special Recreation Management Area
SRP	Special Recreation Permit
TMA	Travel Management Area
TMP	Travel Management Plan
UDWR	Utah Division of Wildlife Resources
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
UTV	Utility terrain vehicle

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APPENDIX C ADDITIONAL TABLES

Table 12: Miles of Evaluated Routes by Alternative and Designation

		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)
All Miles (1,127.7 miles; 100% of evaluated network)	OHV-Open	1,056.9	606.0	-451.0	838.7	-218.3	974.3	-82.6
	OHV-Limited	70.8	84.0	+13.2	121.4	+50.6	100.9	+30.1
	OHV-Closed	-	437.8	+437.8	167.7	+167.7	52.5	+52.5

Table 13: Number of Evaluated Routes with Direct (In, Leads To, or Crosses) or Indirect (Proximate) Access to Various Cultural Resource Sites

		Alt. A	Alt. B		Alt. C		Alt. D	
	Designation	Routes	Routes	Change from Alt A (routes)	Routes	Change from Alt A (routes)	Routes	Change from Alt A (routes)
Historic Properties (142 routes; 15.7% of evaluated network)	OHV-Open	134	68	-66	104	-30	118	-16
	OHV-Limited	8	10	+2	18	+10	13	+5
	OHV-Closed	-	64	+64	20	+20	11	+11
Not Eligible Sites (99 routes; 10.9% of evaluated network)	OHV-Open	94	60	-34	81	-13	85	-9
	OHV-Limited	5	5	-	7	+2	6	+1
	OHV-Closed	-	34	+34	11	+11	8	+8
Unevaluated Sites (18 routes; 2% of evaluated network)	OHV-Open	18	8	-10	16	-2	18	-
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	10	+10	2	+2	-	-

Table 14: Miles of Evaluated Routes in LWC

		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)
Lands with Wilderness Characteristics (40.5 miles; 3.6% of evaluated network)	OHV-Open	40.5	-	-40.5	19.2	-21.2	36.8	-3.7
	OHV-Limited	-	-	-	7.5	+7.5	-	-
	OHV-Closed	-	40.5	+40.5	13.8	+13.8	3.7	+3.7

Table 15: Miles of Evaluated Routes in Each LWC Unit

		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)
Arches LWC (0.1 miles; 0% of evaluated network)	OHV-Open	0.1	-	-0.1	0.0	-0.0	0.0	-0.0
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	0.1	+0.1	0.0	+0.0	0.0	+0.0
Goldbar LWC (7.1 miles; 0.6% of evaluated network)	OHV-Open	7.1	-	-7.1	2.7	-4.4	7.1	-
	OHV-Limited	-	-	-	4.3	+4.3	-	-
	OHV-Closed	-	7.1	+7.1	0.2	+0.2	-	-
Labyrinth Additions LWC (33.3 miles; 3% of evaluated network)	OHV-Open	33.3	-	-33.3	16.5	-16.8	29.6	-3.6
	OHV-Limited	-	-	-	3.2	+3.2	-	-
	OHV-Closed	-	33.3	+33.3	13.5	+13.5	3.6	+3.6

Table 16: Miles of Evaluated Routes in Erodible and Saline Soils

		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)
Erosive Soils (859.6 miles; 76.2% of evaluated network)	OHV-Open	809.3	477.2	-332.1	654.8	-154.5	748.6	-60.6
	OHV-Limited	50.3	53.0	+2.7	83.9	+33.5	65.6	+15.3
	OHV-Closed	-	329.4	+329.4	121.0	+121.0	45.3	+45.3
High Erosion Potential (183.7 miles; 16.3% of evaluated network)	OHV-Open	170.6	97.6	-73.0	144.2	-26.4	159.4	-11.2
	OHV-Limited	13.0	13.0	-0.1	16.5	+3.4	15.1	+2.0
	OHV-Closed	-	73.1	+73.1	23.0	+23.0	9.2	+9.2
Moderate Erosion Potential (675.9 miles; 59.9% of evaluated network)	OHV-Open	638.6	379.5	-259.1	510.5	-128.1	589.2	-49.4
	OHV-Limited	37.3	40.1	+2.8	67.4	+30.1	50.5	+13.3
	OHV-Closed	-	256.3	+256.3	98.0	+98.0	36.2	+36.2
Saline Soils (65.1 miles; 5.8% of evaluated network)	OHV-Open	53.9	33.3	-20.6	37.4	-16.5	47.0	-6.9
	OHV-Limited	11.3	8.2	-3.1	18.9	+7.7	15.4	+4.1
	OHV-Closed	-	23.7	+23.7	8.8	+8.8	2.8	+2.8

Table 17: Miles of Evaluated Routes in Various Native Vegetation Classes

		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)
Blackbrush (467.1 miles; 41.4% of evaluated network)	OHV-Open	441.3	258.1	-183.3	357.1	-84.2	411.4	-29.9
	OHV-Limited	25.7	27.9	+2.1	40.6	+14.9	34.3	+8.5
	OHV-Closed	-	181.1	+181.1	69.3	+69.3	21.4	+21.4
Pinyon and Juniper Woodlands (262.0 miles; 23.2% of evaluated network)	OHV-Open	243.8	118.4	-125.3	192.4	-51.4	228.3	-15.5
	OHV-Limited	18.2	16.3	-1.9	27.3	+9.1	22.6	+4.4
	OHV-Closed	-	127.2	+127.2	42.3	+42.3	11.1	+11.1
Salt Desert Scrub (219.0 miles; 19.4% of evaluated network)	OHV-Open	204.6	123.8	-80.8	155.7	-48.9	179.5	-25.1
	OHV-Limited	14.4	27.3	+12.8	31.0	+16.6	27.6	+13.2
	OHV-Closed	-	68.0	+68.0	32.3	+32.3	11.9	+11.9
Dunes (88.2 miles; 7.8% of evaluated network)	OHV-Open	77.5	57.7	-19.9	65.4	-12.1	71.5	-6.0
	OHV-Limited	10.7	7.0	-3.7	12.8	+2.2	12.1	+1.5
	OHV-Closed	-	23.5	+23.5	10.0	+10.0	4.6	+4.6

Table 18: Miles of Evaluated Routes in Existing Weed Infestation Areas

		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)
Weed Infestation Areas (164.4 miles; 14.6% of evaluated network)	OHV-Open	152.8	75.6	-77.2	115.1	-37.6	141.6	-11.2
	OHV-Limited	11.6	9.0	-2.6	20.3	+8.7	15.5	+3.9
	OHV-Closed	-	79.8	+79.8	28.9	+28.9	7.3	+7.3

Table 19: Miles of Evaluated Routes in ACECs

		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)
Highway 279 / Shafer Basin / Long Canyon ACEC (0.9 miles; 0.1% of evaluated network)	OHV-Open	0.9	0.4	-0.4	0.6	-0.2	0.9	-
	OHV-Limited	-	-	-	0.2	+0.2	-	-
	OHV-Closed	-	0.4	+0.4	-	-	-	-
Ten Mile Wash ACEC (22.4 miles; 2% of evaluated network)	OHV-Open	20.0	2.6	-17.4	4.8	-15.2	19.4	-0.6
	OHV-Limited	2.4	1.7	-0.7	6.7	+4.3	2.2	-0.2
	OHV-Closed	-	18.1	+18.1	10.9	+10.9	0.7	+0.7

Table 20: Miles of Evaluated Routes in Green River Scenic WSR Corridor

		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)
Green River Scenic WSR Corridor (27.8 miles; 2.5% of evaluated network)	OHV-Open	26.0	9.0	-17.0	23.8	-2.2	26.0	-
	OHV-Limited	1.8	-	-1.8	2.6	+0.8	1.8	-
	OHV-Closed	-	18.8	+18.8	1.4	+1.4	-	-

Table 21: Miles of Evaluated Routes within 1 Mile of the Old Spanish NHT

		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)
Old Spanish Trail NHT (113.1 miles; 10% of evaluated network)	OHV-Open	105.5	77.1	-28.4	89.2	-16.4	98.7	-6.9
	OHV-Limited	7.5	12.4	+4.9	13.7	+6.2	9.8	+2.3
	OHV-Closed	-	23.5	+23.5	10.2	+10.2	4.6	+4.6

Table 22: Miles of Evaluated Routes in VRI Classes

		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)
VRI Class II (729.0 miles; 64.6% of evaluated network)	OHV-Open	717.5	393.3	-324.2	575.5	-142.1	672.6	-44.9
	OHV-Limited	11.4	17.2	+5.7	32.4	+21.0	18.5	+7.1
	OHV-Closed	-	318.5	+318.5	121.1	+121.1	37.8	+37.8
VRI Class III (168.5 miles; 14.9% of evaluated network)	OHV-Open	146.8	85.6	-61.2	115.7	-31.1	135.7	-11.1
	OHV-Limited	21.7	27.1	+5.4	35.3	+13.6	30.3	+8.6
	OHV-Closed	-	55.8	+55.8	17.5	+17.5	2.5	+2.5
VRI Class IV (230.1 miles; 20.4% of evaluated network)	OHV-Open	192.5	126.9	-65.6	147.3	-45.2	165.8	-26.7
	OHV-Limited	37.6	39.6	+2.0	53.7	+16.1	52.1	+14.5
	OHV-Closed	-	63.6	+63.6	29.1	+29.1	12.2	+12.2

Table 23: Miles of Evaluated Routes in VRM Classes

		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)
VRM Class II (392.0 miles; 34.8% of evaluated network)	OHV-Open	383.5	200.2	-183.3	299.9	-83.6	363.9	-19.7
	OHV-Limited	8.4	8.3	-0.1	19.5	+11.0	10.5	+2.1
	OHV-Closed	-	183.4	+183.4	72.6	+72.6	17.6	+17.6
VRM Class III (560.5 miles; 49.7% of evaluated network)	OHV-Open	515.5	315.8	-199.7	426.4	-89.1	479.2	-36.3
	OHV-Limited	45.0	41.3	-3.7	60.7	+15.7	54.0	+9.0
	OHV-Closed	-	203.5	+203.5	73.3	+73.3	27.3	+27.3
VRM Class IV (175.3 miles; 15.5% of evaluated network)	OHV-Open	158.0	90.0	-68.0	112.4	-45.6	131.2	-26.8
	OHV-Limited	17.3	34.3	+17.0	41.2	+23.8	36.4	+19.1
	OHV-Closed	-	51.1	+51.1	21.8	+21.8	7.7	+7.7

Table 24: Number of Evaluated Routes In or Crossing Streams

		Alt. A	Alt. B		Alt. C		Alt. D	
	Designation	Routes	Routes	Change from Alt A (routes)	Routes	Change from Alt A (routes)	Routes	Change from Alt A (routes)
Perennial stream (8 routes; 0.9% of evaluated network)	OHV-Open	7	4	-3	4	-3	6	-1
	OHV-Limited	1	-	-1	2	+1	2	+1
	OHV-Closed	-	4	+4	2	+2	-	-
Intermittent stream (16 routes; 1.8% of evaluated network)	OHV-Open	11	3	-8	6	-5	9	-2
	OHV-Limited	5	3	-2	8	+3	7	+2
	OHV-Closed	-	10	+10	2	+2	-	-
Ephemeral stream (382 routes; 42.1% of evaluated network)	OHV-Open	360	171	-189	256	-104	317	-43
	OHV-Limited	22	33	+11	46	+24	39	+17
	OHV-Closed	-	178	+178	80	+80	26	+26

Table 25: Miles of Evaluated Routes In, Crossing, or within 100 Meters of Riparian Areas or Springs

		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)
Riparian (79.3 miles; 7% of evaluated network)	OHV-Open	68.7	29.7	-39.0	47.0	-21.7	65.9	-2.8
	OHV-Limited	10.6	3.5	-7.0	16.7	+6.1	12.4	+1.8
	OHV-Closed	-	46.1	+46.1	15.6	+15.6	1.0	+1.0

Table 26: Miles of Evaluated Routes in Conditional AOI for Special Status Fish Species

		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)
Conditional AOI for Special Status Fish Species (95.4 miles; 8.5% of evaluated network)	OHV-Open	89.9	40.3	-49.6	73.0	-16.9	87.0	-2.9
	OHV-Limited	5.5	0.8	-4.7	9.3	+3.8	5.3	-0.2
	OHV-Closed	-	54.3	+54.3	13.1	+13.1	3.1	+3.1

Table 27: Miles of Evaluated Routes in Desert Bighorn Lambing Areas

		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)
Desert Bighorn Sheep (294.2 miles; 26.1% of evaluated network)	OHV-Open	281.3	110.2	-171.1	204.3	-77.0	265.0	-16.3
	OHV-Limited	12.9	14.5	+1.5	29.9	+17.0	19.5	+6.6
	OHV-Closed	-	169.5	+169.5	60.0	+60.0	9.7	+9.7

Table 28: Miles of Evaluated Routes in Pronghorn Antelope Habitat

		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)
Pronghorn (394.6 miles; 35% of evaluated network)	OHV-Open	329.3	209.9	-119.3	249.1	-80.2	296.4	-32.8
	OHV-Limited	65.3	66.4	+1.0	91.6	+26.3	83.5	+18.2
	OHV-Closed	-	118.3	+118.3	53.9	+53.9	14.7	+14.7

Table 29: Miles of Evaluated Routes in Migratory Bird Habitat

		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)
All Miles (1,127.7 miles; 100% of evaluated network)	OHV-Open	1,056.9	606.0	-451.0	838.7	-218.3	974.3	-82.6
	OHV-Limited	70.8	84.0	+13.2	121.4	+50.6	100.9	+30.1
	OHV-Closed	-	437.8	+437.8	167.7	+167.7	52.5	+52.5

Table 30: Miles of Evaluated Routes Proximate to Known Raptor Nests

		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)
Raptor Nests (97.1 miles; 8.6% of evaluated network)	OHV-Open	96.2	53.9	-42.3	71.9	-24.4	86.7	-9.5
	OHV-Limited	0.8	4.9	+4.1	5.8	+5.0	5.2	+4.4
	OHV-Closed	-	38.2	+38.2	19.4	+19.4	5.1	+5.1

Table 31: Miles of Evaluated Routes in or Proximate to Special Status Animal Species Habitats

		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)
Mexican Spotted Owl (87.0 miles; 7.7% of evaluated network)	OHV-Open	87.0	29.8	-57.3	68.8	-18.2	84.0	-3.1
	OHV-Limited	-	-	-	4.5	+4.5	-	-
	OHV-Closed	-	57.3	+57.3	13.7	+13.7	3.1	+3.1
Southwestern Willow Flycatcher (57.0 miles; 5.1% of evaluated network)	OHV-Open	53.0	21.5	-31.4	48.2	-4.8	52.0	-1.0
	OHV-Limited	4.0	-	-4.0	4.9	+0.9	4.3	+0.3
	OHV-Closed	-	35.4	+35.4	3.9	+3.9	0.7	+0.7
White-Tailed Prairie Dog & Burrowing Owl (62.8 miles; 5.6% of evaluated network)	OHV-Open	51.6	32.0	-19.6	36.1	-15.5	45.4	-6.2
	OHV-Limited	11.3	8.2	-3.1	18.9	+7.7	14.3	+3.0
	OHV-Closed	-	22.7	+22.7	7.8	+7.8	3.2	+3.2
Western Yellow-Billed Cuckoo (5.1 miles; 0.5% of evaluated network)	OHV-Open	5.1	2.1	-3.1	4.0	-1.1	4.5	-0.7
	OHV-Limited	-	-	-	-	-	0.7	+0.7
	OHV-Closed	-	3.1	+3.1	1.1	+1.1	-	-

Table 32: Acres of BLM Lands More than ½ Mile, 1 Mile, and 2 Miles from Routes Designated for OHV Use[17]

	Alt. A Acres	Percent of BLM Lands	Alt. B Acres	Percent of BLM Lands	Alt. C Acres	Percent of BLM Lands	Alt. D Acres	Percent of BLM Lands
Greater than ½ mile from a motorized route	19,031	6.3%	65,987	21.7%	28,290	9.3%	19,939	6.6%
Greater than 1 mile from a motorized route	1,789	0.6%	14,661	4.8%	2,406	0.8%	1,818	0.6%
Greater than 2 mile from a motorized route	0	0%	1,706	1%	0	0%	0	0%

[17] Grand County, a cooperator, requested that the BLM disclose the acreage of BLM lands that are within ½ mile, 1 mile, and 2 miles from a designated route. In its request to the BLM, Grand County stated that a "better way to assess non-motorized recreational opportunities" is to disclose this acreage. The implication is that non-motorized opportunities can only be found in those lands that are devoid of roads.

Table 33: Number of Evaluated Routes Providing Opportunities for Various Recreation Activities

		Alt. A	Alt. B		Alt. C		Alt. D	
	Designation	Routes	Routes	Change from Alt A (routes)	Routes	Change from Alt A (routes)	Routes	Change from Alt A (routes)
Jeeping/4-Wheeling (721 routes; 79.5% of evaluated network)	OHV-Open	705	290	-415	505	-200	665	-40
	OHV-Limited	16	21	+5	44	+28	20	+4
	OHV-Closed	-	410	+410	172	+172	36	+36
Scenic Driving (687 routes; 75.7% of evaluated network)	OHV-Open	687	283	-404	493	-194	649	-38
	OHV-Limited	-	13	+13	32	+32	6	+6
	OHV-Closed	-	391	+391	162	+162	32	+32
Motorcycling (373 routes; 41.1% of evaluated network)	OHV-Open	338	161	-177	232	-106	295	-43
	OHV-Limited	35	53	+18	74	+39	61	+26
	OHV-Closed	-	159	+159	67	+67	17	+17
Bicycling (142 routes; 15.7% of evaluated network)	OHV-Open	141	84	-57	111	-30	136	-5
	OHV-Limited	1	1	-	2	+1	2	+1
	OHV-Closed	-	57	+57	29	+29	4	+4
Vehicle Camping (127 routes; 14% of evaluated network)	OHV-Open	127	59	-68	98	-29	115	-12
	OHV-Limited	-	-	-	4	+4	-	-
	OHV-Closed	-	68	+68	25	+25	12	+12
4WD Organized Event (118 routes; 13% of evaluated network)	OHV-Open	118	89	-29	112	-6	117	-1
	OHV-Limited	-	-	-	3	+3	-	-
	OHV-Closed	-	29	+29	3	+3	1	+1
Photography (76 routes; 8.4% of evaluated network)	OHV-Open	76	55	-21	69	-7	75	-1
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	21	+21	7	+7	1	+1
Hunting (33 routes; 3.6% of evaluated network)	OHV-Open	33	20	-13	29	-4	32	-1
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	13	+13	4	+4	1	+1
Cultural/Fossil/Historical Exploration (31 routes; 3.4% of evaluated network)	OHV-Open	31	21	-10	27	-4	30	-1
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	10	+10	4	+4	1	+1
Wildlife Watching (18 routes; 2% of evaluated network)	OHV-Open	18	18	-	18	-	18	-
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	-	-	-	-	-	-
Competitive Non-Motorized Event (16 routes; 1.8% of evaluated network)	OHV-Open	16	9	-7	12	-4	16	-
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	7	+7	4	+4	-	-
Hiking (16 routes; 1.8% of evaluated network)	OHV-Open	15	12	-3	14	-1	14	-1
	OHV-Limited	1	1	-	1	-	2	+1

		Alt. A	Alt. B		Alt. C		Alt. D	
	Designation	Routes	Routes	Change from Alt A (routes)	Routes	Change from Alt A (routes)	Routes	Change from Alt A (routes)
	OHV-Closed	-	3	+3	1	+1	-	-
Equestrian (14 routes; 1.5% of evaluated network)	OHV-Open	14	12	-2	12	-2	13	-1
	OHV-Limited	-	-	-	-	-	1	+1
	OHV-Closed	-	2	+2	2	+2	-	-
Rock Climbing (14 routes; 1.5% of evaluated network)	OHV-Open	14	12	-2	14	-	14	-
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	2	+2	-	-	-	-
Rockhounding / Fossil Collecting (14 routes; 1.5% of evaluated network)	OHV-Open	14	9	-5	11	-3	14	-
	OHV-Limited	-	1	+1	-	-	-	-
	OHV-Closed	-	4	+4	3	+3	-	-
Other (11 routes; 1.2% of evaluated network)	OHV-Open	10	2	-8	9	-1	9	-1
	OHV-Limited	1	1	-	1	-	1	-
	OHV-Closed	-	8	+8	1	+1	1	+1
BASE Jumping (7 routes; 0.8% of evaluated network)	OHV-Open	7	3	-4	3	-4	7	-
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	4	+4	4	+4	-	-
Backpacking (5 routes; 0.6% of evaluated network)	OHV-Open	5	5	-	5	-	5	-
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	-	-	-	-	-	-
Flatwater Canoe / Float Trips (5 routes; 0.6% of evaluated network)	OHV-Open	5	5	-	5	-	5	-
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	-	-	-	-	-	-
Slacklining (2 routes; 0.2% of evaluated network)	OHV-Open	2	2	-	2	-	2	-
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	-	-	-	-	-	-
Canyoneering (1 routes; 0.1% of evaluated network)	OHV-Open	1	1	-	1	-	1	-
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	-	-	-	-	-	-
Skydiving (1 routes; 0.1% of evaluated network)	OHV-Open	1	1	-	1	-	1	-
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	-	-	-	-	-	-
Jeeping/4-Wheeling (721 routes; 79.5% of evaluated network)	OHV-Open	705	290	-415	505	-200	665	-40
	OHV-Limited	16	21	+5	44	+28	20	+4
	OHV-Closed	-	410	+410	172	+172	36	+36

Table 34: Number of Evaluated Routes Providing Primary Access to Recreation Destinations

		Alt. A	Alt. B		Alt. C		Alt. D	
	Designation	Routes	Routes	Change from Alt A (routes)	Routes	Change from Alt A (routes)	Routes	Change from Alt A (routes)
All Destinations (40 routes; 4.4% of evaluated network)	OHV-Open	40	16	-24	32	-8	35	-5
	OHV-Limited	-	-	-	-	-	-	-
	OHV-Closed	-	24	+24	8	+8	5	+5

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APPENDIX D ADDITIONAL POLICIES, STATUTES, AND GUIDANCE

In addition to the management plans and policies listed in Section 1.5, this project also considers applicable laws, regulations, agency policy and guidance including, but not limited to:

- 2017 Settlement Agreement
- 43 CFR Part 8340: Off-Road Vehicles
- 43 CFR § 8364.1: Closures and Restrictions
- BLM's 2004 Manual 8100 – The Foundations for Managing Cultural Resources
- BLM's 2004 Manual 8110 – Identifying and Evaluating Cultural Resources
- BLM's 2008 National Environmental Policy Act Handbook (H-1790-1).
- BLM's 2012 Travel and Transportation Handbook (H-8342)
- BLM's 2016 Travel and Transportation Management Manual (MS-1626)
- BLM's 2022 Cultural Resource Fieldwork Guidelines and Standards: BLM Supplement H-8110 – Utah[18]
- Federal Land Policy and Management Act
- Migratory Bird Treaty Act of 1918, as amended (16 USC 703 et seq.)
- National Historic Preservation Act, as amended (54 U.S.C. 100101)

[18] This handbook supplements the BLM's Manual Series 8100 and has been updated from a previous H-8110 edition from 2002.

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APPENDIX E INTERDISCIPLINARY TEAM CHECKLIST

DETERMINATION OF STAFF: ***(Choose one of the following abbreviated options for the left column)***
NP = not present in the area impacted by the proposed or alternative actions
NI = present, but not affected to a degree that detailed analysis is required
PI = present with potential for relevant impact that need to be analyzed in detail in the EA. The Rationale column may include NI and NP discussions.

The following elements are not present in the Moab Field Office and have been removed from the checklist: Farmlands (Prime or Unique), Wild Horses and Burros.

Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Air Quality & Greenhouse Gas Emissions	On-route travel has the potential to emit criteria air pollutants (NOx, SOx, CO, PM10, and PM2.5) and greenhouse gases (CO2, CH4, and N2O). Pollutants come from construction and maintenance of routes, from tailpipe emissions, and fugitive dust from vehicle disturbance and wind erosion. Greenhouse gas emissions primarily come from vehicle tailpipes. Air pollutant and greenhouse gas emissions from the proposed alternatives are anticipated to be equal to or less than current emissions since the number of miles open for travel will be the same or less than what is currently open and no increase in visitors is expected, as a result of this action. An overall increase in visitors in the area is expected as that has been the trend in recent decades, however that increase in visitation is not directly or indirectly tied to this action. The BLM Utah 2021 Air Monitoring Report (https://eplanning.blm.gov/eplanning-ui/project/101390/570) identifies air quality within the Moab Field office as good. The area is classified as attainment or unclassified for all National Ambient Air Quality Standard pollutants. As emissions are not expected to increase as a result of this action, it is unlikely that the proposed alternatives would cause or contribute to an exceedance of air quality standards, or cause or contribute to local air quality issues. Air quality and greenhouse gases are discussed further in Section 1.6.3 Resource/Use Topics Identified But Eliminated From Detailed Analysis.	Erik Vernon	11/10/22
PI	Areas of Critical Environmental Concern	Ten Mile Wash ACEC is within the TMA, as is a very small portion of the Long Canyon/Highway 279/Shafer Basin ACEC. The designation of routes in ACECs could pose an impact to their relevant and important values.	Katie Stevens	5/20/19 9/15/23
NP	BLM Natural Areas	See Map 15 and 16 in the 2008 RMP. No BLM Natural Areas exist in the TMA.	Bill Stevens	8/8/19 9/16/23
PI	Cultural Resources	Existing survey and site data was used to consider impacts to cultural resources as discussed in Section 3.2.1. Compliance with Section 106 of the NHPA was completed as stipulated by the Programmatic Agreement among the Advisory Council on Historic Preservation, the Bureau of	Lori Hunsaker	09/18/23

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		Land Management Utah, and the Utah State Historic Preservation Office regarding the National Historic Preservation Act responsibilities for Travel and Transportation Management Undertakings (signed 2018). Steps are outlined in Table 52, located in Appendix I.		
NI	Environmental Justice	Low income populations have been identified within Grand County. See https://ejscreen.epa.gov/mapper/. The Census, however, has determined that low income data for Grand County is considered very unreliable due to small population sampling error, making a confident identification of this EJ population problematic. Neither scoping nor public comments on the EA indicate any disproportionate adverse impacts to environmental justice populations.	Bill Stevens	3/8/23 9/16/23
NI	Fire/Fuels Management	No effect anticipated from travel management.	Josh Relph Lydia Zowada	3/11/19 9/19/23
PI	Floodplains	Impacts to floodplains primarily consist of loss of vegetation and geomorphic changes to bank angle, bank stability, increasing channel width, and in some cases creating artificial flow channels at or near route/stream intersections. Floodplain connectivity may be impaired due to increased erosion and channel downcutting resulting from accelerated flood velocities linked to loss of vegetation or soil compaction.	Gabe Bissonette	3/25/19 9/18/23
NI	Geology/Mineral Resources/Energy Production	Subject to valid existing rights. See 2008 RMP. Access for mineral development activities would be authorized under a separate process.	Dave Pals J. Whittington	3/25/19 9/19/23
PI	Invasive Species/Noxious Weeds	Roads act as vector pathways for the distribution of invasive species/noxious weed seeds. Additionally, roadside soil disturbance creates a niche for invasive/noxious weeds to germinate and establish often resulting in an increase in the presence and cover of invasive species. Roadways also provide access to treat existing and known noxious weed infestations. See Section 3.2.3 for detailed analysis.	Gabe Bissonette Susan Foley	8/21/19 9/19/23
NI	Lands/Access	Subject to valid, existing rights. None of the alternatives will prohibit reasonable access to SITLA or other landowner parcels.	Lisa Wilkolak Reed Kennard	5/20/2019 9/18/23
PI	Lands with Wilderness Characteristics	Several routes enter LWC. Their designation could affect WC qualities of naturalness, and/or outstanding opportunities for solitude and/or primitive and unconfined recreation.	Bill Stevens	5/21/2019 9/16/23
NI	Livestock Grazing	Livestock Grazing: Authorized access to range improvements (stock ponds, corrals, wells, etc.) were taken into consideration in route evaluations. Permittee access to range improvements would be authorized under any alternative and access would be maintained as authorized use.	Alan Bass Aaron Vollmer	9/27/2019 9/19/23
PI	Migratory Birds	Analysis for raptors, including eagles, will focus on potential species that nest in the TMA, utilizing recommended USFWS spatial & seasonal nesting buffers for raptors.	Pam Riddle Yoni Argov	8/21/2019 9/15/23

Determination	Resource/Issue	Rationale for Determination	Signature	Date
PI	National Historic Trails	The Old Spanish Trail NHT is along the northern boundary of the TMA.	Katie Stevens	5/20/2019 9/15/23
PI	Native American Religious Concerns	Section 106 Tribal Consultation is being completed as directed under 36 CFR 800.	Lori Hunsaker	06/22/2022 9/18/23
NI	Paleontology	A reasonable number of invertebrate fossils and plants may be collected in accordance with the 2008 RMP. Vertebrate fossils should not be disturbed. If paleontological resources are encountered, the activity should stop at the site and Moab BLM notified.	Dave Pals J. Whittington	7/02/2019 9/19/23
NI	Plants: Threatened, Endangered, Candidate, or Special Status Species	Currently there are no known populations of federally listed plants that occur in the TMA. Geological formations that may support identified soil habitat needs occur in the TMA for the following list plants: • Jones cycladenia (Cycladenia humilis var. jonesii) – Threatened • Navajo sedge (Carex specuicola) – Threatened • San Rafael cactus (Pediocactus despainii) The USFWS Information for Planning and Consultation (IPaC) System provided preliminary information indicating potential for these three species in portion of the TMA due to general geological formation. Through consultation with the USFWS, the Moab BLM will identify habitat and occupancy potential and necessary conservation measures that are applicable to existing routes to ensure these three species are not affected to a degree that detailed analysis is required. In 2011 (updated 2014) a preliminary model for Jones cycladenia was developed (Sansom and Elliott 2012); ground-truthing is ongoing. This model predicts the "potential for new occurrences to be identified" and is based solely on specific elevations within approximately one mile from the Chinle, Cutler, and Summerville Formations. Due to exacting soil requirements much of these areas are not expected to provide suitable soil conditions. The nearest known occurrence of this species is 3.5 miles south of the TMA, located on a very steep, inaccessible slope where motorized and mechanized travel is not possible. Navajo sedge is only known to occur on the Navajo Nation, within Coconino County, Arizona and in the Natural Bridges area of San Juan County, Utah over 30 miles south of the TMA. Occupied habitats consist of hanging garden areas of piñon-juniper woodlands. It occurs primarily on steep slopes between 4,200-7,600 feet in elevation (USFWS 2014), often in areas of aeolian sandstone cliffs, and requires moist soils from seeps or springs. As of 2014, a total of 57 populations of the species were known to exist. Travel on designated routes pose little to no risk to Navajo sedge populations due to the	Pam Riddle T. Murdock	6/16/2021 9/19/23

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		inaccessibility of hanging gardens, the lack of designated routes in or near hanging gardens and the lack of known plants in the TMA. San Rafael cactus is only found in Emery County, Utah, over 35 miles to the west of the TMA. San Rafael cactus is restricted to limestone gravels, shales, clays and silty substrates of the Mancos, Morrison, Moenkopi, and Carmel formations.		
PI	Rangeland Health Standards	The Resources of Soils, Riparian, Vegetation/Habitat/T&E species, and Water Quality, which are the Utah Standards, are found elsewhere in the checklist. **Each of these resources are analyzed under their component elements.** Depending on the range of effects to these resources by TMP alternatives, achieving rangeland health standards could be affected positively or negatively.	Alan Bass Aaron Vollmer	9/27/2019 9/19/23
PI	Recreation	The Labyrinth Rims/Gemini Bridges SRMA is a highly utilized recreation area, with numerous Focus Areas (RMZs). Visitation is well over one million people per year, who come to pursue many types of activities, both motorized and non-motorized	Katie Stevens	5/20/2019 9/15/23
NI	Socioeconomics	Any impacts on socioeconomic resources would be very minor relative to the overall economy of the planning area. For a summary informing the determination of NI for Socioeconomics, see Appendix H: Estimated Economic Impact.	Bill Stevens	5/21/2019 9/16/23
PI	Soils	Routes in the TMA exist within areas containing saline soils, erodible soils, and biological soil crusts. OHV use can alter soil properties and influence sediment transport through dust or erosion. Designating routes in areas of less sensitive soils, including saline, erodible and biological soil crusts, would protect soil resources and would increase the soils ability to support vegetation.	A. Vollmer	6/21/22 9/19/23
PI	Vegetation, Excluding Designated/Special Status Species	Blackbrush and salt desert scrub are the primary vegetative communities within the TMA, supporting a myriad of shrub, forb and grass species. Travel on designated routes protects vegetation outside of the road corridor from direct impacts of OHV use. Vegetation can be impacted from dust deposition, erosion, off-route travel, and soil compaction. In alternatives with route closures, vegetation would be allowed to reclaim the disturbed areas over time and less road surface would result in less impacts to vegetation.	Dave Pals T. Murdock	5/27/21 9/19/23
PI	Visual Resources	Much of the area is managed as VRM Class II.	Katie Stevens	5/20/2019 9/15/23
NP	Wastes (Hazardous or Solid)	No solid or hazardous wastes are present or expected to be generated during, or as a result of, the proposed alternatives.	Jennifer Whittington	06/30/2022 9/19/23
PI	Water Resources/Quality (drinking/surface/ground)	New or altered designations would be subject to a site-specific environmental analysis of the surface and ground waters in accordance with 2008 RMP.	Jennifer Whittington	06/30/2022
PI	Wetland/Riparian Zones	Use of routes located in riparian areas and stream/drainage bottoms can contribute to the loss	Gabe Bissonette	6/24/2019 9/18/23

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		of riparian vegetation, degrade stream banks, accelerate flood velocity, lead to increased erosion, and impair aquatic habitats (i.e., water quality/sedimentation/physical disturbance).		
PI	Wild and Scenic Rivers	The Green River, which forms the western boundary of the TMA, is a Wild and Scenic River as per Public Law 116-9.	Bill Stevens	5/20/2019 9/16/23
NP	Wilderness/WSAs	No congressionally designated wilderness areas exist in the TMA. There are no WSAs in the TMA.	Bill Stevens	5/21/2019 9/16/23
PI	Wildlife: BLM Sensitive Species	Routes occurring within the active channel or adjacent floodplains of perennial or seasonally inundated tributary reaches and/or confluence habitats, connected to the Green River, may impact nursery habitat for sensitive fish species through changes to water quality (increased sedimentation & salinity), changes to instream habitat and vegetative thermal cover, and trampling/crushing mortality. Sensitive fish species include: • Bluehead sucker (Catostomus discobolus) • Flannelmouth sucker (Catostomus latipinnis) • Roundtail chub (Gila robusta) Routes within suitable and potential habitats for BLM Sensitive Species habitats have the potential to impact current and potential occupancy status and will be analyzed in the EA. Sensitive species include: • Burrowing owl (Athene cunicularia) • Ferruginous hawk (Buteo regalis) • White-tailed prairie dog (Cynomys leucurus) • Kit fox (Vulpes macrotis) • Big free-tailed bat (Nyctinomops macrotis) • Spotted bat (Euderma maculatum) • Townsend's big-eared bat (Corynorhinus townsendii)	Gabe Bissonette Pam Riddle Yoni Argov	6/24/2019 6/16/2021 9/15/23
PI	Wildlife: General Wildlife	The TMA supports big game and other general wildlife species. Routes occurring within wildlife habitat may impact wildlife behavior, habitat loss, and physical wellbeing. Species of concern in the TMA include desert bighorn sheep and pronghorn and analysis in EA will focus on those species.	Pam Riddle Yoni Argov	8/21/2019 9/15/23
PI	Wildlife: Threatened, Endangered, Candidate, or Special Status Species	Routes occurring within the active channel or adjacent floodplains of perennial or seasonally inundated tributary reaches and/or confluence habitats, connected to the Green River, may impact nursery habitat for T&E fishes through changes to water quality (increased sedimentation & salinity), changes to instream habitat, and vegetative thermal cover, and trampling/crushing mortality. Species include: • Bonytail chub (Gila elegans) - Endangered • Colorado pikeminnow (Ptychocheilus lucius) - Endangered • Humpback chub (Gila cypha) - Endangered • Razor-backed sucker (Xyrauchen texanus) - Endangered	Gabe Bissonette Pam Riddle Yoni Argov	6/24/2019 9/18/23 6/16/2021 9/15/23

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		Routes within suitable and potential habitats for listed bird species have the potential to impact current and potential occupancy status and will be analyzed in the EA. Species include: • Mexican spotted owl (Strix occidentalis lucida) - Threatened • Southwestern Willow Flycatcher (Empidonax traillii extimus) – Endangered • Western Yellow-billed cuckoo (Coccyzus americanus) – Threatened • California condor - Experimental and Endangered habitat – (NI: Non-essential, experimental status in Utah south of Interstate 70 and west of Highway 191 and outside of this area managed as endangered; the TMA contains both designations. No known occupancy in the TMA. Recovery Plan identifies illegal shooting, poisoning, habitat loss, and collisions with man-made structures as threats to condors and their habitats and three basic habitat needs: feeding habitat with adequate food, roosting sites, and adequate nesting sites. No new routes will occur in the proposed TMP and continued use of roads in the TMA will have no impact to basic habitat needs and will not provide for any additional threats; therefore, continued use on roads in the TMA will not affect California condor or its habitats to a degree that detailed analysis is required.) • USFWS consultation is ongoing.		
NI	Woodlands/Forestry	Woodlands would not be affected by changes in the routes available in this TMP.	Clark Maughan Lydia Zowada	8/20/2019 9/19/23

APPENDIX F WATER QUALITY IN THE TMA

Information in this appendix is taken from the UDEQ Water Quality site at https://deq.utah.gov/water-quality/databases-and-information.

F.1 303(D) WATERS IN THE TMA

303(d) waters are those that are listed as impaired or threatened by each state.

Table 35: 303(d) Waters in the TMA

Assessment Unit Name	Use Class	Impairment	TMDL Approved
Ten Mile – Grand	3B	Temperature, Dissolved Oxygen	No
Courthouse Wash	3B, 4	Temperature, Total Dissolved Solids	No, No
Green River - 5	3B	Temperature	No
Colorado River - 3	3B	Selenium	Yes
Colorado River – 4	2A, 3B	E. Coli, Selenium	No, Yes

F.2 WATER QUALITY IN SPRING CANYON CREEK AT SPRING CANYON ROAD CROSSING

Table 36: Surface Water Acidity, Dissolved Oxygen, Total Dissolved Solids, and Temperature in Spring Canyon Creek at Spring Canyon Road Crossing

Spring Canyon Creek at Spring Canyon Road Crossing								
Test Date	**pH**	**Alkalinity (CaCO3, mg/L)**	**Bicarbonate (mg/L)**	**Sulfate (mg/L)**	**Dissolved Oxygen (mg/L)**	**Dissolved Oxygen Saturation (%)**	**Total Dissolved Solids (mg/L)**	**Temperature (°C)**
3/19/2003	8.7		312.0	43.8	4.6	41.5	362.0	10.1
4/17/2003	8.5		480.0	81.6	4.1	42.6	566.0	17.6
5/16/2003	8.5		436.0	56.8	3.0	31.2	466.0	16.7
6/4/2003	8.7		606.0	123.0	3.4	43.2	786.0	28.1
2/26/2016	8.3	394.0	470.0	72.7	10.1	93.3	528.0	10.1
3/17/2016	8.2	380.0	464.0	72.0	8.6	77.9	570.0	11.1
4/22/2016	8.2	402.0	490.0	70.9	8.8	108.2	558.0	22.5
5/23/2016	8.0	400.0	488.0	79.6	3.7	39.1	528.0	17.9

Table 37: Metals in Spring Canyon Creek at Spring Canyon Road Crossing

Spring Canyon Creek at Spring Canyon Road Crossing									
Test Date	**Arsenic (ug/l)**	**Barium (ug/l)**	**Chromium (ug/l)**	**Copper (ug/l)**	**Iron (ug/l)**	**Lead (ug/l)**	**Selenium (ug/l)**	**Sodium (mg/l)**	**Potassium (ug/l)**
3/19/2003		156.00	9.20					30.90	7.85
4/17/2003								61.00	14.00
5/16/2003								38.80	12.10
6/4/2003	6.80	187.00					1.10	112.00	21.10
2/26/2016								49.70	11.50
3/17/2016								55.70	12.10
4/22/2016								61.30	13.40
5/23/2016								64.60	13.00

F.3 WATER QUALITY IN TEN MILE CANYON CREEK ABOVE TRAIL CANYON

Table 38: Surface Water Acidity, Dissolved Oxygen, Total Dissolved Solids, and Temperature in Ten Mile Canyon Creek Above Trail Canyon

Ten Mile Canyon Creek Above Trail Canyon								
Test Date	**pH**	**Alkalinity (CaCO3, mg/L)**	**Bicarbonate (mg/L)**	**Sulfate (mg/L)**	**Dissolved Oxygen (mg/L)**	**Dissolved Oxygen Saturation (%)**	**Total Dissolved Solids (mg/L)**	**Temperature (°C)**
11/21/2006	8.4		524.0	472.0	10.3	82.6	984.0	6.0
2/14/2007	8.3		412.0	327.0	9.6	85.0	884.0	9.5
4/13/2007	8.4		398.0	670.0			1284.0	
5/15/2007	8.2		568.0	2180.0	5.6	71.7	3764.0	27.8
3/18/2008	8.5		391.0	304.0	9.6	88.7	852.0	11.7
4/3/2008	8.7		378.0	315.0	8.5	85.0	878.0	15.2
5/9/2008	8.6		505.0	1920.0	4.8	54.4	3216.0	21.2
2/29/2016	8.4	420.0	512.0	379.0	13.2	126.8	1016.0	13.3
3/31/2016	8.2	402.0	490.0	351.0	9.7	93.4	946.0	13.4
5/3/2016	8.0	387.0	472.0	358.0	7.2	83.2	990.0	22.2

Table 39: Metals in Ten Mile Canyon Creek Above Trail Canyon

Ten Mile Canyon Creek Above Trail Canyon									
Test Date	**Arsenic (ug/l)**	**Barium (ug/l)**	**Chromium (ug/l)**	**Copper (ug/l)**	**Iron (ug/l)**	**Lead (ug/l)**	**Selenium (ug/l)**	**Sodium (mg/l)**	**Potassium (ug/l)**
11/21/2006	2.94	137.00	7.17		44.60		1.03	129.00	8.34
2/14/2007								97.90	5.64
4/13/2007	2.10	140.00		2.52			1.27	170.00	7.89
5/15/2007	2.45		2.96	4.01	21.00		2.14	604.00	10.70
3/18/2008	1.83	122.00	7.29	3.85			1.38	103.00	8.59
4/3/2008								112.00	9.01
5/9/2008								440.00	9.14
2/29/2016								135.00	8.30
3/31/2016								128.00	7.96
5/3/2016								152.00	8.00

F.4 WATER QUALITY IN TEN MILE CANYON CREEK AT DRIPPING SPRINGS

Table 40: Surface Water Acidity, Dissolved Oxygen, Total Dissolved Solids, and Temperature in Ten Mile Canyon Creek at Dripping Springs

Ten Mile Canyon Creek at Dripping Springs								
Test Date	**pH**	**Alkalinity (CaCO3, mg/L)**	**Bicarbonate (mg/L)**	**Sulfate (mg/L)**	**Dissolved Oxygen (mg/L)**	**Dissolved Oxygen Saturation (%)**	**Total Dissolved Solids (mg/L)**	**Temperature (°C)**
3/21/2003	8.6		284.0	285.0	6.5	55.8	668.0	8.7
4/17/2003	8.3		470.0	202.0	4.9	56.4	720.0	20.2
5/16/2003	8.4		452.0	267.0	3.4	41.1	860.0	24.9
6/4/2003	8.3		386.0	236.0	2.9	34.5	734.0	24.3
9/12/2005	8.0		138.0	1300.0	5.9	68.8	2056.0	22.6
11/10/2005	8.7		524.0	215.0			856.0	
11/15/2005	8.3				7.8	69.1		8.2
2/8/2006	8.3		546.0	217.0	11.9	87.2	812.0	0.7
3/7/2006	8.2		456.0	228.0	8.5	81.2	796.0	13.1
4/24/2006	8.5		446.0	202.0	8.3	85.1	678.0	16.1
2/14/2007	8.4		284.0	179.0			504.0	
2/29/2016	8.1	499.0	608.0	313.0	8.6	82.0	1028.0	13.3
3/31/2016	8.0	469.0	572.0	260.0	9.3	87.6	930.0	12.7
5/3/2016	8.2	417.0	508.0	220.0	8.8	108.2	844.0	26.0

Table 41: Metals in Ten Mile Canyon Creek at Dripping Springs

Ten Mile Canyon Creek at Dripping Springs									
Test Date	**Arsenic (ug/l)**	**Barium (ug/l)**	**Chromium (ug/l)**	**Copper (ug/l)**	**Iron (ug/l)**	**Lead (ug/l)**	**Selenium (ug/l)**	**Sodium (mg/l)**	**Potassium (ug/l)**
3/21/2003		129.00	8.40				5.00	69.30	7.76
4/17/2003								74.10	8.51
5/16/2003								116.00	13.40
6/4/2003	7.20	198.00			20.60		1.30	119.00	7.85
9/12/2005								116.00	19.40
11/10/2005								78.10	9.43

Ten Mile Canyon Creek at Dripping Springs									
Test Date	**Arsenic (ug/l)**	**Barium (ug/l)**	**Chromium (ug/l)**	**Copper (ug/l)**	**Iron (ug/l)**	**Lead (ug/l)**	**Selenium (ug/l)**	**Sodium (mg/l)**	**Potassium (ug/l)**
2/8/2006	2.09	127.00					1.32	85.10	7.18
3/7/2006								104.00	8.97
4/24/2006	1.44	124.00					1.32	68.50	8.13
2/14/2007								34.90	4.82
2/29/2016								156.00	10.60
3/31/2016								113.00	8.46
5/3/2016								116.00	9.18

F.5 WATER QUALITY IN TEN MILE CANYON AT HORSEHAIR TRIBUTARY AND DRIPPING SPRINGS ROAD CROSSING

Table 42: Surface Water Acidity, Dissolved Oxygen, Total Dissolved Solids, and Temperature in Ten Mile Canyon at Horsehair Tributary and Dripping Springs Road Crossing

Ten Mile Canyon at Horsehair Tributary and Dripping Springs Road Crossing								
Test Date	**pH**	**Alkalinity (CaCO3, mg/L)**	**Bicarbonate (mg/L)**	**Sulfate (mg/L)**	**Dissolved Oxygen (mg/L)**	**Dissolved Oxygen Saturation (%)**	**Total Dissolved Solids (mg/L)**	**Temperature (°C)**
9/19/2006	8.0		228.0	485.0	4.6	40.7	868.0	9.6
10/31/2006	8.4		559.0	189.0	2.0	18.7	752.0	12.1
11/22/2006	8.3		572.0	169.0	5.0	40.9	658.0	6.4
1/24/2007	8.3		408.0	257.0			748.0	6.3
2/14/2007	8.4		314.0	86.4	4.2	32.0	398.0	4.6
4/18/2007	8.2		604.0	170.0			738.0	
5/15/2007	8.2		532.0	156.0	3.5	40.1	632.0	21.5
6/11/2007	8.5		416.0	188.0	4.9	52.2	660.0	18.7
7/17/2007	8.5		372.0	161.0	4.0	48.3	528.0	24.7
8/22/2007	8.2		346.0	144.0	3.0	32.5	458.0	20.0
9/13/2007	8.5		318.0	115.0	5.3	55.4	434.0	30.2
10/4/2007	8.2		312.0	285.0	4.5	44.3	706.0	13.9
11/8/2007	8.3		668.0	210.0	6.8	57.1	818.0	7.8
3/18/2008	8.5		553.0	213.0	6.7	60.9	796.0	6.7
4/3/2008	8.7		438.0	163.0	8.9	80.9	668.0	11.0
5/9/2008	8.6		485.0	109.0	5.5	54.8	542.0	15.1
6/4/2008	8.8		250.0	134.0	6.8	60.6	526.0	17.2
2/29/2016	7.7	476.0	580.0	279.0	6.3	52.0	932.0	7.4
3/31/2016	7.5	430.0	524.0	168.0	8.9	74.1	688.0	7.5
5/3/2016	7.9	446.0	544.0	102.0	5.7	63.9	644.0	20.3
6/6/2016	7.9	446.0	544.0	132.0	4.0	47.8	680.0	24.8
7/25/2016	8.9		383.0	81.6	11.8	85.1	424.0	31.2

Table 43: Metals in Ten Mile Canyon at Horsehair Tributary and Dripping Springs Road Crossing

Ten Mile Canyon at Horsehair Tributary and Dripping Springs Road Crossing									
Test Date	**Arsenic (ug/l)**	**Barium (ug/l)**	**Chromium (ug/l)**	**Copper (ug/l)**	**Iron (ug/l)**	**Lead (ug/l)**	**Selenium (ug/l)**	**Sodium (mg/l)**	**Potassium (ug/l)**
9/19/2006								88.00	16.10
10/31/2006								68.50	7.97
11/22/2006								60.30	6.90
1/24/2007								52.30	7.04
2/14/2007								24.70	4.31
4/18/2007								59.50	7.56
5/15/2007								45.60	7.75
6/11/2007								38.60	8.16
7/17/2007	9.32	104.00		1.75				38.80	9.61
8/22/2007								31.20	6.57
9/13/2007								28.40	7.39
10/4/2007	4.10	212.00	3.33	3.53			4.46	55.10	9.55
11/8/2007								46.40	8.47
3/18/2008	2.72	151.00	12.10	2.41		0.64	1.49	65.10	7.68
4/3/2008								56.80	7.21
5/9/2008								40.90	6.92
6/4/2008	3.45	201.00	3.62					37.90	7.05
2/29/2016								93.10	8.16
3/31/2016								68.70	7.00
5/3/2016								62.50	8.09
6/6/2016								47.80	8.75
7/25/2016	3.86	547.00	7.79	1.97	53.30	0.61	3.61	30.20	10.40

F.6 WATER QUALITY IN GREEN RIVER AT MINERAL BOTTOM

Table 44: Surface Water Acidity, Dissolved Oxygen, Total Dissolved Solids, and Temperature in Green River at Mineral Bottom

Green River at Mineral Bottom								
Test Date	pH	Alkalinity (CaCO3, mg/L)	Bicarbonate (mg/L)	Sulfate (mg/L)	Dissolved Oxygen (mg/L)	Dissolved Oxygen Saturation (%)	Total Dissolved Solids (mg/L)	Temperature (°C)
5/12/2003	8.0		157.0	114.0			310.0	12.9
9/17/2003	8.3		208.0	204.0	3.8	41.1	532.0	19.7
10/29/2003	8.4		218.0	211.0	8.8	83.6	522.0	12.6
11/1/2003	8.3		216.0	220.0			530.0	10.6
11/14/2003	8.4		218.0	235.0	10.4	88.1	550.0	8.2
3/23/2004	8.1		200.0	266.0	7.4	73.1	586.0	13.9
4/14/2004	8.0		156.0	147.0	6.2	60.3	372.0	14.3
5/7/2004	8.1		147.0	116.0	6.9	74.2	310.0	19.3
7/6/2004	8.1		156.0	118.0	6.2	73.2	392.0	23.3
8/4/2004	8.4		171.0	187.0			484.0	27.4
9/15/2004	8.4		196.0	229.0			554.0	17.9
10/15/2004	8.2		204.0	145.0	6.9	69.2	458.0	2050.0
11/18/2004	8.5		210.0	165.0	9.6	81.9	614.0	8.3
3/15/2005	8.3		222.0	269.0	9.4	81.2	600.0	8.7
4/18/2005	8.3		198.0	154.0	7.0	70.1	450.0	15.5
5/7/2005	8.3		164.0	94.3			326.0	
5/17/2005	8.3		187.0	101.0			304.0	
5/21/2005	8.4		172.0	103.0			326.0	
6/7/2005	8.2		131.0	86.5	7.7	78.2	266.0	15.8
6/30/2005	8.0				7.4	95.4		21.5
7/25/2005								
9/15/2005	8.6		187.0	228.0			534.0	
5/27/2006	8.1		114.0	63.5			214.0	12.0
6/27/2006	8.4		147.0	105.0			282.0	
8/10/2006	8.4		203.0	224.0			504.0	24.1
3/11/2008	8.5		222.0	230.0			536.0	6.2
9/30/2008	8.9		190.0	217.0			446.0	19.8
5/12/2009		96.0	117.0	63.0			222.0	17.9
6/23/2010		95.0	115.0	62.8			230.0	20.8
7/28/2010		113.0	138.0	121.0			330.0	26.9
5/10/2011		156.0	188.0	168.0			420.0	13.8
8/17/2011		162.0	192.0	168.0			402.0	26.0
9/12/2011	8.1	166.0	202.0	188.0	7.0	89.8	462.0	21.0
4/30/2012	8.5	142.0	170.0	139.0	8.2	98.1	374.0	16.7
6/11/2012		136.0	159.0	134.0			344.0	18.9
4/19/2013		154.0	188.0	202.0			502.0	12.6

Green River at Mineral Bottom								
Test Date	pH	Alkalinity (CaCO3, mg/L)	Bicarbonate (mg/L)	Sulfate (mg/L)	Dissolved Oxygen (mg/L)	Dissolved Oxygen Saturation (%)	Total Dissolved Solids (mg/L)	Temperature (°C)
6/2/2013		80.0	97.0	43.8			192.0	18.2
7/5/2013		129.0	143.0	103.0			294.0	27.0
8/13/2013		172.0	204.0	202.0			486.0	22.8
3/20/2014		182.0	222.0	237.0			604.0	8.0
5/30/2014		90.0	110.0	46.5			198.0	18.8
7/28/2015		160.0	195.0	133.0			388.0	22.9
9/22/2015		169.0	206.0	92.7			460.0	19.3
8/26/2016		164.0		155.0			406.0	21.2
10/26/2016		177.0		215.0			524.0	14.2
6/22/2017		115.0		85.6			264.0	23.2
7/19/2017		149.0		145.0			492.0	29.6
8/23/2017		170.0		159.0			458.0	26.1
10/10/2018		145.0		248.0			686.0	13.5
11/15/2018		169.0		156.0			480.0	3.3
5/22/2019		103.0		52.3			204.0	14.1
6/27/2019		103.0		55.0			222.0	18.0
7/17/2019		102.0		62.6			238.0	28.0
8/7/2019		138.0		111.0			332.0	29.6
3/31/2020		162.0		205.0			520.0	10.9
4/16/2020		152.0		179.0			448.0	11.4
5/29/2020		77.2		44.0			188.0	25.6
6/18/2020		108.0		80.0			244.0	23.9
7/25/2020		153.0		138.0			388.0	27.0
8/11/2020		148.0		139.0			394.0	25.1
9/13/2020		164.0		166.0			418.0	18.7
10/9/2020		161.0		170.0			446.0	18.4
11/11/2020		174.0		178.0			468.0	7.4
2/22/2021		173.0		179.0			462.0	4.3
3/29/2021	8.4	192.0		204.0	9.8	106.4	494.0	12.1
4/25/2021	8.6	164.0		172.0	9.4	110.0	442.0	15.5
5/21/2021	8.4	113.0		87.6	7.8	96.2	270.0	17.9
6/19/2021		104.0		65.7			220.0	25.5
7/16/2021	8.4	159.0		147.0	6.1	88.1	436.0	26.3
8/30/2021	8.3	148.0		324.0	7.1	96.5	686.0	22.9
9/24/2021	8.3	171.0		173.0	8.2	103.6	446.0	20.0

Green River at Mineral Bottom								
Test Date	pH	Alkalinity (CaCO3, mg/L)	Bicarbonate (mg/L)	Sulfate (mg/L)	Dissolved Oxygen (mg/L)	Dissolved Oxygen Saturation (%)	Total Dissolved Solids (mg/L)	Temperature (°C)
10/22/2021	8.2	170.0		184.0	9.8	105.5	464.0	12.4
3/21/2022	8.4	176.0		190.0	10.1	103.9	526.0	10.3

Table 45: Metals in Green River at Mineral Bottom

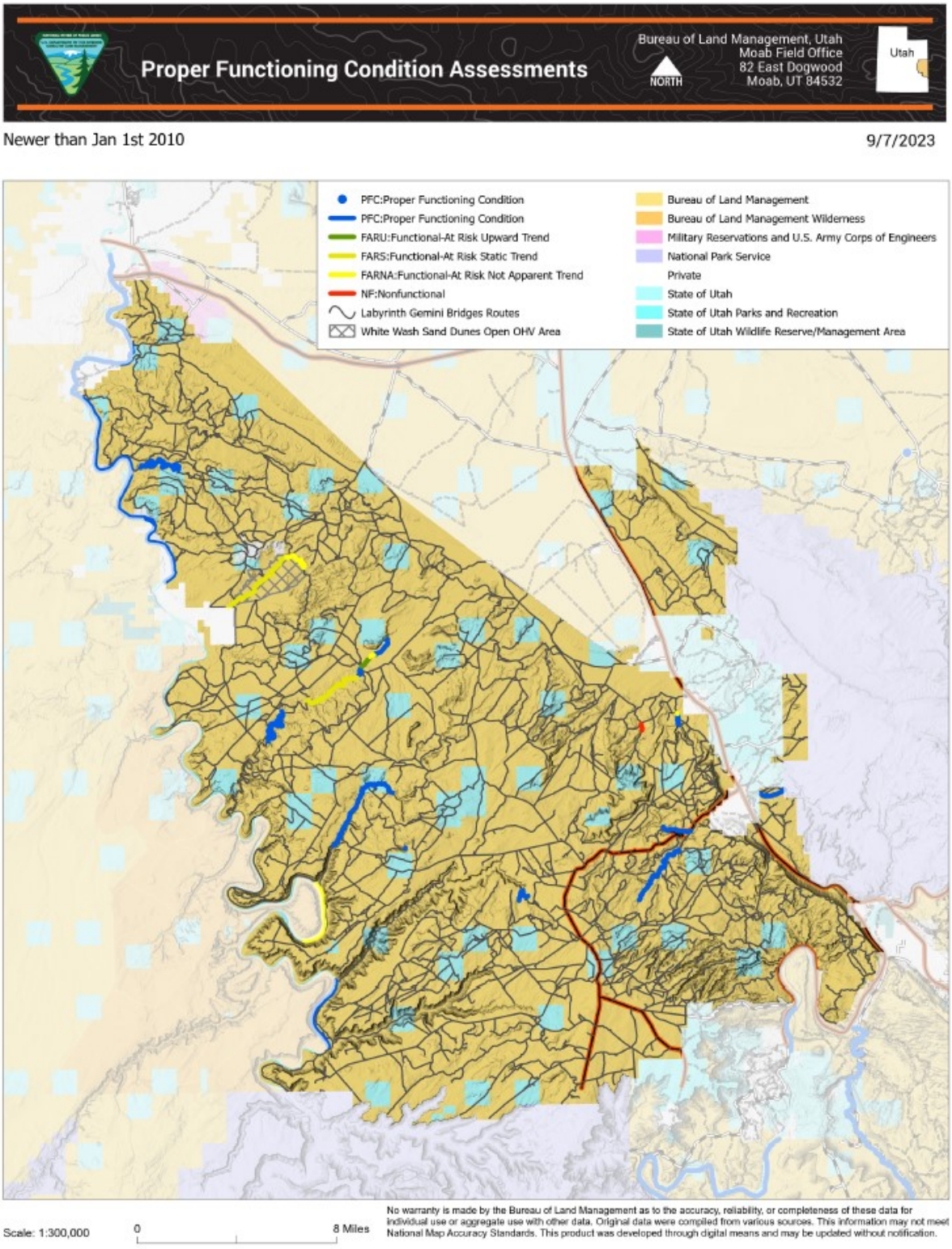
Green River at Mineral Bottom									
Test Date	Arsenic (ug/l)	Barium (ug/l)	Chromium (ug/l)	Copper (ug/l)	Iron (ug/l)	Lead (ug/l)	Selenium (ug/l)	Sodium (mg/l)	Potassium (ug/l)
5/12/2003		68.60	5.70		120.00		1.20	33.50	2.51
9/17/2003	2.90	175.00			114.00		1.20	75.50	4.62
10/29/2003								67.70	2.82
11/1/2003	1.00						1.00	78.40	3.30
11/14/2003								74.50	2.87
3/23/2004	3.20		11.30		179.00		2.20	84.00	3.23
4/14/2004								46.40	2.40
5/7/2004								14.90	2.77
7/6/2004	1.63				48.20			50.10	3.21
8/4/2004								72.80	3.52
9/15/2004	1.65	102.00			49.70		1.42	79.80	3.75
10/15/2004								47.90	2.31
11/18/2004								86.30	3.18
3/15/2005	1.90	150.00			58.50		1.86	88.30	3.30
4/18/2005								52.90	2.63
5/7/2005	1.70						1.15	31.10	1.94
5/17/2005								31.40	1.93
5/21/2005	2.61						1.26	30.90	2.13
6/7/2005	1.49	126.00			137.00			31.40	1.98
6/30/2005	1.68				97.30			22.40	1.56
7/25/2005								52.80	2.92
9/15/2005	2.68	103.00			743.00			71.30	4.65

Green River at Mineral Bottom									
Test Date	**Arsenic (ug/l)**	**Barium (ug/l)**	**Chromium (ug/l)**	**Copper (ug/l)**	**Iron (ug/l)**	**Lead (ug/l)**	**Selenium (ug/l)**	**Sodium (mg/l)**	**Potassium (ug/l)**
5/27/2006	1.33				43.50			20.20	1.62
6/27/2006								34.20	2.06
8/10/2006	1.89						1.19	75.30	3.77
3/11/2008	1.36		4.29	1.86			1.28	75.60	2.73
9/30/2008	1.63			2.76				80.80	3.50
5/12/2009	1.20			3.53	42.30	0.10		18.30	1.37
6/23/2010	1.54		2.12	2.17	55.00	0.11		23.60	1.66
7/28/2010	1.99			4.64	36.00	0.14	1.13	52.70	3.06
5/10/2011	1.56			2.02			1.16	48.60	2.53
8/17/2011	2.10			2.21				58.40	2.75
9/12/2011	1.91			3.71			1.14	64.90	2.99
4/30/2012	1.55			2.68				47.60	2.48
6/11/2012	1.46			2.54				47.90	2.66
4/19/2013	1.53			2.08				70.20	3.40
6/2/2013	1.39			2.39	69.40	0.16		18.10	1.37
7/5/2013	1.96		2.29	2.01				43.70	2.52
8/13/2013	1.51			1.86				66.20	3.55
3/20/2014	1.15			2.18				86.20	3.04
5/30/2014	1.02			1.57	75.70	0.19		15.00	1.46
7/28/2015	1.89			1.46				49.10	2.48
9/22/2015	1.29			1.21				64.20	2.85
8/26/2016	1.28	100.00		1.86	3.20		1.00	57.30	2.92
10/26/2016	1.32			2.15				67.00	3.87
6/22/2017	1.08	67.50		0.97	17.20		0.76	28.60	1.73
7/19/2017	1.48	86.40		1.18			0.95	47.20	2.18
8/23/2017	1.43	78.00		1.46				52.40	2.75
10/10/2018	1.05	139.00		2.88			0.25	74.90	4.14
11/15/2018	1.05	74.10		1.89				61.70	2.37

Green River at Mineral Bottom									
Test Date	**Arsenic (ug/l)**	**Barium (ug/l)**	**Chromium (ug/l)**	**Copper (ug/l)**	**Iron (ug/l)**	**Lead (ug/l)**	**Selenium (ug/l)**	**Sodium (mg/l)**	**Potassium (ug/l)**
5/22/2019	1.31	75.60		3.54	62.60	0.19		18.80	1.39
6/27/2019	1.25	43.20		1.42				18.90	1.54
7/17/2019	1.49	48.40	1.04	1.36				22.30	1.65
8/7/2019	1.70	67.40		1.21	23.30			41.90	2.36
3/31/2020	1.68	80.90		1.35				72.70	2.93
4/16/2020	1.33	79.90		1.42				59.30	2.78
5/29/2020	1.24	30.60		1.70			0.61	15.10	1.18
6/18/2020	1.36	49.00		1.28				28.00	1.86
7/25/2020	1.45	70.80		1.05				54.80	2.76
8/11/2020	1.27	68.10		1.00				56.30	2.39
9/13/2020	1.23	74.00		1.01				64.60	2.84
10/9/2020	1.03	73.60		1.03				62.00	2.61
11/11/2020	1.12	72.10	1.07	0.98				64.50	2.60
2/22/2021	1.63	63.70	1.03	1.01				62.10	2.92
3/29/2021	1.07	73.00		1.05				69.80	3.24
4/25/2021	1.53	62.20		0.88				57.80	2.96
5/21/2021	1.23	44.00		1.43				34.70	2.02
6/19/2021	1.47	41.80		1.40				26.30	1.63
7/16/2021	1.99	91.90		1.11				60.80	3.32
8/30/2021	1.19	155.00		2.06				59.80	5.29
9/24/2021	1.32	83.60		1.64				67.60	2.99
10/22/2021	1.02	86.00		0.80				66.80	2.74

F.7 PROPER FUNCTIONING CONDITION ASSESSMENTS

Figure 39: PFC Assessments



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APPENDIX G MIGRATORY BIRDS OF PARTICULAR CONCERN

The list below was generated from the U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC) System (USFWS 2021) and is based on GIS data for TMA boundaries. It lists Migratory Bird Treaty Act species present or potentially present in the TMA that are of particular concern because they are on the Birds of Conservation Concern list or warrant special attention in the TMA.

Species
Black Rosy-finch (*Leucosticte atrata*)
Brewer's Sparrow (*Spizella breweri*)
Burrowing Owl (*Athene cunicularia*)
Clark's Grebe (*Aechmophorus clarkii*)
Golden Eagle (*Aquila chrysaetos*)
Grace's Warbler (*Dendroica graciae*)
Gray Vireo (*Vireo vicinior*)
Lesser Yellowlegs (*Tringa flavipes*)
Lewis's Woodpecker (*Melanerpes lewis*)
Marbled Godwit (*Limosa fedoa*)
Olive-sided Flycatcher (*Contopus cooperi*)
Pinyon Jay (*Gymnorhinus cyanocephalus*)
Rufous Hummingbird (*Selasphorus rufus*)
Virginia's Warbler (*Vermivora virginiae*)
Willow Flycatcher (*Empidonax traillii*)

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APPENDIX H ESTIMATED ECONOMIC IMPACT

Appendix H presents possible outcomes of the estimated economic impact of route closures which may result from adoption of the Labyrinth/Gemini Bridges Travel Management Area (TMA) Travel Management Plan (TMP). This analysis relies on conservative assumptions and represents what might be labeled "worst-case possible outcomes" from the point of view of motorized users visiting Grand County.[19] In addition to quantitative analysis using IMPLAN (described at the end of this appendix), non-market values associated with a variety of recreational activities, including OHV use, are also discussed.

Background: The history of travel planning within the Moab Field Office (MFO) is summarized in Appendix N of the 2008 Moab RMP. Appendix N also details network and designations that existed prior to the 2008 RMP, along with the inventory and network development process that culminated in the travel plan adopted in the 2008 RMP. The final Moab RMP, Appendix N, and other related documents are available here: https://eplanning.blm.gov/eplanning-ui/project/66098/570.

The 2008 RMP, signed in October 2008, closed 2,506 miles of routes throughout the MFO that had previously been available for OHV use. Within the TMA specifically, BLM closed 759 miles of route that had previously been available for OHV use.[20] No Jeep Safari Routes were closed in 2008. Since 2008, approximately 80.5 miles of routes that were designated in the 2008 RMP have been added to the Jeep Safari SRP.

Table 46, below, summarizes the differences between the route networks in the TMA prior to the adoption of the 2008 RMP and the route network that exists as of 2022 on several variables.

Table 46: Changes in Economic Impact Variables Pre-2008 RMP/ROD and 2022

FY	Visitor days (MFO)	Route mileage available for public OHV use[i]	Motorized SRPs[ii]	JS participants	Moab based OHV guide services/rental companies
Pre-2008	1,402,258	5350	29	6498	15
2022	1,679,157	2882	96	7405	30
Percentage change (+/-)	+19.7	-53.9	+186	+13.9	+100

[i] The pre-2008 figures represent pre-RMP route mileage on BLM-managed lands in Grand County that were available for public use, based on the route inventory used in development of the 2008 RMP travel plan. The 2022 figure represents route mileage designated in the approved 2008 RMP. This figure is substantially unchanged as of 2022 (reference: Appendix N. 2008 RMP).

[ii] Includes cars, trucks, SUVs, motorcycles, and ATVs permitted on Jeep Safari trails., which consist of approximately 671 miles throughout the MFO planning area.

[19] Grand County is used as the affected area for this analysis because all Jeep Safari routes (even those that go into San Juan county) start in the tourist hub of Moab, and the entirety of the TMA is located within the County.

[20] TMA-specific mileage changes are provided here for context. This analysis, however, focuses on user data throughout Grand County.

As Table 46, above, shows, despite a large reduction in route mileage designated for OHV use in 2008, visitation, motorized SRPs, Jeep Safari participants, and Moab-based businesses catering to guide services and OHV rentals all increased from 2008-2022.

Assumptions for this analysis:

- OHV enthusiasts are primarily interested in off-highway recreation opportunities afforded by maintained and minimally maintained routes.
- Overall visitation to the affected area continues at 2022 levels for "dispersed recreation" (i.e., excludes visitation to the four BLM campgrounds within the TMA, Labyrinth Canyon boating use, and other developed sites such as the Bar M mountain bike area as well as several dinosaur-related sites). In FY 2022, dispersed recreation to the TMA totaled approximately 354,367 visitor days.[21]
- The percentage of visitors using minimally maintained roads in the Labyrinth/Gemini TMA have OHV activity as their primary activity in the same proportion as all other visitors to locations throughout the MFO. This percentage of visitors is assumed to be 6.0 percent, based on visitation data from BLM (BLM 2007) and adjacent U.S. Forest Service (USFS) lands (USFS 2023).[22] Higher or lower percentages of OHV activity could result in higher or lower impacts.
- Spending profiles for OHV visitors are similar to the overall spending profiles that the Moab BLM has developed for all recreation visitation to the MFO. The emphasis on Jeep Safari routes in this analysis reflects the concerns raised in the majority of public comments addressing economic issues.

Based on the assumptions above, the BLM posits four possible outcomes, ranked from least impact to OHV users to most:

Possible Outcome #1: No change in overall visitation or economic impact

1. Most likely under No Action; least likely under Alternative B

[21] The current analysis uses *visits* for input into IMPLAN. This assumes that a visit for OHV activity on a minimally maintained route within the TMA consists of a full day's activity. To the extent that less than a full day (defined by the BLM as 12 hours) is spent on this activity within the TMA, the economic impact would be lower.

[22] Percentage of Visitors Citing OHV and Motorized Trail Use as Primary Activity in Visiting Area, Moab and Related Geographies:

Geography	Primary Activity Percentage	Comments
All National Forests (2016-2020)	1.8	Hiking/walking led at 26.7% primary activity
Rocky Mountain Region Forests (2016-2020)	2.3	
Intermountain Region Forests (2016-2020)	2.3	
Manti-LaSal National Forest (2016)	5.2	Three separate districts—most interviews in Manti District
San Juan National Forest (2016)	2.1	
Uncompahgre Grand Mesa Gunnison National Forest (2019)	2.8	Large geographical area
Moab BLM National Visitor Use Monitoring pilot (2006)	6.0	

Sources: USFS 2023; BLM 2007

2. Visitors would use available routes as alternates and/or be replaced by other recreation users with similar spending patterns and numbers

Possible Outcome #2: Decrease in visitation proportionate to miles of routes closed under Alternative B/total miles of routes in the TMA

1. Assume proportionate loss of OHV use not replaced by other users or routes
2. Assume 6 percent of recreationists have OHV or motorized trail use as primary recreation activity (BLM 2007) and 354,367 dispersed visitors to the TMA
3. Based on public comments, assumes economic impact results primarily from loss of OHV opportunities rather than non-OHV users of these routes

Possible Outcome #3: Decrease in visitation proportionate to miles of Jeep Safari routes closed within the TMA under Alternative B/total miles of Jeep Safari routes in the TMA. For example, if five percent of the TMA's Jeep Safari routes were closed, five percent of recreationists primarily interested in general OHV recreation within the TMA would cease visiting the Moab area.

1. Assume proportionate loss of OHV use not replaced by other users or routes
2. Assume 6 percent of recreationists have OHV or motorized trail use as primary recreation activity (BLM 2007)

Possible Outcome #4: Decrease in visitation proportionate to Jeep Safari event users (from actual post-use report) of the Jeep Safari routes closed in the TMA under Alternative B/total Jeep Safari event users in the TMA. This is similar to #3, but counts actual reported Jeep Safari registrants using these trails during the event (as opposed to OHV users in general).

1. Assume proportionate loss of OHV use not replaced by other users or routes
2. Assume 6 percent of recreationists have OHV or motorized trail use as primary recreation activity

As described in the EA, the BLM does not forecast that these decreases would occur; these possible outcomes are analyzed only to provide the "worst case" economic scenario from the OHV user perspective.

Table 47 shows estimates of annual visitor days "lost" to Grand County's economy under the above possible outcomes, by alternative.

Table 47: Estimated Loss of Visitors by Possible Outcome and TMP Alternative Relative to Alternative A (No Action)

Possible Outcome	Alternative A	Alternative B	Alternative C	Alternative D
1	0	0	0	0
2	0	-8,250	-3,168	-978
3	0	-4,483	0	0
4	0	-2,842	0	0

Under Possible Outcome #1, wherein visitors would use available routes as alternates and/or be replaced by other recreation users with similar spending patterns and numbers, little, if any, economic impact would be expected under any alternative. The mix of visitors and associated spending would generally continue at current levels.

Table 48 shows the estimated economic impact for Possible Outcome #2 under Alternatives B-D. This analysis uses IMPLAN economic impact analysis software[23].

Table 48: Estimated Economic "Losses" under Possible Outcome #2 Relative to Alternative A (No Action)

Alternative	Impact	Employment	Labor Income	Value Added	Output
B (Visitor days lost = 8,250)	Direct Effect	-7.0	-$198,909	-$306,657	-$503,995
	Indirect Effect	-0.9	-$34,711	-$57,567	-$136,375
	Induced Effect	-0.6	-$24,226	-$50,152	-$88,176
	Total Effect	*-8.5*	*-$257,846*	*-$414,375*	*-$728,546*
C (Visitor days lost = 3,168)	Direct Effect	-3.3	-$76,381	-$117,756	-$193,535
	Indirect Effect	-0.3	-$13,329	-$22,106	-$52,368
	Induced Effect	-0.2	-$9,303	-$19,258	-$33,860
	Total Effect	*-3.8*	*-$99,013*	*-$159,120*	*-$279,763*
D (Visitor days lost = 978)	Direct Effect	-1.7	-$23,581	-$36,353	-$59,748
	Indirect Effect	-0.1	-$4,115	-$6,824	-$16,167
	Induced Effect	-0.1	-$2,872	-$5,945	-$10,453
	Total Effect	*-1.9*	*-$30,567*	*-$49,122*	*-$86,368*

The BLM estimates that 8,250 visitor days would be "lost" to the overall Moab area economy if Alternative B is selected *and* there is a decrease in visitation proportionate to miles of routes closed under Alternative B/total miles of routes in the TMA. This represents 0.39% of the estimated 1,679,157 visitor days spent recreating on Moab BLM lands in FY2022.

Contrasting this with the impact on the local economy from all recreation on Moab BLM lands shows the relative magnitude of the effect.

Table 49: Visitor Days and Associated Spending in the MFO (FY2022)

Visitor days = 1,679,157	Employment	Labor Income	Value Added	Output
Direct Effect	1,217.6	$40,484,476	$62,415,105	$102,579,703
Indirect Effect	173.6	$7,064,817	$11,716,804	$27,757,037

[23] A brief explanation of IMPLAN can be found at the end of this appendix.

Induced Effect	114.0	$4,930,845	$10,207,595	$17,946,830
Total Effect	*1,505.2*	*$52,480,138*	*$84,339,504*	*$148,283,570*

The assumptions of this analysis are very conservative; actual economic losses (if any) would likely be much less than shown above, should the authorized officer select other than Alternative B.

Possible Outcomes #3 and #4, as described above, focus on only Jeep Safari routes (general miles (#3), and specific routes (#4)) within the TMA that are potentially impacted by Alternative B and the registered Jeep Safari participants. Table 50 shows estimated impacts under Possible Outcome #3—general visitation to Moab will decrease in proportion to the total miles of Jeep Safari routes closed in the TMA. For example, if 5% of the Jeep Safari route miles in the TMA close, 5% of people interested in general OHV recreation will stop visiting the Moab area.

Table 50: Estimated Economic "Losses" Under Possible Outcome #3 Relative to Alternative A (No Action)

Visitor days = 4,483	Employment	Labor Income	Value Added	Output
Direct Effect	-4.2	-$108,086	-$166,635	-$273,869
Indirect Effect	-0.5	-$18,862	-$31,281	-$74,106
Induced Effect	-0.3	-$13,164	-$27,252	-$47,914
Total Effect	*-5.0*	*-$140,112*	*-$225,168*	*-$395,889*

Possible Outcome #4, like #3, only looks at the impacts under Alternative B, and concentrates on Jeep Safari use of the specific potentially affected routes rather than generalized miles of Jeep Safari routes. Using route-specific Jeep Safari post-use data from 2022, BLM calculated the number of lost event participants on routes within the TMA which would be closed all or in major part under Alternative B and associated economic losses. Table 51 displays these results.

Table 51: Estimated Economic "Losses" under Possible Outcome #4 Relative to Alternative A (No Action)

Visitor days = 2,842	Employment	Labor Income	Value Added	Output
Direct Effect	-3.1	-$68,522	-$105,639	-$173,620
Indirect Effect	-0.3	-$11,957	-$19,831	-$46,979
Induced Effect	-0.2	-$8,346	-$17,277	-$30,375
Total Effect	*-3.5*	*-$88,824*	*-$142,746*	*-$250,975*

IMPLAN is strictly linear, enabling anyone to estimate impacts using their own higher (or lower) estimate of visitor days' economic impact. To aid in this, Table 52 shows the marginal impact per 1000 visitor days.

Table 52: Visits and Associated Spending per 1000 Visitor Days "Lost" Under All Action Alternatives Relative to Alternative A (No Action)

Visitor days = 1000	Employment	Labor Income	Value Added	Output
Direct Effect	-1.7	-$23,581	-$36,353	-$59,748
Indirect Effect	-0.1	-$4,115	-$6,824	-$16,167
Induced Effect	-0.1	-$2,872	-$5,945	-$10,453
Total Effect	*-1.9*	*-$30,567*	*-$49,122*	*-$86,368*

Non-Market Values

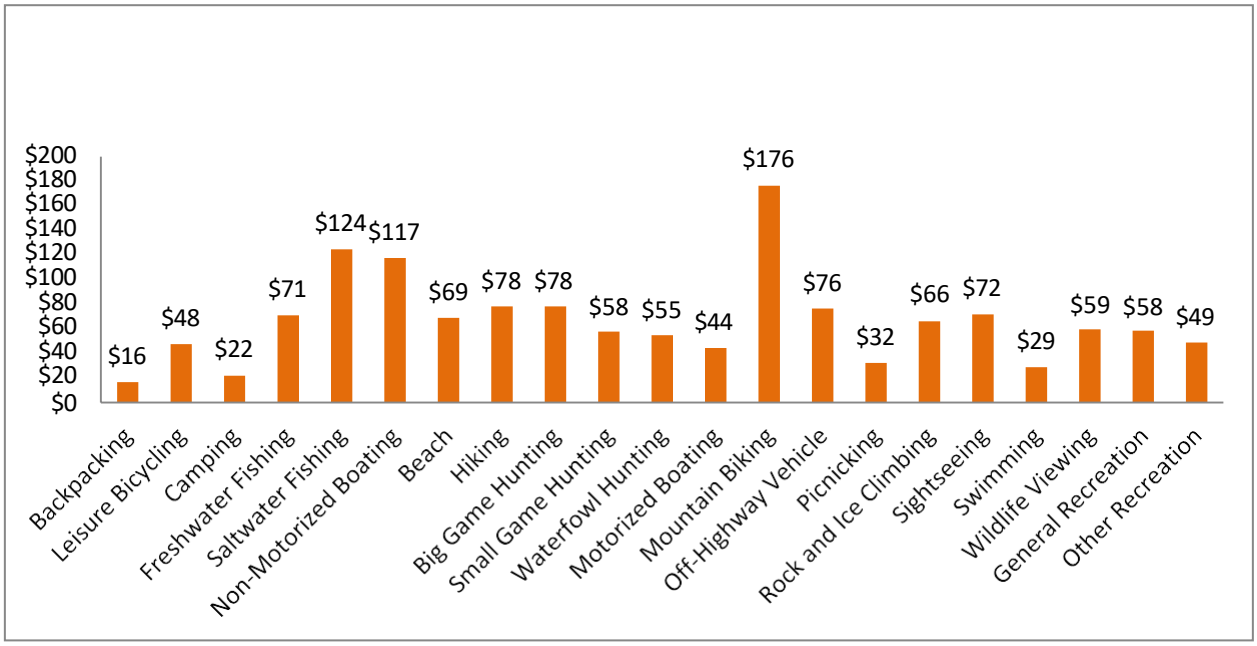
In addition to the economic impacts described above, it is important to also consider non-market values associated with BLM activities.[24] The term *non-market values* refers to the benefits individuals attribute to experiences of the environment or uses of natural and cultural resources that do not involve market transactions and therefore lack prices. Examples include the benefits received from wildlife viewing, hiking in a wilderness, or hunting for recreation. Estimates of non-market 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 lands 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.

In examining nonmarket values, economists often distinguish between "use values" and "non-use values." Use value refers to the benefits an individual derives from some direct experience or activity, such as climbing a spectacular peak, hunting, or wildlife viewing. In contrast, non-use value refers to the utility or psychological benefit some people derive from the existence of some environmental condition that may never be directly experienced: an unspoiled Grand Canyon or the continued presence of an endangered species. Economists measure nonmarket use values by estimating the "consumer surplus" associated with these activities. Consumer surplus is defined as the maximum dollar amount, above any actual payments made, that a consumer would be willing to pay to enjoy a good or service. For instance, hikers pay a market price for gasoline used to reach a trail but pay nothing to use the trail. Any amount that a recreationist would be willing to pay to use this otherwise free resource represents the nonmarket consumer surplus value of that resource to that consumer. There are many techniques for measuring this non-market use value. One common way is to collect data on variations in what recreationists do pay (gasoline, hotels, restaurants, entry fees, guides or outfitters, etc.); economists then use quantitative techniques to impute the additional willingness to pay that constitutes consumer surplus.

Nonmarket use values have been studied extensively for a wide variety of recreation "goods." To help the reader understand the potential non-market value of some of the planning area's natural and cultural resources, examples of a range of typical nonmarket use values—consumer surplus values—for recreation activities are summarized in Figure 40, adapted from an Oregon State University report (Rosenberger 2016). This 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.

[24]BLM has issued guidance on considering nonmarket values: Instruction Memorandum No. 2010-061, Guidance on Estimating Nonmarket Environmental Values, February 16, 2010 (BLM 2010). This discussion draws on that guidance.

Figure 40: Mean Consumer Surplus Per Person Per Day by Primary Activity Type.



With respect to non-use values, economists differentiate various types, including option values and existence values. Option value represents the benefits from having natural or cultural resources available for future use, while existence value reflects the benefits derived from knowing these resources simply exist. Evidence for the existence of these non-use values is ample. Local, state, and national taxpayers support a large variety of conservation and protection programs (e.g., National Park Service, state parks, local parks and parkways, open space initiatives, etc.) through their tax dollars—programs that are very popular but support many resources that many taxpayers will never visit. A large number of non-profit organizations are devoted to a wide variety of conservation and wildlife-related causes; many, if not most, donors to these groups derive no direct benefit from their contributions.

The BLM acknowledges that recreation activities on public lands, including OHV and other motorized activities, have a non-market value.

A Brief Explanation of IMPLAN

Contributions to the area economy through market-based production can be measured using the IMPLAN (short for *impact analysis for planning*) input-output model. Input-output models describe commodity flows from producers to intermediate and final consumers. The total industry purchases are equal to the value of the commodities produced. Industries producing goods and services for final demand purchase goods and services from other producers. These other producers, in turn, purchase goods and services. This buying of goods and services continues until leakages from the region stop the cycle. The resulting sets of multipliers describe the change of output for regional industries caused by a change in final demand in an industry.

IMPLAN not only examines the direct contributions but also indirect and induced contributions. *Indirect* employment and labor income contributions occur when a sector purchases supplies and services from other industries in order to produce their product. *Induced* contributions are the

employment and labor income generated as a result of spending new household income generated by direct and indirect employment.

Other terms:

Employment: A job in IMPLAN = the annual average of monthly jobs in that industry (this is the same definition used by the Quarterly Census of Employment and Wages, the Bureau of Labor Statistics, and the Bureau of Economic Analysis nationally). Thus, 1 job lasting 12 months = 2 jobs lasting 6 months each = 3 jobs lasting 4 months each. A job can be either full-time or part-time. The model assumes an available supply of labor to meet its projections.

Labor Income: All forms of employment income, including Employee Compensation (wages and benefits) and Proprietor Income.

Value added: The difference between an industry's or an establishments total output and the cost of its intermediate inputs. It equals gross output (sales or receipts and other operating income, plus inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported). Value added consists of compensation of employees, taxes on production and imports less subsidies (formerly indirect business taxes and nontax payments), and gross operating surplus.

Output: Output represents the value of industry production. In IMPLAN these are annual production estimates for the year of the data set and are in producer prices. For manufacturers this would be sales plus/minus change in inventory. For service sectors, production = sales. For Retail and wholesale trade, output = gross margin and not gross sales.

APPENDIX I 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 53, below, lists the requirements of the Travel PA and summarizes BLM's efforts to adhere to those requirements.

Table 53: 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 initiated consultation with the State Historic Preservation Office (SHPO) in January 2020 and requested concurrence on a proposed list of consulting parties, which included ten tribes and nine other potentially interested parties. The SHPO concurred with the proposed list of consulting parties. In February 2020, BLM initiated consultation with the ten tribes and invited nine additional potentially interested parties to participate in the Section 106 process. Five of the non-tribal interested parties requested to participate in the Section 106 process. The 2008 RMP does not allow for off-route travel, so BLM proposed to use the 15-meter corridor on either side of the routes within the TMA as the Area of Potential Effect. In the Labyrinth/Gemini Bridges TMA, this area totals 13,445.4 acres. In addition, the BLM proposed to consider known sites up to a ¼ mile away from the centerline for potential indirect and cumulative effects that may potentially result from this undertaking. This area encompasses 246,433.8 acres. Because this is in accordance with Stipulation III.1.b of the Travel PA, the BLM did not specifically consult with the SHPO. BLM sought input regarding the proposed Area of Potential Effect and requested any additional information from the fifteen consulting parties in October 2021. The BLM received responses from two tribes and four non-tribal consulting parties.

Travel PA and the 2017 Settlement Agreement	Process for Completing these Requirements
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.	A Class I Inventory was completed in 2016. The BLM sought comments regarding the literature review and other identification efforts from five consulting parties on March 1, 2023, ten interested tribes on April 6, 2026, and the SHPO on May 8, 2023. The BLM received comments from four of the five consulting parties, one tribe, and the SHPO.
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. 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.	A Class III survey was conducted in 2017 (U17LI1000). Eligibility determinations for newly recorded sites and revisited sites were sent to the SHPO on 3/11/2021. The SHPO concurred with the BLM's determinations of eligibility. BLM determined that additional survey was necessary to comply with the Settlement Agreement and the Travel PA. BLM completed the additional survey (U23BL0037) and based on this and other identification efforts, the BLM determined that the undertaking may result in an adverse effect to fourteen historic properties. BLM sought input on this finding from five consulting parties on March 1, 2023, ten interested tribes on April 6, 2023, and the SHPO on May 8, 2023. BLM received comments from four of the five consulting parties, one tribe, and the SHPO. The SHPO concurred with the BLM's finding of an adverse effect on May 9, 2023 (SHPO Case No. 23-1032).
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 has been engaged with site revisit efforts since 2015 (including but not limited to projects U15XR0913, U17LI1000, U19C10683, and U21BL0775). Based on this and other identification efforts, BLM determined that the undertaking may result in an adverse effect to fourteen historic properties. The BLM sought input on this finding five consulting parties on March 1, 2023, ten interested tribes on April 6, 2023, and the SHPO on May 8, 2023. BLM received comments from four of the five consulting parties, one tribe, and the SHPO. The SHPO concurred with the BLM's finding of an adverse effect on May 9, 2023 (SHPO Case No. 23-1032).

Travel PA and the 2017 Settlement Agreement	Process for Completing these Requirements
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 considered the results of these identification efforts as well as the potential for route designations to concentrate travel. Over 70% of the routes in the Labyrinth/Gemini Bridges TMA have been subject to archaeological survey and BLM has identified possible effects to less than two percent of the sites located in the "direct" APE. Based on this, the BLM has determined that no additional phased Class II survey is necessary for the undertaking. The BLM sought input regarding the need for additional phased Class II survey from five consulting parties on March 1, 2023, ten interested tribes on April 6, 2023, and the SHPO on May 8, 2023. The BLM received comments from four of the five consulting parties, one tribe, and the SHPO. No parties objected to this determination and the SHPO concurred with the BLM's determination on May 9, 2023 (SHPO Case No. 23-1032).
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 (HPTP). BLM must provide an opportunity for SHPO, Indian tribes and consulting parties an opportunity to provide input on the HPTP.	A draft HPTP was sent to four consulting parties, ten interested tribes, and the SHPO on May 31, 2023. BLM received input on the HPTP from 4 consulting parties. BLM considered this input and a summary of the input and final copy of the HPTP was sent to the SHPO on July 13, 2023, and the SHPO concurred on July 20, 2023.

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APPENDIX J ROUTE REPORTS

Following completion of the travel route inventory and adjustments to existing BLM GIS data, a BLM IDT and cooperators met for several planning sessions to systematically review and evaluate each of the inventoried travel routes. During route evaluation, the BLM IDT 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, 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 IDT and cooperator discussions of each route's resource and resource use concerns, as well as any route-specific public scoping information and Cooperator input available at the time of the evaluation process.

For each route, the IDT 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 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 IDT's evaluation of each route identified during the route inventory. The header of each page of a route report displays the number that was used to identify the route during evaluation (e.g., D2763b). 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."

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, 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. Other information may also be included along with citizen comments and proposals, as applicable.

SAMPLE Route Report for D2763b

Facilitator(s): Cam Gale **Initial Evaluation Date:** 5/13/2019

Evaluators:
Pam Riddle, Wildlife Biologist
Ashley Losey, Archaeologist
Greg Halliday, County Council
David Williams, Range Conservationist
Todd Murdock, Outdoor Recreation Planner (Permits)
David Pals, Geologist
Jonathan Jew, Land law examiner
Gabe Bissonette, Aquatic Ecologist
Katie Stevens, Outdoor Recreation Planner
Doug Wight, GIS Specialist
Bill Stevens, ORP - Wilderness/WSA/LWC
Bill Jackson, County Roads
Bryan Torgerson, Representative
Stephanie McKinney, Assistant Field Office Manager

TMA:	Labyrinth Canyon/Gemini Bridges			
Length: 0.84 mi.	**Width:** Dual Track	**Class:**	Primitive Roads	**Use Level:** Low
Route Type(s):	Connector			
Surface:	None identified by IDT	**Maintained:**	None identified by IDT	
Origin:	None identified by IDT	**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?	**NO**
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
Range Facilities	Active Allotment
Mineral Facilities	Known Potash Lease Area

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

Type	Description
None identified by IDT	

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

Type	Description
None identified by IDT	

Public 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
Activities	Motorcycling
	Jeeping/4-Wheeling
	Scenic Driving
Modes of Transportation	Stock 4 Wheel Drive
	UTV/ATV
	Motorcycle

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

Type	Description
None identified by IDT	

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

Type	Description
None identified by IDT	

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)
- Prox = Proximate to; the route is near the resource or area of concern as indicated by the:
- Dist = Proximate 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 Blackbrush
	In Riparian/Wetlands
Special Status Plants	In Jones cycladenia modeled potential habitat
	Crosses Navajo sedge potential geology
VRM	In VRM Class II - Retain existing character
Special Management Areas	In Wild and Scenic River (Suitable)
	In SRMA - Special Recreation Management Area
	In BHCA - Bird Habitat Conservation Area
	In Recreation Management Zone
Water Resources	In Riparian/Wetland
	Within 1/4 mile of Major river
Misc. Resources	In Erosive Soil - High Potential
	In High-Use Filming Location

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 IDT's evaluation of alternative designations for each route. Alternative A (No Action/Current Management) simply states the current management of a route and its 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. If there is management assigned to the selected designation for the route, that management will be required as part of the TMP.

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 IDT 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

Route Designation:
Open

Specific designations by user type:

OHV Public:	**Designation per 43 CFR § 8342.1: Open** - The public may use this route by all motorized modes of transportation, year-round.
Non-motorized Public:	The public may use this route by all non-motorized modes of transportation, year-round.
Authorized/Permitted Users:	Authorized users may use this route by all modes of transportation, year-round. *Additional users may be authorized by the BLM through future authorizations.*
Administrative/Official Users:	All Federal, State and Local agencies may use this route by all modes of transportation, year-round.

Alternative B

Comprehensive Designation:
CLOSED
This route will be decommissioned and not managed as a BLM transportation asset. Unless otherwise signed, cross-country foot and animal use is allowed in the area.

OHV Public: Designation per 43 CFR § 8342.1: Closed

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.
- 43 CFR § 8342.1 (c) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.

How Designation Addresses Criteria Above: Closing this route, along with natural reclamation, would reduce visual contrast created by the route. Closing this route would contribute to retaining or restoring vegetation and soil cover, minimizing the potential for soil erosion. Closing this route would reduce overall impact of vehicle use and route footprint in the area. Closing this route would enhance wildlife movement by reducing fragmentation. Closing this route would eliminate motorized use, minimizing the potential for harassment of wildlife. Closing the route would minimize the potential for conflicts between off-road vehicle users and dispersed, non-motorized/non-mechanized forms of recreation.

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 (d)*

Closure Method: Sign Closed; Natural rehabilitation

Alternative C

Comprehensive Designation:
LIMITED W/ MANAGEMENT

Comprehensive Designation Type:
This designation limits the modes of transportation that can be utilized by the public on this route.

Vehicle limits by user type:

OHV Public: **Designation per 43 CFR § 8342.1: Limited** - Public motorized use is limited to single-track vehicles, year-round.

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

Authorized/Permitted Users: Currently authorized users may use this route by all modes of transportation, year-round.
Additional users may be authorized by the BLM through future authorizations.

Administrative/Official Users: All Federal, State and Local agencies may use this route by all modes of transportation, year-round.

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.
- 43 CFR § 8342.1 (c) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.

How Designation Addresses Criteria Above: Limiting motorized access on this route would minimize potential for impacts to wildlife habitats. By limiting motorized access on this route, traffic volume in the area would be reduced, minimizing the potential for harassment of wildlife. By limiting motorized access on this route, traffic volume in the area would be reduced, minimizing the potential for impacts to sensitive plant species. By limiting vehicle width to single-track width or less, the potential for conflicts between OHV users of different vehicle types would be minimized.

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 (d)

Potential Management Actions:

Maintenance: Signing - Directional
Mitigation: Signing - Regulatory

Potential management actions may be incorporated with an overall monitoring strategy that would assess the status and/or integrity of the potentially impacted sensitive resource or resource issues identified as they relate to various external factors, e.g., climate cycles, exotic species introduction, visitor use levels (type, intensity, and season of use), etc. Monitoring data that indicate a decline in resource integrity or reveal methods of mitigation that proved to be unsuccessful would then trigger adaptive and appropriate responses aimed at restoring integrity or successfully mitigating undesirable conditions.

Alternative D

Comprehensive Designation:
OPEN W/ MANAGEMENT

Specific designations by user type:

OHV Public: **Designation per 43 CFR § 8342.1: Open** - The public may use this route by all motorized modes of transportation, year-round.

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

Authorized/Permitted Users: Authorized users may use this route by all modes of transportation, year-round.
Additional users may be authorized by the BLM through future authorizations.

Administrative/Official Users: All Federal, State and Local agencies may use this route by all modes of transportation, year-round.

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: Allowing continued use of this route would minimize potential impacts to documented resources by concentrating motorized use (rather than dispersing it) on an alignment capable of accommodating the route's anticipated traffic volume. Continued use of this route with the added application of specific management prescriptions, would minimize potential impacts to documented resources.

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)

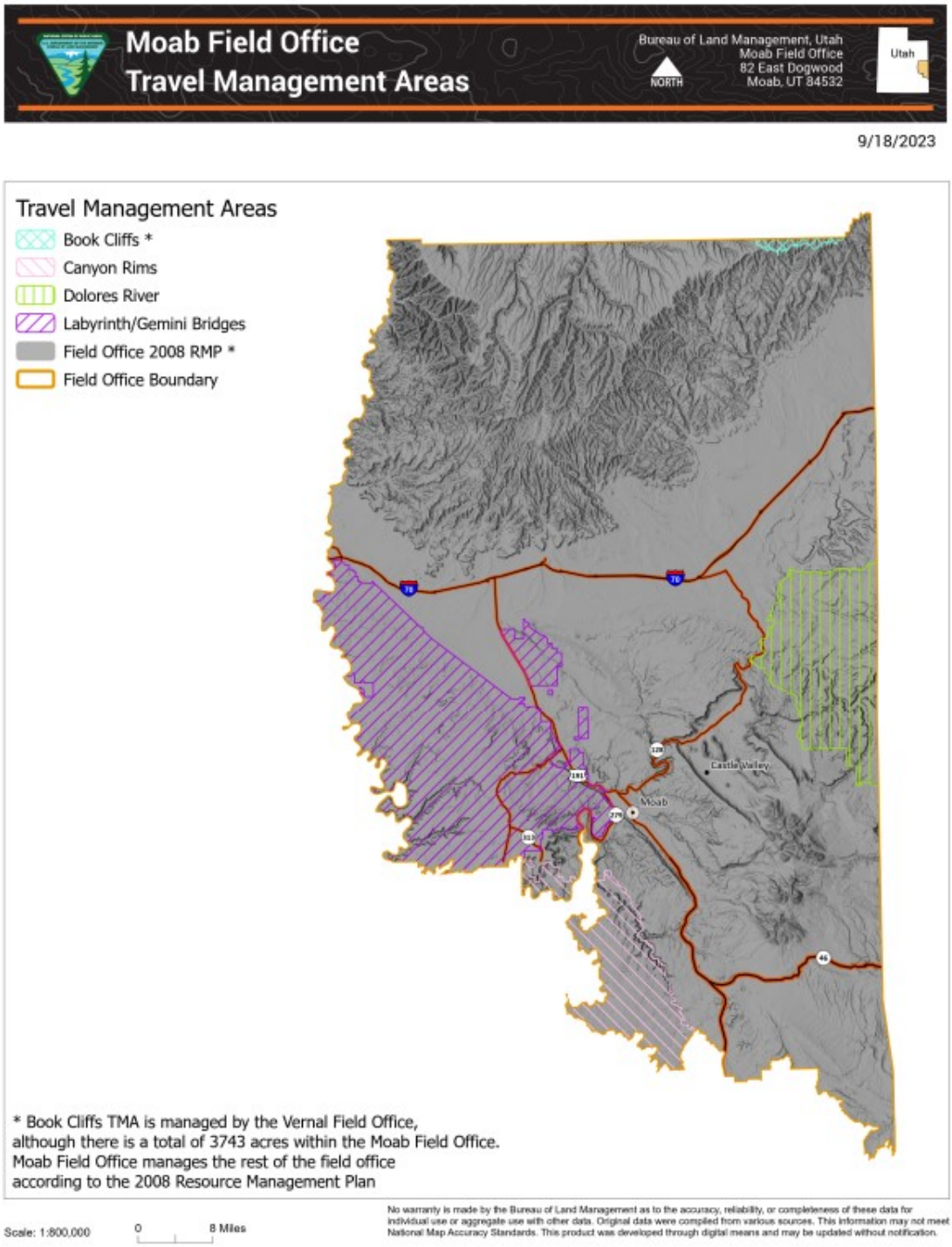
Potential Management Actions:

Maintenance: Signing - Directional
Mitigation: Signing - Regulatory

Potential management actions may be incorporated with an overall monitoring strategy that would assess the status and/or integrity of the potentially impacted sensitive resource or resource issues identified as they relate to various external factors, e.g., climate cycles, exotic species introduction, visitor use levels (type, intensity, and season of use), etc. Monitoring data that indicate a decline in resource integrity or reveal methods of mitigation that proved to be unsuccessful would then trigger adaptive and appropriate responses aimed at restoring integrity or successfully mitigating undesirable conditions.

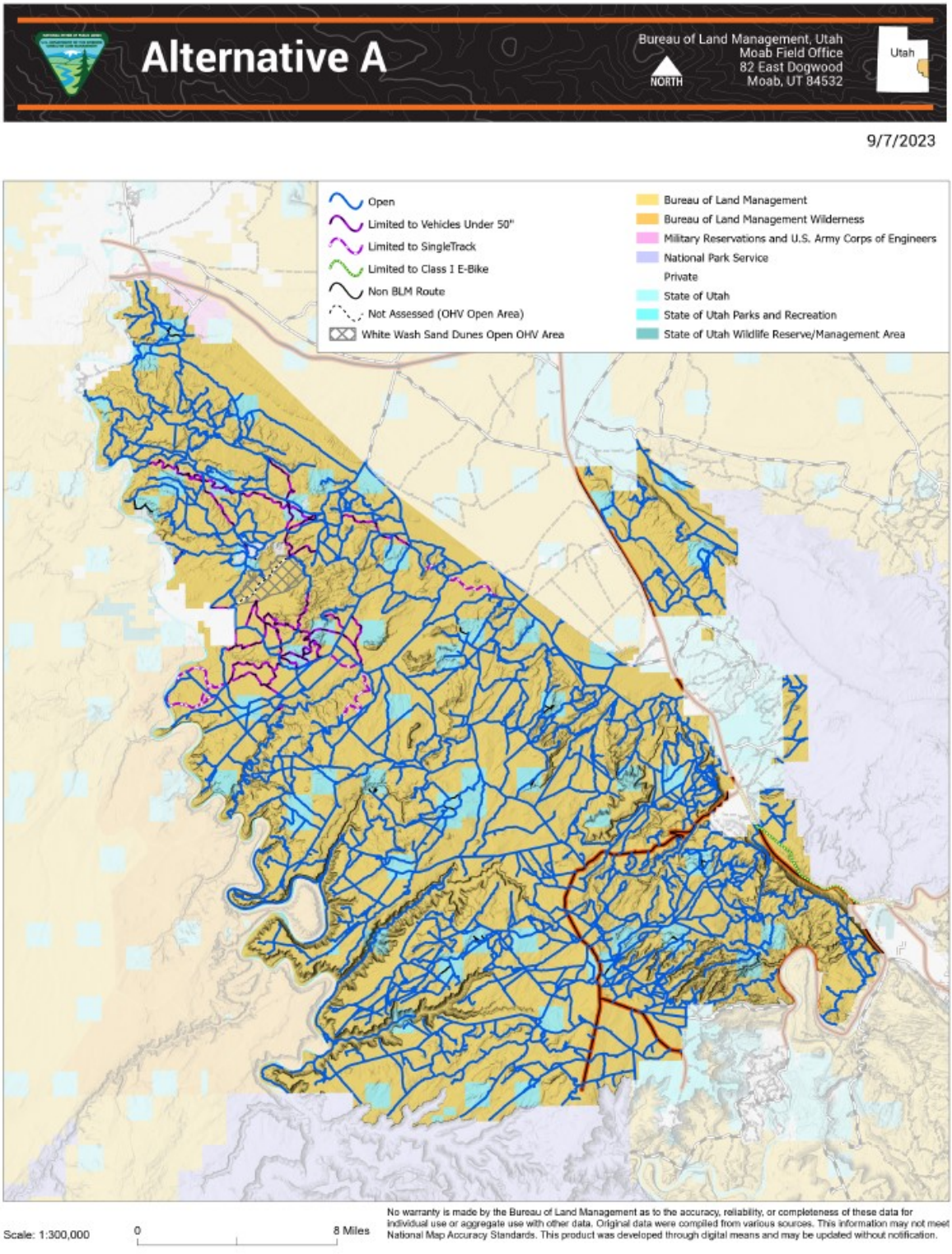
APPENDIX K MAPS

K.1 MAP 1: MOAB FIELD OFFICE TMAS

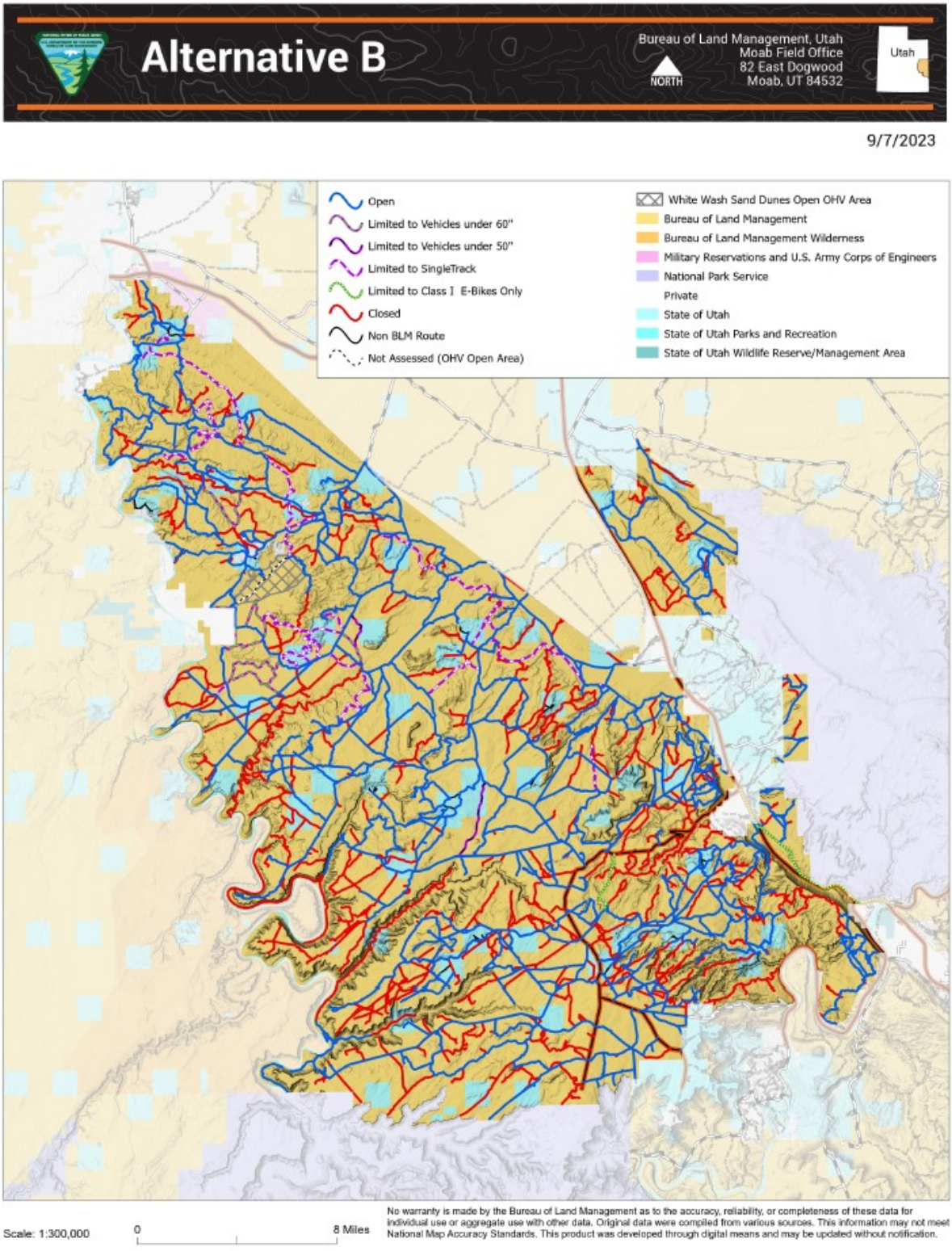


K.2 ALTERNATIVE ROUTE NETWORKS

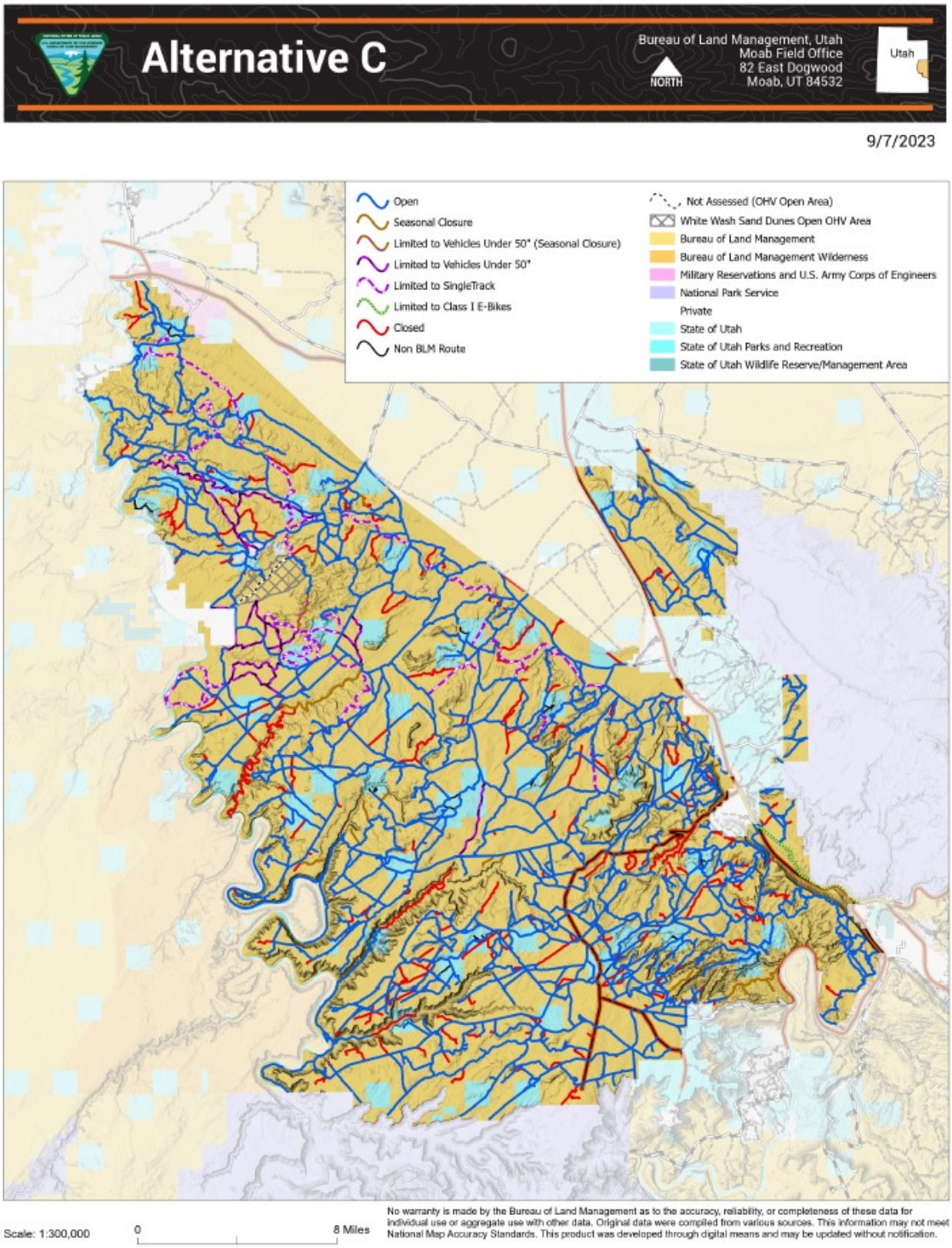
MAP 2: ALTERNATIVE A



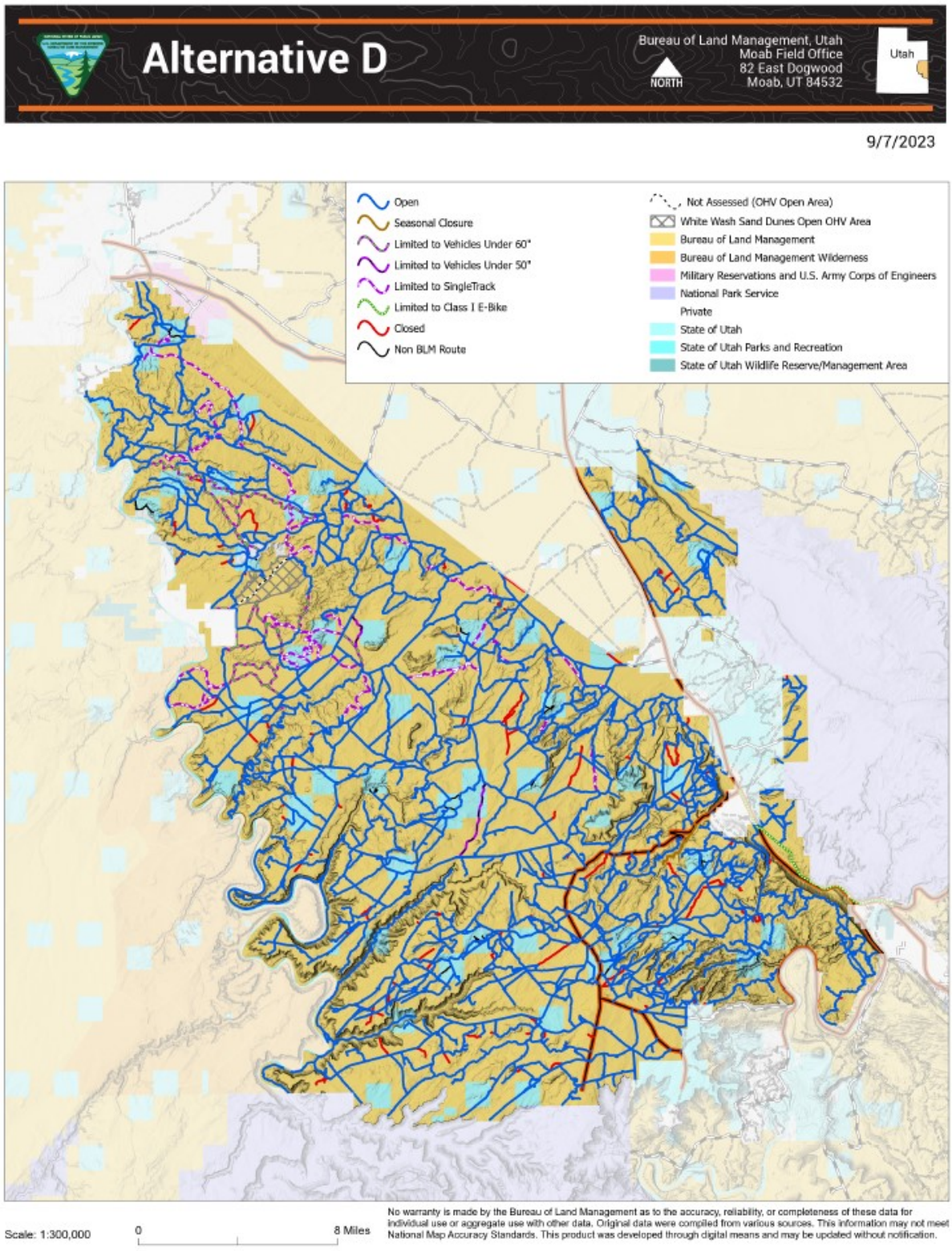
MAP 3: ALTERNATIVE B


Alternative B
Bureau of Land Management, Utah
Moab Field Office
82 East Dogwood
Moab, UT 84532
NORTH
Utah
9/7/2023
Open
Limited to Vehicles under 60"
Limited to Vehicles under 50"
Limited to SingleTrack
Limited to Class I E-Bikes Only
Closed
Non BLM Route
Not Assessed (OHV Open Area)
White Wash Sand Dunes Open OHV Area
Bureau of Land Management
Bureau of Land Management Wilderness
Military Reservations and U.S. Army Corps of Engineers
National Park Service
Private
State of Utah
State of Utah Parks and Recreation
State of Utah Wildlife Reserve/Management Area
Scale: 1:300,000
0
8 Miles
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

MAP 4: ALTERNATIVE C



MAP 5: ALTERNATIVE D


Alternative D
Bureau of Land Management, Utah
Moab Field Office
82 East Dogwood
Moab, UT 84532
NORTH
Utah
9/7/2023
Open
Seasonal Closure
Limited to Vehicles Under 60"
Limited to Vehicles Under 50"
Limited to SingleTrack
Limited to Class I E-Bike
Closed
Non BLM Route
Not Assessed (OHV Open Area)
White Wash Sand Dunes Open OHV Area
Bureau of Land Management
Bureau of Land Management Wilderness
Military Reservations and U.S. Army Corps of Engineers
National Park Service
Private
State of Utah
State of Utah Parks and Recreation
State of Utah Wildlife Reserve/Management Area
Scale: 1:300,000
0
8 Miles
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

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APPENDIX L GLOSSARY

Access: The opportunity to approach, enter, or make use of public lands.

Adaptive management: Adaptive management is a tool which requires a measurable objective, monitoring to determine the effectiveness of the management practices in achieving the objective, evaluation to determine if the objective is being reached, and adaptation based on the results.

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.

All-terrain vehicle (ATV): A 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.

Alternatives: Other options to the proposed action 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.…"

Area of Influence (AOI): The area within which any project should consider potential effects to the listed species.

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.

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.

Class B road: Road that is constructed and maintained regularly by the County. As stated in Utah Code, Class B roads:

(a) are situated outside of incorporated municipalities and not designated as state highways;

(b) have been designated as county roads; or

(c) are located on property under the control of a federal agency and constructed or maintained by the county under agreement with the appropriate federal agency. (Utah Code 72-3-103)

Class D route: As stated in Utah Code, "any road, way, or other land surface route that has been or is established by use or constructed and has been maintained to provide for usage by the

public for vehicles with four or more wheels that is not a class A, class B, or class C road" (Utah Code 72-3-105).

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.

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 Tribe or Federal, State, or local government jurisdiction with such qualifications may become a cooperating agency by agreement with the lead agency.

Crucial habitat: According to the UDWR: "[Crucial] habitat [is that] on which the local population of a wildlife species depends for survival because there are no alternative ranges or habitats available. Crucial value habitat is essential to the life history requirements of a wildlife species. Degradation or unavailability of crucial habitat will lead to significant declines in carrying capacity and/or numbers of wildlife species in question" (UDWR 2022).

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.

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.

Cultural resource inventory classes:

1. 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.

2. 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.

3. 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. In Utah, pedestrian transects are spaced at 15-meter intervals.

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.

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 route network or transportation system are transportation linear disturbances. 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 2016)

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 only OHV activities on routes. The BLM designates routes as open, limited, or closed for OHV travel.

Easement: A right afforded a person or agency to make limited use of another's real property for other purposes.

Effects

Adverse or detrimental: Contribute to degradation of a resource or resource use.

Adverse effect to historic properties: An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

Beneficial: Contribute to enhancement or restoration of a resource or resource use.

Cumulative: According to the Code of Federal Regulations (40 CFR § 1508.7), 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" (GPO 2012). 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.

Direct: Caused by alternative (same time and place).

Indirect: Caused by alternative but later in time or further in distance but still reasonably foreseeable.

Long-term: Generally considered to last 10 years or more.

Minor: The effect or impact is slight but detectable: there would be a small change to the quality of the physical, biological, social, and economic values and resources.

Negligible: The effect or impact is at the lower level of detection; there would be no measurable change to the quality of the physical, biological, social, and economic values and resources.

Residual: Direct and indirect effects that remain after the application of all mitigation measures.

Short-term: Generally considered to last from the point of occurrence to several weeks or months but not expected to last beyond a year or two.

Endangered Species Act (ESA): The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the U.S. Fish and Wildlife Service and the Commerce Department's National Marine Fisheries Service. Under the ESA, species may be listed as either endangered or threatened. "Endangered" means a species is in danger of extinction throughout all or a significant portion of its range. "Threatened" means a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments.

Environmental assessment (EA): Public document for which a federal agency is responsible that serves to 1) Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact; 2) Aid an agency's compliance with the National Environmental Policy Act when no environmental impact statement is necessary; 3) Facilitate preparation of an environmental impact statement when one is necessary. Shall include brief discussions of the need for the proposal, of alternatives, of the environmental impacts of the proposed action and Alternatives, and a listing of agencies and persons consulted.

Environmental Impact Statement: Federal agencies prepare an Environmental Impact Statement if a proposed major federal action is determined to significantly affect the quality of the human environment. The regulatory requirements for an Environmental Impact Statement are more detailed and rigorous than the requirements for an EA.

Erosive soils: Those soils that are susceptible to breakdown, detachment, transport, and redistribution of soil particles by forces of water, wind, or gravity (NRCS 2022).

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

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).

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

Forage: All browse and herbaceous foods that are available to grazing animals.

Functioning at Risk: These riparian areas are in limited functioning condition; however, existing hydrologic, vegetative, or geomorphic attributes make them susceptible to impairment. (Dickard et al. 2015)

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).

Habitat fragmentation: The degree to which an area of habitat is divided into smaller patches of habitat as a result of human activities and developments (e.g., trails, roads, fencing) or as a result of natural barriers (e.g., cliffs, rivers).

Hard look: A reasoned analysis containing quantitative or detailed qualitative information. (BLM 2008a)

Historic property: Historic property means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. 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.

Implementation decisions: Decisions that take action to implement land use planning; generally appealable to Interior Board of Land Appeals under 43 CFR § 4.410. 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. Examples of implementation plans include interdisciplinary management plans, habitat management plans, and allotment management plans.

Interdisciplinary Team (IDT): 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.

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

Part 1600, regardless of the scale at which the decisions were developed. 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 transportation system 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.

Linear feature: 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.

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.

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 2015) 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.

Mitigation: in general, a combination of measures to lessen the impacts of a project or activity on an element of the natural environment or various other cultural or historic values; more specifically, as defined by the Council on Environmental Quality in its regulations for implementing NEPA, mitigation includes: (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 the implementation of land use plan decisions and collecting and assessing data necessary to evaluate the effectiveness of land use planning decisions.

Motorized vehicles: Vehicles propelled by motors or engines, such as cars, trucks, off-highway vehicles, motorcycles, snowmobiles, and boats.

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 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 (FLPMA) (from M6840, Special Status Species Manual).

National Environmental Policy Act (NEPA): Requires federal agencies to assess and disclose the environmental effects of proposed actions prior to making decisions. BLM travel management must conform to NEPA requirements.

This legislation established a landmark national environmental policy which, among other things, encourages environmental protection and informed decision-making. It provides the means to carry out these goals by:

- mandating that every Federal agency prepare a detailed statement of the effects of "major Federal actions significantly affecting the quality of the human environment."
- establishing the need for agencies to consider alternatives to those actions.
- requiring the use of an interdisciplinary process in developing alternatives and
- analyzing environmental effects.
- requiring that each agency consult with and obtain comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved.
- requiring that detailed statements and the comments and views of the appropriate Federal, State, Tribal, and local agencies be made available to the public.

National Historic Preservation Act (NHPA): 1966 legislation establishing the National Register of Historic Places and extending the national historic preservation programs to properties of State and local significance.

National Register of Historic Places (NRHP): Official inventory of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and culture.

National Register Eligibility Definitions:

Eligible: Cultural resources that are listed or recommended eligible for inclusion on the National Register of Historic Places (National Register), are those resources that express the quality of significance in American history, architecture, archeology, engineering, and culture and are represented as districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association. To be listed or recommended eligible the cultural resource must possess the relevant aspects of integrity and meet at least one of the following National Register Criteria:

A. Associated with events that have made a significant contribution to the broad patterns of our history; or

B. Associated with the lives of significant persons in our past; or

C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Have yielded or may be likely to yield, information important in history or prehistory. 36 CFR Part 800 defines National Register-eligible cultural resources as "historic properties."

Not eligible: Cultural resources that do not meet the National Register Criteria or maintain the relevant aspects of integrity.

Native vegetation: Species that historically occurred or currently occur in a particular ecosystem and were not introduced (BLM Manual 1740)

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.

Noxious weed: A plant species designated by Federal or State law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or non-native, new, or not common to the US.

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.

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)).

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 2016):

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: Management designations applied to individual routes (as opposed to OHV areas) during interdisciplinary route evaluation sessions. 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).

- **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.

Perennial stream: Perennial streams carry flowing water continuously throughout the year, regardless of weather conditions. It exhibits well-defined geomorphologic characteristics and in the absence of pollution, thermal modifications, or other man-made disturbances has the ability to support aquatic life.

Planning area: A geographic area for which land use and resource management plans are developed and maintained.

Primitive road: A linear route managed for use by four-wheel drive or high-clearance vehicles. Primitive roads do not normally meet any BLM road design standards. Unless specifically prohibited, primitive roads can also include other uses such as hiking, biking, and horseback riding.

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.

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: Decision document associated with an Environmental Impact Statement (equivalent to an EA's Decision Record).

Recreation Management Information System: 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; tool used by the BLM to record number of visits, types of activities, permits, partnerships, and agreements.

Recreation management zone (RMZ): A subdivision of a recreation management area that further delineates specific recreation opportunities and recreation setting characteristics.

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 2015) 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): A land use plan as prescribed by the Federal Land Policy and Management Act that establishes, for a given area of land, land use allocations, coordination guidelines for multiple-use, objectives, and actions to be achieved.

Restoration: The process by which areas are brought back to a former, original or specific desired condition or appearance. Could involve putting vegetation back in an area where vegetation previously existed, which may or may not simulate natural conditions.

Right-of-way (ROW): An easement or permit that authorizes public land to be used for a specified purpose that is in the public interest and that requires rights-of-way over, upon, under, or through such lands (e.g., roads, power lines, pipelines). A ROW holder is an authorized user for their ROW.

Riparian area: A form of wetland transition between permanently saturated wetlands and upland areas. Riparian areas exhibit vegetation or physical characteristics that reflect the influence of permanent surface or subsurface water. Typical riparian areas include lands along, adjacent to, or contiguous with perennially and intermittently flowing rivers and streams, glacial potholes, and the shores of lakes and reservoirs with stable water levels.

Excluded are ephemeral streams or washes that lack vegetation and depend on free water in the soil.

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. Often, many types of uses are allowed on roads. BLM allowed uses on roads are often hierarchical such that if motorized use is allowed on a road, various forms of non-motorized use are also allowed.

Rock Art: Petroglyphs (carvings) or pictographs (paintings) created on natural rock surfaces by native people and depicting their history and culture.

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.

Route Inventory: Collection of route line data for maps (may also include collection of point data and photos). Data may be collected in the field with GPS units or drawn on a computer screen from aerial imagery.

Routes: Roads, trails, and primitive roads. Generically, components of the transportation system are described as "routes."

Saline soil: A soil containing soluble salts in an amount that impairs growth of plants (NRCS 2015).

Scoping (Internal and External): Process by which the BLM solicits internal and external input on the issues and effects that will be addressed, as well as the degree to which those issues and effects will be analyzed, in the NEPA document. Scoping is one form of public involvement in the NEPA process. Scoping occurs early in the NEPA process and generally extends through the development of alternatives (the public comment periods for Environmental Impact Statement review are not scoping). Internal scoping is simply federal or cooperator review to decide what needs to be analyzed in a NEPA document. External scoping, also known as formal scoping, involves notification and opportunities for feedback from other agencies, organizations, and the public.

Sensitive Species: Species designated as sensitive by the BLM State Director, including species that are under status review, have small or declining populations, live in unique habitats, or require special management. BLM Manual 6840 provides policy and guidance for managing special status species.

Solitude: The state of being alone or remote from habitations; 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.

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.

Special Recreation Permits (SRPs): Permits issued to businesses, organizations, and individuals to allow the use of specific public land and related waters for commercial, competitive, and organized group use. Special Recreation Permits allow land stewards to coordinate and track commercial and competitive use of public lands. They also provide resource protection measures to ensure the future enjoyment of those resources by the public.

Special status species: Species that are proposed for listing, officially listed as threatened or endangered, or are candidates for listing as threatened or endangered under the provisions of the Endangered Species Act (ESA); those listed by a State in a category such as threatened or endangered implying potential endangerment or extinction; and those designated by each State BLM Director as sensitive.

State Historic Preservation Office (SHPO): Office in State or territorial government that administers the preservation programs under the National Historic Preservation Act.

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 2022).

Surface-disturbing activities: Human-caused disturbance resulting in direct and pronounced alteration, damage, removal, displacement, or mortality of vegetation, soil, or substrates; usually entail motorized or mechanized vehicles or tools; typically can also be described as disruptive activities. Examples of typical surface disturbing activities include:

- Earth-moving and drilling
- Geophysical exploration
- Off-route motorized and mechanized travel
- Vegetation treatments including woodland thinning with chainsaws
- Pyrotechnics and explosives
- Construction of powerlines, pipelines, oil and gas wells, recreation sites, livestock improvement facilities, wildlife waters, or new roads

Threatened species: Any plant or animal species defined under the Endangered Species Act as likely to become endangered within the foreseeable future throughout all or a significant portion of its range; listings are published in the Federal Register.

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. Usually, traditional uses are reserved rights resulting from treaty and/or agreements with Native American groups.

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.

Travel Management Area (TMA): Portion of land (often represented with a polygon) where areas have been classified as open, closed, or limited; TMAs have an identified and/or designated network of roads, trails, ways, and other routes that provide for public access and travel. All designated travel routes within TMAs should have a clearly identified need and purpose as well as clearly defined activity types, modes of travel, and seasons or time-frames for allowable access or other limitations.

Travel Management Plan (TMP): A document that describes decisions related to the selection and management of a travel network and transportation system. A TMP can be integrated in an RMP or as a stand-alone implementation plan after development of the RMP.

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.

Unevaluated (to the NRHP): A site that has not been evaluated to determine if it is eligible to the National Register of Historic Places.

Unmaintained road: See "Minimally maintained route."

Utility Terrain Vehicle (UTV): Any recreational motor vehicle other than an ATV, motorbike or over snow vehicle designed for and capable of travel over designated unpaved roads, traveling on four (4) or more low-pressure tires, maximum width less than seventy-four (74) inches, usually a maximum weight less than two thousand (2000) pounds, or having a wheelbase of ninety-four (94) inches or less. Does not include vehicles specially designed to carry a person with disabilities.

Visual Resource Inventory (VRI): An inventory taken to identify visual resource values and quality.

Visual Resource Management (VRM): The system by which BLM classifies and manages scenic values and visual quality of public lands. The system is based on research that has produced ways of assessing aesthetic qualities of the landscape in objective terms. After inventory and evaluation, lands are given relative visual ratings (management classes) that determine the extent of modification allowed for the basic elements of the landscape.

Visual resources: The visible physical features on a landscape, (topography, water, vegetation, animals, structures, and other features) that comprise the scenery of the area.

Wetland: Permanently wet or intermittently water-covered areas, such as swamps, marshes, bogs, potholes, swales, and glades.

Wilderness characteristics: Wilderness characteristics include size, the appearance of naturalness, outstanding opportunities for solitude or a primitive and unconfined type of recreation. Indicators of an area's naturalness include the extent of landscape modifications; the presence of native vegetation communities; and the connectivity of habitats. Outstanding opportunities for solitude or primitive and unconfined types of recreation may be experienced when the sights, sounds, and evidence of other people are rare or infrequent, in locations

where visitors can be isolated, alone or secluded from others, where the use of the area is through non-motorized, non-mechanical means, and where no or minimal developed recreation facilities are encountered.

Wilderness Inventory Road: Routes which have been improved and maintained by mechanical means to ensure relatively regular and continuous use.

APPENDIX M PUBLIC COMMENTS AND BLM RESPONSES

M.1 PUBLIC COMMENTS ON DRAFT EA

The Bureau of Land Management (BLM) Moab Field Office (MFO) posted the Labyrinth/Gemini Bridges Draft EA to the project's ePlanning website on September 7, 2022, for a 45-day public comment period. In accordance with 40 CRF 1503, substantive comments received during the public comment period are summarized below; non-substantive comments were received but are not addressed as part of the response to comments.

Comment	BLM Response
ACCESS	
The document should reference Executive Order 14008 which requires land managers to expand and improve recreational access and opportunities.	The BLM will comply with EO requirements, as applicable.
The document should be altered to reflect the exact wording of Executive Orders 11644 and 11989.	Section 1.3 has been updated to provide better clarity.
The TMP should comply with the DOI Equity Action Plan, which calls for removing barriers to access for those with disabilities.	Comment noted. The BLM will comply with the Action Plan as applicable.
BLM must retain access to SITLA parcels (and perhaps more than one access point due to topographical limitations).	Comment noted. Access to SITLA parcels is discussed in section 2.1.5.
ALTERNATIVES	
The TMP should consider adding new routes to the Travel Plan. Alternative D	The scope of this planning effort is described in Section 1.4. During the period from the signing of the 2008 Travel Plan to the present, the BLM has received no specific requests for new routes in the TMA. New routes in other areas of the MFO outside of the Labyrinth/Gemini Bridges TMA (such as in Sand Flats or on Black Ridge) were

Comment	BLM Response
should be expanded to enhance recreation access.	added to the Travel Plan as a result of citizen or club requests. The 2008 RMP outlines a mechanism for adding routes (TRV-3, which is referred to in the EA). In addition, a section has been added to the EA (Section 2.3.3: Route Adjustments) which outlines the method of undertaking route adjustments at the conclusion of the current effort, consistent with the guidelines in the 2008 RMP.
Rather than closing roads to solve problems, the BLM should consider more education, enforcement, permit systems, user fees, lower speed limits, and better mapping.	Additional education, enforcement, signing, and better mapping will be utilized during implementation of the TMP (Appendix N). The MFO is committed to helping educate users. Permit systems, user fees, and lower speed limits can also be considered in the future during implementation of the travel plan. Nothing analyzed in this EA contemplates precluding the use of these systems.
There should be an alternative which proposes proper management of OHV recreation.	The three action alternatives include suggestions for improved management in terms of signing and best practices. Routes that are open and are in particular need of management are listed as "open with management" in the data underlying the disposition of each route. In addition, Appendix N, *Implementation Guide*, outlines actions to be undertaken to improve the management of open routes. This Appendix is referenced in Section 1.3 (Purpose and Need): *Additionally, a comprehensive TMP Implementation Guide (Appendix N) would set direction for long-term operation and maintenance of the network, and for enhancements such as new signing and maps to aid users in navigating the network*.
AIR QUALITY	
BLM should clarify information regarding existing conditions for Air Quality and Water Resources.	The BLM has summarized and added information from the 2021 Air Monitoring Report in Appendix E and Section 1.6.3 to better characterize the existing air quality conditions for the public and decision maker.
BLM should fully analyze impacts to Air Quality.	Details regarding BLM's rationale for not analyzing air resources in detail has been added to Section 1.6.3 *Resource/Use Topics Identified But Eliminated From Detailed Analysis*.
The BLM should summarize the BLM's monitoring report for air quality.	The EA has been updated to incorporate by reference the 2021 BLM Utah Air Monitoring Report. This report contains the latest information on air quality and air quality related values.
The BLM should show the use of each trail by season and by vehicle miles travelled.	The information requested by the commentor is not available. It is not known how many vehicles go on each of the approximately 1,200 miles of route encompassed in the project area. Furthermore, the emissions from vehicles used by motorized users is not dependent upon which trail they are using. The total motorized visitation is not expected to vary by travel network alternative, and .the decision to be made is where (and, in certain instances, when) people are allowed to drive, not whether or not they will be allowed to drive.

Comment	BLM Response
BLM should project how many fewer vehicles and vehicle-miles-travelled are projected under each alternative.	The number of visitors and vehicle miles travelled are anticipated to roughly remain the same among alternatives. Therefore, emissions will also remain the same between alternatives and no change to the affected environment of air quality will occur. As an example, in the 2008 RMP, approximately 40% of the routes in the TMP area were no longer designated for travel. This action has had no impact on the number of visitors, the number of vehicles, nor the number of vehicle miles travelled. Indeed, visitation to the Moab area in general, and the TMA in particular, has increased since that action was undertaken in 2008.
AIR QUALITY – GREENHOUSE GAS	
The BLM fails to take a hard look at impacts to Climate Change.	BLM addresses GHGs in Section 1.6.3 and Appendix E (Interdisciplinary Checklist). The BLM's consideration of GHGs is consistent with the Council of Environmental Quality's Interim National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change, issued on January 9th, 2023.
CULTURAL	
BLM must disclose the direct and indirect impact to cultural resources from OHV travel, especially in Ten Mile Canyon.	BLM disclosed direct and indirect impacts to cultural resources in the EA Section 3.2.1. Ten Mile Wash was discussed in Section 3.2.4 of the EA. Data from Class I predictive model was used during the MFO compliance with Section 106 of the NHPA as dictated by the Travel PA and as described in Appendix I of the EA. The data from Spangler & Yentch (2008) was used by the archaeologist who was part of the IDT evaluations as required by the Settlement Agreement Section B.15.c. and described in the EA.
The BLM failed to take a hard look at direct, indirect, and cumulative impacts to cultural resources.	Potential impacts to cultural resources are disclosed and analyzed in Section 3.2.1.
The BLM must recognize Alternative B as the only alternative which would protect cultural resources, particularly those in Ten Mile Wash.	Potential impact to cultural resources under each alternative, including Alternative B, are disclosed and analyzed in Section 3.2.1. The data from Spangler & Yentch (2008) was included in the data used by the archaeologist as part of the IDT evaluations as required by the Settlement Agreement Section B.15.c. The IDT route evaluation process is described in the EA. The updated data from Spangler 2019 for Ten Mile Wash was used as part of the Section 106 of the NHPA identification efforts described in Appendix I.

Comment	BLM Response
The BLM must discuss the Class I Cultural Resource Inventory and its findings of potential for cultural resources throughout the TMA, including canyon systems, Seven Mile, Hell Roaring, and Ten Mile Wash routes.	Section 3.2.1 describes the cultural resources that are prevalent throughout the TMA and discusses potential impacts under each alternative; Appendix I discusses BLM's NHPA section 106 process and conformance with the requirements of the Travel PA.
The BLM must comply with NEPA and NHPA for historic properties and determine if those properties "may be affected" by the undertaking.	Comment noted. BLM agrees that it must conform with the requirements of applicable laws. Impacts to cultural resources are discussed in section 3.2.1 of the EA, and conformance with the requirements of NHPA Section 106 are discussed in Appendix I.
Many of the current routes were once mining roads which provide a historical and cultural purpose and need for each and every one of these routes.	The BLM acknowledges that some of the routes analyzed in the Labyrinth/Gemini Bridges Travel Management Plan EA have been documented as cultural resources and that some may be eligible for the National Register of Historic Places (NRHP). Effects to those roads that are eligible for the NRHP were considered as part of the BLM's compliance with Section 106 of the National Historic Preservation Act, which is described in Appendix I. The BLM also considered historical and cultural purpose and need for routes as part of the route evaluations, as described in Section 2.1.3.
The BLM must disclose why 0.25 mile was chosen as the cultural buffer when vehicles are only on the roadbed itself.	The proximate distance of ¼ mile for eligible and unevaluated sites buffer was defined based on the Travel PA, Section III.A.1.b.
DATA ACCURACY	
The BLM must check the mileage numbers in the various tables.	The BLM discusses accuracy of mileages in Section 3.1.4.
The BLM must supply the route reports for D2561, D2564 and D2565.	There are no road segments labeled D2561, D2564 or D2565 within the TMA. Therefore, there are no route reports to accompany these road numbers.
DATA STANDARD	
The BLM must clarify the width restriction for ATVs.	The width restriction for ATVs and UTVs is included in Section 3.1.3.

Comment	BLM Response
The BLM failed to provide the public with accurate information on the routes.	The BLM has provided a Route Report for each of the segments of road under consideration in this TMP. Six routes totaling 10.25 miles were initially miscoded during the first several days of the comment period. These discrepancies were corrected and an errata sheet placed on the ePlanning website; the comment period was extended for a period of 15 days to provide more time for the public to incorporate the information. In response to comments submitted regarding information on the route reports, the BLM verified the accuracy of the route reports. Responses to these comments and comments specific to routes can be found in Appendix M.2 Route-by-Route Public Comments.
It appears that the EA's Route Reports are simply based on the subjective opinions of BLM staff. Specific information used for each segment closure is required for the sake of transparency and consistency with the Information Quality Act.	The route evaluations, which informed the route reports, were formulated by BLM staff, two Grand County representatives, including a County Commissioner and the County Road Supervisor, and representatives from SITLA and PLPCO. In addition, staff had available and consulted motorized guidebooks, maps, best available science from research and surveys, professional expertise, and other information about the use of the routes by the motorized public. Route data and reports were updated, as appropriate, based on public comment received throughout the travel planning process. No routes are closed in the Environmental Assessment—route designations are not final until the authorized officer selects a route network alternative and signs a decision document. Information regarding the ultimate designation of all specific routes will be provided in the decision document when issued.
ECONOMICS	
The BLM failed to disclose economic impacts of OHV rental equipment and to use this as a proxy for motorized spending.	The BLM's updated economic impact analysis (see Appendix H) incorporates total spending by recreation visitors to the Moab area. The economic impact model used (IMPLAN) calculates spending impacts across all affected sectors, including motor vehicles rentals and taxes. Spending on rentals is not conclusive evidence of overall greater spending by OHV recreationists. See White and Stynes (2010) for data suggesting a picture of recreation spending by activity that is more complex than rentals alone.
The BLM failed to disclose economic impacts on local and national businesses, including tourism and employment opportunities.	The BLM's updated economic impact analysis (see Appendix H) incorporates total spending by recreation visitors to the Moab area. The economic impact model used (IMPLAN) calculates spending impacts across all affected sectors. IMPLAN can model across larger geographies, but the purpose of the current analysis is to focus on the economic impact to the planning area, which consists of tourist spending in Grand County, Utah. Using a broader model (for example, national) overstates the local economic impact since it would not account for "leakages" from the local economy. For example, spending on groceries has little impact on the local economy, since few grocery items are produced within the Grand County planning area and therefore much of the purchase price ends up somewhere else. Most of such an impact occurs where the products are produced (outside the planning area).

Comment	BLM Response
The BLM must disclose the economic impact on the local economy from choosing Alternative B.	The BLM's updated economic impact analysis (see Appendix H) incorporates total spending by recreation visitors to the Moab area. The economic impact model used (IMPLAN) calculates spending impacts across all affected sectors.
The BLM must explain its assumption that all visitors spend similar amounts of money.	BLM does not assume that all visitors spend similar amounts of money. BLM segments visitors by type (local vs non-local, hotel vs camping, etc.) with different spending profiles for input into its IMPLAN economic impact model. BLM believes that this captures much of these spending differentials cited by the commentor.
The BLM must explain the inherent contradiction between visitation data in Section 3.3.1 (*now Section 3.2.11 in EA*) and its assumption that there would be no economic impact from choosing Alternative B.	The BLM's updated economic impact model (see Appendix H) explores several possible outcomes with different sets of assumptions. These include a possible outcome in which Alternative B, especially, could result in the type of impacts referenced by the commentor.
The BLM must explain how the closure of Jeep Safari routes, and the subsequent reduction of visitation would not lead to the cancellation of Jeep Safari and the subsequent economic impacts of that cancellation.	The BLM's updated economic impact model (see Appendix H) explores several possible outcomes with different sets of assumptions. These include a possible outcome in which Alternative B, especially, could result in the type of impacts referenced by the commentor. Based on data provided in Appendix H, there was no reduction in economic impact variables, including OHV visitation and Jeep Safari participants, following closure of 2,500 miles of routes in the 2008 RMP. There is also no evidence to suggest that' potential Jeep Safari participants are *only* interested in the routes under discussion and would not consider alternative routes should a restrictive alternative be chosen.
The BLM must look at studies which indicate that OHV recreation accounts for a large share of the recreation economy (see cited studies).	The U.S. Department of Commerce's Bureau of Economic Analysis study includes national vehicle purchases, which are not relevant to the economic impact from activities pursued on lands managed by the Moab BLM. U.S. Forest Service (USFS) visitation data, both nationally, and for the Rocky Mountain and Intermountain Forest Service regions, indicate OHV use as a primary activity in these regions, at 2.3 per cent, which is dwarfed by activities such as hiking. (See https://apps.fs.usda.gov/nvum/results/). BLM does not disagree that OHV activity has an economic impact but disagrees as to its "dominant value." The study cited, for example, indicates that *90* per cent of recreation in the State is for *non*-OHV recreation. BLM does not dispute the importance of all recreation to Western economies but could find no reference supporting "especially motorized" recreation. The Western Governor's report acknowledges that motorized recreation contributes to the economy, but it also details that activities such as hiking, wildlife viewing, mountain biking, camping, snow sports, fishing and hunting (non-motorized forms of recreation) are also contributors. The report submitted by the commentor contains no statement that "especially motorized recreation" is the economic driver. Like the U.S. Department of Commerce's Bureau of Economic Analysis report, the WGA report measures

Comment	BLM Response
	not just discretionary spending within the local economy (lodging, gas, groceries, restaurants, etc.) but also capital spending on equipment used in recreation (boats, bikes, OHV vehicles, etc. The spending cited in the referenced report, although important to the national economy, has little impact on the Moab-area economy, and is not relevant to the analysis in the EA.
The BLM should discuss the willingness-to-pay as a measure of net economic values.	Willingness-to-pay is a subset of what are known as non-market values. BLM has added a discussion of these to its updated economic analysis in Appendix H.
The BLM is required to update its economic assessment based on visitation in 2020 and 2021.	Visitation to Moab BLM *decreased* dramatically in 2020, due to COVID and related restrictions on local businesses and activities on BLM lands. The rebound in 2021 still did not reach 2019 levels. The BLM's updated economic analysis in Appendix H uses FY 2022 visitation data.
Closing routes would cause non-motorized recreation to decline as well.	The commentor provides no data to support this assumption. Although this *may* occur, the BLM has no data to incorporate into its quantitative economic analysis.
The BLM must alter its economic assessment to show that motorized users spend as much as 5 times more than other recreational users. In addition, the BLM must account for the rental tax on vehicles assessed by the County.	The BLM's updated economic impact analysis (see Appendix H) incorporates total spending by recreation visitors to the Moab area. The economic impact model used (IMPLAN) calculates spending impacts across all affected sectors, including motor vehicle rentals and taxes. The claim that rental spending is 5 times greater for motorized than non-motorized use (presumably mountain bikes) is unsubstantiated.. See Stynes and White (2010) for spending by type of recreation activity, type of user, and type of trip (overnight or day trip). They find, for example, that hikers on average spend more than OHV users on non-local, overnight trips (the vast majority of visits to the Moab area by both motorized and non-motorized users).
The BLM must include the economic contribution data in the Department of Commerce research (2021) and in the Western Governors Association report on recreation on public lands. These research studies indicate that motorized spending was the dominant portion of spending for recreational activity and exceeded all other spending sources combined.	The studies cited reflect nationwide data and include, but are not limited to, RV activities as a major factor in recreation spending, including spending on manufacturing the RV itself as well as on other vehicles. For example, one of the largest reported sectors in the U.S. Department of Commerce's Bureau of Economic Analysis report is spending on boating and fishing, which is not relevant to OHV activities on Moab area roads. The cited report included spending on *all* activities related to recreation, of which retail trade, wholesale trade, and manufacturing accounted for a significant majority of the reported value added. The U.S. Department of Commerce's Bureau of Economic Analysis report does not break down economic contributions by motorized vs non-motorized recreation. Some items that one might mistakenly include as motorized recreation, such as RV use, may actually be used in conjunction with non-motorized activities (e.g., hiking, equestrian, fishing, camping, mountain biking, etc.), making it erroneous to associate such use as "motorized recreation" This nationwide data is not informative for disclosing and analyzing economic impacts in the project area. There are no boat or Jeep or RV manufacturers or dealers in Moab.

Comment	BLM Response
	The EA under review does not dispute the economic importance of recreation spending. Sectors such as vehicle manufacturing and sales, sporting goods and accessories, and other retail sectors were considered in the cited studies and are not relevant to the economic impact of decisions to be made in this EA. The IMPLAN model used by BLM in Appendix H specifically includes local area spending on such items as accommodations and food services, as well as some retail sectors (groceries, gas, rentals, etc.). The spending and related added value cited in the referenced report, although important to the national economy, has little impact on the Moab-area economy, and is not relevant to the analysis in the EA.
The BLM fails to analyze the economic contribution of motorized users which spend at six times that of other users, and rather states that all spending is equal.	The study cited reflect nationwide data and include, but are not limited to, RV activities that are not relevant to the project area as a major factor in recreation spending, including spending on or of manufacturing of RVs and other vehicles. The cited report included spending on all activities related to recreation, of which retail trade, wholesale trade and manufacturing accounted for a significant majority of the reported value added. The EA does not dispute the economic importance of recreation spending. Sectors such as vehicle manufacturing and sales, sporting goods and accessories and other retail sectors are not relevant to the economic impact of decisions for this EA. The IMPLAN model used by BLM in Appendix H specifically includes local area spending on such items as accommodations and food services, as well as some retail sectors (groceries, gas, rentals, etc.). The spending and related added value cited in the referenced report, although important to the national economy, has little impact on the Moab-area economy, and is not relevant to the analysis in the EA. The U.S. Department of Commerce's Bureau of Economic Analysis report does not break down economic contributions by motorized vs non-motorized recreation. Some items that one might mistakenly include as motorized recreation, such as RV use, may actually be used in conjunction with non-motorized activities (e.g., hiking, equestrian, fishing, camping, mountain biking, etc.), making it erroneous to associate such use as "motorized recreation." The BLM's updated economic impact analysis incorporates total spending by recreation visitors to the Moab area. The economic impact model used (IMPLAN) calculates spending impacts across all affected sectors, including motor vehicle rentals and taxes.
The BLM fails to utilize the data in the Department of Commerce study that indicates that OHV recreation outspends non-motorized recreation.	The authors of the U.S. Department of Commerce's Bureau of Economic Analysis report that the statistics feature the outdoor recreation industry's contributions to GDP. Other data include outdoor rec-related gross output, employment, and compensation for different types of industry, such as motor vehicle manufacturing. Data on gross output, a measure of sales or receipts, is produced for specific outdoor activities, such as biking, RVing, or snowboarding. The study cited included RV activities as a major factor in recreation spending, including spending on the RVs and other vehicles. The cited report included spending on all activities related to recreation, of which retail trade, wholesale trade and manufacturing accounted for a significant majority of the reported value added. The EA under review does not dispute the economic importance of recreation spending. Sectors such as vehicle manufacturing and sales, sporting goods and accessories and other retail sectors are not relevant to the economic impact of decisions for this EA. The IMPLAN model used by BLM in Appendix H specifically includes local area

Comment	BLM Response
	spending on such items as accommodations and food services, as well as some retail sectors (groceries, gas, rentals, etc.). The spending and related added value cited in the referenced report, although important to the national economy, has little impact on the Moab-area economy, and is not relevant to the analysis in the EA. The U.S. Department of Commerce's Bureau of Economic Analysis report does not break down economic contributions by motorized vs non-motorized recreation. Some items that one might mistakenly include as motorized recreation, such as RV use, may actually be used in conjunction with non-motorized activities (e.g., hiking, equestrian, fishing, camping, mountain biking, etc.), making it erroneous to associate such use as "motorized recreation."
The BLM must correct its assumption that all users spend the same amount of money, especially in light of the USFS's National Visitor Use Monitoring (NVUM) studies.	Table 3 of the cited study actually shows visitor spending by activity differs by type of stay. In fact, the study cited shows, for example, a much higher average spending by hikers on non-local overnight visits compared to OHV users. The USFS study (Stynes and White) produces spending profiles for various types of recreation activities. It provides spending profiles for non-local day trips, non-local overnight trips and local day trips by types of activity, including downhill skiing, cross country skiing, snowmobile, hunting, fishing, nature related, OHV use, driving, developed camping, backpacking, hiking and "other." The activities are not grouped into motorized vs. non-motorized. Depending on the group being compared, spending profiles differ. The highest spending profile in general is for non-local overnight trips. For non-local overnight trips, those identified as "OHV users" spend $491/per party/trip and hikers spent $765 per party/trip. There are many recreation activities displayed (see Table 3), but a direct comparison of "motorized" vs. "non-motorized" activities is not made.
The BLM's assumptions do not support the conclusion of the Western Governor's Report that recreation, especially motorized recreation, is the economic driver.	BLM does not dispute the importance of all recreation to Western economies but could find no reference supporting "especially motorized" recreation. The Western Governor's report acknowledges that motorized recreation contributes to the economy, but it also details that activities such as hiking, wildlife viewing, mountain biking, camping, snow sports, fishing and hunting (non-motorized forms of recreation) are also contributors. The report submitted by the commentor contains no statement that "especially motorized recreation" is the economic driver. Like the Commerce report, the WGA report measures not just discretionary spending within the local economy (lodging, gas, groceries, restaurants, etc.) but also capital spending on equipment used in recreation (boats, bikes, OHV vehicles, etc. The spending cited in the referenced report, although important to the national economy, has little impact on the Moab-area economy, and is not relevant to the analysis in the EA.
The BLM must reexamine its assumption that only 7,348 visitor days would be lost if Alternative B were chosen. The BLM fails to use an	The BLM's analysis details the underlying assumptions and provides marginal impact estimates which can be used by anybody to calculate their own estimates. The BLM's updated analysis includes several possible outcomes with different assumptions that address the commentor's concerns.

Comment	BLM Response
accurate analysis assumption for lost recreation days in Appendix H.	
The BLM must reexamine its assumption of visitor days lost, especially when it comes to losing Jeep Safari mileage.	The BLM's analysis details its underlying assumptions and provides marginal impact estimates which can be used by anybody to calculate their own estimates. The BLM's updated analysis includes several possible outcomes with different assumptions that address the commentor's concerns.
The BLM must detail how many visitor days would be lost under each of the other alternatives (A, C, and D).	The updated economic analysis in Appendix H provides sufficient information to estimate these impacts.
The BLM must address the U.S. Department of Commerce finding that recreation economics are driven by motorized spending, which is up to 6 times as much.	The U.S. Department of Commerce's Bureau of Economic Analysis study is an examination of the entire recreation economy in the United States. The study cited included RV activities as a major factor in recreation spending, including spending on the RVs and other vehicles. The cited report included spending on all activities related to recreation, of which retail trade, wholesale trade and manufacturing accounted for a significant majority of the reported value added. The EA under review does not dispute the economic importance of recreation spending. Sectors such as vehicle manufacturing and sales, sporting goods and accessories and other retail sectors are not relevant to the economic impact of decisions for this EA. The IMPLAN model used by BLM in Appendix H specifically includes local area spending on such items as accommodations and food services, as well as some retail sectors (groceries, gas, rentals, etc.). The spending and related added value cited in the referenced report, although important to the national economy, has little impact on the Moab-area economy, and is not relevant to the analysis in the EA. The U.S. Department of Commerce's Bureau of Economic Analysis e report does not break down economic contributions by motorized vs non-motorized recreation. Some items that one might mistakenly include as motorized recreation, such as RV use, may actually be used in conjunction with non-motorized activities (e.g., hiking, equestrian, fishing, camping, mountain biking, etc.), making it erroneous to associate such use as "motorized recreation."
The BLM needs to address the fact that the USFS concludes that motorized users spend at twice the rate of non-motorized users (NVUM).	The USFS study (Stynes and White) produces spending profiles for various types of recreation activities. It provides spending profiles for non-local day trips, non-local overnight trips, and local day trips by types of activity, including downhill skiing, cross country skiing, snowmobile, hunting, fishing, nature related, OHV use, driving, developed camping, backpacking, hiking and "other." The activities are not grouped into motorized vs. non-motorized. Depending on the group being compared, spending profiles differ. The highest spending profile in general is for non-local overnight trips. For non-local overnight trips, those identified as "OHV users" spend $491/per party/trip and hikers spent $765 per party/trip. There are many recreation activities displayed (see Table 3), but a direct comparison of "motorized" vs. "non-motorized" activities is not made.

Comment	BLM Response
	The BLM's updated economic impact analysis in Appendix H incorporates total spending by recreation visitors to the Moab area. The economic impact model used (IMPLAN) calculates spending impacts across all affected sectors, including motor vehicles rentals and taxes.
The BLM must distinguish between Jeep Safari routes and other routes because Jeep Safari routes hold more economic significance.	Possible outcomes in BLM's updated economic analysis (Appendix H) address this issue.
The BLM must acknowledge the increasing use of OHVs in Utah.	BLM traffic counters count vehicles, but do not distinguish among types of vehicles. Section 3.2.11 acknowledges the popularity of the TMA with OHV enthusiasts of all types.
The BLM must acknowledge that visitation has doubled since 2019 and that this has economic impacts.	Visitation to BLM-managed lands within the Moab FO *decreased* dramatically in 2020, due to COVID and related restrictions on local businesses and activities on BLM lands. The rebound in visitation for 2021 still did not reach 2019 levels. The BLM's updated economic analysis (Appendix H) uses FY 2022 visitation data.
The BLM fails to use an accurate analysis assumption in Appendix H that lost recreation days from motorized users would be replaced by non-motorized use.	Possible outcomes in BLM's updated economic analysis in Appendix H address this issue, specifically Possible Outcome #1.
The BLM must acknowledge that out of state OHV permits have increased and that this means increased revenue.	The BLM's updated economic impact analysis in Appendix H incorporates total spending by recreation visitors to the Moab area. The economic impact model used (IMPLAN) calculates spending impacts across all affected sectors.
The BLM should acknowledge that Alternative B would result in the removal of 14 Jeep Safari routes which alone have 4,200 visitor days during that event.	Possible outcomes in BLM's updated economic analysis in Appendix H address this issue, specifically Possible Outcome #3.
The BLM should state how many people visit Moab and for which activity, as well as what the economic impacts of each group is on the local economy.	The commentor's request is outside the scope of the analysis required by this EA. BLM has data on recreation activities engaged in by visitors to Moab BLM, but the data is from the 2006 NVUM pilot project, and BLM lacks the resources to reliably update this data. The closest more current proxy is USFS NVUM data, which can be accessed at https://apps.fs.usda.gov/nvum/results/.

Comment	BLM Response
	The BLM would also be interested in the type of data requested by the commentor but lacks the resources to undertake such a statistically valid study of this magnitude.
The BLM failed to consider impacts of closing routes on local business in its economic modeling through IMPLAN. The economic benefit of adding routes has not been discussed.	The economic benefits of adding new routes are out of scope. The BLM's analysis incorporates Jeep Safari use in Appendix H. IMPLAN distributes economic impacts across various economic sectors, including commercial services. Given the very small size of overall impacts to the Grand County economy, impacts to this subsector would be even smaller. While the current planning effort does not consider the addition of new motorized routes within the TMA, it should be noted that the BLM has received no specific requests for new routes in the TMA in the years between 2008 and the present. New routes in other areas outside the TMA (such as in Sand Flats or on Black Ridge) have been added to the Travel Plan between 2009 to the present as a result of citizen, commercial, or club requests. The 2008 RMP outlines a mechanism for adding routes (TRV-3, which is referred to in the EA). In addition, a section has been added to the EA (Section 2.3.3: Route Adjustments) which outlines the method of undertaking route adjustments at the conclusion of the current effort, consistent with the guidelines in the 2008 RMP.
IMPACT ANALYSIS	
The BLM's route reports do not show the magnitude nor quantitative effect of individual routes on wildlife.	The route reports show whether or not a route is within a specific wildlife habitat. The magnitude of the effect is not captured by route, but rather by looking at the entire network in a particular wildlife habitat. Impacts captured by type of wildlife species are outlined in Sections 3.2.7, 3.2.8, 3.2.9 and 3.2.10.
The BLM must address the indirect impacts of closing routes, including additional law enforcement requirements, displacement of users to other more sensitive areas, loss of opportunities, especially for children, loss of family traditions, and loss of history and traditions.	Section 3.2.11 addresses the impacts of closing routes on those who wish to use these routes for recreation. Indirect impacts listed include loss of opportunities. The evidence for the displacement of users is scant; under all alternatives, hundreds of miles of route would remain open to motorized recreation. Many of the miles proposed for closure in one or more alternatives are redundant and little-used routes. A travel network for OHV use would be maintained under all alternatives. Applicable regulations exempt military, fire, emergency, or law enforcement vehicles from the OHV definition while being used for emergency purposes. The Implementation Guide, Appendix N (section N.3.6), addresses Law Enforcement.
LANDS WITH WILDERNESS CHARACTERISTICS	
The RMP does not manage any lands in the project area to protect their wilderness characteristics, but roads are	The commenter is correct in that the RMP does not require any of the Lands with Wilderness Characteristics to be managed to protect, preserve, and maintain these characteristics. However, the RMP does not prevent the BLM from using its discretion to take actions that may nevertheless protect wilderness characteristics in those areas. Moreover, the regulations at 43 CFR 8342.1 require BLM to minimize impacts to resources when designating

Comment	BLM Response
closed for that purpose in Alternatives B and C.	routes, and LWC is a BLM resource. Roads proposed for closure under Alternatives B and C would be closed for a variety of resource concerns, as well as an evaluation of purpose and need in light of those resource concerns. No roads are proposed to be closed solely to protect Wilderness Characteristics.
MINIMIZATION CRITERIA	
The BLM must explain how its travel network meets the minimization criteria.	The decision document will detail how the travel network meets the minimization criteria.
The BLM met the minimization criteria with the closures in the 2008 RMP. Since each route has a purpose and need, that criterion is met.	BLM has an obligation to conform with the minimization criteria when designating routes for public use. BLM believes the designations in this travel planning effort conform with the minimization criteria.
SOUNDSCAPE	
The BLM fails to adequately analyze noise impacts of OHVs to non-motorized recreationists.	Noise from OHV use is acknowledged as a factor in wildlife disturbance in Sections 3.2.8, 3.2.9 and 3.2.10. For example, Section 3.2.10 states*: Noise from OHVs can negatively impact birds by affecting nest-site selection or masking biologically important sounds, including mating calls or predator and prey sounds (Ortega 2012). These OHV noise disturbances can vary from abrupt and brief, like the disturbance caused by a single user passing by, to more extended disturbances like those resulting from high traffic volumes on a busy holiday or dispersed camping taking place within nesting or foraging habitat. Accordingly, species' responses may also 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).* Wording has been added to Section 3.2.11 explaining that non-motorized users often seek a quiet experience. Section 3.2.11 also discusses the effects of noise on boaters along the Green River.
The BLM failed to examine the far-reaching impacts of the noise of OHVs.	Section 3.2.11 states that non-motorized users seeking a quiet experience benefit from a less dense road network. The analysis of vehicular noise on non-vehicular recreation varies by type of vehicle, topographical features that may block noise, the volume of noise, and its duration. A route-by-route analysis of noise impacts would be a large undertaking for the BLM and would not notably contribute to a reasoned choice among the alternatives. The route network resulting from the TMP does take the impact of noise on non-motorized users into account.

Comment	BLM Response
The BLM fails to explain how complaints from non-motorized users satisfies the definition of user conflict.	The BLM acknowledges that user conflict may be both physical and social. The BLM further acknowledges that user conflict can be subjective; however, BLM also acknowledges that the noise of motorized vehicles could pose an impact to some of the recreating public. User conflicts are addressed in Section 3.2.11.
OLD SPANISH NATIONAL HISTORIC TRAIL	
The BLM must explain how it can use the Old Spanish NHT as a means of closing a route.	The Old Spanish National Historic Trail (NHT) is a Special Designation within the Labyrinth/Gemini Bridges TMA. Motorized use on designated roads is not disallowed by the designation of the trail. A sentence has been added to the EA (Section 3.2.4) stating that most visitors to the Old Spanish NHT experience it via motorized vehicle. The impacts analysis in the EA merely states how many miles of designated route are within one mile of the Old Spanish NHT. The impacts analysis states (Section 3.2.4), "OHV use on routes crossing or in proximity to the Old Spanish NHT increases the potential for damage to the trail's historic integrity and increases the potential for disruption of travelers' vicarious experiences along the trail. Travel routes can also provide beneficial access for recreational opportunities as well as interpretive and educational opportunities for cultural resources." Thus, the beneficial impacts of the motorized routes in the vicinity of the Old Spanish NHT are also acknowledged. The presence of the Old Spanish NHT has not been utilized as a reason to close a road, although the mileage adjacent to the Old Spanish NHT has been analyzed for potential impacts.
The BLM must explain how OHV use is an impact on the Old Spanish NHT when it does not consider mineral uses an impact on the Trail.	Mineral uses are considered an impact on the Old Spanish NHT; however, mineral uses are not a subject of the current planning effort (see the Moab Master Leasing Plan for its analysis of minerals and the Old Spanish NHT). The EA states in Section 3.2.4, "OHV use on routes crossing or in proximity to the Old Spanish NHT increases the potential for damage to the trail's historic integrity and increases the potential for disruption of travelers' vicarious experiences along the trail. Travel routes can also provide beneficial access for recreational opportunities as well as interpretive and educational opportunities for cultural resources." The EA thus acknowledges both the positive and the negative impacts of routes adjacent to the Old Spanish NHT; the presence of the Old Spanish NHT has not been utilized as a reason to close a route, but the mileage adjacent to it has been analyzed for impacts.
The BLM must explain why it is closing routes adjacent to the Old Spanish NHT when the legislation specifically allows for motorized activity.	Routes along the Old Spanish NHT are analyzed for their impacts, both beneficial and adverse; the existence of the Old Spanish NHT is not a criterion necessitating route closure. The routes adjacent to the Old Spanish NHT are acknowledged as the means that people use to vicariously experience the Old Spanish NHT.

Comment	BLM Response
PROCESS	
The BLM must define a CIAA (Cumulative Impact Analysis Area) for each resource.	A CIAA is defined for each resource, by resource. See Cumulative Impacts analysis for each resources in Section 3.2.
The BLM failed to identify all past, present, and reasonably foreseeable future actions.	Past, present, and reasonably foreseeable actions are included in Table 5 and Cumulative Impacts Analysis for each resource in Section 3.2. The specific projects mentioned in the comment, A1 Lithium, West Fertilizer Oil and Gas, Long Canyon Helium, American Potash, new oil and gas leases in the Cane Creek unit were included as part of the analysis and added to Table 5 for clarity.
The BLM must assess routes that are on SITLA properties.	BLM has no authority to recommend routes as open or closed on SITLA lands. For this reason, the routes on SITLA lands are not assessed. They are shown on maps to illustrate the connectivity of routes in the TMA.
Routes mentioned in the 2008 RMP cannot be closed.	The 2008 RMP uses some route names as descriptors and sometimes excludes motorized routes from non-motorized Focus Areas (RMZs The RMP planning level decision is the OHV area designation (as either open, closed, or limited to designated routes). The entire Labyrinth/Gemini Bridges TMA, with the exception of the White Wash Sand Dunes area, is within the "Limited to Designated Routes" designation. Routes designated for OHV use in the 2008 RMP (named or unnamed) are implementation level decisions, which BLM has the authority to change without amending the planning-level decisions in the RMP (BLM 2016).
BLM cannot close routes for enhancing Wilderness Characteristics in areas that the RMP determined were not to be managed for Wilderness Characteristics.	Routes have been proposed as closed in one or more alternatives for a plethora of reasons, including wildlife habitat enhancement, a more user-friendly route network, etc.
Routes in Motorized Focus Areas cannot be closed, as the purpose of the Focus Area, as established in the 2008 RMP, is to emphasize motorized recreation.	Routes within a Focus Area or in the default focus area can be closed for a number of reasons, including, but not limited to, resource concerns or to enhance motorized opportunities. The purpose of the Travel Plan is to create a route network which serves visitors. Routes that are redundant and confusing do not contribute to an effective trail network. The RMP established Focus Areas to emphasize a particular type of recreation (see REC-33, which has been added in its entirety in Section 1.5). Even if route mileage were reduced in a motorized Focus Area, the RMP goal of enhancing motorized opportunities would remain when the route network is considered as a whole. Routes designated for OHV use in the 2008 RMP (named or unnamed) are implementation level decisions, which BLM has the authority to change without amending the planning-level decisions in the RMP (BLM 2016).

Comment	BLM Response
The 2017 Settlement does not abrogate the 2008 RMP. The BLM must explain the rationale for any differences between a new travel plan and that contained in the RMP. These explanations must be route-by-route.	The 2017 Settlement calls for BLM to issue a new TMP for Labyrinth/Gemini Bridges TMA. The decision document selecting a network alternative will provide a reasoned route by route explanation for the selected travel network.
BLM must use a subject matter expert with extensive knowledge in OHV capabilities to determine whether a route is "impassable to motorized vehicles".	In its route-by-route deliberations BLM consulted representatives from Grand County, including a commissioner and the county road supervisor. The IDT included resource specialists familiar with OHV use and capabilities, as well as with the routes themselves. Commercially available guidebooks and maps were consulted as an indication of use by the public. When in doubt, additional field visits to the routes in question were used to verify the judgements made by the IDT. Route reports were also published for public review and comment. See Appendix M.2 for response to route-by-route comments.
PUBLIC COMMENT PERIOD	
The BLM failed to provide the public with the required documents prior to the public comment period.	The BLM provided the public with the Scoping Report, Preliminary Alternative maps, the Route Reports, and the Baseline Monitoring Report prior to the comment period; updated route reports were provided to the public during the public comment period. The GIS data was uploaded to the ePlanning website when the comment period began.
RECREATION	
The BLM should state that the roads in the TMA take up only a very small footprint of the total TMA acreage.	A statement has been added about the "footprint" of the routes in Section 3.1.3.
The BLM should alter the proposed action to redesignate closed roads for mountain biking.	While this TMP concerns motorized use of routes, mountain bike use of some routes is addressed in section . Section 2.1.4.
The BLM should state how other users would change their behavior by alternative.	The future behavior of recreationists by travel network alternatives is speculative and cannot be projected.

Comment	BLM Response
The BLM should detail the impacts of closing routes upon public motorized users.	Section 3.2.11 discloses the potential impacts of closing routes upon public motorized users.
The BLM should consider the difficulty level and the unique properties of each trail; these factors must figure in to the final travel plan chosen.	The BLM recognizes that its trail network provides multiple levels of difficulty and provides for a variety of skill levels. Especially in Alternatives C and D, routes that appear redundant with an adjoining route were oftentimes designated as open to provide additional variety of capability and experience. The BLM documented the attributes of each route and consulted not only personal experience, but the comments of club members and other users, and commercially available maps and guidebooks in assembling its final travel network. Also, per the BLM's Travel and Transportation Handbook (BLM 2012a), the BLM "will not develop, endorse or publish road or trail ratings."
RECREATION – CAMPING	
The BLM should explain the relationship between the current TMP and efforts to address dispersed camping in the area.	The Labyrinth/Gemini Bridges TMP is an implementation-level plan and can be adjusted on a case-by-case basis. That is, in the future, if an access road to a campsite is needed in order for that campsite to be designated, a road can be added to the TMP for the purpose of the use of those campsites. Although the process to change travel destinations in the future is discussed in Section 3.1.3, a section has been added to the EA (Section 2.3.3) that specifically explains how the TMP can be changed in the future, including for the purpose of accessing campsites. This process is provided for in the 2008 RMP, TRV-3 (page 126) which states the Travel Plan "may be modified through subsequent implementation planning … on a case-by-case basis."
The BLM should address dispersed camping as a critical component of the recreational experience.	Information concerning the prevalence of dispersed camping in the TMA has been added to Section 3.2.11; the impacts of closing routes on dispersed camping opportunities has also been added to that section.
The BLM should acknowledge the need for routes to access dispersed camping.	The BLM has added information concerning the prevalence of dispersed camping in the planning area to Section 3.2.11.
The route reports should address dispersed camping as a use for the routes.	The route reports document dispersed camping associated with the route in question.
The BLM should address dispersed camping.	Information on dispersed camping has been added to Section 3.2.11. In addition, footnote 11 (in that section) states: *Due to the increase in camping and its effects on natural and cultural resources, the BLM is examining the proposal to limit camping to designated sites in additional areas, increasing from 90,957 acres previously limited to designated sites within the TMA (see DOI-BLM-UT-Y010-2021-0094-EA).*

Comment	BLM Response
RECREATION – CONFLICTS	
Alternative B is the only option that attempts to balance opportunities for motorized and non-motorized recreation and is therefore the only Alternative that meets the minimization criteria.	Section 3.2.11 states: *[Alternative B] would have the lowest potential of any alternative for conflicts between motorized and non-motorized users*. In addition, Section 2.2.2 states *Alternative B prioritizes protection of wildlife habitats, natural and cultural resources, ecosystems, and landscapes*. 3.2.11How the final selected travel network meets the minimization criteria will be discussed in the decision document.
The BLM should state the positive impact of road closures to non-motorized recreationists, especially in Labyrinth Canyon and its tributaries.	Section 3.2.11 states*: Users seeking non-motorized recreation experiences (i.e., hiking, biking, hunting, and horseback riding), particularly near the Green River and its tributary canyons in the TMA, may in some cases benefit from a travel network that closes more OHV routes, as these users may encounter fewer conflicts with motorized users.*
The BLM must address the difference between interpersonal conflict and social values conflict; only interpersonal conflict is an impact.	User conflicts are discussed in Section 3.2.11 and throughout Appendix N. User conflicts, by nature, consists of interpersonal/physical conflicts and/or social conflicts. For example, noise emitted by a vehicle may bother one hiker but not another, depending upon variables such as the intensity and duration of the occurrence. The individual values of a person cannot be separated; the TMP does not attempt to undertake this type of differentiation.
The BLM must acknowledge that user conflict is subjective and that subjective user conflict is not an environmental impact. The EA presents no site-specific data on user conflict and its conclusions regarding user conflict are not valid.	User conflict is a social construct and individuals may differ in their definitions of conflict. The MFO deals with user conflict on a daily basis, but there is no way to track such interactions that fall short of a Law Enforcement encounter. Dealing with user conflict Is discussed in Appendix N, Implementation Guide. Section N.4.2 refers to the subjective nature of user conflict in stating: *pay close attention to any unauthorized off-route use and* ***apparent*** *user conflict.* (Emphasis added).
The BLM should examine allowing the use of Jeep Safari routes closed in Alternative B only to permittees.	A permitting system, seasonal closure, or other restriction on an individual route's use is within the range of alternatives for any route closed in one or more alternatives. That is, a route closed in Alternative B but open in Alternative C could be considered open only to permittees, or only on a seasonal basis in the Decision Record. These types of actions were considered in developing the TMP.
The BLM fails to adequately analyze the diversity of route options for motorized vs. non-motorized recreation	Section 3.2.11 discusses the balance between motorized and non-motorized users. The BLM is aware of the fact that some recreational activities can be moved to other venues and that other recreational activities cannot be so moved.

Comment	BLM Response
use in terms of balancing conflicts between users.	
RIPARIAN AREAS	
The BLM should cite the research by Douglas Ouren regarding impacts to riparian resources through spills and emissions.	Section 3.2.6 discusses this. However, additional clarifying language and a reference to the Ouren citation was added and now reads: *Travel routes, wheel cuts, and tracks can serve as a water conduit that direct contaminants and sediment into stream systems and riparian areas during runoff events (Miniat et al. 2019, Ouren et al. 2007). Spill or emission contaminants may include 1,3 butadiene, benzene and ethylbenzene, xylenes, and toluene (Ouren et al. 2007).*
The BLM should cite the research provided concerning accelerated erosion and sedimentation due to road use.	Section 3.2.6 discusses this and states: *Surface-disturbing activities from travel-related disturbances in or near areas of highly erosive soils or in sensitive areas, such as stream channels and riparian habitats, increase the potential for surface runoff (i.e., soil displacement), vegetation loss, geomorphic change, sediment transport and water quality impacts in streams and riparian areas. In general, travel route proximity to riparian areas or intermittent or perennial drainages is an important factor relating to the condition of aquatic and riparian habitats including impacts to water quality.* *Surface disturbances from motorized and non-motorized travel can also remove soil-stabilizing agents, such as vegetative cover, soil crusts, and woody debris. Travel routes parallel to or within the active channel can reduce channel sinuosity in low gradient systems, reducing the ability of the channel to meander, one mechanism by which streams naturally attenuate flood energy. Loss of one or more of these agents increases the potential for erosion and sediment transport into water bodies and riparian areas, elevating turbidity in watersheds. Routes in areas of erosive soils that are proximate to, leading to, or crossing drainages will result in higher amounts of sediment travel and deposition in water bodies and riparian areas during storms and runoff events (Ouren et al. 2007).*
ROUTES	
The BLM should verify the accuracy of its mapping in Ten Mile, Poison Spider and Golden Spike. In addition, many routes to the rim are mapped short of their destination.	The route in Ten Mile Wash is within a wash, and portions of that route move with each flood. The route was initially mapped by the Grand County Road Department as part of the 2008 RMP. Golden Spike/Poison Spider are largely on slickrock. Over the years, users have added "extras" which are not on the Travel Plan and not under consideration at this time. These routes are examples of unauthorized, off road travel. The BLM has asked several users if they would map and provide the data to the BLM for possible inclusion in the Travel Plan but to date, this has not happened. These routes could be requested in the future using the guidelines in RMP decision TRV-3.

Comment	BLM Response
	The routes to the rim of Labyrinth Canyon were, at one time, constructed to their mapped end (the mapping was provided by Grand County). Over the years, users have "pushed" these routes closer to the rim of the river. The intent of the Travel Plan is to designate the routes to their end; should these routes be designated, they would require extensive management to ensure adherence to the mapped end of the route. Pushing the route to the rim is an example of cross-country travel which is not authorized in the TMP.
The BLM should reconsider additional routes in the TMP, including some of those routes closed in the 2008 RMP Travel Plan.	The current planning effort does not consider the addition of new motorized routes within the TMA. During the period from the signing of the 2008 Travel Plan to the present, the BLM received no specific requests for new routes in the TMA, nor has BLM internally identified the need for new routes. New routes in other areas (such as in Sand Flats or on Black Ridge) were added to the Travel Plan as a result of citizen or club requests. The 2008 RMP outlines a mechanism for adding routes (TRV-3, which is referred to in the EA). In addition, a section has been added to the EA (Section 2.3.3: Route Adjustments) which outlines the method of undertaking route adjustments at the conclusion of the current effort, consistent with the guidelines in the 2008 RMP. Thus, the final decision does not eliminate the possibility of adding new routes to the TMP at the conclusion of the process. The new routes referred to by the commentor can be requested in the future.
The BLM fails to consider the new roads constructed for oil and gas development since 2008.	The oil and gas roads constructed in the TMA since 2008 have been constructed by minerals permittees for a specific use; at the time of construction, these roads were not designated for public use. The BLM requires that minerals-project roads be reclaimed when the minerals activity is done. As part of the development plan, the BLM considered whether or not these roads should be made public and, in most cases, they were not. If these were to become public roads, the reclamation requirement would not be placed on the road. Thus, these newly constructed roads are not considered for designation the travel network alternatives because they are not currently designated open to the general public and are not a part of the existing travel network.
The BLM must describe how it designated routes with the objective of minimizing impacts.	The minimization criteria were considered in each individual route decision, as well as in the resultant overall travel network decision. How the selected travel network conforms with the requirement of the minimization criteria will be detailed in the decision document.
The BLM must state why a route is excluded.	Each route was examined at length in both the initial route evaluation meetings to propose designations by alternative, as well as in the IDT meetings held to reexamine the decision matrix. The Decision document will indicate the reasons why routes were either designated or not designated.
The BLM must retain access to SITLA; administrative access is insufficient because SITLA's permittees may also need access. In addition, due to	See Sections 2.1.3 and 2.1.5 for consideration of SITLA access in route evaluations. In the great majority of cases, at least one route that is available for public OHV use to access SITLA parcels was maintained in at least one action alternative. In all instances, SITLA and its permittees may receive authorization from BLM to access SITLA parcels.

Comment	BLM Response
topography, multiple accesses to SITLA lands must be retained.	
SOILS	
The BLM should acknowledge that even a single pass of an OHV will increase wind and water erosion of surface soils.	The EA states in Section 3.2.3: *Because some routes in the TMA cross through areas of cryptobiotic soils, travel network alternatives with fewer miles open to OHV use in these areas would better protect these important soil crusts… OHV and related anthropogenic use can alter soil properties and cause changes in vegetation composition, contributing to land degradation and desertification. More specifically, compaction from OHV use increases soil bulk density and decreases porosity (Assaeed 2019). As soil compaction increases, the soil's ability to support vegetation diminishes because loss of porosity inhibits root penetration from accessing nutrients and water and reduces the infiltration and availability of water*. That section further states*: Fugitive dust from OHV use can also disrupt photosynthetic processes, suppressing plant growth and vigor (Ouren et al. 2007). Effects from soil alteration can extend beyond the route corridor and contribute to indirect landscape effects on plants. Particularly on hillslopes, OHV use can accelerate water erosion by decreasing infiltration rates, loosening surfaces, and channeling run-off (Brooks and Lair 2005). Ouren et al. conclude, "As vegetative cover, water infiltration, and soil-stabilizing crusts are diminished or disrupted, the precipitation runoff rates increase, further accelerating rates of soil erosion.*" Wording has been added to state: *a single vehicle pass will reduce nitrogen fixation by cyanobacteria and increase wind and water erosion of surface soils.* The citation has been added to the references.
The BLM should state that disturbed soil crusts are then more susceptible to wind erosion.	The statement in Section 3.2.3 has been altered by the addition of the italicized clause: "Repeated disturbance or trampling of biological crusts can permanently destroy the living filaments of the organisms, preventing the recovery of the crusts and *making them more susceptible to wind erosion."*
The BLM should more fully disclose the impacts from dust production and wind erosion.	Information about dust emissions has been added in Section 1.6.3. In addition, information has been added to Section 3.2.3 concerning water erosion and OHV use.
WATER	
The BLM should supply baseline information concerning water resources.	Within the TMA, parts of the Ten Mile watershed, the Courthouse watershed, and the Green River are impaired and 303d listed. However, there are no approved TMDLs in place. Additional PFC language was added to show which systems are in PFC and which are not. Graphic included.

Comment	BLM Response
	Section 3.2.6 has been augmented with additional water quality information. The BLM collects water quality data and has provided a summary of data points within the TMA in Appendix F.
The BLM should state how route closures were prioritized given the presence of water resources. The BLM should provide a table evaluating miles of route by alternative by distinct wetland types throughout the TMA.	The decision document will detail BLM's rationales for route designations. The BLM examined the National Wetland Inventory as suggested by EPA. Some of the emergent wetlands are stock ponds and nearly every major ephemeral channel is mapped as intermittent riverine. The majority of perennial riverine features within the National Wetland Inventory are incorrectly attributed and are largely ephemeral or intermittent. The same issue is present within the National Hydrography Dataset also. The BLM has concluded that the level of mapping detail that is available to us is insufficient to analyze individual wetland types accurately over the entire TMA. Due to the rarity of lotic and lentic systems in this area, all aquatic systems are considered important habitat. Local knowledge, mapped spring locations, 2008 RMP riparian data, imagery, 303d listed streams, degree of landscape connectivity, Assessment, Inventory, and Monitoring sampling efforts, and PFC data are used to identify and prioritize route closures.
WATER QUALITY	
The BLM should provide a summary of available water quality information and consider this information in disclosing impacts of the alternatives.	Within the TMA, parts of the Ten Mile watershed, the Courthouse watershed, and the Green River are impaired and 303d listed. However, there are no approved TMDLs in place. Additional PFC language was added to show which systems are in PFC and which are not. Graphic included. Section 3.2.6 has been augmented with additional water quality information. The BLM collects water quality data and has provided a summary of data points within the TMA in Appendix F.
WETLANDS	
The BLM should state the extent of fens within the TMA.	Fen wetlands in Utah occur almost exclusively at high elevations in the various mountain ranges (Utah Geological Survey). However, the BLM examined the National Wetland Inventory as suggested by EPA. Some of the emergent wetlands are stock ponds and nearly every major ephemeral channel is mapped as intermittent riverine. The majority of perennial riverine features within the National Wetland Inventory are incorrectly attributed and are largely ephemeral or intermittent. The same issue is also present within the National Hydrography Dataset. The BLM has concluded that the level of mapping detail that is available to us is insufficient to analyze individual wetland types, including fens, accurately in this area. Due to the rarity of lotic and lentic systems in this area all aquatic systems are considered important habitat. Local knowledge, mapped spring locations, 2008 RMP riparian data, imagery, 303d listed streams, degree of landscape connectivity, Assessment, Inventory, and Monitoring sampling efforts, and PFC data are used to identify and prioritize route closures.

Comment	BLM Response
The BLM should more fully analyze the impacts to water resources and wetlands from leaving routes open in the TMP.	Due to the rarity of lotic and lentic systems in this area all aquatic systems are considered important habitat. Local knowledge, mapped spring locations, RMP riparian data, imagery, 303d listed streams, degree of landscape connectivity, Assessment, Inventory, and Monitoring sampling efforts, and PFC data are used to identify and prioritize route designations. The EA already states: *Travel network alternatives that designate more miles as OHV-Closed in and near riparian areas and streams would provide higher levels of protection from surface disturbances and indirectly help reduce and minimize effects to water resources including aquatic habitats, riparian areas, and water quality. Since all routes proposed as OHV-Closed under the action alternatives are minimally maintained, stream crossings are not armored or culverted. Minimally maintained roads in and near riparian areas and streams therefore cause impacts to those resources; a reduction in miles in these areas is beneficial. The route reports (J) detail those routes that are in or near riparian areas and streams.* In addition to routes that directly cross a riparian area or intermittent, perennial, or ephemeral drainage, routes or portions of routes that are located within 100 meters of riparian areas are included in the analysis.
WILDLIFE	
The BLM must disclose the impacts of vehicular noise on wildlife, both birds and mammals.	The EA references the impacts of noise upon wildlife in many sections discussing wildlife. For instance, Section 3.2.8 states: *Studies suggest noise from OHV use is a factor in wildlife disturbance (Naidoo and Burton 2020*) and further states: *Accumulating impacts to general wildlife in the CIAA include vegetation alteration and habitat fragmentation from increased human activity and noise from recreation use and development and equipment use; human activity and noise on existing roads during use; collisions with vehicles; livestock trampling and browsing of vegetation; drought; and removal of vegetation from wildfires.* The article provided by the commentor is not a research study itself, but rather reports on various research studies discussing the impact of noise on wildlife.
The BLM must disclose the impacts to wildlife of factors such as noise, direct mortality by vehicle strikes, altered wildlife behavior, and habitat fragmentation.	The EA states (in Sections 3.2.7, 3.2.8, 3.2.9 and 3.2.10*): Impacts to habitat from ongoing OHV use (i.e., direct mortality, injury, behavioral modifications, habitat alteration, habitat fragmentation, etc.) would reflect a continuation of current management*. In addition, Section 3.2.10 states: *These effects can include direct mortality, injury, habitat destruction, habitat alteration, and habitat fragmentation (Brooks and Lair 2005, Ouren et al. 2007, Trombulak and Frissell 2000). Direct mortality can result from accidental collisions with OHVs, intentional and illegal poaching of special status wildlife, or the inadvertent destruction of eggs, nests, and burrows by unwitting individuals. Injury can result from animal-vehicle collisions or animal exposure to OHV effects such as the inner-ear bleeding found to occur in small mammals exposed to OHV-generated noise (Ouren et al. 2007).*

Comment	BLM Response
	Thus, the Ouren study is referenced as providing both impact to wildlife themselves and to wildlife habitat.
The indirect impacts of noise on wildlife (disturbance, avoidance, reduction of migration routes, quality of habitat, and loss of habitat) should be more fully discussed.	The impacts of noise on wildlife are disclosed in the EA (see comment above). The study referenced in the comment (Switalski) is a summary of the "possible impacts by OHVs on ecological and social issues based on an extended literature review." The reference has been added to the list of references.
The BLM must state that OHV impacts on wildlife can lead to population declines and, rarely, impacts on entire populations.	The impacts on wildlife from OHV use is detailed in Sections 3.2.7, 3.2.8, 3.2.9 and 3.2.10. The Ouren study is cited in the Environmental Effects Analysis section for these resources. Although specific impacts are detailed, it is speculative to claim that these impacts will lead to direct population declines.
The BLM relies on a study by Ouren et al. that is neither published nor peer reviewed.	The Ouren citation is not a single research study, but rather a meta-analysis of many studies on the environmental effects of off-highway vehicles on BLM lands. It was prepared by the U.S. Geological Survey in 2007. The results of peer-reviewed research on this topic were synthesized and summarized in this report. It was not published in 1980, as stated by the commentor. It was published as a U.S. Geological Survey report in 2007.
The BLM should state that road density overestimates the impact of motorized recreation on wildlife.	See Section 3.2.8 for road density impacts to wildlife. The BLM presents the road density data as a comparison across alternatives; the analysis does not attempt to directly link the road density data to direct wildlife impacts. Habitat fragmentation is an accepted wildlife issue.
The BLM must make the wildlife occurrence data publicly available.	For non-listed species, the BLM utilizes species data from the Utah Division of Wildlife Resources. For listed species, the BLM utilizes species data from the U.S. Fish and Wildlife Service, which is reported on the Information for Planning and Conservation (IPaC) and NatureServe Explorer (2021). Much of the Threatened and Endangered Species data is not public due to sensitivity of information.
The BLM must provide verifiable data on species and on impacts to them.	The BLM follows guidelines and protocols established by the U.S. Fish and Wildlife Service and Conservation Agreements developed by the Utah Department of Natural Resources for wildlife monitoring and survey requirements. The BLM utilizes habitat and occurrence data from the agencies with jurisdictional authority over the species in question—the Utah Division of Wildlife Resources and the U.S. Fish and Wildlife Service. For nesting locations, especially of protected raptors, the BLM has time-dated data from both the Raptor Inventory Nesting Survey (a BLM partner) as well as from U.S. Fish and Wildlife Service and its own survey data from various projects. Much of this data is protected information and cannot be shared publicly in order to protect the species.

Comment	BLM Response
The BLM uses erroneous research and none show a significant impact from OHV use.	The BLM utilizes current, scientific literature from peer-reviewed journals to inform impact analysis. While the research on OHV impacts to resources is a growing field, the BLM is using best available science and research identified by resource specialists within the agency.
The BLM is proposing closures based on false assumptions that motorized traffic causes more disturbance than non-motorized traffic.	The TMP's scope is motorized vehicle use on designated routes. The BLM acknowledges that non-motorized users can also disturb wildlife. The Moab Field Office has indeed tackled non-motorized use of important wildlife habitats. One example is the Proposed Supplementary Rule to limit roped and aerial recreation in Mineral and Hell Roaring Canyons is currently published in the *Federal Register* (January 31, 2023).
The BLM's analysis on impacts to wildlife is inconsistent with scientifically defensible and rational biological criteria.	The EA analyzes a range of network alternatives with varying amounts of road closures. See Section 3.2.8 for analysis on impacts to wildlife. This analysis was based on scientifically sound literature and studies from peer-reviewed journals.
The BLM must prioritize the protection of desert bighorn sheep, taking into consideration Section III.C of the Utah Bighorn Sheep Statewide Management Plan.	Section III.C of the Utah Bighorn Sheep Statewide Management Plan discusses habitat degradation or loss. Habitat fragmentation and human disturbance are discussed as a stressor that can reduce productivity, decrease survival rates, and increase risk of pathogen transmission. The relevant paragraph from the Utah Bighorn Sheep Statewide Management Plan has been added to Section 3.2.10 and to the list of references.
The BLM must disclose that bighorn sheep populations are increasing, rather than declining.	Population numbers are maintained by the UDWR, the agency with jurisdictional authority over the wildlife. *The Bighorn Sheep Unit Management Plan: LaSal, Potash/South Cisco WMU #13* (UDWR, 2019; cited in References section) outlines a population goal of 300 animals for this unit. The current estimate of the number of animals is 223. While this is an improvement over the 2014 count, the population now only matches that counted in 2010. In short, the population has fluctuated from 2008 to present, but remains well short of the population objectives. This data has been added to Section 3.2.8.
The BLM must aver that the published research on human disturbance and bighorn sheep is based on opinion.	UDWR, the agency with jurisdictional authority, states in its Statewide Bighorn Management Plan (UDWR, 2018): *Bighorn habitat can be degraded, fragmented, or lost to a variety of causes including human disturbance, energy development, and natural succession. Reductions in the quality or quantity of habitat can result in corresponding losses to bighorn populations (DeForge 1972, Hamilton et al. 1982). Human disturbance may cause bighorn sheep to change use areas and abandon certain habitats because of those disturbances. Loss of preferred habitat can compel bighorns into habitats that reduce productivity, decrease survival rates, and increase risk of pathogen transmission. Human disturbance is also thought to be a possible stress inducer, which may lead to disease*

Comment	BLM Response
	problems in some populations (DeForge 1981, Bunch et al. 1999). Working with federal land management agencies to protect the habitat needed for healthy herds may improve herd health. This information has been added to Section 3.2.8, and the citations added to the list of References. It should be noted that the bighorn sheep residing within the TMA are desert bighorn sheep, not Rocky Mountain bighorn sheep which, anecdotally, seem more habituated to human activities.
The BLM must disclose the bighorn collar data referred to in the EA.	The Moab BLM has cooperated in the studies undertaken by UDWR on desert bighorn sheep (See Utah Bighorn Sheep Statewide Management Plan, UDWR, 2018). In that document, UDWR states in its description of bighorn populations: *In addition to the helicopter surveys, many bighorn sheep populations in Utah have radio and GPS collared bighorns. These collars allow biologist to monitor annual survival and movements. The collars also allow biologists to locate animals and collect ground classification data in years without helicopter surveys. In conjunction with Brigham Young University, Utah State University, Utah Wild Sheep Foundation (UWSF), and Sportsmen for Fish and Wildlife (SFW), UDWR has conducted and participated in many valuable bighorn sheep research projects. Findings from those research projects have greatly improved the current knowledge of bighorn sheep and have improved management practices.* These are the desert bighorn sheep collar studies referred to in the comment. UDWR has shared the bighorn collar data with BLM; the release of the data to the public is under the purview of UDWR. The Bighorn Sheep Statewide Management Plan has been added to the References accompanying EA.
The BLM must defend the raptor nest buffers that it utilizes.	Raptor buffers that guide raptor management on BLM lands in Utah are provided to the BLM by the United States Fish and Wildlife Service (USFWS). The USFWS is the agency with jurisdictional authority over protected species. The buffers are based on research undertaken by USFWS (Romin and Muck, 2002, Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances. U.S. Fish and Wildlife Service). This reference is supplied in reference section of the EA. Use of these buffers is an RMP-level decision (Appendix R of the 2008 RMP) and they are applied to all programs across the BLM. The BLM is obligated to use USFWS's raptor buffer requirements.
The BLM must do an inventory of raptor nesting sites in the TMA and use those inventories for adaptive management through targeted seasonal closures.	The BLM has undertaken a partial survey of raptor nesting sites in the TMA in conjunction with the Raptor Inventory and Nesting Survey, as well as contracted surveys done in conjunction with specific projects. Information from those surveys was available during route-by-route discussions and has been utilized to inform proposed designations of individual routes, including seasonal closures. Seasonal closures to protect raptor nesting sites is part of ongoing adaptive management in the BLM and can be used to minimize impacts to raptor habitat. Additionally, the BLM is obligated to utilize the raptor nest buffers provided by the USFWS.
The BLM should pay special attention to reducing roads in the Mineral and	Section 3.9.2 states that the "riparian vegetation found along the Green River corridor and in the canyon bottoms within the TMA are particularly valuable." Mineral and Hell Roaring canyons are two of these canyon bottoms.

Comment	BLM Response
Hell Roaring Canyon systems, as they are prime habitat for raptors and bighorn sheep.	The sentence *Mineral and Hell Roaring canyons provide particularly valuable raptor habitat* has been added to the Affected Environment in Section 3.9.2. The specific value of Mineral and Hell Roaring Canyons as desert bighorn habitat has also been added to the EA in Section 3.8.2.
The BLM must state that non-motorized recreation disturbs wildlife more than motorized recreation does.	The majority of research cited in the EA concerning human disturbance and wildlife does not distinguish between motorized and non-motorized human disturbance. The scope of the EA is designating a motorized travel network, and the decision to be made is whether to designate or not designate routes for motorized use. BLM is not aware of any studies that conclude non-motorized uses impact wildlife more than motorized.
The BLM does not provide data or reliable studies to show that motorized recreation poses a threat to bighorn sheep.	Information regarding impacts from motorized recreation to bighorn sheep has been added to Section 3.2.8, and the citations added to the list of References (UDWR, 2018).
The BLM fails to support assumption that OHV restrictions are necessary to prevent bighorn sheep population decline.	Population numbers are maintained by the UDWR, the agency with jurisdictional authority over the wildlife. *The Bighorn Sheep Unit Management Plan: LaSal, Potash/South Cisco WMU #13* (UDWR, 2019; cited in References section) outlines a population goal of 300 animals for this unit. The current estimate of the number of animals is 223. While this is an improvement over the 2014 count, the population now only matches that counted in 2010. In short, the population has fluctuated from 2008 to present, but remains well short of the population objectives. This data has been added to Section 3.2.8.
BLM inappropriately applied the 2002 Raptor Guidelines (Romin and Muck 2002) by applying the 0.5 mile buffer to existing land uses and therefore should not restrict or eliminate routes based on raptor buffer zones.	These buffers are established in a decision in the 2008 RMP; they are utilized as a source of information for all activities undertaken by the Moab BLM. The presence of raptor resources proximate to each road, if any, were captured in the Route Report, as well as the purpose and need for the use of the road. The presence of raptor nests is one of numerous resource values assessed and considered when BLM developed the network alternatives.
WILD AND SCENIC RIVER	
The BLM must ensure that the TMP meets the Wild and Scenic River Act's standards.	Several routes that are within or near the WSR corridor are proposed for closure in one or more of the action alternatives. BLM recognizes that flatwater river use is specifically mentioned as part of the Outstandingly Remarkable Values for recreation. The scenic classification of the Labyrinth Canyon segment allows for motorized routes. The BLM

Comment	BLM Response
	has no reason to believe that route designation within the corridor, if it occurs, will have a detrimental impact to water quality or the free flowing nature of the river, which enables flatwater river use. In designating this portion of the Green River as 'scenic,' Congress did not consider the presence of these routes to affect the suitability of inclusion in the WSR system. Suitability, by definition, includes the presence of the Outstandingly Remarkable Values, adequate water quality and free flowing. The absence of these would render the segment "unsuitable" and not a subject for designation.

M.2 ROUTE-BY-ROUTE PUBLIC COMMENTS

Route-by-Route Public Comments
Source of Comment Abbreviations: BRC = Blue Ribbon Coalition COTD = Colorado Off-Road Trail Defenders I = Individual PLPCO = Public Lands Policy and Coordinating Office (Utah Governor's Office) RINS = Raptor Inventory Nest Survey RR4W = Red Rock 4 Wheelers (Jeep Safari) RwR = Ride with Respect SITLA = School and Institutional Trust Lands Administration SUWA = Southern Utah Wilderness Alliance
Route-Specific Comments and BLM Responses
Responses relevant to each of the routes are listed below: 1. BLM received many route-specific comments from the public highlighting resource and use attributes specific to certain routes. The main purpose of this table is to document BLM's consideration of those route-specific comments and BLM's verification of resources and route attributes documented in the route's baseline information. A full response to substantive public comments is contained in Appendix M.1. 2. Any designated route could potentially provide an entrée to illegal off road travel. BLM assumes that OHV users will stay on the designated routes. BLM will monitor for illegal off-route travel pursuant to the monitoring plan as detailed in Section N.4.2 of the Implementation Guide. 3. Some commenters provide evidence of level of use via photographs. Photographic documentation in and of itself is not conclusive evidence of level of use. Unless a route is completely invisible, factors such as topography, soil composition, vegetative regime, season of the year and recent weather events can affect the perception of relative use on any given day. 4. For purposes of this route-specific comment response, BLM considered comments expressing an opinion about the ultimate designation of a route to be non-substantive. 5. Just because a route is located near a sensitive resource may not, by itself, be a reason to propose to designate that route OHV-closed in one or all alternatives. Similarly, just because a route provides a recreational experience may not, by itself, be a reason to propose to designate that route OHV-open in one or all alternatives. When developing the travel network alternatives, BLM took a comprehensive TMA-wide approach and took into consideration many different factors including, but not limited to, possible impacts to sensitive resources and recreation opportunities.
Column 1 displays the route number and which alternatives open that route to the public by one or more types of motorized vehicles.

Route #/Alt.	Source	Comment Summarized	BLM Response
Airstrips	Backcountry Pilot Assn.	The TMP should identify aviation as an allowed use. The following airstrips should be recognized because they provide access to the area: Mineral Canyon, Spring Canyon, White Wash Sand Dunes, and Big Flat.	The airstrips mentioned by the commenter are addressed in Section 3.1.1 of the EA: *One backcountry airstrip in the TMA has been considered for designation (Mineral). There are three other airstrips in the TMA (Big Flat, Spring Canyon and Deadman Point) that are seldom used; while they are not considered for designation in this TMP, they could be considered for designation in the future on a case-by-case basis through an implementation-level planning decision*. The White Wash airstrip is not on lands managed by BLM, but is rather on lands managed by SITLA.
B140 A,B,C,D	I	The portion of the Spring Canyon Road that is located in riparian habitat should be closed.	The route report documents that B140 crosses riparian habitat. Impacts to riparian areas were analyzed in the EA (see Section 3.2.6).
B377 A,B,C,D	I	This route should be open. The Trin-Alcove Bend route provides a valuable recreation experience.	The route report documents that this route provides for recreational activity and experience opportunities in the area (see Appendix J). Potential impacts to recreation are discussed in Section 3.3.1.
BT1 A,C,D	RwR	This route should be open. It provides a valuable recreation experience and combines with Brian's Trail to make a loop route around White Wash. Currently, OHV riders have stayed within the designated route's alignment, which avoids a spring.	BLM has reviewed the baseline information for BT1 and confirmed it accurately documents recreational uses and resource issues. BLM has also reviewed its field information and has confirmed that it accurately documents route proliferation occurring in the area; this route proliferation is reflected in the route report for BT1. The potential impacts of the designation of this route have been analyzed, including potential impacts on riparian areas and to desert bighorn sheep habitat (see Sections 3.2.6 and 3.2.8, 3.2.9, and 3.2.10). Potential impacts to recreation are discussed in Section 3.3.1.
	I	Brian's Trail should be closed. Route proliferation stemming from the route causes adverse impacts to riparian areas and canyon habitat for bighorn and other wildlife.	
BT2 A,C,D	RwR	This route (Brian's Trail) should be open year-round. It provides a premier recreation experience that climbs a slickrock pass and has sweeping views from the Book Cliffs to the San Rafael Swell and Henry Mountains.	BLM has reviewed the baseline information for BT2 and confirmed it accurately documents recreational uses and resource issues. BLM has also reviewed its field information and has confirmed that it accurately documents route proliferation occurring in the area; this route proliferation is reflected in the route report for BT2. The potential impacts of the designation of this route have been analyzed, including potential impacts on riparian areas and to desert bighorn sheep habitat (see Sections 3.2.6 and 3.2.8). See Section 3.3.1 for impacts to recreation.
	I	Brian's Trail should be closed. Route proliferation stemming from the route causes adverse impacts to riparian areas and canyon habitat for bighorn and other wildlife.	

Route #/Alt.	Source	Comment Summarized	BLM Response
D0002 A	I	This route accesses a campsite.	BLM has reviewed the baseline information for D0002; the route report accurately states that the route is reclaiming. While the dispersed campsite is not noted specifically on the route report for D0002, BLM reviewed the baseline information for D0002 and determined that the presence of a campsite does not change the analysis or proposed designation for this route.
D0004 A	SUWA	This route should be closed. There is little to no evidence of current use. The route crosses an ephemeral stream and is within important plant and wildlife habitats. Nearby routes provide access to the same canyon rim.	BLM has reviewed and verified the baseline information for D0004, the route report states that use level is low, as noted by the commenter. The potential impacts of the designation of this route have been analyzed, including potential impacts on riparian areas and to desert bighorn sheep habitat (see Sections 3.2.6 and 3.2.8).
D0013 A,D	COTD	This route should be closed. It has no recreational value.	BLM has reviewed and verified the baseline information for D0013, which includes the low level of use of this route and confirmed it adequately documented the recreational uses of this route.
D0014 A	COTD	This route should be closed. It is already signed as closed. There is no evidence of this route on the ground and it has no recreational value.	BLM has reviewed the baseline information for D0014, and confirmed that the route report notes that the route is reclaiming; the route report further states that D0014 has no recreational use, as noted by the commenter. The route was designated OHV-open in the 2008 RMP; if it was signed as closed on-the-ground, that was a field decision (based on its non-use) and the follow up action to have the designation changed in the Travel Plan did not occur.
D0015 A,D	COTD	This route should remain open. It connects the Gemini Bridges Road and D1900. It provides a valuable recreation experience as a scenic alternate route between the Gemini Bridges Road and Metal Masher.	BLM has reviewed the baseline information for D0015 and confirmed that the route report adequately documents the recreational uses, including scenic driving and network connectivity noted by the commenter. See section 3.3.1 for a discussion of Recreation and impacts to that resource.
D0016 A	COTD	This route should be closed. It is lightly used and difficult for users to navigate.	BLM has reviewed and verified the baseline information for D0016, which notes that the route is reclaiming, and confirmed it adequately documents the on-the-ground conditions of the route.
D0017 A	COTD I	This route's alignment is incorrectly mapped. BLM's data should be corrected and the route should be kept open.	BLM has reviewed and verified the baseline information for D0017. BLM determined that OHV users are going cross country to utilize a wash to the northwest of the mapped route to reach D1799. The southwestern segment of the route is aligned with the route data and is reclaiming on the ground. Should users wish to propose that this route be added to the travel plan at the conclusion of the current process, the Moab RMP provides an avenue for this type of change (TRV-3, Moab RMP). This Land Use Plan decision is shown in Table 2 of the EA (Section 1.5).

Route #/Alt.	Source	Comment Summarized	BLM Response
D0022 A,C,D	COTD	This route provides a valuable recreation experience.	BLM has reviewed and verified the baseline information for D0022, which documents the recreation value of the route.
D0037 A	COTD	This route should be kept open. It provides access to a large pan of slickrock and a scenic view.	BLM has reviewed and verified the baseline information for D0037, which documents the recreation value of the route, including that it is used for scenic driving, as noted by the commenter.
D1000 A,B,C,D	BRC I	This route provides valuable recreation opportunities for scenic viewing and camping.	BLM has reviewed and verified the baseline information for D1000, which documents the recreation value of the route. Potential impacts to Recreation are discussed in Section 3.3.1.
D1000B A	SUWA	This route should be closed. It is reclaiming and redundant. It is within yearlong desert bighorn habitat.	BLM has reviewed the baseline information for D1000B, which notes that use levels are low, and confirmed it adequately documents the on-the-ground conditions and use levels. The potential impacts of the designation of this route have been documented and analyzed, including potential impacts to desert bighorn sheep habitat (see Section 3.2.8).
D1002 A,D	COTD I	This route accesses a dispersed campsite and provides route connectivity.	BLM has reviewed and verified the baseline information for D1002; the route report notes that it accesses a campsite and is a connector, as noted by the commenter. D1002 is located primarily on SITLA managed land. Potential impacts to recreation are discussed in Section 3.3.1. Access to SITLA lands is discussed in Section 2.3.1.
	PLPCO	This route accesses SITLA lands. Any user impacts can be mitigated. BLM should ensure that any decision regarding this route is sufficiently supported and justified according the caselaw and other legal requirements.	
D1019 A,B,C,D	SUWA	This route ends in a wash. It is in LWC, yearlong bighorn habitat, Mexican spotted owl designated critical habitat, and proximate to a spring. For public users, it is redundant to D1042. It should be closed to the public while remaining available to authorized users.	The D1019 route is segmented into D1019, D1019A and D1019B. BLM has reviewed and verified the baseline information for all three portions and confirmed they adequately documented LWC, wildlife habitat, and water resources. The potential impacts of the designation of this route have been analyzed, including potential impacts to desert bighorn sheep habitat (see EA Section 3.2.8), springs (see EA Section 3.2.6). and to Mexican spotted owl (see EA Section 3.2.10). Note: Mexican spotted owl information was purposely not reflected on the public-facing route reports for reasons of confidentiality.

Route #/Alt.	Source	Comment Summarized	BLM Response
	I COTD BRC	This route should be kept open. It provides valuable recreation opportunities with access to cliffs, unique viewpoints for photography, and campsites, including for RVs and camper trailers. It connects D1091 and D1112.	BLM also confirmed the baseline information for D1019. The route report documents the recreational uses and connectivity of the three routes mentioned by the commenter. The recreational uses documented in the route report include photography and scenic driving, as noted by the commentor. The potential impacts of the designation of these routes on recreation user opportunities and experiences is analyzed in Section 3.3.1 of the EA.
D1019B A,C,D	COTD	This route (Big Draw Trail) provides recreational value in accessing dispersed campsites at a scenic overlook of Taylor Canyon.	BLM has reviewed and verified the baseline information for D1019B; the route report documents the recreational value of the route, including for photography and scenic driving. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC	This well-used route accesses unique viewpoints. It provides unique user experience and access to camping. Canyonlands NP is already protected (identified as D1855SJ).	
D1020 A,D	COTD	This route (Big Draw Wash) has little recreational value unless it is extended an additional 0.3 miles. It should be kept open.	BLM has reviewed the baseline information for D1019B and confirmed it accurately documents recreational uses of the route. D1020 does not provide access to an overlook of Taylor Canyon or other recreation opportunities or destinations. It receives low levels of use. Potential impacts to recreation are discussed in Section 3.3.1. Extending the route beyond its terminus is beyond the scope of this document.
D1026A A,B,C,D	BRC I	This route should be kept open. It is a well-used two-track route with unique viewpoints of Canyonlands.	BLM has reviewed the baseline information and confirmed it accurately documents route conditions for D1026A, including its use for scenic driving and photography. RS 2477 assertions are discussed in Section 2.1.6.
	PLPCO	It has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
D1026B A,C,D	SUWA	This route should be closed. It is redundant to D1042, which provides similar but more valuable recreation experiences along the rims. It is lightly used and is in bighorn crucial habitat and Mexican spotted owl designated critical habitat. Routes leading to the rim overlooks should be limited to minimize the potential for recreation user conflicts.	BLM has reviewed the baseline information for D1026B and confirmed that it accurately documents route conditions. The route report documents its use for scenic driving and photography, as noted by the commenter. Potential impacts to desert bighorn sheep are discussed in Section 3.2.8. Potential impacts to Mexican spotted owl habitat are discussed in Section 3.2.10. (Note: Mexican spotted owl information was purposely not reflected on the public-facing route reports for reasons of confidentiality.) Recreation conflicts are discussed in Section 3.3.1.
	COTD	This route (Taylor Canyon Rim) should be kept open. It receives light but regular use and leads to a scenic viewpoint of Taylor Canyon and several dispersed campsites. It provides a more valuable recreation experience than D1042.	

Route #/Alt.	Source	Comment Summarized	BLM Response
	BRC	This route accesses unique viewpoints of Canyonlands National Park. Canyonlands already restricts OHV use (formerly called D5313SJ).	
	PLPCO	This route accesses SITLA lands. Any user impacts can be mitigated. BLM should ensure that any decision regarding this route is sufficiently supported and justified according the caselaw and other legal requirements.	
D1027 A,C,D	SUWA	This route should be closed. It is a short, rarely used two-track spur; part of it is reclaiming. It does not provide valuable recreation experience or network connectivity. It impacts important wildlife and plant habitats. It crosses an ephemeral stream and is located in an area of erosive soils.	BLM has reviewed and verified the baseline information for D1027, which documents the low use levels , existence of a campsite, desert bighorn sheep habitat, Navajo sedge potential geology, an ephemeral stream, and erosive soil (moderate potential). Potential impacts to desert bighorn sheep are discussed in Section 3.2.8. Potential impacts to ephemeral streams are discussed in Section 3.2.6 and potential impacts to erodible soils are discussed in section 3.2.3. Potential impacts to recreation are discussed in Section 3.3.1.
	BRC I	This route provides recreation value for wildlife observation and camping opportunities.	
D1030 A	SUWA	This route should be closed. It is lightly used and redundant to B129. It is in bighorn crucial habitat and Mexican spotted owl range.	BLM has reviewed and verified the baseline information for D1030, which documents the low use levels. D1030 is a dead end spur and thus does not provide a loop opportunity, as asserted by the commenter. Potential impacts to desert bighorn sheep are discussed in Section 3.2.8. Potential impacts to Mexican spotted owl habitat are discussed in Section 3.2.10. (Note: Mexican spotted owl information was purposely not captured on the route reports for reasons of confidentiality.)
	BRC I	This route provides opportunities for wildlife viewing and dispersed camping. It also provides a loop opportunity.	
D1031 A,B,C,D	SUWA	This route should be closed. It is lightly used and redundant to B129. Parts of it are reclaiming. It is in yearlong bighorn habitat, Mexican spotted owl range, Navajo sedge potential habitat, erosive soils, and leads to a raptor nest.	BLM has reviewed and verified the baseline information for D1031. The route report documents that use of the route is low, but that it is utilized for scenic driving, as mentioned by the commenter. It does provide a loop opportunity. Potential impacts to desert bighorn sheep are discussed in Section 3.2.8. Potential impacts to Mexican spotted owl habitat are discussed in Section 3.2.10. (Note: Mexican spotted owl information was purposely not captured on the route reports for reasons of confidentiality.) Impacts to raptors are discussed in Section 3.2.9. Potential impacts to Navajo sedge are discussed in the IDT checklist, Appendix E. The route report also lists recreational uses.
	BRC, I	This route accesses viewpoints and dispersed camping opportunities. It also provides a loop opportunity.	
D1048A A,C,D	SUWA	This route should be closed. It is redundant, lightly used, and users illegally use it to connect to D1026. It impacts important plant and wildlife habitats.	BLM has reviewed and verified the baseline information for D1048A. The route report documents the recreational uses, as well as the presence of raptors, including peregrine falcon, bald eagle winter habitat as well as desert bighorn sheep. Potential impacts to wildlife and plants species are found in Sections 3.2.3, 3.2.8, 3.2.9, and 3.2.10.
	BRC I	This route provides valuable recreation opportunities for observation and dispersed camping.	

Route #/Alt.	Source	Comment Summarized	BLM Response
D1048B A	BRC	This route provides valuable recreation opportunities for observation and dispersed camping.	BLM has reviewed and verified the baseline information for D1048B. The route report documents the recreational uses, including camping. The potential impacts to recreation are found in Section 3.3.1.
D1054 A,D	COTD	This route provides valuable opportunities for vehicle exploration. The illegal camping issue associated with the route should be resolved with better enforcement.	BLM has reviewed and verified the baseline information for D1054. The route report documents the use of the road by recreation users.
D1070 A,C,D	PLPCO	This route accesses SITLA lands. Any user impacts can be mitigated. BLM should ensure that any decision regarding this route is sufficiently supported and justified according the caselaw and other legal requirements.	BLM has reviewed and verified the baseline information for D1070. The route report notes that the route crosses state lands; the state section is also bisected by Utah Highway 313.
D1076 A,C,D	SUWA	This route should be closed. They are lightly used and portions have cryptobiotic soil crusts in the route beds. The routes cut through important plant and wildlife habitat as well as erosive soils.	BLM has reviewed the baseline information for D1076 and confirmed it accurately documents route conditions; route use is listed as "low," as suggested by the commenter. The potential impacts on desert bighorn sheep are discussed in Section 3.2.8. The potential impacts on erosive soils and vegetation are discussed in Section 3.2.3. The route report discusses the recreational uses and the potential impacts to recreation are discussed in Section 3.3.1.
	BRC I	This route (called D1078 in one comment – however route is part of D1076) provides a unique user experience with a loop opportunity and different terrain and viewpoints from route D1079. The presence of cryptobiotic soil crusts in the route bed are evidence that the soil crust can grow back in a relatively short amount of time and that the motorized impact is not so great as to prevent this growth.	
D1076B A	SUWA	This route should be closed. It is lightly used and portions have cryptobiotic soil crusts in the route beds. The routes cut through important plant and wildlife habitat as well as erosive soils.	BLM has reviewed the baseline information for D1076B and confirmed that it accurately documents route conditions. The route does form a loop opportunity around a butte, as mentioned by the commenter. The potential impacts on desert bighorn sheep are discussed in Section 3.2.8. The potential impacts on erosive soils and vegetation are discussed in Section 3.2.3. The route report discusses the recreational uses and the potential impacts to recreation are discussed in Section 3.3.1.
	COTD	This route is the middle segment of a loop around a scenic butte south of Mineral Bottom Road, together with D1076 and D1081. Closing it would sever the loop.	
D1079 A,C,D	SUWA	This route should be closed. It is redundant and parts of it are reclaimed. It impacts soils, vegetation, and wildlife habitat.	BLM has reviewed the baseline information for D1079 and confirmed that it accurately documents route conditions. The route report documents that the route is used for scenic driving, as noted by the commenter. The potential impacts on soils, vegetation and wildlife are discussed in Sections 3.2.3 and 3.2.8, 3.2.9, and 3.2.10. The recreation uses are listed in the route report and impacts to recreation are discussed in Section 3.3.1.
	BRC I	This route is an important connecter that provides recreation opportunities for scenic viewing.	

Route #/Alt.	Source	Comment Summarized	BLM Response
D1084 A,D	COTD	This route should be closed. It does not exist on the ground.	BLM has reviewed the baseline information for D1084 and confirmed it accurately documents on-the-ground conditions and documents the low use level for the road.
D1091 A,B,C,D	SUWA	This route should be closed. It is lightly used but contributes to route density. It impacts important plant and wildlife habitat.	BLM has reviewed the baseline information for D1091 and confirmed that it accurately documents route conditions. The route report documents the use level as medium. The potential impacts to vegetation and wildlife are discussed in Sections 3.2.3 and 3.2.8, 3.2.9, and 3.2.10. The impacts to Recreation are discussed in Section 3.3.1.
	BRC I	This route is a well-used connecter that provides unique recreation opportunities.	
D1091B A,B,C,D	SUWA	This route should be closed. It is redundant and contributes to route proliferation in the area of Horsethief Point. Closing it will help reduce route density.	BLM has reviewed the baseline information for D1091B and confirmed that it accurately documents route conditions. Although the route report does not specifically discuss route proliferation along D1091B, the potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1.
D1095 A	SUWA	This route should be closed. There is no evidence of use on the ground. Any motorized use would impact soils, vegetation, and wildlife habitat.	BLM has reviewed and verified the baseline information for D1095; the route report documents the low use levels, but also lists the recreational uses, including scenic driving as mentioned by one of the commenters. The potential impacts to soils, vegetation and wildlife are discussed in Sections 3.2.3 and 3.2.8, 3.2.9, and 3.2.10; potential impacts to recreation use are discussed in Section 3.3.1.
	BRC COTD	This route provides a unique recreation experience through sand and on slickrock, leading to a scenic viewpoint on a hill.	
D1108 A	COTD	This route is regularly but lightly used and could provide access for dispersed camping and scenic views.	BLM has reviewed and verified the baseline information for D1108; the route report identifies low use level and camping opportunities as detailed by the commenter. The potential impacts to recreation are discussed in Section 3.3.1.
D1112 A,C,D	SUWA	This route should be closed. It is redundant to D1091. Part of it is reclaiming. Closing it would reduce impacts to the rims above Canyonlands and to soils, vegetation, wildlife, and LWC.	BLM has reviewed and verified the baseline information for D1112, which lists recreational uses, including scenic driving, as well as resources present. The potential impacts to recreation are discussed in Section 3.3.1. The potential impacts to soils, vegetation, wildlife and lands with wilderness characteristics are discussed in Sections 3.2.3, 3.2.8, 3.2.9, 3.2.10 and 3.2.2.
	BRC I	This route is well-used and accesses overlooks to Canyonlands. It connects D1019 and D1098 and contributes to a loop opportunity.	
D1116 A,C,D	COTD	This route accesses the Taylor Canyon West overlook as well as several dispersed campsites. It receives light but regular use.	BLM has reviewed and verified the baseline information for D1116; the route report includes recreational uses including scenic driving and camping. The potential impacts to recreation are discussed in Section 3.3.1.
D1118 A	SUWA	This route should be closed. It is almost entirely reclaimed and any motorized use would damage soils, vegetation, wildlife habitat, and wilderness values.	BLM has reviewed and verified the baseline information for D1118, which states that the route is reclaiming, as noted by two of the commenters. Potential impacts to soils, vegetation, wildlife habitat and

Route #/Alt.	Source	Comment Summarized	BLM Response
	COTD	This route should be closed. It does not exist on the ground.	wilderness values are discussed in Sections 3.2.3, 3.2.8, 3.2.9, 3.2.10, and 3.2.2. Potential impacts to recreation are discussed in Section 3.3.1.
	BRC	This route provides a unique dispersed camping and recreational experience. (Duplicates comments on D1119 and D1120, which are part of D1118.)	
D1122B A,C,D	RINS	This route should be closed. It impacts raptor and other wildlife habitats.	BLM has reviewed and verified the baseline information for D1122B. Potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9. (Note: nest data on raptors was not disclosed on route reports for reasons of confidentiality.)
D1164 A,D	COTD I	This route receives high use and accesses seven designated campsites.	BLM has reviewed and verified the baseline information for D1164, which includes recreational uses and documents that the route receives medium use levels. Potential impacts to recreation are discussed in Section 3.3.1.
D1167 A,C,D	COTD	This route receives high use and accesses two designated campsites.	BLM has reviewed and verified the baseline information for D1167, which includes recreational uses and documents that the route receives medium use levels. Potential impacts to recreation are discussed in Section 3.3.1.
D1186 A	COTD	This route should be closed. It does not exist on the ground.	BLM has reviewed and verified the baseline information for D1186, which includes the fact that the route is reclaiming. The potential impacts to recreation are discussed in Section 3.3.1.
	I	This route provides access for dispersed camping.	
D1190 A,D	SUWA	These routes should be closed. They are old seismic lines and have been largely reclaimed. Use of the routes has contributed to impacts to soils and vegetation, and the potential for impacts to wildlife. The routes contribute to enforcement and manageability issues with dispersed camping in the area. The need for motorized recreation in the area can be met by adjacent routes.	BLM has reviewed and verified the baseline information for D1190. The potential impacts to soil, vegetation and wildlife are discussed in Sections 3.2.3 and 3.2.8, 3.2.9, and 3.2.10. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. The impacts to Recreation are discussed in Section 3.3.1. Note: D1191 and D1193 are subsets of D1190.
	COTD I	This route accesses designated campsites.	
D1195 A,D	SUWA	These routes should be closed. They are old seismic lines and have been largely reclaimed. Use of the routes has contributed to impacts to soils and vegetation, and the potential for impacts to wildlife. The routes contribute to enforcement and manageability issues with dispersed camping in the area. The need for motorized recreation in the area can be met by adjacent routes.	BLM has reviewed and verified the baseline information for D1195, which includes information on the recreational uses as well as natural and cultural resources present. The route report documents the use level as low, which is confirmed. Potential impacts to soils and vegetation are discussed in Section 3.2.3, and potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts on Recreation are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
	COTD I	This route accesses designated campsites. It receives high use. The turnaround at 38.52357, -109.98127 would make a better endpoint.	
D1199 A,B,C,D	COTD	This route accesses designated campsites.	BLM has reviewed and verified the baseline information for D1199. Designated campsites are located along this route as stated by the commenter.
D1207	COTD I	This route accesses designated campsites, including a particularly desirable site at its end.	BLM has reviewed and verified the baseline information for D1207, which includes recreational uses and designated camping sites. Potential impacts to recreation are discussed in Section 3.3.1.
D1217 A,D	SUWA	This route should be closed. It is a spur route in Mineral Canyon with no defined destination. The route presents a management difficulty with illegal off-route use stemming from it. The route impacts important wildlife habitat.	BLM has reviewed and verified the baseline information for D1217; the route report documents the natural resources present as well as recreational uses, including BASE jumping and scenic driving. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts due to route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation are discussed in Section 3.3.1. The SITLA section in question is leased by BLM so that it can manage recreation in an area that constitutes prime wildlife habitat.
	COTD BRC I	This route (Mineral D) has high recreational value for vehicle exploring, scenic viewing, and access to hiking and BASE jumping. It is also the only access to portions of the canyon bottom. It is featured in area guidebooks. Use is light and the route has little impact on bighorn or raptors. Seasonal use would be appropriate.	
	SITLA	The route provides access to portions of Sec. 16, T26S, R18E, in the canyon bottom which are otherwise inaccessible due to topographical constraints.	
D1223A A,C,D	RR4W COTD	This route has value in that it accesses the D. Julien inscription, scenic views, the Comet Man panel, and historic mining sites. The route is lightly used and does not appear to create user conflicts or wildlife impacts. A seasonal closure would suffice to protect bighorn habitat.	BLM has reviewed and verified the baseline information for D1232A, which includes wildlife as well as recreational uses, including scenic driving and access to the D Julien inscription and the Comet Man panel, as noted by the commenter. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation are discussed in Section 3.3.1.
D1223B A,C,D	PLPCO	This route accesses SITLA lands. Any user impacts can be mitigated. BLM should ensure that any decision regarding this route is sufficiently supported and justified according the caselaw and other legal requirements. This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	BLM has reviewed and verified the baseline information for D1223B, which includes natural resources present as well as recreational uses. The baseline information includes access to SITLA, as well as the existence of a bighorn sheep guzzler on that SITLA parcel. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts due to route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation are

Route #/Alt.	Source	Comment Summarized	BLM Response
	SUWA	Route 1223 should be closed to motorized use beyond the Denis Julien inscription. The Hell Roaring Canyon route receives minimal use and has no real destination. The route fragments yearlong bighorn crucial and lambing habitats. This route should be closed to protect natural resources, wildlife habitat (particularly Mexican spotted owl nesting), and reduce user conflicts—largely from noise—with river runners in Labyrinth Canyon. This route impacts springs in the upper canyon and the watershed as a whole.	discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
	COTD BRC SITLA	This route accesses SITLA lands. It has value in that it accesses the D. Julien inscription, scenic views, the Comet Man panel, and historic mining sites. With D1504, provides the only access to Sec. 32, T25S, R18E, SLB&M. Both routes are necessary to access portions of the property that would otherwise be inaccessible due to topographical constraints. Designating these routes as closed leaves this property without access and would render the land incapable of its full economic development.	
D1223C A,D	SUWA I	This route should be closed. It is primarily used for hiking and does not have a motorized purpose and need. Motorized use of the route would impact soils, vegetation, and wildlife habitat.	BLM has reviewed and verified the baseline information for D1223C, which includes natural resources present as well as recreational uses. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation, including impacts to non-motorized users, are discussed in Section 3.3.1.
	COTD BRC	Hell Roaring Canyon has a high recreational value and has a purpose and need to various user groups. It offers a unique access to observe wildlife. The route is passable to ATVs.	
	I	This route should be designated as singletrack (commented submitted for D1224, which was subsumed into D1223C). It has recreational value, accessing scenic views. It narrows towards the end and is primarily used by motorcycles.	
D1230 A,B,C,D	SUWA	This route should be closed. It is redundant to D1234, which provides similar access but with better views. Motorized use of the route is leading to illegal off-route use. This route also impacts important wildlife habitats.	BLM has reviewed and verified the baseline information for D1230. The route report documents that D1230 has recreation value, including for scenic driving; it also documents that the route is within desert bighorn sheep and other habitats. The potential impacts to resources as

Route #/Alt.	Source	Comment Summarized	BLM Response
	BRC I	This well-used route accesses unique viewpoints of Canyonlands.	a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts on wildlife habitats are discussed in Sections 3.2.8, 3.2.9, and 3.2.10.
D1233 A,B,C,D	SUWA	This route should be closed. It does not access the canyon rims and is redundant to D1234. Motorized use of the route is leading to illegal camping. This route also impacts wildlife habitats.	BLM has reviewed and verified the baseline information for D1233. The route report documents that D1233 has recreation value, including camping opportunities, as pointed out by the commenter; it also documents that the route is within desert bighorn sheep and other habitats. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts on wildlife habitats are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation are discussed in Section 3.3.1.
	BRC	This route should be open. It is a defined two-track with recreational value and opportunity for dispersed camping.	
D1249 A,D	COTD	This route should be removed from Alternative A because it was fenced off when Horsethief Campground was developed.	BLM has reviewed and verified the baseline information for D1249, which documents that the route has no recreation value and has no recreation use. The Horsethief Campground was fenced since the 2008 RMP and D1249 was cut off (and thus rendered non-usable) by that fence. No changes are needed to alternatives
D1250 A,D	COTD	This route should be removed from Alternative A because it was fenced off when Horsethief Campground was developed.	BLM has reviewed and verified the baseline information for D1250, which documents that the route has no recreation value and has no recreation use. The Horsethief Campground was fenced since the 2008 RMP and D1250 was cut off (and thus rendered non-usable) by that fence No changes are needed to alternatives.
D1265 A,C,D	RR4W	This route is part of the Hell Roaring Rim Jeep Safari route. It leads to scenic overlooks.	BLM has reviewed and verified the baseline information for D1265, which documents that the route has recreational value for four-wheel and scenic driving as mentioned by the commenter.
D1266B A,C,D	RR4W	This route is part of the Hell Roaring Rim Jeep Safari route. It leads to scenic overlooks.	BLM has reviewed and verified the baseline information for D1266B, which documents that the route has recreational value for four-wheel and scenic driving. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation, including non-motorized use conflicts, are discussed in Section 3.3.1.
	I	This route (called D1468) should be closed to minimize user conflicts and impacts to sensitive wildlife.	
D1266D A,C,D	RR4W	This route is part of the Hell Roaring Rim Jeep Safari route. It leads to scenic overlooks.	BLM has reviewed and verified the baseline information for D1266D, which documents that the route has recreational value for four-wheel and scenic driving, as mentioned by the commenter.
D1270 A,C,D	I	This route should be closed to minimize user conflicts and impacts to wildlife habitats.	BLM has reviewed and verified the baseline information for D1270, which documents that the route has recreational value for four-wheel and scenic driving. Potential impacts to recreation are discussed in Section 3.3.1. Potential impacts to wildlife are discussed in Sections
	RR4W	This route is part of the Hell Roaring Rim Jeep Safari route. It leads to scenic overlooks.	

Route #/Alt.	Source	Comment Summarized	BLM Response
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	3.2.8, 3.2.9, and 3.2.10. RS 2477 assertions are discussed in Section 2.1.6.
D1284 A	I	This route provides a useful shortcut (also submitted as D1285).	BLM has reviewed and verified the baseline information for D1284. The Horsethief Campground was fenced since the 2008 RMP and D1284 was cut off (and thus rendered non-usable) by that fence. The route no longer provides a short cut to Highway 313.
	COTD	This route is inside the Horsethief campground and has been fenced off. It should be removed from Alternative A.	
D1290 A,B,C,D	SUWA	This route should be closed. It is redundant to D1122, which is the primary access to the north fork of Mineral Canyon. It impacts wildlife habitats.	BLM has reviewed and verified the baseline information for D1290. Potential impacts to recreation are discussed in Section 3.3.1. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10.
	BRC I	This route should be open. It provides a unique user experience and is part of a loop opportunity, connecting D1122 with D1136.	
D1291 A,C,D	SUWA	This route should be closed. It is reclaiming and redundant. It fragments wildlife and plant habitats and shows evidence of route proliferation at its terminus.	BLM has reviewed and verified the baseline information for D1291; the route report notes the presence of route proliferation, as noted by the commenter, and also correctly states that use levels are low. The route report documents the use of the route for scenic driving; camping occurs rarely at this location. Potential impacts to recreation, including dispersed camping, are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to wildlife, including habitat fragmentation, are discussed in Sections 3.2.8, 3.2.9, and 3.2.10.
	BRC COTD	This route provides access to the Upper Mineral Canyon Viewpoint and camping opportunities. The endpoint needs definition.	
D1294 A,D	RINS	These routes should be closed to protect raptor habitat. They are in the triangle of upland between north and south Mineral Canyon.	BLM has reviewed and verified the baseline information for D1294; the route report notes that it is utilized for scenic driving, as suggested by the commenter. Potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9. (Note: nest data on raptors was not disclosed on route reports for reasons of confidentiality.) Potential impacts to recreation are discussed in Section 3.3.1. Access to mining claims is not a subject of this travel plan.
	I	This route should be open. It accesses a valid mining claim. It also provides opportunities for scenic viewing and dispersed camping.	
D1296 A,C,D	COTD	This route has recreational value for scenic viewing and access to the rim of Mineral Canyon. The end of the route needs definition.	BLM has reviewed and verified the baseline information for D1296; the route report documents its use for scenic driving, as noted by the commenter. Potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9. (Note: nest data on raptors was not disclosed on route reports for reasons of confidentiality.) Potential impacts to recreation are discussed in Section 3.3.1.
	RINS	These routes should be closed to protect raptor habitat. They are in the triangle of upland between north and south Mineral Canyon.	

Route #/Alt.	Source	Comment Summarized	BLM Response
D1299 A,C,D	COTD	This route has recreational value for scenic viewing of Mineral Canyon.	BLM has reviewed and verified the baseline information for D1299; the route report documents its use for scenic driving, as noted by the commenter. Potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9. (Note: nest data on raptors was not disclosed on route reports for reasons of confidentiality.) Potential impacts to recreation are discussed in Section 3.3.1.
	RINS	These routes should be closed to protect raptor habitat. They are in the triangle of upland between north and south Mineral Canyon.	
D1301 A,B,C,D	SUWA	This route should be closed. It is redundant to D1136 and reclaiming in parts. It impacts cryptobiotic soil crusts and wildlife and plant habitats. It is also proximate to a riparian area. It contributes to excessive route density and route proliferation around Mineral Canyon.	BLM has reviewed and verified the baseline information for D1301; the route report notes the presence of route proliferation, as well as its use for scenic driving, as noted by the commenter. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to riparian areas are discussed in Section 3.2.6. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation are discussed in Section 3.3.1.
	BRC I	This route provides network connectivity and has recreational value (also submitted as comment on D1303 and D1304). Because biological soil crusts are growing back on other routes, it is not an issue.	
D1302 A,D	SUWA	This route should be closed. It is reclaimed and redundant. Any use of the route would impact wildlife habitat and other natural resources.	BLM has reviewed and verified the baseline information for D1302, Recreation use is documented in the route report, including jeeping/4-wheeling, Scenic Driving, Stock 4 Wheel Driving and UTVing. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC	This route provides a unique user experience for recreation.	
D1305 A,B,C,D	SUWA	This route should be closed. It is reclaiming. Motorized use would impact wildlife and plant habitats.	BLM has reviewed and verified the baseline information for D1305.Recreation use is documented in the route report, including jeeping/4-wheeling, Scenic Driving, Stock 4 Wheel Driving and UTVing Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC I	This route has recreational value and provides a loop opportunity. Vegetation in the middle of the route is evidence of responsible use (also submitted as comment on D1306).	
D1308 A,B,C,D	SUWA	This route should be closed. It is rarely used and is reclaiming. It impacts wildlife habitat and increases route density in the Mineral Point area.	BLM has reviewed and verified the baseline information for D1308, including that the use level is low, as suggested by the commenter. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10.
D1313	SUWA	This route should be closed. It is rarely used and is reclaiming and redundant. It impacts wildlife habitat.	BLM has reviewed and verified the baseline information for D1313, including that the use level is low. The route does provide connectivity

Route #/Alt.	Source	Comment Summarized	BLM Response
A,D	BRC	This route provides connectivity. Because biological soil crusts are growing back on other routes, it is not an issue.	with other routes, as mentioned by the commenter. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
D1315 A,C,D	SUWA	This route should be closed. It sees little use and is reclaiming. It is redundant to D1308. It impacts wildlife and plant habitats and crosses an ephemeral stream. Motorized use of the route would impact adjacent soil crust. It contributes to excessive route density in the Mineral Point area.	BLM has reviewed and verified the baseline information for D1315, including that the use level is low, as mentioned by one of the commenters. The route report details the recreational uses including for jeeping and scenic driving. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to ephemeral streams are discussed in Section 3.2.6. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC I	This route provides connectivity, a loop opportunity, and a unique user experience. Because biological soil crusts are growing back on other routes, it is not an issue.	
D1316 A	SUWA	This route should be closed. Motorized use of the route would impact adjacent soil crust. It impacts bighorn and Mexican spotted owl habitats.	BLM has reviewed and verified the baseline information for D1316; the route report documents the recreational uses, including scenic driving. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. (Note: Mexican spotted owl information was purposely not captured on the route reports for reasons of confidentiality.) Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC I	This route is well-used and provides a loop opportunity and a unique user experience. Because biological soil crusts are growing back on other routes, it is not an issue.	
D1317 A,D	SUWA	This route should be closed. It is redundant and it impacts wildlife, vegetation, and soils, including soil crust that is starting to form in the road bed.	BLM has reviewed and verified the baseline information for D1317; the route report documents the recreational uses. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC	This route provides connectivity and a unique user experience. Because biological soil crusts are growing back on other routes, it is not an issue.	
D1348A A,B,C,D	SUWA	This route should be closed. It is reclaiming and does not provide connectivity. It impacts wildlife habitat and soils, including soil crust that is starting to form in the road bed.	BLM has reviewed and verified the baseline information for D1348A. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10.
	BRC	This route provides access to the area (same as D1348A).	
D1353 A,B,C,D	SUWA	This route should be closed. It is redundant to D1333 and is starting to reclaim. It impacts wildlife habitat. It contributes to excessive route density in the Mineral Point area.	BLM has reviewed and verified the baseline information for D1353, including its recreational uses. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are

Route #/Alt.	Source	Comment Summarized	BLM Response
	BRC	This route provides a valuable recreational experience and a loop opportunity. It provides historical value. It accesses unique viewpoints of the canyon. (submitted as D1356 and D1357).	discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation are discussed in Section 3.3.1.
D1354 A,B,C,D	SUWA	This route should be closed. It is reclaiming. It impacts wildlife habitat.	BLM has reviewed and verified the baseline information for D1354, including its recreational uses. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC I	This route provides a unique experience to observe wildlife and nature in a remote setting. It offers a loop opportunity.	
D1358 A,B,C,D	SUWA	This route should be closed. It is redundant and contributes to excessive route density in the Mineral Point area. It impacts wildlife habitats.	BLM has reviewed and verified the baseline information for D1358, including its recreational uses. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC I	This route should be open. It provides connectivity and recreational value. It offers a loop opportunity.	
D1360 A,D	SUWA	This route should be closed. It is entirely reclaimed and not visible on the ground. It impacts wildlife habitats, soils, and vegetation.	BLM has reviewed and verified the baseline information for D1348A, including its recreational uses. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC I	This route is not entirely reclaimed. It accesses points of interest and offers a loop opportunity. It helps disperse motorized users on the landscape rather than concentrating their use. Impacts to wildlife are minimal because of light use.	
	COTD	This route should be closed. It is faded and lightly used.	
D1363 A,D	SUWA	This route should be closed. It is redundant and contributes to excessive route density in the Mineral Point area. It impacts wildlife habitats.	BLM has reviewed and verified the baseline information for D1363, including its recreational uses. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC	This route is well-used and provides a unique recreational experience and a loop opportunity. Vegetation in the middle of the route is evidence of responsible use.	
	COTD	This route should be closed. It is not visible after a short distance (38.55462, -109.94009).	
D1382A A,C,D	SUWA, RINS	This route should be closed. It is redundant and leads to illegal off-route use. It impacts wildlife habitat, including raptor habitat.	BLM has reviewed and verified the baseline information for D1382A, including its recreational uses, including scenic driving. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC, I	This route provides valuable opportunities for photography, hiking, and vehicle exploring above Mineral Canyon. It also provides a loop opportunity.	

Route #/Alt.	Source	Comment Summarized	BLM Response
	RR4W	This route is part of the Hell Roaring Jeep Safari Trail. It offers scenic views.	
D1382B A	COTD SUWA	This route may be redundant. This route should be closed. It is redundant and leads to illegal off-route use. It impacts wildlife habitat, including raptor habitat.	BLM has reviewed and verified the baseline information for D1382B, including that the use level is low. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality). The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to Recreation are discussed in Section 3.3.1.
D1382C A,D	SUWA	This route should be closed. It is redundant and leads to illegal off-route use. It impacts wildlife habitat, including raptor habitat.	BLM has reviewed and verified the baseline information for D1382C; the route report documents that it is utilized for scenic driving, as stated by the commenter. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality). The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to Recreation are discussed in Section 3.3.1.
	COTD	This route offers scenic views and accesses an overlook.	
D1390 A,D	SUWA	This route should be closed. It is reclaiming. It impacts important wildlife habitat.	BLM has reviewed and verified the baseline information for D1382B, including its recreational uses. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC I	This route provides valuable recreational experience and a loop opportunity. Vegetation and soil crust in the middle of the route is evidence of responsible use.	
	COTD	This route should be closed. It receives little use.	
D1393 A	BRC COTD I	This route is well-used and provides connectivity and unique recreational experience with scenic views and wildlife viewing in a secluded area. This route appears to be part of D1455B. It provides a loop opportunity.	BLM has reviewed and verified the baseline information for D1393, including that the route is reclaiming. The route report lists no recreational uses. Potential impacts to Recreation are discussed in Section 3.3.1.
D1394 A,C,D	SUWA RINS	This route should be closed. It was likely a seismic line and is now reclaiming. It is redundant to D1455 and contributes to excessive route density in the Mineral Point area. Use of the route would impact soils, vegetation, and wildlife habitats, including raptor habitat.	BLM has reviewed and verified the baseline information for D1394, including that the use level is low, as stated by the commenters. The route report also reflects the commenter's point that the route is utilized for scenic driving. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in

Route #/Alt.	Source	Comment Summarized	BLM Response
	COTD	This route, with D1455B, offers valuable recreation opportunity for scenic driving along the north rim of Mineral Canyon. It is lightly used and shows little impact to wildlife, soils, and vegetation.	Sections 3.2.8 and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality). Potential impacts to Recreation are discussed in Section 3.3.1.
D1395 A,C,D	SUWA RINS	This route should be closed. It is redundant and reclaiming, with mature vegetation in the route bed. It is adjacent to LWC and impacts wildlife and plant habitats. Closing the route would protect and enhance raptor habitat.	BLM has reviewed and verified the baseline information for D1395; the route report states that the use level is low, and BLM has confirmed this fact. The route report further affirms that the route is used for scenic driving, as stated by the commenter. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality). Potential impacts to lands with wilderness characteristics are discussed in Section 3.2.2. Potential impacts to Recreation are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
	BRC I PLPCO I	This route is well-used and provides unique recreational experience and access to an overlook of the river. Vegetation along the middle and sides of the route is evidence of no impact to vegetation, soils, and wildlife habitat. It has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
D1398A A,C,D	SUWA	This route should be closed. It accesses an overlook that is redundant to the one accessed by D1408. It contributes to excessive route density that disrupts wildlife habitat and conflicts with other users. It impacts wildlife and plant habitats and crosses an ephemeral stream and erosive soils.	BLM has reviewed and verified the baseline information for D1398A; BLM has confirmed that the use level is low, as stated in the route report. The commenter also asserts that the route is used to access a scenic view. The route report confirms that Scenic Driving is a recreational use of this route. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality). Potential impacts to water resources are discussed in Section 3.2.6. Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1.
	COTD BRC	D1398A and D1398B together form valuable access to a scenic viewpoint on the rim of Labyrinth Canyon overlooking Mineral Bottom and the Mineral Bottom Airstrip. This route is well-used and provides a loop opportunity and a unique recreational experience. Vegetation along the middle and sides of the route is evidence of no impact to vegetation, soils, and wildlife habitat.	
D1398B A,D	COTD	D1398A and D1398B together form valuable access to a scenic viewpoint on the rim of Labyrinth Canyon overlooking Mineral Bottom and the Mineral Bottom Airstrip.	BLM has reviewed the baseline information for D1398A, and confirms that the use level is low. The commenter also asserts that the route is used to access a scenic view. The route report confirms that Scenic Driving is a recreational use of this route Potential impacts to soils and

Route #/Alt.	Source	Comment Summarized	BLM Response
	SUWA	This route should be closed. It accesses an overlook that is redundant to the one accessed by D1408. It contributes to excessive route density that disrupts wildlife habitat and conflicts with other users. It impacts wildlife and plant habitats and crosses an ephemeral stream and erosive soils.	vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality). Potential impacts to water resources are discussed in Section 3.2.6. Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1.
	RINS	This route should be closed to protect and enhance raptor habitat.	
	BRC	This route is well-used and provides a loop opportunity and a unique recreational experience. Vegetation along the middle and sides of the route is evidence of no impact to vegetation, soils, and wildlife habitat.	
D1399 A	SUWA, RINS	This route should be closed. It is reclaiming. Any motorized use would impact soils, vegetation, and wildlife habitats. It should be closed to protect and enhance raptor habitat.	BLM has reviewed the baseline information for D1398A and confirms that that the route is reclaiming. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality). Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1.
	BRC	This route should be open. It is not entirely reclaimed. It provides a unique recreational experience. Vegetation growth is evidence that motorized use is not impacting soils, vegetation, or wildlife habitat.	
	COTD	This route should be closed. It is fully reclaimed.	
D1400 A,D	BRC	This route should be open. It is well-used and provides connectivity and access to a unique scenic viewpoint of a canyon.	BLM has reviewed the baseline information for D1398A and confirms the use level is low and the route is in the process of reclaiming. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
	SUWA	This route should be closed. It is reclaiming. It impacts important wildlife habitat.	
	BRC	This route should be open. It is not entirely reclaimed. Vegetation growth is evidence that motorized use is not impacting soils, vegetation, or wildlife habitat.	
	COTD	The route should be closed. It is fully reclaimed.	
D1402A	RINS	This route should be closed to protect and enhance raptor habitat.	BLM has reviewed and verified the baseline information for D1402A; the route report states, as does the commenter, that the route is a

Route #/Alt.	Source	Comment Summarized	BLM Response
A,C,D	SUWA	This route should be closed. It is redundant and reclaiming. It contributes to overall route density and potentially impacts wildlife and plant habitats. Any use would impact cryptobiotic soils.	connector. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality). Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1.
	COTD	This route should be open. It is a connector with a spur segment that accesses an overlook of Mineral Canyon.	
D1402B A,C,D	COTD	This route is regularly used but redundant with D1402A. It has recreational value in providing access to an overlook of Mineral Canyon.	BLM has reviewed and verified the baseline information for D1402B. The commenter asserts that the route is used to access a scenic view. The route report confirms that Scenic Driving is a recreational use of this route. Potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality). Potential impacts to Recreation are discussed in Section 3.3.1.
	RINS	This route should be closed to protect and enhance raptor habitat.	
D1403 A	SUWA COTD	This route should be closed. It is reclaiming. Any use of the route would impact soils, vegetation, and wildlife habitat.	BLM has reviewed the baseline information for D1403, and has confirmed that the route is reclaiming. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC	This route should be open. It is not entirely reclaimed. Use has not impacted soils, vegetation, or wildlife habitat.	
D1407 A	SUWA	This route should be closed. It is redundant and reclaiming. It impacts wildlife habitat.	BLM has reviewed the baseline information for D1407, and has confirmed that the route is reclaiming. As asserted by the commenter, the route report reflects that the route is a connector. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC	This route provides connectivity and a unique recreational experience to observe nature and wildlife.	
D1408 A,B,C,D	SUWA	This route should be closed. It is redundant to D1404. It leads to illegal use along the canyon rims. BLM should establish a trailhead to keep vehicles off the route. Use of the route creates user conflicts (noise) in Labyrinth Canyon. The route impacts wildlife habitat.	BLM has reviewed the baseline information for D1408. The commenter asserts that the route is used to access a scenic view. The route report confirms that Scenic Driving is a recreational use of this route. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation, including conflicts with motorized users, are discussed in Section 3.3.1. Should users wish to propose that this route be extended in the travel plan at the conclusion of the current process, the Moab RMP provides an avenue for this type of change (TRV-3, Moab RMP). This Land Use Plan decision is shown in Table 2 of the EA (Section 1.5).
	COTD BRC I	This route should be open. It provides a unique viewpoint of Mineral Canyon. It has a serious mapping issue and the data should extend the route to the canyon rim, where there is a campsite (at 38.55020, -109.99333) overlooking Mineral Point. The campsite is unauthorized, as it is undesignated.	

Route #/Alt.	Source	Comment Summarized	BLM Response
D1417 A	COTD	This route accesses a scenic overlook of Hell Roaring Canyon.	BLM has reviewed the baseline information for D1398A.and confirms that the route is reclaiming. Potential impacts to Recreation are discussed in Section 3.3.1.
D1430 A,C,D	RINS	The route should be closed to protect and enhance raptor habitat.	BLM has reviewed and verified the baseline information for D1430. Potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality).
D1433 A,B,C,D	RINS	The route should be closed to protect and enhance raptor habitat.	BLM has reviewed and verified the baseline information for D1433. Potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality).
D1434 A,D	SUWA	This route should be closed. It is rarely used and impacts wildlife habitat.	BLM has reviewed and verified the baseline information for D1402B; the route report states that the route is used for scenic driving, as noted by the commenter. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC COTD I	This route should be open. It provides diverse terrain for users and access to dispersed camping and a unique viewpoint of Kachina Towers. Climbers access Kachina Towers from this route.	
D1437 A,C,D	RINS	The route should be closed to protect and enhance raptor habitat.	BLM has reviewed and verified the baseline information for D1437; the route report notes the presence of route proliferation, as noted by the commentor Potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality). Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to Recreation are discussed in Section 3.3.1.
	SUWA	This route should be closed. It leads to an old drill hole. It contributes to excessive route proliferation. It impacts wildlife and plant habitat.	
	BRC COTD	This route should be open. It has cultural/historical value, as it leads to an old drill hole. It accesses scenic views along the rim of Hell Roaring Canyon.	
D1438 A,D	COTD	This route provides connectivity as a more convenient route back to the main Hell Roaring Rim route.	BLM has reviewed and verified the baseline information for D1438; the route report notes that the route is a connector, as noted by the commenter. Potential impacts to Recreation are discussed in Section 3.3.1.
D1441 A	SUWA	This route should be closed. It is likely an old oil/gas route. Motorized use is impacting adjacent soil crusts. This route impacts wildlife habitat.	BLM has reviewed and verified the baseline information for D1441, including that the route is reclaiming. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils are discussed in Section 3.2.3. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC	This route should be open. It provides cultural/historical value. Mature soil crusts along the route are evidence of little impact.	
D1442 A,B,C,D	SUWA	This route should be closed. It is redundant and contributes to excessive route proliferation in the Hell Roaring Canyon area. The route fragments wildlife habitat.	BLM has reviewed and verified the baseline information for D1442; the route report notes the presence of route proliferation, as addressed by the commenter. The route does connect and offer a loop, as noted by

Route #/Alt.	Source	Comment Summarized	BLM Response
	BRC	This route (called D1444) is well-used and offers a loop opportunity. Current use is not impacting soils and vegetation.	the commenter. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation are discussed in Section 3.3.1.
D1445A A,C,D	BRC	This route provides connectivity and unique recreational value. Biological crust and vegetation in the route are evidence of its low impact.	BLM has reviewed and verified the baseline information for D1445A; the route report notes the presence of route proliferation, which is addressed by the commenter. The route report further affirms that the route is a connector. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1.
	SUWA	This route should be closed. It is redundant and reclaiming. It contributes to route proliferation and excessive route density. It fragments wildlife habitat.	
D1445B A	SUWA	This route should be closed. It is redundant and reclaiming. It contributes to route proliferation and excessive route density. It fragments wildlife habitat.	BLM has reviewed and verified the baseline information for D1445B, including that the route is reclaiming. The route report also notes the presence of route proliferation, as brought up by the commenter, and that the route is a connector. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1.
	BRC	This route provides connectivity and unique recreational value. Biological crust and vegetation in the route are evidence of its low impact.	
D1446 A,C,D	RINS	The route should be closed to protect and enhance raptor habitat.	BLM has reviewed and verified the baseline information for D1446. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality). Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1.
	SUWA	This route should be closed. It impacts wildlife and plant habitat.	
	BRC	This route should be open. It provides unique recreational experience.	
D1454 A,C,D	RINS	The route should be closed to protect and enhance raptor habitat.	BLM has reviewed and verified the baseline information for D1454. Potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality).
D1455A A,B,C,D	SUWA	This route is lightly used and redundant. It impacts wildlife habitat, particularly peregrine falcon nesting sites.	BLM has reviewed and verified the baseline information for D1455A and B. Both D1455A and D1455B are part of the Easter Jeep Safari

Route #/Alt.	Source	Comment Summarized	BLM Response
D1455B A,C,D	RR4W COTD BRC	This route is part of the Hell Roaring Rim Jeep Safari route. It accesses scenic overlooks. D1394 and D1455B together form a scenic drive along the north rim of Mineral Canyon. It is accessible by stock vehicles. This route provides unique recreational experience and offers a loop opportunity in a remote area. It is well-used and any vegetation in the middle of the route is evidence of responsible use.	trail system and the use level is confirmed as high. The route is listed as one where Scenic Driving occurs, as mentioned by the commenter. Peregrine falcon is listed as a resource that is present; potential impacts to raptors are discussed in Section 3.2.9; potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
	RINS	This route should be closed to protect raptor habitat.	
D1460 A,B,C,D	COTD	This route accesses a campsite.	BLM has reviewed and verified the baseline information for D1460. Potential impacts to Recreation are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
	PLPCO	It has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
D1463 A,C,D	RR4W	This route is part of the Hell Roaring Rim Jeep Safari route. It is accessible by stock vehicles.	BLM has reviewed the baseline information for D1463, which includes the information that the route is part of 4WD organized events. Potential impacts to Recreation are discussed in Section 3.3.1.
D1467 A,C,D	I	This route should be closed to minimize user conflicts and impacts to sensitive wildlife.	BLM has reviewed and verified the baseline information for D1467, including the fact that it is part of the Jeep Safari system. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to recreation are discussed in Section 3.3.1.
	RR4W	This route is part of the Hell Roaring Rim Jeep Safari route. It is accessible by stock vehicles.	
D1480 A,C,D	COTD I	This route should be open. It accesses camping opportunities, including a campsite with a view into Hell Roaring Canyon.	BLM has reviewed and verified the baseline information for D1445A. As noted by the commenter, camping opportunities are listed as a recreation use, as is scenic driving. Potential impacts to Recreation are discussed in Section 3.3.1.
D1481 A,D	COTD	This route should be open. It accesses dispersed campsites. It also provides access for hikers and climbers, including those accessing the Comet Throwers pictographs and the Kachina Towers.	BLM has reviewed and verified the baseline information for D1481. Camping is specifically mentioned in the route report. Potential impacts to Recreation are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D1497A A,B,C,D	COTD	This route accesses campsites and overlooks of the Green River. It is featured in an area guidebook. Per the 2008 RMP it is not in crucial bighorn habitat. The area is not managed for wilderness characteristics. The Dingell Act prohibits forming buffer zones around designated wilderness on the other side of the river.	BLM has reviewed and verified the baseline information for D1497A. The route report lists camping opportunities as a recreation use, as well as scenic driving and that the route is part of the Jeep Safari Trail System. Potential impacts to Recreation are discussed in Section 3.3.1; potential impacts to lands with wilderness characteristics are discussed in Section 3.2.2. The route is within desert bighorn sheep lambing habitat. This habitat layer is updated periodically by the Utah Division of Wildlife; desert bighorn sheep lambing habitat has changed since the Moab RMP was signed on October 31, 2008.
D1497B A,C,D	PLPCO	This route accesses SITLA lands. Any user impacts can be mitigated. BLM should ensure that any decision regarding this route is sufficiently supported and justified according the caselaw and other legal requirements. It has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	BLM has reviewed and verified the baseline information for D1497B, including that the use level is medium. Field visits confirm that D1497B is not reclaiming, as stated by one commenter. The route report lists scenic driving as a recreational activity, as addressed by another commenter. The route report also lists camping as a recreational activity. Potential impacts to lands with wilderness characteristics are discussed in Section 3.2.2; potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note: raptor nest location is not disclosed due to confidentiality). Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6. The route is within desert bighorn sheep lambing habitat. This habitat layer is updated periodically by the Utah Division of Wildlife; desert bighorn sheep lambing habitat has changed since the Moab RMP was signed on October 31, 2008.
	SUWA	This route should be closed. It is reclaiming. It contributes to excessive route density in the Labyrinth Rims area as well as user conflicts (noise) in Labyrinth Canyon. It fragments wildlife habitats.	
	RR4W	This route accesses the Dead Man Point overlook and is featured in area guidebooks.	
	COTD	It accesses dispersed campsites. Per the 2008 RMP it is not in crucial bighorn habitat. The area is not managed for wilderness characteristics.	
D1499 A,C,D	SUWA	This route should be closed. It is an old mineral exploration route that is substantially reclaimed and shows no evidence of recent use. It fragments wildlife habitat.	BLM has reviewed and verified the baseline information for D1499. Potential impacts to wildlife, including habitat fragmentation, are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1.
	BRC	This route should be open. It provides recreation experience for cultural/historical viewing.	
D1500	SUWA	This route should be closed. It does not have a defined purpose and need. It fragments wildlife habitats.	BLM has reviewed and verified the baseline information for D1500. The route report notes that the route is used for scenic driving as well as

Route #/Alt.	Source	Comment Summarized	BLM Response
A,D	COTD I BRC	This route accesses dispersed campsites with views of Hell Roaring Canyon. The campsite should be designated to help manage the route to it.	camping, as asserted by the commenter. Potential impacts to wildlife, including habitat fragmentation, are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1. Designation of campsites is beyond the scope of this EA.
D1501 A,D	COTD	This route should be open. It provides valuable motorized recreation experience as a side trip off the main Deadman Point route. It accesses a scenic overlook. Per the 2008 RMP it is not in crucial bighorn habitat. The area is not managed for wilderness characteristics. The Dingell Act prohibits forming buffer zones around designated wilderness on the other side of the river.	BLM has reviewed and verified the baseline information for D1501; the route report states that the route provides opportunities for scenic driving as well as camping Potential impacts to lands with wilderness characteristics are discussed in Section 3.2.2; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1. The route is within desert bighorn sheep lambing habitat. This habitat layer is updated periodically by the Utah Division of Wildlife; desert bighorn sheep lambing habitat has changed since RMP.
	I	This route should be open. It accesses scenic views.	
D1503A, A,B,C,D	I	This route should be open.	BLM has reviewed and verified the baseline information for D1503A. Potential impacts to Recreation are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
D1503B A,C,D	RR4W	This route is part of the Deadman Point/Deadman Spring Jeep Safari route. It provides a valuable recreation experience for beginning OHV users.	BLM has reviewed and verified the baseline information for D1503B, including that the route is part of the Jeep Safari trail system and is used by permittees. The route report confirms that the route is used for scenic driving. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to water and riparian resources are discussed in Section 3.2.6. Potential impacts to Recreation are discussed in Section 3.3.1.
	SUWA	This route should be closed. It is partially reclaiming and serves no purpose and need. It impacts important wildlife and plant habitats and crosses an ephemeral stream and highly erosive soil.	
	BRC	This route provides a unique recreation experience and a loop opportunity. It accesses a scenic viewpoint. There is no evidence of negative impacts to wildlife. Closing this route would concentrate use on other routes. (Formerly D2020.)	

Route #/Alt.	Source	Comment Summarized	BLM Response
D1504 A,C,D	SUWA	This route should be closed. It contributes to excessive route density in the Labyrinth Rims area and creates user conflicts through noise impacts to naturalness and solitude of the river corridor below. It impacts wildlife and plant habitats. It leads to route proliferation, route widening, and dumping.	BLM has reviewed and verified the baseline information for D1504; the route report notes the presence of route proliferation, as brought up by the commenter. The route report also states that D1504 is part of the Jeep Safari trail system and is used for scenic driving. The route report notes the access to State Land. Potential impacts to lands with wilderness characteristics are discussed in Section 3.2.2; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. The route is within desert bighorn sheep lambing habitat. This habitat layer is updated periodically by the Utah Division of Wildlife; desert bighorn sheep lambing habitat has changed since RMP. The route as designated in the 2008 RMP Travel Plan does not extend to the canyon rim. Should users wish to propose that this route be extended in the travel plan at the conclusion of the current process, the Moab RMP provides an avenue for this type of change (TRV-3, Moab RMP). This Land Use Plan decision is shown in Table 2 of the EA (Section 1.5).
	RR4W I COTD SITLA	This route is part of the Dead Man Point Jeep Safari route. It accesses a scenic viewpoint. The data should be corrected to show the route leading to the canyon rim. Per the 2008 RMP it is not in crucial bighorn habitat. The area is not managed for wilderness characteristics. The Dingell Act prohibits forming buffer zones around designated wilderness on the other side of the river. This route accesses a well-used unauthorized campsite (at 38.56991, -109.98531). With D1223B, provides the only access to Sec. 32, T25S, R18E, SLB&M. Both routes are necessary to access portions of the property that would otherwise be inaccessible due to topographical constraints.	
	BRC I	This route should be open. It provides valuable recreation opportunities for scenic viewing at the canyon rims. No data shows noise impacts in Labyrinth Canyon.	
D1507 A,C,D	SUWA	This route should be closed. It is reclaiming and redundant to D1497. It contributes to excessive route density on the rim of Labyrinth Canyon. It impacts wildlife and plant habitats and erosive soils.	BLM has reviewed and verified the baseline information for D1507; the route is an alternate “go-around” for D1497B. Field knowledge shows that D1507 was the original alignment the original road; when this portion of the road eroded out, it was rerouted onto D1497B. Potential

Route #/Alt.	Source	Comment Summarized	BLM Response
	BRC COTD	This route provides valuable recreation experience. Per the 2008 RMP it is not in crucial bighorn habitat. The area is not managed for wilderness characteristics. The Dingell Act prohibits forming buffer zones around designated wilderness on the other side of the river.	impacts to lands with wilderness characteristics are discussed in Section 3.2.2; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. The route is within desert bighorn sheep lambing habitat. This habitat layer is updated periodically by the Utah Division of Wildlife; desert bighorn sheep lambing habitat has changed since RMP.
D1507B A,D	I	This route should be open. It provides scenic views.	BLM has reviewed the baseline information for D1507B; the route report confirms that the route is used for scenic driving, as stated by one of the commenters. Potential impacts to lands with wilderness characteristics are discussed in Section 3.2.2; potential impacts to wildlife, including habitat fragmentation, are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1.
	SUWA	This route should be closed. It fragments wildlife habitat. This route should be closed. It creates user conflicts through noise impacts in Labyrinth Canyon below. It is reclaiming. (also called D1506).	
	COTD	This route should be open. It accesses a short hike to a viewpoint at the rim. It is not causing resource damage or conflicts. Per the 2008 RMP it is not in crucial bighorn habitat. The area is not managed for wilderness characteristics. The Dingell Act prohibits forming buffer zones around designated wilderness on the other side of the river.	
	BRC	This route should be open (also called D1506). It provides valuable recreation opportunities for scenic viewing at the canyon rims. No data shows noise impacts in Labyrinth Canyon.	
D1508	SUWA	This route should be closed. It creates user conflicts via noise in Labyrinth Canyon. It is reclaiming.	D1508 is not part of the Labyrinth Gemini Bridges Travel Management Plan and was not evaluated as part of the route network.
D1509 A,C,D	SUWA RINS	This route should be closed. It creates user conflicts via noise in Labyrinth Canyon. It is reclaiming. It fragments wildlife habitat. The route should be closed to protect and enhance raptor habitat.	BLM has reviewed and verified the baseline information for D1509; the route report confirms that it is used for scenic driving. Potential impacts to wildlife habitat are discussed in Sections 3.2.8 and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note raptor nest data is

Route #/Alt.	Source	Comment Summarized	BLM Response
	RR4W COTD BRC I	This route should be open. It is part of the Dead Man Point Jeep Safari Trail. It provides valuable motorized recreation experience, particularly for beginning Jeepers. It accesses a scenic overlook, which is of high recreational value. There is no data showing negative impacts from noise in Labyrinth Canyon.	not disclosed due to confidentiality). Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1.
D1510 A,C,D	SUWA RINS	This route should be closed. It contributes to excessive route density on Deadman Point and the rims of Labyrinth Canyon. It fragments wildlife habitat and impacts plant habitat. The route should be closed to protect and enhance raptor habitat.	BLM has reviewed and verified the baseline information for D1510; the route report confirms that it is used for scenic driving that the route accesses camping opportunities. Potential impacts to wildlife habitat are discussed in Sections 3.2.8 and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note raptor nest data is not disclosed due to confidentiality). Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1. The route is within desert bighorn sheep lambing habitat. This habitat layer is updated periodically by the Utah Division of Wildlife; desert bighorn sheep lambing habitat has changed since RMP.
	COTD I BRC	This route should be open. It accesses a scenic viewpoint on the north rim of Deadman Point overlooking Bowknot Bend. It accesses dispersed campsites, including a particularly valuable site overlooking Bowknot Bend. Per the 2008 RMP it is not in crucial bighorn habitat. The area is not managed for wilderness characteristics. The Dingell Act prohibits forming buffer zones around designated wilderness on the other side of the river. There is no data showing negative impacts from noise in Labyrinth Canyon. This route provides connectivity and a unique recreation experience for wildlife viewing and cultural exploration (formerly called D7187). It accesses canyon rims with unique views and provides a valuable motorized recreation experience. It shows no significant resource impacts. Non-motorized users should not be given preferential treatment (formerly called D6858).	
D1511 A,C,D	SUWA	This route should be closed. It creates user conflicts via noise in Labyrinth Canyon. It impacts wildlife and plant habitats and erosive soils.	BLM has reviewed and verified the baseline information for D1510; the route report confirms that the road is used for scenic driving and for "stock 4-wheel drivers" (i.e., beginning users). Potential impacts to

Route #/Alt.	Source	Comment Summarized	BLM Response
	RR4W COTD BRC	This route is a key segment of the Deadman Point Jeep Safari Trail. It offers valuable recreation experience for beginning OHV users. It leads to a unique viewpoint at the rim of Deadman Point and multiple dispersed campsites. Per the 2008 RMP it is not in crucial bighorn habitat. The area is not managed for wilderness characteristics. The Dingell Act prohibits forming buffer zones around designated wilderness on the other side of the river. There is no data showing negative impacts from noise in Labyrinth Canyon.	wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6. The route is within desert bighorn sheep lambing habitat. This habitat layer is updated periodically by the Utah Division of Wildlife; desert bighorn sheep lambing habitat has changed since RMP. The route was designated in the Moab RMP to go to the current ending point. Extending the route would be an addition to the 2008 Travel Plan. If the commenter feels that the route should be extended another 0.1 of a mile, they may ask for a newly designated portion of the route at the conclusion of this Travel Plan process.
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
	I	The route data should be corrected to extend the route for another 0.1 miles.	
D1513 A,D	SUWA	This route should be closed. It is redundant and fragments wildlife habitat.	BLM has reviewed and verified the baseline information for D1513, including the fact that the route is reclaiming. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation are discussed in Section 3.3.1.
	COTD	This route should be closed. It is redundant to D1514.	
	BRC I	This route should be open. It offers a unique recreational experience and provides connectivity and a loop opportunity.	
D1514 A,C,D	BRC I	This route should be open. It is well-used, offers recreational value, and provides connectivity and a loop opportunity.	BLM has reviewed and verified the baseline information for D1514; the route report states that the route is a connector and offers opportunity for scenic driving, as stated by the commenter. Potential impacts to Recreation are discussed in Section 3.3.1.
D1515A A,C,D	SUWA	This route should be closed. Parts of it are reclaiming and it contributes to excessive route density along the canyon rims in this area. It leads to route proliferation and it impacts wildlife and plant habitat.	BLM has reviewed and verified the baseline information for D1515A; the route report notes the presence of route proliferation, as commented upon by the commenter. The route report confirms that the route is used for scenic driving. Potential impacts to wildlife habitat are discussed in

Route #/Alt.	Source	Comment Summarized	BLM Response
	COTD BRC	This route offers scenic views of the Green River at Labyrinth Canyon and Bowknot Bend and is featured in an area guidebook. It leads to the canyon rim; if closed, elderly and disabled users would not have access to the viewpoint. It is not damaging soils or vegetation. This route provides a unique recreational experience, offers a loop opportunity, and leads to canyon rims. There is no data showing negative impacts from noise in Labyrinth Canyon.	Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1.
D1515B A,C,D	COTD BRC	This route offers scenic views of the Green River at Labyrinth Canyon and Bowknot Bend and is featured in an area guidebook. It leads to the canyon rim; if closed, elderly and disabled users would not have access to the viewpoint. It is not damaging soils or vegetation. This route provides a unique recreational experience, offers a loop opportunity, and leads to canyon rims. There is no data showing negative impacts from noise in Labyrinth Canyon.	BLM has reviewed and verified the baseline information for D1515B; the route report notes the presence of route proliferation, as commented upon. The route report notes the use of the route for scenic driving, as asserted by commenters. The route is a dead end spur, however, and does not provide a loop opportunity, as mentioned by one commenter. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1.
	SUWA	This route should be closed. Parts of it are reclaiming and it contributes to excessive route density along the canyon rims in this area. It leads to route proliferation and it impacts wildlife and plant habitat.	
D1515C A,C,D	BRC	This route should be open. It accesses canyon rims with unique views and provides a valuable motorized recreation experience. It shows no significant resource impacts. Non-motorized users should not be given preferential treatment (formerly called D6858 and D6859).	BLM has reviewed and verified the baseline information for D1515C, including that the route is utilized for scenic driving, as asserted by the commenter. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1.
D1518 A,D	SUWA	This route should be closed. It is redundant. It fragments wildlife habitat and noise from motorized use creates conflict with recreation users in Labyrinth Canyon below.	BLM has reviewed and verified the baseline information for D1518, including that it is a connector and is used for scenic driving, as asserted by the commenter. The route does provide a shortcut between

Route #/Alt.	Source	Comment Summarized	BLM Response
	COTD I BRC	This route provides critical connectivity between D1515A and D1520A, both of which also access scenic overlooks. This route provides an opportunity for a loop experience with access to multiple overlooks. This route should be open. It provides connectivity and a unique recreation experience to view wildlife habitat. It accesses a unique viewpoint (formerly D7189).	two overlooks; however, both overlooks are accessible by other routes. Potential impacts to wildlife habitat, including habitat fragmentation, are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1.
D1520A A,C,D	SUWA	This route should be closed. It is redundant, reclaiming in places, and contributes to user conflicts from OHV noise in Labyrinth Canyon. It impacts wildlife and plant habitats.	BLM has reviewed and verified the baseline information for D1520A, including that the route is used for scenic driving. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1.
	COTD BRC	This route offers scenic views of the Green River at Labyrinth Canyon and Bowknot Bend and is featured in an area guidebook. It leads to the canyon rim; if closed, elderly and disabled users would not have access to the viewpoint. It is not damaging soils or vegetation. This route should be open. It provides a valuable motorized recreation experience and accesses an overlook of the nearby canyon. There is no data showing negative impacts from noise in Labyrinth Canyon. There should not be buffer zones around the canyon.	
D1520B A	COTD	This route should be closed, as it is not evident on the ground.	BLM has reviewed and verified the baseline information for D1520B, including that the route is reclaiming.
D1526 A,C,D	SUWA RINS	This route should be closed. It contributes to user-conflict issues from noise, dust, and visual impacts to visitors floating Labyrinth Canyon. The route impacts riparian areas along the river corridor. It is in the WSR corridor. It impacts wildlife and plant habitats. It contributes to route proliferation and the spread of invasive vegetation and noxious weeds. It would be better managed as a hiking trail. This route should be closed to protect and enhance raptor habitat.	BLM has reviewed and verified the baseline information for D1526; the route report shows the presence of route proliferation, as commented upon. The route report also notes that the route is used for scenic driving. Potential impacts to wildlife habitat are discussed in Sections 3.2.8 and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note raptor nest data is not disclosed due to confidentiality). Potential impacts to soil and vegetation are discussed in Section 3.2.3, potential impacts to Wild and Scenic River status are discussed in Section 3.2.4, and potential impacts to water and riparian resources are discussed in Section 3.2.6. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in

Route #/Alt.	Source	Comment Summarized	BLM Response
	COTD I	This route should be open. It provides recreational value for OHV users and it does not have resource conflicts.	Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1.
D1526A A,C,D	SUWA RINS	This route should be closed. It contributes to user-conflict issues from noise, dust, and visual impacts to visitors floating Labyrinth Canyon. The route impacts riparian areas along the river corridor. It is in the WSR corridor. It impacts wildlife and plant habitats. It contributes to route proliferation and the spread of invasive vegetation and noxious weeds. It would be better managed as a hiking trail. This route should be closed to protect and enhance raptor habitat.	BLM has reviewed and verified the baseline information for D1526A; the route report shows the presence of route proliferation, as commented upon Potential impacts to wildlife habitat are discussed in Sections 3.2.8 and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note raptor nest data is not disclosed due to confidentiality). Potential impacts to soil and vegetation are discussed in Section 3.2.3, potential impacts to Wild and Scenic River status are discussed in Section 3.2.4, and potential impacts to water and riparian resources are discussed in Section 3.2.6. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1.
D1527 A,C,D	SUWA I	This route should be closed. It contributes to user-conflict issues from noise, dust, and visual impacts to visitors floating Labyrinth Canyon. The route impacts riparian areas along the river corridor. It is in the WSR corridor. It impacts wildlife and plant habitats. It contributes to route proliferation and the spread of invasive vegetation and noxious weeds. *Note*: some individual letter writers stated that the noise from smaller motorized vehicles were the specific problem, not the noise emanated by full-sized vehicles. These commenters suggested closing the Hey Joe route to motorcycles and side-by-sides, but not to "jeeps." Also, some individual letter writers suggested a "shared season" on Hey Joe, with motorized vehicles prohibited during high-use river season.	BLM has reviewed and verified the baseline information for D1527; the route report notes the presence of route proliferation, as commented upon by the commenter. The route report notes that the route is part of the Jeep Safari trail system and is utilized for organized events and special recreation permits and that the route is utilized for scenic driving. Potential impacts to wildlife habitat are discussed in Sections 3.2.8 and 3.2.10; potential impacts to raptors are discussed in Section 3.2.9 (note raptor nest data is not disclosed due to confidentiality). Potential impacts to lands with wilderness characteristics are discussed in Section 3.2.2. Potential impacts to soil and vegetation are discussed in Section 3.2.3, potential impacts to Wild and Scenic River status are discussed in Section 3.2.4, and potential impacts to water and riparian resources are discussed in Section 3.2.6. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1. The potential impacts to resources

Route #/Alt.	Source	Comment Summarized	BLM Response
	RR4W PLPCO COTD I I	This route accesses two famous inscriptions and an historic mining site. It offers a unique experience as a Jeep Safari route. This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route. This route offers scenic viewing and has long been managed as a Jeep Safari route; it is featured in guidebooks. It provides emergency access to the Green River and the maintenance provided by motorized user groups keeps the route passable. Boaters along the Green River make the claim that noise from motorized vehicles traveling the Hey Joe Canyon trail were disturbing their peace and quiet, constituting a form of user conflict. There are no impacts to bighorn or raptors; the area is not managed for LWC and the WSR designation (Scenic) allows for roads. The route is not in conflict with the WSR. Limit motorized use to full sized vehicles only. The presence of jeeps on the trail is not noisy—they go very slowly and do not make noise. Consider timing limitations to balance use.	as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. RS 2477 assertions are discussed in Section 2.1.6. The regulations at 43 CFR 8340.0-5 specifically exclude “any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes.” This is restated in Section 1.2 of the EA.
D1528 A,D	SUWA	This route should be closed. Visual, noise, and dust impacts from OHV use of the route contribute to user conflicts in the Labyrinth Canyon river corridor. It damages riparian vegetation, soils, and wildlife habitat.	BLM has reviewed and verified the baseline information for D1528, including that the route is used for scenic driving, as noted by the commenter. The inscriptions referred to be the commenter are on the canyon below D1528, not on D1528 itself; they are not visible from this

Route #/Alt.	Source	Comment Summarized	BLM Response
	BRC I	This route should be open. It has high recreational value and accesses a scenic overlook of the nearby canyon and river as well as the Launch Marguerite and Denis Julien inscriptions. This route, Hey Joe, should be open. It accesses a unique scenic viewpoint of the nearby canyon and river and it provides a valuable recreation experience. Non-motorized users should not be given preferential treatment (formerly D9140).	vantage point. use level is low. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to soil and vegetation are discussed in Section 3.2.3, potential impacts to Wild and Scenic River status are discussed in Section 3.2.4, and potential impacts to water and riparian resources are discussed in Section 3.2.6. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1.
D1529 A,D	SUWA	This route should be closed. It is reclaiming. Any motorized use would create user conflicts with non-motorized users in the canyon. It impacts riparian resources and wildlife habitat.	BLM has reviewed and verified the baseline information for D1529, including that the route is reclaiming. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to soil and vegetation are discussed in Section 3.2.3; potential impacts to water and riparian resources are discussed in Section 3.2.6. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1.
	BRC I COTD	This route should be open. It offers recreational value for OHV users. It accesses a unique scenic overlook of the nearby canyon and river. This route should be open. It accesses a unique scenic overlook of the nearby canyon and river and it provides a valuable recreation experience. Vegetation growing in the road is evidence that users are staying on the route. Non-motorized users should not be given preferential treatment (formerly called D9138).	
D1532 A,C,D	COTD I	This route offers a valuable motorized recreation experience and accesses an overlook of the neck of Bowknot Bend.	BLM has reviewed and verified the baseline information for D1528, including that the route is used for scenic driving. Potential impacts to Recreation are discussed in Section 3.3.1.
D1533 A,C,D	COTD I	This route should be open year-round. A seasonal closure is excessive because it does not cause resource conflicts. It offers valuable motorized recreational experiences.	BLM has reviewed and verified the baseline information for D1533. Potential impacts to wildlife habitat, especially desert bighorn sheep habitat, are discussed in Section 3.2.8. Potential impacts to Recreation are discussed in Section 3.3.1.
D1568 A,B,C,D	COTD	This route accesses a high-value campsite with scenic views.	BLM has reviewed and verified the baseline information for D1568. The route report notes that the route is used for scenic driving and photography. Potential impacts to Recreation are discussed in Section 3.3.1.
D1572 A,C,D	RR4W	This route should be open. It accesses a scenic overlook.	BLM has reviewed and verified the baseline information for D1572, including that the route is used for scenic driving and photography. Potential impacts to Recreation are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D1573 A,B,C,D	RR4W COTD	This route is featured in an area guidebook. It is a high-use route that was specifically developed for motorized recreation. The Skyline Drive section is not included and is a serious error.	BLM has reviewed and verified the baseline information for D1568, including that the route is used for scenic driving and photography. The route report further confirms that the use level is high, as stated by the commenter. Potential impacts to Recreation are discussed in Section 3.3.1. BLM welcomes information on perfecting the route alignment for Skyline at the conclusion of the Travel Plan. The Moab RMP (TRV-3) provides for adding routes to a Travel Plan.
D1579 A,B,C,D	RR4W COTD	This route should be open. It offers a valuable motorized recreational experience, scenic views, and is featured in guidebooks.	BLM has reviewed and verified the baseline information for D1579, including that the route is used for scenic driving. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1.
	RR4W	This route should be open. It offers valuable motorized recreation experience as part of the Poison Spider network.	
	I	These routes should be closed. The Poison Spider Trail itself should be restricted to full-sized vehicles, which are quieter and more responsible.	
D1579A A,B,C,D	RR4W	This route should be open. It offers valuable motorized recreation experience as part of the Poison Spider network.	BLM has reviewed and verified the baseline information for D1579A, including that it is part of the Poison Spider Jeep Safari trail. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1.
	I	This route does not have resource conflicts. It has a demonstrated purpose as access to supply aid stations for races.	
	I	Consider making full sized vehicle only to mitigate noise issues.	
	I	Consider making motorcycle only.	
D1579B A,C,D	COTD	This route offers recreational value as part of Where Eagles Dare Jeep Safari Trail.	BLM has reviewed and verified the baseline information for D1579B, including the information that the route is used for scenic driving. and that the route is part of the Jeep Safari trail system. Potential impacts to Recreation are discussed in Section 3.3.1.
	RR4W I	This route should be open. It offers valuable motorized recreation experience as part of the Poison Spider network.	
D1579C A,C,D	RR4W I COTD	This route should be open. It offers valuable motorized recreation experience as part of the Poison Spider network and Gold Bar Rim Trail. It has a demonstrated purpose as access to supply aid stations for events.	BLM has reviewed and verified the baseline information for D1579, including the information that the route is used for scenic driving and that the route is part of the Jeep Safari trail system. Potential impacts to Recreation are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D1583 A	COTD	BLM should check if there is an error, as this parking area appears to have been intentionally built and it may be important to maintain access to it.	BLM has reviewed and verified the baseline information for D1583. Field information shows that there is indeed a designated parking area marked at the end of this route. Potential impacts to Recreation are discussed in Section 3.3.1.
D1584 A, D	I	These routes should be closed. The Poison Spider Trail itself should be restricted to full-sized vehicles, which are quieter and more responsible.	BLM has reviewed and verified the baseline information for D1584. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1. Alternatives were developed with varying types of vehicles in mind.
D1585 A,C,D	I	These routes should be closed. The Poison Spider Trail itself should be restricted to full-sized vehicles, which are quieter and more responsible.	BLM has reviewed and verified the baseline information for D1585. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1.
D1592A A,C,D	SUWA	This route should be closed. It is redundant with D1579. Noise from OHVs creates user conflicts with hikers in Gold Bar Canyon, Gold Bar Arch, and Dragonfly Canyon. It impacts wildlife and plant habitats. OHV use has caused route widening.	BLM has reviewed and verified the baseline information for D1592A, including the information that the route is used for scenic driving and that the route is part of the Jeep Safari trail system. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation, including conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1.
	I	Gold Bar and Golden spike were illegally created before being recognized by BLM.	
	RR4W COTD	This route should be open. It provides valuable motorized recreation experience for more advanced Jeepers as part of the Poison Spider network. It offers a loop opportunity. It does not create resource conflicts.	
	I	This route should be limited to motorcycles.	
D1592B A,C,D	SUWA	This route should be closed. It is redundant with D1579. Noise from OHVs creates user conflicts with hikers in Gold Bar Canyon, Gold Bar Arch, and Dragonfly Canyon. It impacts wildlife and plant habitats. OHV use has caused route widening.	BLM has reviewed and verified the baseline information for D192A, including the information that the route is used for scenic driving and that the route is part of the Jeep Safari trail system. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3.

Route #/Alt.	Source	Comment Summarized	BLM Response
	I	Gold Bar and Golden spike were illegally created before being recognized by BLM.	Potential impacts to Recreation, including conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. The route was designated in the 2008 RMP Travel Plan and thus is part of the travel plan revision.
	RR4W COTD	This route should be open. It provides valuable motorized recreation experience for more advanced users as part of the Poison Spider network. It offers a loop opportunity. It does not create resource conflicts. This route should be open. It provides valuable motorized recreation experience for more advanced Jeepers as part of the Poison Spider network. It offers a loop opportunity. It does not create resource conflicts.	
D1593 A,D	I	This route provides valuable recreation experience.	BLM has reviewed and verified the baseline information for D1593, including the information on recreational use. Potential impacts to Recreation are discussed in Section 3.3.1.
D1594 A,D	COTD I	This route provides valuable motorized recreation experience and accesses a scenic overlook of Bride Canyon. It receives light use and does not create resource conflicts. These routes should be closed. The Poison Spider Trail itself should be restricted to full-sized vehicles, which are quieter and more responsible.	BLM has reviewed and verified the baseline information for D1594.The route report notes that the route is used for scenic driving. Potential impacts to Recreation, including conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
D1595 A,B,C,D	COTD	This route provides connectivity for the Gold Bar Rim Jeep Safari Trail. It is featured in a guidebook.	BLM has reviewed and verified the baseline information for D1595; the route report notes that the road is a connector. Potential impacts to Recreation are discussed in Section 3.3.1.
D1602	I	This route should be closed to protect wildlife habitat and non-motorized recreation opportunities.	BLM has reviewed and verified the baseline information for D1602, including that the route is utilized for scenic driving. Potential impacts

Route #/Alt.	Source	Comment Summarized	BLM Response
A,C,D	COTD	This route accesses a scenic canyon and an experience of solitude for OHV users. It does not create resource conflicts.	to wildlife habitat are discussed in Section 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
D1605 A,B,C,D	I	This route should be closed to protect wildlife habitat and non-motorized recreation opportunities.	BLM has reviewed and verified the baseline information for D1605, including that the route is also used by bicyclist and hikers. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation, including conflicts with non-motorized recreation, are discussed in Section 3.3.1.
D1612A A,B,C,D D1612B A	SUWA	This route should be closed. It receives light use and parts are starting to reclaim. It is likely an old mineral exploration route. It fragments wildlife habitat.	BLM has reviewed and verified the baseline information for D1612A and D1612B, including that the use level is low. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation, including conflicts with non-motorized recreation and noise, are discussed in Section 3.3.1.
D1625A A,C,D	SUWA I	This route should be closed. It leads to route proliferation and has no purpose or need beyond an infrequently used campsite. It impacts wildlife and plant habitats. This route should be closed to protect natural resources.	BLM has reviewed and verified the baseline information for D1625A; the route report states that route proliferation is present, and also notes that the route is part of the Jeep Safari trail system (this is one of the routes that is permitted only to Jeep Safari, and not to all other motorized permittees). The route report states that it is utilized for scenic driving. Potential impacts to wildlife habitat are discussed in Sections 3.2.8 and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to raptors are discussed in Section 3.2.9. Potential impacts to Recreation, including conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. The route is within desert bighorn sheep lambing habitat. This habitat layer is updated periodically by the Utah Division of Wildlife; desert bighorn sheep lambing habitat has changed since the time of the 2008 RMP.
	RR4W I COTD I	This route should be open year-round. It provides valuable motorized experience for beginning OHV users. It accesses scenic views and campsites, and is featured in a guidebook. It does not create resource conflicts. It is not in protected bighorn habitat (per the RMP). Raptors have acclimated to motorized use and there is no evidence that motorized use is harming them. Close the spurs to protect bighorn while keeping the main stem open.	
D1625B A,C,D	RR4W COTD	This route should be open. It provides valuable motorized experience for beginning OHV users.	BLM has reviewed and verified the baseline information for D1625B; the route report notes the presence of route proliferation, as noted by the commenter. The roue report also notes that the route is part of the Jeep Safari trail system (this is one of the routes that is permitted only

Route #/Alt.	Source	Comment Summarized	BLM Response
	SUWA	This route should be closed. It leads to route proliferation and has no purpose or need beyond an infrequently used campsite. It impacts wildlife and plant habitats. This route should be closed to protect natural resources.	to Jeep Safari, and not to all other motorized permittees). It is utilized for scenic driving. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1.
D1627 A,C,D	SUWA	This route should be closed. It is largely reclaiming, does not lead to a particular destination, and does not appear to serve a distinct purpose and need. Any use of the route would impact soils, vegetation, and wildlife habitat.	BLM has reviewed and verified the baseline information for D1627, including that the route is part of the Jeep Safari trail system (this is one of the routes that is permitted only to Jeep Safari, and not to all other motorized permittees) and is utilized for scenic driving. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC RR4W COTD	This route should be open. It provides valuable motorized experience for beginning OHV users. Vegetation and biological crust in the roadbed are proof of responsible use on the two-track.	
D1630 A,C,D	SUWA	This route should be closed. It is largely reclaiming and has yucca and blackbrush growing in the route bed. Biological soil crust is also evident in the route bed. It does not lead to a particular destination, and does not appear to serve a distinct purpose and need. Use of this route impacts important wildlife and plant habitat.	BLM has reviewed and verified the baseline information for D1625A, including the information that the route is part of the Jeep Safari trail system (this is one of the routes that is permitted only to Jeep Safari, and not to all other motorized permittees) and is used for scenic driving. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation, including conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1
	BRC RR4W COTD	This route should be open. It provides valuable motorized experience for beginning OHV users. Vegetation and biological crust in the roadbed are proof of responsible use on the two-track.	
D1648A A,C,D	COTD	This route should be open. It receives light but regular use. It accesses the rim above the Bull Canyon complex with multiple scenic overlooks. Use of the route does not cause user conflicts or impacts to wildlife. It is not in protected bighorn habitat (per the RMP).	BLM has reviewed and verified the baseline information for D1648A, including the information that the use level is low and that it is used for scenic driving. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation, including conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
D1679 A,C,D	COTD	This route accesses a scenic overlook of Crips Hole with views of Boulder Bridge from above. It is lightly but regularly used and accesses the rim area above the Bull Canyon complex with multiple scenic overlooks.	BLM has reviewed and verified the baseline information for D1679, including the information that the route is used for scenic driving, even though the use level is low, as stated by the commenter. Potential

Route #/Alt.	Source	Comment Summarized	BLM Response
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route (formerly identified as D1773).	impacts to Recreation are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
D1704 A,D	SUWA	This route should be closed. It is reclaiming and does not have a distinct purpose and need. The route impacts important wildlife habitat.	BLM has reviewed and verified the baseline information for D1704. Potential impacts to wildlife habitat are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation are discussed in Section 3.3.1. D1704 (0.18 miles in length) was designated in the 2008 RMP as a short spur—that spur did not extend to the SITLA land mentioned by the commenter. In other words, D1704 is not designated in the RMP to reach the SITLA section. If the commenter wishes to ask BLM to designate a route that extends to the SITLA parcel, they may do so at the conclusion of the TMP process. The trail that the commenter refers to is a non-designated route on BLM land.
	BRC I COTD	This route should be open. It provides a valuable recreation experience. Vegetation and biological crust in the roadbed are proof of responsible use on the two-track. This route is incorrectly mapped as a dead-end; it connects to a trail on SITLA land.	
D1711 A,B,C,D	PLPCO	This route accesses SITLA lands. Any user impacts can be mitigated. BLM should ensure that any decision regarding this route is sufficiently supported and justified according the caselaw and other legal requirements.	BLM has reviewed and verified the baseline information for D1711. Section 2.1.5 discusses authorized uses, including access to SITLA property.
D1740 A,B,C,D	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	BLM has reviewed and verified the baseline information for D1740. RS 2477 assertions are discussed in Section 2.1.6.
D1748 A,D	COTD	This route provides a different user experience to that of B118 and so is not redundant.	BLM has reviewed and verified the baseline information for D1748. Potential impacts to Recreation, including conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1.
D1752 A,D	COTD	This route is part of the Bull Run mountain bike trail on the north rim of Bull Canyon. It already has a width restriction at 38.58713, -109.75837, allowing only bicycles access. BLM needs to correct this in Alternatives A and D.	BLM has reviewed and verified the baseline information for D1752 including the information that the route is part a bike trail system (UTU 92241). Potential impacts to Recreation, including conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
D1754 A,B,D,C	COTD I	This route provides a valuable recreation experience.	BLM has reviewed and verified the baseline information for D1754.
D1758B A,C,D	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route (formerly identified as D1766 and D1770).	BLM has reviewed and verified the baseline information for D1758B. RS 2477 assertions are discussed in Section 2.1.6.

Route #/Alt.	Source	Comment Summarized	BLM Response
D1775 A,C,D	COTD	This route provides a valuable recreation experience. It accesses a canyon and several natural arches. It is in an area guidebook.	BLM has reviewed and verified the baseline information for D1775, including that the route provides opportunities for scenic driving and photography. Potential impacts to Recreation are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
D1777 A,C,D	COTD	This route provides a valuable recreation experience. It is regularly used to explore a canyon. It accesses a dispersed campsite in the wash at the bottom of Saucer Canyon.	BLM has reviewed and verified the baseline information for D1777, including that the route provides opportunities for scenic driving. Potential impacts to Recreation are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
D1781 A,B,C,D	COTD	This route along with D1872 accesses Boulder Bridge. It is regularly used and provides a valuable motorized recreation experience and hiking access. It is featured in an area guidebook.	BLM has reviewed and verified the baseline information for D1781, including that the route provides opportunities for scenic driving and photography. Potential impacts to Recreation are discussed in Section 3.3.1.
D1785B A	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route (formerly identified as D1765).	There is no record of a road with this identifying number in the TMP. RS 2477 assertions are discussed in Section 2.1.6.
D1801A A	COTD	This route should be closed. It is part of a lightly used powerline access road and is redundant to D1797.	BLM has reviewed and verified the baseline information for D1801A, including that the use level is low and that the power company has a ROW (UTU 11023) on the route to service an active powerline, as noted by the commenter.
D1804 A,D	COTD I	This route is a regularly used connector for the Metal Masher trail. It provides recreational value. It appears to have been recently bladed.	BLM has reviewed and verified the baseline information for D1804, including that it is a connecting route. Potential impacts to Recreation are discussed in Section 3.3.1.
D1829 A,C,D	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	BLM has reviewed and verified the baseline information for D1829. RS 2477 assertions are discussed in Section 2.1.6.
D1843 A,C,D	COTD I	This route accesses and overlook of South Fork Sevenmile Canyon that is featured in an area guidebook as the “Three Pools Pour Off.” The route provides opportunity for camping.	BLM has reviewed and verified the baseline information for D1843. The route report indicates that that it is used for scenic driving impacts to Recreation are discussed in Section 3.3.1.
D1859A A,D	COTD	This route is lightly used but still valuable for scenic driving into Jack’s Canyon.	BLM has reviewed and verified the baseline information for D1859A, including that use level is low; it provides an opportunity for scenic driving. Potential impacts to Recreation are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D1860 A,D	COTD I	This route along with D1868 provides a valuable connector between Jack's and Periscope Canyons and the Metal Masher Jeep Safari trail. It provides a unique recreation experience: it is highly scenic and crosses moderately challenging slickrock ledges. It also accesses campsites.	BLM has reviewed and verified the baseline information for D1860; the route report states that D1860 is a connector route. The route report confirms that Scenic driving is a recreational use of this route. Potential impacts to Recreation are discussed in Section 3.3.1.
D1864 A,C,D	COTD I	This route is regularly used and has minimal environmental impacts. It crosses wide-open slickrock and provides panoramic views of the surrounding area. It accesses a scenic overlook of Side Pocket and Little Canyons.	BLM has reviewed and verified the baseline information, including the route report regarding use levels for D1864. Although the commenter asserts that the route is regularly used, BLM has confirmed that the level of use of the route is low. The route report confirms that Scenic Driving is a recreational use of this route. Potential impacts to Recreation are discussed in Section 3.3.1.
D1867 A,C,D	COTD	This route should be open. It provides a scenic view of Secret Canyon and is in an area guidebook.	BLM has reviewed and verified the baseline information, including the route report for recreational uses for D1867. The route report confirms that Scenic Driving is a recreational use of this route. Potential impacts to Recreation are discussed in Section 3.3.1.
D1868 A,D	COTD	This route along with D1860 provides a valuable connector between Jack's and Periscope Canons and the Metal Masher Jeep Safari trail. It provides a unique recreation experience: it is highly scenic and crosses moderately challenging slickrock ledges.	BLM has reviewed and verified the baseline information for D1868, including that it is a connector route and that scenic driving is a recreational use of the route. Potential impacts to Recreation are discussed in Section 3.3.1.
D1871 A,C,D	COTD I	This route is regularly used. It is the main access through Periscope Canyon in the Arth's Pasture area and accesses dispersed campsites.	BLM has reviewed and verified the baseline information for D1871, including that the route is a connector. Potential impacts to Recreation are discussed in Section 3.3.1.
D1872 A,D	COTD I	This route accesses dispersed campsites and the route report should reflect this. Along with D1778 it accesses Boulder Bridge. It is regularly used and provides a valuable motorized recreation experience and hiking access. It is featured in an area guidebook It is not in protected bighorn habitat (per the RMP).	BLM has reviewed and verified the baseline information for D1872, including that the route is used for scenic driving and non-motorized access. Potential impacts to Recreation are discussed in Section 3.3.1. D1872 is in an area where camping is restricted to designated sites (2008 RMP). There are no sites designated along D1872. The route is within desert bighorn sheep lambing habitat. This habitat layer is updated periodically by the Utah Division of Wildlife; desert bighorn sheep lambing habitat has changed since the time of the 2008 RMP.
D1874 A,D	COTD	This route should be closed. It is reclaiming with vegetation.	BLM has reviewed and verified the baseline information for D1874, including that use level is low. Potential impacts to Recreation are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D1876 A,D	COTD I	This route accesses campsites and a side canyon of Periscope Canyon. It provides a valuable recreation experience. If bighorn lambing is a resource concern, the route should be closed seasonally, not permanently.	BLM has reviewed and verified the baseline information for D1876, including that the route is used for scenic driving. Camping is restricted to designated sites in this area in the 2008 RMP. Potential impacts to Recreation are discussed in Section 3.3.1. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10.
D1879 A,C,D	COTD	This route is the main access to Jack's Canyon and Jack's Arch. It accesses dispersed campsites. It is not in protected bighorn habitat (per the RMP), so there is no need for a seasonal closure.	BLM has reviewed and verified the baseline information for D1879, including that it is used for scenic driving. Potential impacts to Recreation are discussed in Section 3.3.1. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10. D1879 is in an area where camping is restricted to designated sites (2008 RMP). There are no sites designated along D1879. The route is within desert bighorn sheep lambing habitat. This habitat layer is updated periodically by the Utah Division of Wildlife; desert bighorn sheep lambing habitat has changed since the 2008 RMP.
D1884 A	COTD	This route should be closed. It is redundant to D1988.	BLM has reviewed and verified the baseline information for D1884, including that use level is low and that it is a braided connector (i.e., there is a nearby connector for this route). Potential impacts to Recreation are discussed in Section 3.3.1.
D1888 A,B,C,D	PLPCO	This route accesses SITLA lands. Any user impacts can be mitigated. BLM should ensure that any decision regarding this route is sufficiently supported and justified according the caselaw and other legal requirements.	BLM has reviewed the baseline information for D1888 and has verified that the route report documents that this route accesses SITLA lands.
D1903 A,D	COTD	This route is largely reclaimed. It does not have a purpose and need.	BLM has reviewed and verified the baseline information for D1903, including that use level is low.
D1908 A,C,D	COTD I	This route should be open. It is regularly used and accesses a sheltered hollow on the side of Widow Maker Mesa. It provides opportunity for dispersed camping.	BLM has reviewed and verified the baseline information for D1908. Potential impacts to Recreation are discussed in Section 3.3.1. D1908 is in an area where camping is restricted to designated sites (2008 RMP). There are no sites designated along D1908.
D1908A A,D	COTD I	This route accesses a scenic overlook of Seven Mile Canyon. It is not causing impacts.	BLM has reviewed and verified the baseline information for D1908A, including that the route is used for scenic driving. Potential impacts to Recreation are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D1911A A	COTD	This route might be mis-mapped, as it could possibly access an overlook of Seven Mile Canyon. If any routes in the Seven Mile area must be closed, this would be one.	BLM has reviewed and verified the baseline information for D1911A, including that the route is reclaiming. Potential impacts to Recreation are discussed in Section 3.3.1. If the route is mis-mapped, it may be proposed for correction at the conclusion of the current process; the Moab RMP provides an avenue for this type of change (TRV-3, Moab RMP). This Land Use Plan decision is shown in Table 2 of the EA (Section 1.5).
D1913 A,D	COTD	This route should be open at least in Alternative D. It is partially reclaimed but it accesses a hilltop with a panoramic viewpoint of the area.	BLM has reviewed and verified the baseline information for D1913, including that route is used for scenic driving. The route is open in Alternatives A and D. Potential impacts to Recreation are discussed in Section 3.3.1.
D1915 A,D	COTD I	This route should be open. It provides valuable recreation experience as a loop opportunity with access to a scenic overlook of Box Canyon. It is in an area guidebook. Users are acting responsibly and there are no impacts to soils and vegetation. Bighorn sheep are already acclimated to motorized use. If BLM determines there are impacts to eagle nests, closure should be seasonal, not permanent.	BLM has reviewed and verified the baseline information for D1953, including that the route is used for scenic driving. Potential impacts to Recreation are discussed in Section 3.3.1. Potential impacts to raptors are discussed in Section 3.2.9; potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10.
D1916 A,D	COTD	This route should be open. It provides valuable recreation experience as a loop opportunity for scenic viewing. It is in an area guidebook. Users are acting responsibly and there are no impacts to soils and vegetation.	BLM has reviewed and verified the baseline information for D1916, including that the route is used for scenic driving. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to recreation are discussed in Section 3.3.1.
	I	This route is somewhat redundant; if the most scenic route in the area is kept open, this route could be closed.	
D1917A A,D	I COTD	This route is regularly used. It accesses a scenic overlook of Seven Mile Canyon. It also accesses SITLA lands. This route is more valuable than D1917 (which does not exist on the north side of its loop).	BLM has reviewed and verified the baseline information for D1917A, including that it is used for scenic driving. D1917A does not provide additional access to SITLA lands, as it is a dead end spur. Potential impacts to Recreation are discussed in Section 3.3.1.
D1922 A,D	COTD I	This route should be open. It is part of a scenic loop trail. It receives light use but has not reclaimed.	BLM has reviewed and verified the baseline information for D1922, including that use level is low and that the route is a connector. The route report states that is used for scenic driving. Potential impacts to Recreation are discussed in Section 3.3.1.
D1930 A,C,D	COTD	This route accesses a scenic overlook.	BLM has reviewed and verified the baseline information for D1930, including that it is used for scenic driving and that the route accesses

Route #/Alt.	Source	Comment Summarized	BLM Response
	PLPCO	This route accesses SITLA lands. Any user impacts can be mitigated. BLM should ensure that any decision regarding this route is sufficiently supported and justified according the caselaw and other legal requirements.	State Land. Potential impacts to Recreation are discussed in Section 3.3.1.
D1931 A,C,D	COTD	This route accesses a scenic overlook.	BLM has reviewed and verified the baseline information for D1931, including that it is used for scenic driving. Potential impacts to Recreation are discussed in Section 3.3.1.
D1941 A,D	I	This route is infrequently used and does not have a purpose and need. It impacts the beauty of Seven Mile Canyon.	BLM has reviewed and verified the baseline information for D1941, including that, while the primary uses are equestrian and hiking, it is also used for scenic driving. Potential impacts to Cultural Resources are discussed in Section 3.2.1. Potential impacts to Visual Resources are discussed in Section 3.2.5. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Recreation, including conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
	I COTD	This route should be open. It provides an opportunity for scenic driving up Seven Mile Wash and access rock art. It is in an area guidebook. User conflicts between motorized and non-motorized is a concern but use level is low, which already mitigates potential conflicts. If wildlife impacts are a concern, BLM should consider a seasonal closure rather than a permanent one.	
D1944 A,D	I	This route has user conflicts between motorized users and bikers. Closing it would also benefit other non-motorized users.	BLM has reviewed and verified the baseline information for D1944. The route report shows that the route is used by cyclists and for competitive non-motorized events, as well as for scenic driving. D1944 is a connecting route with Highway 313, but it is not the only connector to that highway for motorized users. D1944 is in desert bighorn sheep habitat and has nearby raptor nests. Potential impacts to Recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10. The route report for D1944 states (for Alternative C) that the route is limited to non-motorized modes of transportation only and that the route could only be used seasonally by those using non-motorized means. Alternative C does not designate the route as open to motorized users. For this reason, the Alternative C map shows the route as closed to motorized users.
	COTD I	This route should be open. It is in an area guidebook. It is mainly used by cyclists but motorized users should not be displaced. It is a critical segment of a motorized loop opportunity. Motorized use is not causing user conflicts. Closing it would show favoritism. There are no impacts to natural resources. It provides connectivity for motorized users wishing to avoid the highway.	
	I	The Alt C map shows this as closed but the route report shows it as being limited seasonally. If the route is closed, it should be seasonal and not permanent.	

Route #/Alt.	Source	Comment Summarized	BLM Response
D1945 A,C,D	COTD I	This route accesses a scenic overlook and dispersed campsite. It provides connectivity for motorized users wishing to avoid the highway.	BLM has reviewed and verified the baseline information for D1945; the route report states that D1945 is used for scenic driving; the route is in an area where camping is limited to designated sites and no sites are designated along this route. Potential impacts to Recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
D1946A A,B,C,D	I	This route has user conflicts between motorized users and bikers. Closing it would also benefit other non-motorized users.	BLM has reviewed and verified the baseline information for D1946A, which states that the route is utilized by bicycles. Potential impacts to Recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
D1946B A,C,D	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route. This route should be open. It provides connectivity for users wishing to avoid the highway (formerly known as D1951).	BLM has reviewed and verified the baseline information for D1946B. RS 2477 assertions are discussed in Section 2.1.6. The route report lists D1946B as a connector. The route is in an area where camping is limited to designated sites and no sites are designated along this route. Potential impacts to Recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
	COTD I	This route should be open. It accesses multiple campsites and provides connectivity for users wishing to avoid the highway.	
D1949 A,C,D	I	This route should be open. It provides connectivity for users wishing to avoid the highway.	BLM has reviewed and verified the baseline information for D1949, which states that the route is a connector. Potential impacts to Recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
D1953 A,C,D	COTD I	This route should be open. It provides opportunity for scenic viewing.	BLM has reviewed and verified the baseline information for D1953, which states that route is used for scenic driving. Potential impacts to Recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6. No changes are needed to the alternatives.
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
D1972 A,B,C,D	COTD	The western half of Coney Island should be open, as it accesses a scenic overlook of Seven Mile Canyon.	BLM has reviewed and verified the baseline information for D1953, which states that route is used for scenic driving. Potential impacts to Recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.

Route #/Alt.	Source	Comment Summarized	BLM Response
D1980 A	COTD	This route is already closed to motorized use on the ground, as it is part of a designated mountain bike trail. This error should be corrected in Alternative A.	BLM has reviewed and verified the baseline information for D1980, including the fact that the route is reclaiming. Potential impacts to Recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1. The route may have been erroneously closed on the ground (without subsequent correction in the Travel Plan), but it was designated for motorized use in the Moab RMP; thus, it is included in Alternative A.
	I	This route should be open. It provides a valuable recreation experience as a parallel route to the highway (formerly called D8802).	
D1988a A	COTD I	This route should be open. It accesses a scenic overlook of North Fork Seven Mile Canyon and Monitor and Merrimac Buttes.	There is not a D1988a route in the TMA and BLM therefore cannot discern which route the commenter was referencing.
D1991 A,C,D	I	This route has user conflicts between motorized users and bikers. Closing it would also benefit other non-motorized users.	BLM has reviewed and verified the baseline information for D1991; the route report notes the use of this route by bicyclists, as well as its use for scenic driving. Potential impacts to Recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
	COTD	This route access scenic views into Seven Mile Canyon. It is regularly used. It is mostly separate from the Rocky Tops bike trail, which minimizes user conflicts between bikers and motorized users.	
D1992 A,D	COTD	This should be closed. It does not have a purpose and need.	BLM has reviewed and verified the baseline information for D1992. Potential impacts to Recreation are discussed in Section 3.3.1.
D1994 A,D	COTD	This route has been adopted by mountain bikers. It should be closed if doing so allows other motorized routes (e.g., 7-Up) to remain open.	BLM has reviewed and verified the baseline information for D1994. Potential impacts to Recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
D1994A A	COTD	This route has been adopted by mountain bikers. It should be closed if doing so allows other motorized routes (e.g., 7-Up) to remain open.	BLM has reviewed and verified the baseline information for D1994. Potential impacts to Recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
D2014 A,C,D	COTD I	This route should be open. It is lightly used but accesses a scenic viewpoint. It provides a motorized loop opportunity for accessing viewpoints along the rims of Labyrinth and Spring Canyons. It provides opportunities for dispersed camping.	BLM has reviewed and verified the baseline information for D1994, including the fact that the route is used for scenic driving and for camping. Potential impacts to raptors are discussed in Section 3.2.9. Potential impacts to Recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	RINS	These routes should be closed to protect and enhance raptor habitat (also identified as D2016).	

Route #/Alt.	Source	Comment Summarized	BLM Response
D2015 A,C,D	COTD I	This route should be open. It is lightly used but accesses a scenic viewpoint. It provides a motorized loop opportunity for accessing viewpoints along the rims of Labyrinth and Spring Canyons. It provides opportunities for dispersed camping.	BLM has reviewed and verified the baseline information for D1994, including the fact that the use level is low, but that the route is used for scenic driving. Potential impacts to raptors are discussed in Section 3.2.9. Potential impacts to Recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	RINS	These routes should be closed to protect and enhance raptor habitat.	
D2017 A,C,D	SUWA RINS	This route should be closed. It does not have a purpose and need. It is beginning to reclaim. It contributes to excessive route density in the area of Upper Spring Canyon. It fragments bighorn lambing habitat and impacts a bird habitat conservation area. These routes should be closed to protect and enhance raptor habitat	BLM has reviewed and verified the baseline information for D1994, including the fact that the use level is low but that it is utilized for scenic driving. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10. Potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9. Potential impacts to Recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1.
	COTD BRC	This route should be open. It is lightly used but accesses a scenic viewpoint. It provides a motorized loop opportunity for accessing viewpoints along the rims of Labyrinth and Spring Canyons. It provides opportunities for dispersed camping. There is no evidence of negative impacts to wildlife.	
D2024 A,B,C,D	SUWA	This route should be closed. It creates user conflicts from noise, which impacts those seeking a quiet recreation experience in the Spring Canyon Hiking Focus Area. It impacts important wildlife habitat. It does not have a purpose and need, as it is redundant to adjacent routes in the Jeep Safari network.	BLM has reviewed t and verified the baseline information for D2024. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10. Potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9. Potential impacts to Recreation, including the conflicts between motorized and non-motorized users as well as noise, are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1.
D2028 A,C,D	PLPCO	This route accesses SITLA lands. Any user impacts can be mitigated. BLM should ensure that any decision regarding this route is sufficiently supported and justified according the caselaw and other legal requirements.	BLM has reviewed and verified the baseline information for D2028, including the fact that it access SITLA lands.
D2029 A,C,D	SUWA	This route should be closed. It is redundant and does not have a purpose and need. It contributes to excessive route density in the area and impacts important wildlife habitat and erosive soils.	BLM has reviewed and verified the baseline information for D2029, including the fact that it is a connector and is used for scenic driving. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to soils and vegetation are discussed in

Route #/Alt.	Source	Comment Summarized	BLM Response
	RR4W BRC I	This route is part of the Jeep Safari network and is primarily on SITLA land. It provides connectivity, a loop opportunity, and a unique recreation experience for wildlife observation. Motorized use is not impacting habitat. Closing this route would concentrate use on other routes.	Section 3.2.3. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to Recreation are discussed in Section 3.3.1. D2029 is not on lands managed by SITLA.
D2030 A,D	SUWA	This route does not have a purpose and need. It impacts important wildlife habitat.	BLM has reviewed and verified the baseline information for D2030, including the fact that it is used for scenic driving. The 0.13 mile route does access Deadman Spring; that access remains open by walking to it. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to Recreation are discussed in Section 3.3.1.
	RR4W COTD BRC	This route should be open. It is part of the Jeep Safari network. It accesses a scenic canyon and Deadman Spring. It stops short of the spring itself, so does not impact the water. The turnaround is on a slab of slickrock, so the soil is not disturbed. It does not impact bighorn. This route accesses a dispersed campsite. It is in an area guidebook.	
D2031 A,C,D	RR4W	This route is part of the Deadman Spring Jeep Safari route and provides an easier scenic viewing experience for motorized users.	BLM has reviewed and verified the baseline information for D2031; it is part of the Jeep Safari Trail System and provides an opportunity for scenic driving. Potential impacts to Recreation are discussed in Section 3.3.1.
D2033 A,C,D	SUWA	This route should be closed. It is redundant to B140, which accesses Spring Canyon and its rims. This route contributes to noise impacts, causing user conflicts in the Spring Canyon Hiking Focus Area. It impacts important wildlife habitat and contributes to route proliferation.	BLM has reviewed and verified the baseline information for D2029; the route report notes the presence of route proliferation, as commented upon. The route report notes that it is used for scenic driving. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to soils and vegetation are discussed in Section 3.2.3. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to Recreation, including the conflicts between motorized and non-motorized recreation and noise, are discussed in Section 3.3.1.
	COTD BRC I	This route access a unique scenic overlook of Spring Canyon. It should not be closed or seasonally limited. This route should be open. Non-motorized users should not be given preferential treatment.	
D2034 A,D	I	This route should be open. It accesses a lunch spot/campsite.	BLM has reviewed and verified the baseline information for D2034, including the fact that it is used for scenic driving. Potential impacts to Recreation are discussed in Section 3.3.1.
D2035 A,C,D	SUWA	This route should be closed. It leads to the rims above Spring Canyon. It is redundant to D2033. It contributes to user conflicts from the noise impacting users of the Spring Canyon hiking area. It impacts important wildlife habitat.	BLM has reviewed and verified the baseline information for D2029, including the fact that it is used for scenic driving. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to soils and vegetation are discussed in Section 3.2.3. The

Route #/Alt.	Source	Comment Summarized	BLM Response
	RR4W COTD BRC I	This route should be open. It is part of Deadman Spring Jeep Safari route and leads to the only overlook and lunch spot along the route. The view from the overlook is unique. Non-motorized users should not be given preferential treatment.	potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to Recreation, including the conflicts between motorized and non-motorized recreation and noise, are discussed in Section 3.3.1.
D2042 A,B,C,D	SUWA	This route should be closed. It is redundant to D2043. Use of the route impacts soils, vegetation, watershed, and important wildlife habitat. This route lacks a distinct purpose and need.	BLM has reviewed and verified the baseline information for D2042. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to water and riparian resources are discussed in Section 3.2.6. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to Recreation are discussed in Section 3.3.1.
	BRC I	This route is not redundant to D2043, as its terrain provides a unique recreation experience that appeals to varied skill levels. It helps create a loop opportunity and reduces impacts from concentrated use on other routes.	
D2043 A,B,C,D	SUWA	This route should be closed. It contributes to user conflicts from the noise impacting users of the Spring Canyon hiking area.	BLM has reviewed and verified the baseline information for D2043, including the information that it accesses SITLA lands. Potential impacts to Recreation, including the conflicts between motorized and non-motorized recreation and noise, are discussed in Section 3.3.1.
	PLPCO	This route accesses SITLA lands. Any user impacts can be mitigated. BLM should ensure that any decision regarding this route is sufficiently supported and justified according the caselaw and other legal requirements.	
D2053 A,B,C,D	SUWA	This route should be closed. It traverses a wash and slickrock, leading to a hiking trail. A trailhead would be better established at the intersection with D2621. This route contributes to excessive route density in bighorn crucial habitat.	BLM has reviewed and verified the baseline information for D2053, including that the route is used for scenic driving. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1. Potential impacts to wildlife are discussed in Section 2.8.2.
	BRC I	This route should be open. It provides access to unique recreation opportunity, traversing a wash and slickrock, leading to a hiking trail and a unique scenic overlook. Keeping it open would accommodate all users.	
D2224A	I	This route should be converted to singletrack use to provide a unique recreation experience.	There is no D2224A route within this TMA. BLM checked the route inventory data and was unable to determine what route this may be referencing.
D2359 A,D	COTD	This route provides a shortcut connection between D2361 and D2370. It is regularly used and appears to be the main route of travel in the area. It does not impact wildlife or vegetation.	BLM has reviewed and verified the baseline information for D2359, including that it is a connector. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1. Potential impacts to wildlife are discussed in Section 2.8.2.

Route #/Alt.	Source	Comment Summarized	BLM Response
D2367 D2369	BRC	These routes provide a unique recreation experience for wildlife viewing and vehicle exploring. It receives use—vegetation growing in the road is evidence that users are staying on the route.	There is no D2367 or D2369 route within this TMA. BLM checked the route inventory data and was unable to determine what route this may be referencing.
D2375 A,C,D	COTD	This route is often used in conjunction with the Wipeout Hill Jeep Safari trail and is featured in an area guidebook.	BLM has reviewed and verified the baseline information for D2375. Potential impacts to recreation are discussed in Section 3.3.1.
D2377 A	COTD	This route is a continuation of D2375 and should be open to avoid severing the connection between D2375 and D2376A. The proposed closure seems to be an error.	BLM has reviewed and verified the baseline information for D2377. (D2377 does not connect D2375 and D2376A but is located between D2370 and D2376.) Potential impacts to recreation are discussed in Section 3.3.1.
D2379 A,C,D	COTD I	This route is often used in conjunction with the Wipeout Hill Jeep Safari trail and is featured in an area guidebook.	BLM has reviewed and verified the baseline information for D2379. Potential impacts to recreation are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
D2383B A,C,D	RR4W COTD	This route should be open. It is the main route of one of the oldest, most popular Jeep Safari Trails. It provides a valuable easier recreation experience. Closing it would disrupt connectivity of the Jeep Safari network in the Bartlett Wash area. This route is part of the 3D Jeep Safari trail and is one of the oldest in the network. It provides an easier motorized recreation experience (formerly D2556).	BLM has reviewed and verified the baseline information for D2383B, including the fact that it is part of Jeep Safari system and is used for scenic driving. Potential impacts to Recreation are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route (formerly D2556).	
D2384 A,D	I COTD	This route should be open. It has been well managed and is not causing impacts. It is highly scenic with tight banked turns, providing a unique experience for UTV and ATV users in particular. It is part of a popular route off the main 3D trail and is featured in an area guidebook as an easier user experience. If there are any restrictions for bighorn, they should be seasonal.	BLM has reviewed and verified the baseline information for D2384, including that it is used for scenic driving. Potential impacts to Wildlife are discussed in Section 2.2.8. Potential impacts to recreation are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D2387 A,D	I COTD	This route should be open. It has been well managed and is not causing impacts. It is highly scenic with tight banked turns, providing a unique experience for UTV and ATV users in particular. It is part of a popular route off the main 3D trail and is featured in an area guidebook as an easier user experience. If there are any restrictions for bighorn, they should be seasonal.	BLM has reviewed and verified the baseline information for D2387, including that it is used for scenic driving. Potential impacts to Wildlife are discussed in Section 2.2.8. Potential impacts to recreation are discussed in Section 3.3.1.
D2387A A,D	I COTD	This route should be open. It has been well managed and is not causing impacts. It is highly scenic with tight banked turns, providing a unique experience for UTV and ATV users in particular. It is part of a popular route off the main 3D trail and is featured in an area guidebook as an easier user experience. If there are any restrictions for bighorn, they should be seasonal.	BLM has reviewed and verified the baseline information for D2387A, including that it is used for scenic driving. Potential impacts to Wildlife are discussed in Section 2.2.8. Potential impacts to recreation are discussed in Section 3.3.1.
D2392A A,D	COTD	This route should be open. It provides an opportunity for scenic driving along the base of the cliffs of Tusher Mesa/Big Mesa that is unique to other routes because it is closer to the cliffs.	BLM has reviewed and verified the baseline information for D2392A, including that it is used for scenic driving. Potential impacts to Wildlife are discussed in Section 2.2.8. Potential impacts to recreation are discussed in Section 3.3.1.
D2393 A,D	I	This route should be limited to bikes. It contributes to motorized route density in the Seven Mile Mesa area.	BLM has reviewed and verified the baseline information for D2393, including that it is part of the Jeep Safari trail system and that it is used for scenic driving. The presence of bicycle traffic on this route is noted in the route report. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1.
	RR4W COTD I	This route should be open. It is part of the popular Buttes and Towers Jeep Safari route that leads to a scenic viewpoint of Determination Towers. It provides an easier motorized experience and an opportunity to educate newer OHV drivers about the fragile desert environment. There are no user conflicts between cyclists and motorized users. Non-motorized users should not be given preferential treatment. This route should allow for permitted use.	
D2397 A,B,C,D	RR4W	This route is part of the Buttes and Towers Jeep Safari trail. It provides a valuable recreation experience for stock vehicles.	BLM has reviewed and verified the baseline information for D2397, including that it is used for scenic driving and by stock 4-wheel drive vehicles. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1

Route #/Alt.	Source	Comment Summarized	BLM Response
D2398B A,C,D	RR4W I COTD	This route provides connectivity for access to Determination Towers and functions as an exit as well. It is featured in an area guidebook. It includes Tusher Wash, but it is dry most of the time and does not have riparian value. There are no user conflicts.	BLM has reviewed and verified the baseline information for D2398B. Potential impacts to Water and Riparian areas are discussed in Section 3.2.6. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
D2398D A,C, D	RR4W I COTD	This route, Backwards Bill, is an essential and iconic part of Seven Mile Rim Jeep Safari trail. It provides connectivity from Wipeout Hill to Monitor and Merrimac. It has an easy obstacle that provides a unique user experience for stock vehicles. It provides opportunities for scenic viewing and photography. There are no user conflicts or impacts to bighorn.	BLM has reviewed and verified the baseline information for D2398D. Potential impacts to Wildlife are discussed in Section 3.2.8. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1. D2398D is primarily on slickrock, although there are portions that cross soil. BLM has reviewed its baseline information and agrees that noting use level as low was in error. The route report has been corrected to state that use is in fact high.
D2398F A,C,D	RR4W COTD	This route should be open. It is part of the Seven Mile Rim Jeep Safari trail and is an important connector to D2432 and D2434, which access scenic overlooks.	BLM has reviewed and verified the baseline information for D2398F, including that it is used for scenic driving. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
	RR4W	This route accesses an overlook along the Seven Mile Rim Jeep Safari trail.	
D2405 A,C,D	RwR	This route is part of the Orange Trail. It contributes to a loop opportunity from White Wash.	BLM has reviewed and verified the baseline information for D2405, including that it is used for scenic driving and is utilized by those driving stock 4-wheel drive vehicles. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1. D2405 is not a segment of the Orange Trail, which is located in the White Wash area.
	RR4W	This route is part of the Buttes and Towers Jeep Safari trail and provides a valuable recreation experience for motorized users with stock vehicles.	
D2421 A,D	COTD I	This route accesses 8 designated campsites (which have been cleared archaeologically). It accesses the popular Slickensides Arch camping area, which is well-managed with barriers and signing.	BLM has reviewed and verified the baseline information for D2421. Potential impacts to cultural resources are discussed in Section 3.2.1. Potential impacts to recreation are discussed in Section 3.3.1.
D2431 A,C,D	RR4W	This route accesses an overlook along the Seven Mile Rim Jeep Safari trail.	BLM has reviewed and verified the baseline information for D2431, including the fact that it is used for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	

Route #/Alt.	Source	Comment Summarized	BLM Response
D2432 A,C,D	RR4W	This route accesses an overlook along the Seven Mile Rim Jeep Safari trail.	BLM has reviewed and verified the baseline information for D2432, including its use for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
D2434 A,C,D	RR4W	This route is integral to the Seven Mile Rim Jeep Safari trail.	BLM has reviewed the baseline information for D2434. Potential impacts to recreation are discussed in Section 3.3.1.
D2437 A,D	RR4W COTD I	This route should be open. It is an integral part of the Seven Mile Rim Jeep Safari trail and is highly used. It provides valuable shortcut connectivity. Closure would require rerouting along a longer trail that uses D2431 and D2432.	BLM has reviewed the baseline information for D2437, including that it is a connector route. Potential impacts to recreation are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
D2442 A	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	BLM has reviewed and verified the baseline information for D2432, including that the route is reclaiming. RS 2477 assertions are discussed in Section 2.1.6.
D2453 A,D	COTD	This route should be open. It provides connectivity along the Seven Mile Rim Jeep Safari trail.	BLM has reviewed and verified the baseline information for D2453, including that it is a connector route. Potential impacts to recreation are discussed in Section 3.3.1.
D2457 A	COTD	This route serves a unique purpose and need as a convenient shortcut to the Seven Mile Rim trail along the east rim of Courthouse Mesa.	BLM has reviewed and verified the baseline information for D2457, including that it is a connector. Potential impacts to recreation are discussed in Section 3.3.1.
D2478 A,C,D	COTD	This route should be open. It provides a valuable motorized recreation experience and has minimal impacts.	BLM has reviewed and verified the baseline information for D2478. Potential impacts to recreation are discussed in Section 3.3.1.
D2479 A,B,C,D	I	This route provides connectivity above Tusher Tunnel to Bartlett Wash road. However, this route is redundant to D2491. D2491 should be kept open, as it receives more use and is shorter and less rough. (called D2490) Closing one of these routes may create user conflicts with others accessing Tusher Tunnel.	BLM has reviewed and verified the baseline information for D2479, including that it is a connector. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D2491 A,D	RR4W I COTD	This route is part of the 3D Jeep Safari Trail and accesses Tusher Tunnel. It accesses scenic views of Bartlett Wash (and is closer to it than the parallel portion of D2479). It is more highly used than D2490, shorter, and less rough. Closing this route would not benefit wildlife because there are other routes in the area already. Closing one of these routes may create user conflicts with others accessing Tusher Tunnel.	BLM has reviewed and verified the baseline information for D2491, including that it is used for scenic driving. Potential impacts to recreation, including the potential conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
D2498 A,D	COTD	This route should be open. It provides connectivity, acting as a shortcut that avoids a more circuitous route.	BLM has reviewed and verified the baseline information for D2498, including that the route is a connector. Potential impacts to recreation are discussed in Section 3.3.1.
D2524 A,D	I	This route should be designated as singletrack to provide a unique recreation experience.	BLM has reviewed and verified the baseline information for D2524. BLM considered the type of vehicle to be used on a route when evaluating it for inclusion in the Travel Plan. Potential impacts to recreation are discussed in Section 3.3.1. RS 2477 assertions are discussed in Section 2.1.6.
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
D2524A A,D	COTD	This route should be open. It is a well-used alternative off the 3D Jeep Safari trail.	BLM has reviewed and verified the baseline information for D2524. BLM considered the type of vehicle to be used on a route when evaluating it for inclusion in the Travel Plan. Potential impacts to recreation are discussed in Section 3.3.1.
	I	This route should be limited to singletrack, as it is too rough for full-sized vehicles but provides connectivity for motorcycle users.	
D2529 A,C,D	RwR I	This route should be open. It provides a valuable recreation experience as a scenic drive along the rim above Hidden Canyon Rim. The route's terrain and soil composition can handle increased use. Many routes in the area will not be redundant as use in the area increases, particularly if the area from Dubinky Well Road to Brink Spring is developed for motorized singletrack. See COTD letter from October 6.	BLM has reviewed and verified the baseline information for D2529, including that it is used for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1. Potential impacts to soil and vegetation are discussed in Section 3.2.3.

Route #/Alt.	Source	Comment Summarized	BLM Response
D2533 A,D	RwR	This route provides connectivity between the Blue Hills and Dubinky Well roads. Closing this route would result in a disconnect for all motorized users, including motorcyclists. BLM has a data gap between D2533 and D2536, which is an old bladed road with a gate for full-sized vehicles and an ATV cattle guard. This route parallels the Juniper Trail singletrack, but the recreation opportunities are not redundant.	BLM has reviewed and verified the baseline information for D2533, including that it is a connector. Potential impacts to recreation are discussed in Section 3.3.1. The Travel Plan accompanying the 2008 RMP did not designate a connection between D2533 and D2536; thus that section of route was unauthorized and not included in Alternative A. The commentor may ask BLM to consider adding this section of route to the TMP as a new route at the conclusion of the current travel plan process (See TRV-3, Moab RMP).
D2538 A,B,C,D	COTD	This route should be open to provide recreation opportunities for full-sized vehicles.	BLM has reviewed and verified the baseline information for D2538. Alternatives vary among which type of vehicles are allowed on the route. Potential impacts to recreation are discussed in Section 3.3.1.
D2550 aka D2508 A,B,C,D	RR4W	This route is part of the Backwards Bill trail, which helps disperse users during busy Jeep Safari event days.	There is no route identified as D2550; however, D2508 is shown as an alternate number for D2550. BLM has reviewed the baseline information for D2508 and confirmed it adequately documents recreational uses of the route. Potential impacts to recreation are discussed in Section 3.3.1.
D2554 A,C,D	RR4W COTD	This route accesses a unique scenic overlook of Upper Hidden Canyon and Bartlett Wash.	BLM has reviewed and verified the baseline information for D2554, including that it is used for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1.
D2557 A,C,D	RR4W	This route accesses a valuable lunch site, parking area, and viewpoint along the 3D Jeep Safari trail.	BLM has reviewed and verified the baseline information for D2557, including that it is used for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1.
D2559 A,C,D	COTD I	This route should be limited to singletrack so that it can be enjoyed by motorcyclists.	BLM has reviewed and verified the baseline information for D2559. Alternatives differ between the type of vehicle allowed on the route. Potential impacts to recreation are discussed in Section 3.3.1.
D2560 A,C,D	COTD I I	This route should be open. It provides a valuable recreation experience as a challenging hill climb. This route should be limited to singletrack. It provides a unique experience and is too steep for larger vehicles.	BLM has reviewed and verified the baseline information for D2560. Alternatives differ between the type of vehicle allowed on the route. Potential impacts to recreation are discussed in Section 3.3.1.
D2562 A,C,D	RR4W PLPCO	This route is part of the 3D Jeep Safari trail and is one of the oldest in the network. It provides an easier motorized recreation experience. This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	BLM has reviewed and verified the baseline information for D2562, including that it is part of the Jeep Safari system and that it is utilized by stock 4 wheel drive vehicles. Potential impacts to recreation are discussed in Section 3.3.1. Potential impacts to soils and vegetation are discussed in Section 3.2.3.

Route #/Alt.	Source	Comment Summarized	BLM Response
	RR4W I COTD	This route should be open. It is an integral part of the Pickle Jeep Safari trail and a valuable recreation experience. It is in an area guidebook. Closing it would create a dead-end. Because it is located on slickrock, it does not impact resources.	RS 2477 assertions are discussed in Section 2.1.6.
D2575	RR4W	This route is a valuable exit option for users of the Backwards Bill trail.	There is no D2575 route within this TMA. BLM checked the route inventory data and was unable to determine what route this may be referencing.
D2575A	COTD	This route provides motorized access to the base of the cliff on the side of Big Mesa. It is regularly used.	There is no D2575A route within this TMA. BLM checked the route inventory data and was unable to determine what route this may be referencing.
D2577 A,D	RwR COTD	This route provides a valuable recreation experience with scenic views of the Moab Fault.	BLM has reviewed and verified the baseline information for D2577, including that it is used for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1.
D2581A A,C,D	RwR COTD	This route provides valuable recreation experience for all motorized vehicles; designation as singletrack would diminish opportunities for full-sized vehicles. It provides access to the flats around Dubinky Well or the rim above Hidden Canyon Rim. Use is likely to increase as interest in the area grows.	BLM has reviewed and verified the baseline information for D2581A. Alternatives differ in type of vehicle allowed on the route. Potential impacts to recreation are discussed in Section 3.3.1.
	I	This route should be limited to singletrack.	
D2586 A,B,C,D	I	This route should be limited to singletrack.	BLM has reviewed and verified the baseline information for D2586. Alternatives differ between type of vehicle allowed on the route. Potential impacts to recreation are discussed in Section 3.3.1.
	COTD	This route should not be limited to singletrack, as such a limit would decrease recreation opportunities for full-sized vehicles.	
D2588 A,D	SITLA	Because it is unclear if this route begins on BLM land or trust lands, SITLA requests it be open until it leaves the SITLA parcel at its southern boundary.	BLM has reviewed and verified the baseline information For D2588, including the fact that it accesses SITLA lands.
D2588A A,D	COTD RwR	This route should be open. It receives regular use and provides a valuable opportunity for scenic exploration and camping. The route is mostly on SITLA lands. A link could be constructed between this route and D2533.	BLM has reviewed and verified the baseline information for D2588A, including that it is used for scenic driving. That portion of the route that is on SITLA lands is not within the scope of this travel planning effort. Potential impacts to recreation are discussed in Section 3.3.1. New construction is not within the scope of this planning effort.
D2591 A,D	COTD	This route provides connectivity to a series of designated routes outside the TMA in the Mancos Desert. BLM must better consider connectivity to routes outside the TMA.	BLM has reviewed and verified the baseline information for D2591, including that it is a connector. Potential impacts to recreation are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D2624 A,D	I COTD BRC	This route should be open. It provides a valuable moderate recreation experience for motorized vehicles. It is known locally as Lost World Butte or Lost World Valley. There are no wildlife impacts or user conflicts. This route should be open. It provides a unique recreation experience. The rocky descent adjacent to Lost World Butte is part of a fun and scenic loop which returns to the Needles via the Crystal Geyser Jeep Safari route (formerly D2634). This route should be open. It provides a unique recreation experience. The rocky descent adjacent to Lost World Butte is part of a fun and scenic loop which returns to the Needles via the Crystal Geyser Jeep Safari route (formerly D7036).	BLM has reviewed and verified the baseline information for D2624, including that it is used for scenic driving and that it provides a loop opportunity. Potential impacts to recreation are discussed in Section 3.3.1. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10. Potential impacts to raptors, including nesting prairie falcon, Cooper's hawk, and golden eagles, are discussed in Section 3.2.9. (Note: actual raptor nest data is not disclosed due to confidentiality issues.)
D2628SJ A,D	COTD	This route provides a valuable recreation opportunity for scenic driving just outside Canyonlands National Park. The illegal camping issue in the area could be managed with better enforcement.	BLM has reviewed and verified the baseline information for D2628SJ, including that it is used for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1.
D2629 A,B,C,D	PLPCO	This route accesses SITLA lands. Any user impacts can be mitigated. BLM should ensure that any decision regarding this route is sufficiently supported and justified according the caselaw and other legal requirements.	BLM has reviewed and verified the baseline information for D2629, including that the route accesses SITLA lands.
D2629SJ A,D	COTD	This route provides a valuable recreation opportunity for scenic driving just outside Canyonlands National Park. The illegal camping issue in the area could be managed with better enforcement.	BLM has reviewed and verified the baseline information for D2629SJ, including that it is used for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1.
D2633 A,D	COTD	This route is the Lost World Butte spur entrance and is necessary as part of the Rainbow Spire route.	BLM has reviewed and verified the baseline information for D2633, including its connectivity to D2624 (Lost World Butte). Potential impacts to recreation are discussed in Section 3.3.1.
D2639 A,D	SUWA	This route should be closed. It is partially reclaiming and has biological soil crust in proximity. It fragments bighorn crucial and lambing habitats, special status plant habitats, and leads to raptor nests.	BLM has reviewed and verified the baseline information for D2639, including that it is used for scenic driving. Potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to

Route #/Alt.	Source	Comment Summarized	BLM Response
	I	This route should be open. It accesses a canyon overlook with a unique view.	migratory birds, including nesting raptors, are discussed in Section 3.2.9. Potential impacts to recreation are discussed in Section 3.3.1.
D2653 A,C,D	SUWA	This route should be closed. It is redundant to D2652. It contributes to user conflicts with river runners in Labyrinth Canyon. Use of the route impacts soils and vegetation. It fragments bighorn crucial, bighorn lambing, and pronghorn fawning habitats and is proximate to a peregrine falcon nest.	BLM has reviewed and verified the baseline information for D2653, including that it is a connector and provides a loop opportunity. It is one of several accesses to the SITLA parcel in question. Potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to migratory birds, including nesting raptors are discussed in Section 3.2.9 (note: nest data is not disclosed due to confidentiality issues). Potential impacts to recreation, including the conflicts between motorized and non-motorized recreationists, are discussed in Section 3.3.1.
	BRC I	This route should be open. It provides connectivity and access to SITLA lands. It provides a look opportunity so users don't have to backtrack.	
D2656 A,D	SUWA	This route should be closed. It is reclaiming and has biological crust in proximity. It contributes to excessive route density on the rims of Ten Mile Canyon and does not serve a purpose and need.	BLM has reviewed and verified the baseline information for D2656, including that the route is used for scenic driving. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation are discussed in Section 3.3.1.
	COTD BRC	This route accesses a rock formation called the Meerkats that is featured in an area guidebook. It provides a unique experience for vehicle exploration and to observe wildlife habitat. It accesses the rims of Ten Mile Canyon. It receives use—vegetation growing in the road is evidence that users are staying on the route.	
	BRC	It provides a unique experience for vehicle exploration and to observe wildlife habitat. It accesses the rims of Ten Mile Canyon. It receives use—vegetation growing in the road is evidence that users are staying on the route (called D2657).	
D2658 A,C,D	SUWA I	This route should be closed. It is reclaiming, redundant, and leads to additional route proliferation. It contributes to sound impacts in the canyon. It impacts important plant and wildlife habitats.	BLM has reviewed and verified the baseline information for D2658. Although one commenter claims that the route is "well-used," its use level is confirmed as low. The route report also notes that D2658 is used for scenic driving, as asserted by the commenter. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
	COTD BRC I	This route should be open. It is well-used and accesses a unique viewpoint of the Green River. It is featured in an area guidebook. Non-motorized users should not be given preferential treatment.	

Route #/Alt.	Source	Comment Summarized	BLM Response
D2661 A,D	I I	This route should be closed. It is redundant and serves no purpose or need. This route should only be closed if D2659 remains open.	BLM has reviewed and verified the baseline information for D2661. Potential impacts to recreation are discussed in Section 3.3.1.
D2662 A,B,C,D	I I	This route should be closed. It is redundant and serves no purpose or need. This route should only be closed if D2659 remains open.	BLM has reviewed and verified the baseline information for D2662, including that the route is used for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1.
	COTD	This route provides a valuable moderate motorized experience and is well-used by individuals and groups. It provides access to the Labyrinth Rims area It is featured in an area guidebook.	
D2664 A,B,C,D	SUWA I	This route should be closed. It does not serve a purpose and need and is redundant to D2701. It contributes to excessive route density.	BLM has reviewed and verified the baseline information for D2664, including that it is used for scenic driving. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation are discussed in Section 3.3.1.
	COTD BRC I	This route provides a valuable moderate motorized experience and is well-used by individuals and groups. It provides access to the Labyrinth Rims area. It is featured in an area guidebook. It accesses a unique viewpoint and provides solitude for observing natural and cultural resources.	
D2664A A,C,D	COTD I	This route provides a valuable moderate motorized experience for scenic exploration and is well-used by individuals and groups. It provides access to the Labyrinth Rims area It is featured in an area guidebook.	BLM has reviewed and verified the baseline information for D2664A, including that the route is used for scenic driving. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation are discussed in Section 3.3.1.
D2674 A,D	SUWA	This route should be closed. It is reclaiming and is likely an old seismic line with no current purpose and need. Motorized use of the route would impact vegetation, soils, wildlife habitat, and wilderness values.	BLM has reviewed and verified the baseline information for D2674, including that it is used for scenic driving. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to Lands with Wilderness Characteristics are discussed in Section 3.2.2. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
	BRC I	This route should be open. It receives use—vegetation growing in the road is evidence that users are staying on the route. It accesses a unique overlook of the canyon.	
D2675 A,C,D	SUWA	This route should be closed. It is reclaiming and is likely an old seismic line with no current purpose and need. Motorized use of the route would impact vegetation, soils, wildlife habitat, and wilderness values.	BLM has reviewed and verified the baseline information for D2675, including that it is used for scenic driving. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to

Route #/Alt.	Source	Comment Summarized	BLM Response
	BRC	This route should be open. It accesses a unique scenic overlook. It receives use—vegetation growing in the road is evidence that users are staying on the route (formerly D6924).	Lands with Wilderness Characteristics are discussed in Section 3.2.2. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
	COTD	This route accesses Alamo Arch and a scenic overlook of Labyrinth Canyon.	
D2678A A,B,C,D	BRC	This route provides a valuable recreation experience and access to the area. Any illegal off-route use could be managed by BLM.	BLM has reviewed and verified the baseline information for D2678A, including that it is used for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1.
	COTD	This route accesses the Hey Joe Canyon Overlook of the Green River and is featured in area guidebooks. It provides valuable recreation experience, including opportunities for dispersed camping.	
D2678B A,C,D	SUWA	This route should be closed. It is partially reclaiming and leads to additional route proliferation. The south and west portions should be closed to motorized use; they impact important wildlife habitats. BLM should establish a hiking trailhead where D2687 turns toward the south and prohibit motorized use beyond that point.	BLM has reviewed and verified the baseline information for D2678, including that it is used for scenic driving. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation are discussed in Section 3.3.1. Establishment of hiking trailheads is beyond the scope of this EA.
	COTD	This route accesses the Hey Joe Canyon Overlook with an overlook of the Green River and is features in area guidebooks. It provides valuable recreation opportunities, including for camping.	
D2680 A,C,D	SUWA	This route should be closed. It gets very little use. It fragments important wildlife habitat and impacts plant habitat and an ephemeral stream channel.	BLM has reviewed and verified the baseline information for D2680, including that it is used for scenic driving. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. The potential impacts to water and riparian resources is discussed in Section 3.2.6. Potential impacts to recreation are discussed in Section 3.3.1.
	COTD	This route should be open. It accesses an overlook of the Green River and is featured in an area guidebook. It provides valuable recreation opportunities, including for camping.	
D2685 A	SUWA	This route should be closed. It is reclaiming. It is an old seismic line with no purpose and need. It impacts important wildlife and plant habitat and impacts soils and wilderness values.	BLM has reviewed and verified the baseline information for D2685, including that the route is reclaiming. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to

Route #/Alt.	Source	Comment Summarized	BLM Response
	BRC	This route should be open. It provides cultural/historical value. Vegetation growing in the road is evidence that use of the route is not having a negative impact.	lands with wilderness characteristics are discussed in Section 3.2.2. Potential impacts to cultural resources are discussed in Section 3.2.1. Potential impacts to recreation are discussed in Section 3.3.1.
D2686 A,C,D	COTD BRC I	This route should be open year-round. It provides a valuable remote motorized experience. Seasonal closure is unnecessary because the route is lightly used and not impacting wildlife species. Seasonal closures to protect bighorn and peregrine falcons are not justified by the best available science.	BLM has reviewed and verified the baseline information for D2686, including that it is used for scenic driving in a remote area. Potential impacts to migratory birds, including nesting raptors, are discussed in Section 3.2.9 (note: nest data is not disclosed due to confidentiality). Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to water and riparian areas are discussed in Section 3.2.6. Potential impacts to recreation are discussed in Section 3.3.1.
	SUWA	This route should be closed permanently. A seasonal closure is insufficient. The route is lightly used and partially reclaiming. It is located in bighorn yearlong crucial habitat and leads to a raptor nest. It also impacts special status plant habitat and crosses an ephemeral stream. (Formerly called D2688.)	
	BRC	This route should be open. It offers a valuable remote motorized experience. (Formerly called D2688.)	
D2693 A,C,D	COTD	This route should be open. It accesses an overlook.	BLM has reviewed and verified the baseline information for D2693, including that it is used for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1.
D2700 A,B,C,D	I	This route should be closed. It is redundant and has no purpose and need.	BLM has reviewed and verified the baseline information for D2700, including that it is used for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1.
	COTD	This route provides a valuable moderate motorized experience for scenic exploration and is well-used by individuals and groups. It provides access to the Labyrinth Rims area for the elderly and disabled. It is featured in an area guidebook.	
D2701 A,C,D	COTD	This route provides a valuable moderate motorized experience for scenic exploration and is well-used by individuals and groups. It provides access to the Labyrinth Rims area. It is featured in an area guidebook.	BLM has reviewed and verified the baseline information for D2701, including that the route is used for scenic driving. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. The potential impacts to water and riparian resources is discussed in Section 3.2.6. Potential impacts to recreation are discussed in Section 3.3.1.
D2703 A,B,C,D	COTD	This route provides a valuable moderate motorized experience for scenic exploration and is well-used by individuals and groups. It provides access to the Labyrinth Rims area for the elderly and disabled. It is featured in an area guidebook.	BLM has reviewed and verified the baseline information for D2703, including that the route is used for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D2709 A,C,D	COTD	This route should be open. It is lightly used but accesses a scenic viewpoint. It provides a motorized loop opportunity for accessing viewpoints along the rims of Labyrinth and Spring Canyons. It provides opportunities for dispersed camping.	BLM has reviewed and verified the baseline information for D2709, including that the level of use is low but that it is used for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1.
D2710 A,B,C,D	SUWA	This route should be closed. It contributes to excessive route density in the area and impacts important wildlife and plant habitats, soils, and wilderness values.	BLM has reviewed and verified the baseline information for D2710, including that the route is used for scenic driving. It is open in all alternatives. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to Lands with wilderness characteristics are discussed in Section 3.2.2. The potential impacts to resources as a result of route proliferation and density are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation are discussed in Section 3.3.1.
	COTD BRC	This route should be open. It provides a valuable moderate motorized experience for scenic exploration and is well-used by individuals and groups. It accesses a unique viewpoint of Ten Mile Canyon. It provides access to the Labyrinth Rims area. It is featured in an area guidebook. This route should be open. It provides a remote motorized experience. This area does not have excessive route density. Non-motorized users should not be given preferential treatment (formerly D7166).	
D2748 A,C,D	RwR I	This route should be open. It provides a unique recreation experience, as it enables users, particularly motorcyclists, to avoid the graded Dubinky Well road.	BLM has reviewed and verified the baseline information for D2648. Potential impacts to recreation are discussed in Section 3.3.1.
D2759A A,C,D	SUWA I RwR	This route should be closed permanently; seasonal closure is insufficient. Use of this route adversely impacts cultural, riparian, and wildlife resources. It adversely impacts management of the Ten Mile Wash ACEC. This route should be part of a loop for users to travel north from White Wash (formerly called D2768).	BLM has reviewed and verified the baseline information for D2759A, including that it is used for scenic driving and forms a loop. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to cultural resources are discussed in Section 3.2.1. Potential impacts to water and riparian resources are discussed in Section 3.2.6. Potential impacts to Special Designations, including ACECs, are discussed in Section 3.2.4. Potential impacts to vegetation

Route #/Alt.	Source	Comment Summarized	BLM Response
	COTD I	This route should be open. It provides an invaluable motorized recreation experience with opportunities for spectacular scenery along the tree-lined river bottom surrounded by red rock cliffs. It is unique to any other motorized route in the area. The route does not show signs of serious impacts from off-route motorized use. Any impacts in the canyon are caused by flood events. Riparian impacts could be mitigated, and wildlife have plenty of escape terrain. The value of the route to motorized users outweighs the risk of cultural damage. The route is featured in an area guidebook.	and soils are discussed in Section 3.2.3. Potential impacts to recreation are discussed in Section 3.3.1.
	I	BLM should consider limiting the upper portion of Ten Mile to one-way traffic or to motorcycles to limit damage.	
D2759B A,D	COTD	This route should be open. It accesses the bottom of the canyon and provides a valuable motorized recreation experience. We saw no evidence of impacts on this lower section from motorized use. The WSR corridor does not require BLM to close this route. BLM could provide a parking spot that requires users to then walk to the river sandbar. One option for this would be the ledge at the top of the Boulder Choke obstacle at 38.68552, -110.05316, where most vehicles already turn around.	BLM has reviewed and verified the baseline information for D2759B, including its use for motorized recreation. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to cultural resources are discussed in Section 3.2.1. Potential impacts to water and riparian resources are discussed in Section 3.2.6. Potential impacts to Special Designations, including ACECs and Wild and Scenic Rivers, are discussed in Section 3.2.4. Potential impacts to vegetation and soils are discussed in Section 3.2.3. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	SITLA	SITLA requests that this route stay open to access the southeastern corner of Sec. 32, T24S, R17E, SLB&M which is otherwise inaccessible due to topography.	
	I	BLM could close the bottom portion of the route (D2759B) while keeping the upper portion open year-round.	
	SUWA	This route should be closed permanently; seasonal closure is insufficient. Use of this route adversely impacts cultural, riparian, and wildlife resources. It adversely impacts management of the Ten Mile Wash ACEC. This route also creates user conflicts with river runners where it meets the Green River.	

Route #/Alt.	Source	Comment Summarized	BLM Response
D2761 A,B,C,D	SUWA	This route should be closed. It leads to the Dead Cow trail system, which has significant impacts to natural resources and leads to extensive illegal OHV use. This route does not have a purpose and need. It fragments important wildlife habitat.	BLM has reviewed and verified the baseline information for D2761, including that it provides connectivity. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to water and riparian resources are discussed in Section 3.2.6. Potential impacts to Special Designations, including Wild and Scenic Rivers, are discussed in Section 3.2.4. Potential impacts to vegetation are discussed in Section 3.2.3. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	BRC I	This route should be open. It provides connectivity and a valuable unique recreation experience for individuals and groups. There is no documented user conflict and non-motorized users should not be given preferential treatment. Vegetation growing in the road is evidence that users are staying on the route; there is no evidence of damage from motorized users. This route provides a loop opportunity and connectivity to the Dead Cow system, a popular singletrack motorcycle trail. Closing this route would concentrate use in other areas.	
D2761A A	SUWA	This route should be closed. It is reclaiming beyond the intersection with Ten Mile Point road. Motorized use would damage soils, vegetation, and wildlife habitat.	BLM has reviewed and verified the baseline information for D2661A, including that the route is reclaiming.D2761A is a dead end spur and does not provide connectivity, nor is it used for scenic driving. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	I	This route should be open. It provides a scenic view into Ten Mile.	
	BRC	This route provides connectivity and a valuable motorized recreation experience for individuals and groups. It accesses unique scenic views. Non-motorized users should not be given preferential treatment (formerly D2762).	
D2763A A,C,D	SUWA	This route should be closed. Heavy motorcycle use has caused route widening and damages soils, vegetation, and wildlife habitat. This route contributes to user conflicts between motorized users and river runners.	BLM has reviewed and verified the baseline information for D2663A, including that it is a connector. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to water and riparian resources are discussed in Section 3.2.6. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	BRC I	This route should be open. It provides a valuable motorized recreation experience. It does not have documented user conflicts or damage. Non-motorized users should not be given preferential treatment. This route also provides connectivity and a loop opportunity that avoids concentrating use on other routes.	

Route #/Alt.	Source	Comment Summarized	BLM Response
D2763B A,C,D	SUWA	This route should be closed. Heavy motorcycle use has caused route widening and damages soils, vegetation, and wildlife habitat. This route contributes to user conflicts between motorized users and river runners.	BLM has reviewed and verified the baseline information for D2663A. Alternatives vary among which type of vehicles are allowed on the route. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to water and riparian resources are discussed in Section 3.2.6. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1. The GIS data shows routes that were designated in the Moab RMP in 2008. These designated routes are the basis of Alternative A. Routes that have been user-created in the interim period are not included in this TMP effort. At the conclusion of the TMP effort, BLM can consider adding routes to the area Travel Plan.

Route #/Alt.	Source	Comment Summarized	BLM Response
	RwR COTD	Dead Cow Loop motorcycle trail provides a valuable recreation experience with unique features that often contain water. The slickrock base of each canyon limits erosion and sedimentation. The GIS data for the parallel routes (D2763B and DC3 below The Tubes) is inaccurate. D2763B refers to the route at the bottom, while DC3 refers to a singletrack above and east of there. There are actually three singletracks east of there, with the first one being atop the gravel deposit with signs marking it as the designated singletrack. However, another singletrack exists east of there down between the gravel deposit and the cliff of Navajo Sandstone. A third singletrack exists atop the Navajo Sandstone, and drops down through a passage in the cliff. This third, cliff-top singletrack is the most fun, but probably the least useful if BLM seeks to further minimize the presence of motorcycles near the river (beyond closing "Low Water" and the historic cabins). The singletrack at the base of the cliff would be useful because it's on smooth slickrock that wouldn't whoop or braid, and it's screened from the river by the gravel deposit. In the worst-case scenario, if the singletrack at the base of the cliff bounces sound from the cliff to the river, motorcycles could simply use the road (D2763B), which is whooped and closer to the river but screened by a wall of vegetation. Non-motorized users should not be given preferential treatment. Dead Cow Loop is part of the Dee Pass Motorized Trail focus area because the 2008 RMP recognized it as important in the balance of multiple uses. We think this route is mis-mapped. It should be open to full-sized vehicles, as there are no conflicts between motorized users.	
	I	This route should be limited to singletrack to avoid conflicts.	

Route #/Alt.	Source	Comment Summarized	BLM Response
D2766 A,B,C,D	SUWA	This route should be closed to all motorized use, as limiting it to smaller-sized vehicles will not sufficiently minimize impacts. It is redundant and does not have a purpose and need. It impacts important wildlife habitat and erosive soils. It contributes to excessive route density in the area.	BLM has reviewed and verified the baseline information for D2666, including that it is a connector. Alternatives vary among which type of vehicles are allowed on the route Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	COTD BRC I	This route should be open. It is an important connector that provides a valuable recreation experience with no documented user conflicts. There is no data showing damage from motorized use.	
D2767 A,C,D	SUWA	This route should be closed. It provides a secondary exit from Ten Mile Canyon ("Midway") and leads to impacts from OHV use in the canyon. The route impacts important wildlife and plant habitats. It leads to a perennial stream and crosses an ephemeral channel.	BLM has reviewed and verified the baseline information for D2667, including that it is connector. Potential impacts to cultural resources are discussed in Section 3.2.1. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10; potential impacts to water and riparian resources are discussed in Section 3.2.6. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	COTD BRC I	This route should be open. It is an important connector that accesses Ten Mile Canyon and provides a valuable recreation experience. There is no data showing damage to cultural resources.	
D2771 A,D	COTD RwR I	This route should be open. It provides a valuable loop opportunity and accesses a viewpoint toward Duma Point and Ten Mile Point. It provides a valuable recreation experience in the Dubinky trail system for OHV users, including motorcyclists.	BLM has reviewed and verified the baseline information for D2771, including that the route is used for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1.
D2793 A,C,D	RwR COTD I	This route should be open. It is an important connector for ATV and motorcycle users. It provides a valuable recreation experience for scenic viewing for all motorized users. It also avoids the riparian corridors of nearby washes. This route should be open to all OHVs.	BLM has reviewed and verified the baseline information for D2793, including that it is a connector and that it is utilized for scenic driving. Alternatives vary among which type of vehicles are allowed on the route. Potential impacts to recreation are discussed in Section 3.3.1.
D2800 A,B,C,D	I	This route should be designated for singletrack use to avoid user conflicts between motorcyclists and other motorized users.	BLM has reviewed and verified the baseline information for D2800. Potential impacts to recreation are discussed in Section 3.3.1.
D2840 A,C,D	SUWA	This route should be closed. It is parallel to Ten Mile Point Road and contributes to excessive route density in the area. It impacts important wildlife habitats.	BLM has reviewed and verified the baseline information for D2840, including that it is a connecting route and that it is used for scenic driving. Potential impacts to wildlife are discussed in Sections 3.2.8,

Route #/Alt.	Source	Comment Summarized	BLM Response
	COTD BRC	This route should be open. It provides a unique recreation experience and there is no reason to close it. This route should be open. It is an important connector that provides a unique recreation experience for motorized users to access a remote area for solitude and cultural/historical exploration (formerly D2848).	3.2.9, and 3.2.10. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
D2844 A,C,D	COTD	This route accesses a scenic overlook of Labyrinth Canyon and is featured in an area guidebook. It is not in a Natural Area and is not impacting bighorn.	BLM has reviewed and verified the baseline information for D2844, including that use level is low. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation, are discussed in Section 3.3.1.
D2845 A,C,D	SUWA	This route should be closed. It leads to illegal proliferation past its designated endpoint. It contributes to noise impacts in Labyrinth Canyon. It also impacts inventoried LWC and important wildlife habitats.	BLM has reviewed and verified the baseline information for D2845, including that it is used for scenic driving. Potential impacts to lands with wilderness characteristics (including noise) are discussed in Section 3.2.2. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	COTD	This route should be open. It accesses an overlook of Labyrinth Canyon and is featured in an area guidebook. It is not in a Natural Area and is not impacting bighorn.	
	BRC I	This route is an important connector that provides a unique recreation experience and accesses a unique viewpoint. Non-motorized users should not be given preferential treatment.	
D2846 A,C,D	COTD BRC I	This route should be open. It is an important connector that provides a unique recreation experience for motorized users to access a remote area for solitude and cultural/historical exploration.	BLM has reviewed and verified the baseline information for D2846, including that it is used for scenic driving. Potential impacts to cultural resources are discussed in Section 3.2.1. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	BRC	This route should be open. It provides a unique recreation experience for motorized users to access a remote area for solitude and cultural/historical exploration (formerly called D2847).	
D2850A A,C,D	SUWA	This route should be closed. It lacks a defined endpoint, leading to illegal off-route travel. It is redundant to B377 and B336. It impacts important wildlife habitat.	BLM has reviewed and verified the baseline information for D2850A. The route report notes that the route is used for scenic driving. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	COTD BRC I	This route should be open. It accesses a unique scenic overlook of the Green River across from June's Bottom. It provides a valuable recreation experience. Its motorized recreation value outweighs any resource conflicts. Non-motorized users should not be given preferential treatment.	

Route #/Alt.	Source	Comment Summarized	BLM Response
D2863 A,C,D	RwR	This route is a valuable connector.	BLM has reviewed and verified the baseline information for D2863, including that it is a connector. The potential impacts to Recreation are discussed in Section 3.3.1. No change is needed to the alternatives.
D2867 A,C,D	SUWA	This route should be closed. It does not have a purpose and need and lacks a defined endpoint. It receives little use but has evidence of off-route travel. It impacts important wildlife habitat.	BLM has reviewed and verified the baseline information for D2867, including that the route is used for scenic driving. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	BRC	This route accesses a unique viewpoint of Ten Mile Canyon. Non-motorized users should not be given preferential treatment.	
D2871 A,C,D	PLPCO	This route accesses SITLA lands. Any user impacts can be mitigated. BLM should ensure that any decision regarding this route is sufficiently supported and justified according the caselaw and other legal requirements.	BLM has reviewed and verified the baseline information for D2871.
D2881	I	This route accesses Spring Canyon Point.	There is no D2881 route within this TMA. BLM checked the route inventory data and was unable to determine what route this may be referencing.
D2909 A,C,D	RwR	This route should be open. It is part of a short loop for motorized users traveling north from White Wash. With proper management, users could be directed to stay in the previously disturbed footprint.	BLM has reviewed and verified the baseline information for D2909; including the recreational use of the route and confirmed that the route is reclaiming. Potential impacts to soil and vegetation are discussed in Section 3.2.3. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation are discussed in Section 3.3.1.
D2925 A,D	RwR	This route should be open. It provides a valuable recreation experience traversing slickrock, with views of the Green River. With proper management, users could be directed to stay in the previously disturbed footprint.	BLM has reviewed and verified the baseline information for D2925 including the use level; review confirms that use level is low. Potential impacts to soil and vegetation are discussed in Section 3.2.3. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation are discussed in Section 3.3.1.
D2936 A,D	RwR	This route is part of the Orange Trail and provides a loop opportunity from White Wash.	BLM has reviewed and verified the baseline information for D2936, including that it is a connector route. Potential impacts to recreation are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D2945 A,D	RwR	This route should be open. It provides a valuable recreation experience traversing slickrock, with views of the Green River. With proper management, users could be directed to stay in the previously disturbed footprint.	BLM has reviewed and verified the baseline information for D2945, including its use for scenic driving and motorized recreation. Potential impacts to soil and vegetation are discussed in Section 3.2.3. The potential impacts to resources as a result of route proliferation are discussed in Sections 2.1.2, 3.2.4, 3.2.5, and 3.3.1. Potential impacts to recreation are discussed in Section 3.3.1.
D3002 A,C,D	I	This route should be open. It accesses a scenic view of White Wash.	BLM has reviewed and verified the baseline information for D3002, including its use for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1.
D3035 A	RwR	This route should be part of a short loop for OHVs staging from White Wash.	BLM has reviewed and verified the baseline information for D3035, including that the route is reclaiming. Potential impacts to recreation are discussed in Section 3.3.1.
D3052 A,D	COTD	This route should be open. It accesses a scenic overlook.	BLM has reviewed and verified the baseline information for D3052, including its use for scenic driving. Potential impacts to recreation are discussed in Section 3.3.1.
D3066 A,C,D	COTD	This route should be open. It is mis-mapped, which should be corrected. It provides important connectivity as part of the Orange Trail.	BLM has reviewed and verified the baseline information for D3066, including the alignment of the route. BLM confirms that the route is a connector. Potential impacts to recreation are discussed in Section 3.3.1. If the route is mis-mapped, it may be proposed for correction at the conclusion of the current process; the Moab RMP provides an avenue for this type of change (TRV-3, Moab RMP). This Land Use Plan decision is shown in Table 2 of the EA (Section 1.5).
D3101A A,C,D	RwR	This route should be open. It is part of the Badlands Loop that encircles the west end of the Ten Mile Graben. It provides an alternative motorized recreation experience to that of the singletrack and more sensitive resources south of White Wash.	BLM has reviewed the baseline information for D3101A and confirms it is a connector route. Potential impacts to recreation are discussed in Section 3.3.1.
D3114 A,C,D	RwR	This route should be open. It is part of the Badlands Loop that encircles the west end of the Ten Mile Graben. It provides an alternative motorized recreation experience to that of the singletrack and more sensitive resources south of White Wash.	BLM has reviewed the baseline information for D3114 and confirms it is a connector route. Potential impacts to recreation are discussed in Section 3.3.1.
D3130A A,C,D	RwR	This route should be open. It provides a challenging motorized experience in a sandy wash and accesses a viewpoint of the Green River. The wash has few cottonwood trees.	BLM has reviewed and verified the baseline information for D3130, including its use for motorized recreation and scenic driving. Potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to recreation are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D3171 A,C,D	RwR	This route should be open. It provides a unique recreation experience to that of D3150, with more scenery. It can also provide an extension of the Badlands Loop.	BLM has reviewed the baseline information for D3171 and confirms it is a connector route and motorized recreation is a use of the route. Potential impacts to recreation are discussed in Section 3.3.1.
D3263 A,C,D	RwR	This route should be open. It is located in an area that was heavily developed for the old Green River Launch Complex and is part of a loop between the City of Green River and Levi Well / Dripping Spring.	BLM has reviewed and verified the baseline information for D3263, including its use for motorized recreation. Potential impacts to recreation are discussed in Section 3.3.1.
D3270 A,D	RwR	This route should be open. It is part of a loop between the City of Green River and Levi Well / Dripping Spring. Its location avoids conflicts with bicyclists and the area where future bicycle trail development is likely to occur.	BLM has reviewed and verified the baseline information for D3270, including motorized use as a recreational use of the route. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
D3500 A,D	COTD	This route should be open. It is an important connector from the Moab Brands parking area to the Bar M loop road (D3488) is part of a loop opportunity between B261 and D3488.	BLM has reviewed and verified the baseline information for D3500, including its use for mountain biking and motorized recreation. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
D3503 A,D	RwR	This route should be open. It provides an alternative to the first few miles of the Copper Ridge Jeep Safari route. The bicycle trail it intersects is an outlier segment.	BLM has reviewed and verified the baseline information for D3503, including its use for mountain biking and motorized recreation. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
D3565 A,C,D	I	This route should be closed to enhance hiking opportunities and reduce impacts, particularly because it is in the vicinity of Arches National Park.	BLM has reviewed t and verified the baseline information for D3565, including that the route provides for hiking and mountain biking uses. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
D3571 A,C,D	I	This route should be closed to enhance hiking opportunities and reduce impacts, particularly because it is in the vicinity of Arches National Park.	BLM has reviewed and verified the baseline information for D3571, including motorized use as a recreational use of the route. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	RwR	This route should be open. It is an important segment of the Sovereign ATV Loop. It traverses the Tidwell Member of the Morrison Formation with terrain and scenery that provide a valuable recreation experience.	
D3589 A,C,D	I	This route should be closed to enhance hiking opportunities and reduce impacts, particularly because it is in the vicinity of Arches National Park.	BLM has reviewed and verified the baseline information for D3589, including recreational uses of the route. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
D3590 A	I	This route should be closed to enhance hiking opportunities and reduce impacts, particularly because it is in the vicinity of Arches National Park.	BLM has reviewed and verified the baseline information for D3590, including recreational uses of the route. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D3618	COTD	This route accesses a valuable campsite.	There is no D3618 route within this TMA. BLM checked the route inventory data and was unable to determine what route this may be referencing.
D3802 A,C,D	I	Closing this route would decrease user conflicts and benefit wildlife, especially raptors.	BLM has reviewed and verified the baseline information for D3802, including resources associated with the location of the route and recreational uses of the route. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	RwR	This route should be open. Little Copper Ridge can absorb growing visitation along Copper Ridge. Little Copper Ridge is away from the network of North Klondike bicycle trails, as the rocky terrain of the Morrison Formation is less appealing for bicycling. Little Copper Ridge has relatively few sensitive resources.	
D3810 A,C,D	RwR	This route should be open. Little Copper Ridge can absorb growing visitation along Copper Ridge. Little Copper Ridge is away from the network of North Klondike bicycle trails, as the rocky terrain of the Morrison Formation is less appealing for bicycling. Little Copper Ridge has relatively few sensitive resources.	BLM has reviewed and verified the baseline information for D3810, including resources associated with the location of the route and recreational uses of the route. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
D3811 A,D	I	Closing this route would decrease user conflicts and benefit wildlife, especially raptors.	BLM has reviewed and verified the baseline information for D3811, including that the route is a connector route and use level is low. Potential impacts to wildlife are discussed in Section 3.2.8 and 3.2.10; potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	RwR I COTD	This route should be open. It contributes to a loop opportunity on Little Copper Ridge. With proper management, users could be directed to stay in the previously disturbed footprint. It is lightly used but still visible from aerial imagery.	
D3819	I	Closing this route would decrease user conflicts and benefit wildlife, especially raptors.	There is no D2819 route within this TMA. BLM checked the route inventory data and was unable to determine what route this may be referencing.
D3823 A	I	Closing this route would decrease user conflicts and benefit wildlife, especially raptors.	BLM has reviewed and verified the baseline information for D3823. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
D3828	I	Closing this route would decrease user conflicts and benefit wildlife, especially raptors.	BLM has reviewed and verified the baseline information for D3828, including that the use level is low and motorized use is a recreational

Route #/Alt.	Source	Comment Summarized	BLM Response
A	RwR I COTD	This route should be open. It contributes to a loop opportunity on Little Copper Ridge. It intersects the Jurassic bicycle trail at a perpendicular angle that minimizes user conflict. It is lightly used but still visible from aerial imagery.	use of the route. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
D3845 A,C,D	COTD	This regularly used route accesses a scenic overlook of Arches National Park around Tower Arch and the Marching Men.	BLM has reviewed and verified the baseline information for D3845, and confirms scenic driving is a recreational use of the route. Potential impacts to recreation are discussed in Section 3.3.1.
D3872 A,C,D	RwR	This route should be open. It accesses an overlook.	BLM has reviewed and verified the baseline information for D3872. RS 2477 assertions are discussed in Section 2.1.6. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	PLPCO	This route has an RS-2477 claim. The State of Utah categorically objects to any closure of a claimed RS-2477 route.	
	I	Closing this route would decrease user conflicts and benefit wildlife, especially raptors (formerly D3882).	
D3923 A,C,D	COTD	This route should be open. It accesses scenic overlooks and provides a valuable recreation experience as part of a system above the Copper Ridge Dinosaur Trackway and the North Klondike Campground.	BLM has reviewed and verified the baseline information for D3923, including that motorized use is a recreational use on the route. Potential impacts to recreation are discussed in Section 3.3.1.
D3924 A,C,D	I	Closing this route would decrease user conflicts and benefit wildlife, especially raptors.	BLM has reviewed the baseline information for D3924 and confirms motorized use is a recreational use on the route. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	COTD	This route should be open. It accesses scenic overlooks and provides a valuable recreation experience as part of a system above the Copper Ridge Dinosaur Trackway and the North Klondike Campground.	
D3925 A,C,D	I	Closing this route would decrease user conflicts and benefit wildlife, especially raptors.	BLM has reviewed and verified the baseline information for D3925. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	RwR	This route should be open. It accesses an overlook.	
D3926 A,C,D	RwR COTD	This route should be open. It accesses an overlook. It provides a valuable recreation experience as part of a system above the Copper Ridge Dinosaur Trackway and the North Klondike Campground.	BLM has reviewed the baseline information for D3926 and confirms motorized use is a recreational use on the route. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D3927 A,D	COTD	This route should be open. It accesses scenic overlooks and provides a valuable recreation experience as part of a system above the Copper Ridge Dinosaur Trackway and the North Klondike Campground.	BLM has reviewed the baseline information for D3927 and confirms motorized use is recreational use of the route. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to migratory birds, including golden eagles, are discussed in Section 3.2.9. Potential impacts to recreation are discussed in Section 3.3.1.
D6886 A	COTD	This route should be closed. It is completely reclaimed.	BLM has reviewed and verified the baseline information for D6886, including that the route is reclaiming and there is no use. Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10; potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
	BRC I	This route should be open. It is a well-used connector and provides a unique recreation experience. Vegetation growing along the route is evidence it doesn't have significant impact on sensitive soils, vegetation, or wildlife habitat.	
D6926 A	SUWA	This route should be closed. It is reclaimed and not visible on the ground. Any use of the route would impact soils, vegetation, wildlife habitat, and wilderness characteristics.	BLM has reviewed and verified the baseline information for D6926, including that the route is reclaiming. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to lands with wilderness characteristics are discussed in Section 3.2.2. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation are discussed in Section 3.3.1.
	BRC	This route should be open. It provides a unique recreation experience. Vegetation and soil crust show that motorized use has not significantly impacted their growth (formerly called D6927).	
D6940 A,D	I	This route should be open. It provides connectivity between Big Drop and Cow Freckles.	BLM has reviewed and verified the baseline information for D6940, including that it is a connector route. Potential impacts to recreation are discussed in Section 3.3.1.
D6950	BRC	This route provides a unique recreation experience to observe wildlife habitat. It receives use—vegetation growing in the road is evidence that users are staying on the route.	There is no D6950 route within this TMA. BLM checked the route inventory data and was unable to determine what route this may be referencing.
D6962 A,C,D	BRC	This route is well-used and accesses the Spring Canyon area. There are no documented user conflicts. Non-motorized users should not be given preferential treatment.	BLM has reviewed the baseline information for D6962, and confirms the use level is low, as documented in the route report. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.
D7059 A,D	COTD BRC	This route should be open. It accesses a unique overlook of Labyrinth Canyon at the end of Ten Mile Point and is featured in an area guidebook. It is not in a Natural Area and is not impacting bighorn. Any vegetation growing on the route shows that motorized use has not significantly impacted vegetation and habitat in the area.	BLM has reviewed the baseline information for D7059 and confirms that motorized use (e.g., jeeping/4-wheeling, motorcycling) and scenic driving are a recreational use of the route. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation, including the conflicts between motorized and non-motorized users, are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
D7066 A,D	RwR I	This route should be open. It provides connectivity as a shortcut between D2700 and D2707.	BLM has reviewed and verified the baseline information for D7066, including that it is a connector. Potential impacts to recreation are discussed in Section 3.3.1.
D7070 A	SUWA	This route should be closed. It is reclaimed and does not receive use. Any motorized use of the route would impact vegetation, soils, and wildlife habitat.	BLM has reviewed and verified the baseline information for D7070, including that the route is a reclaiming connector route. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation are discussed in Section 3.3.1.
	BRC I	This route should be open. It provides connectivity. The presence of brush and biological soil shows that motorized use has not caused significant damage.	
D7073 A	SUWA	This route should be closed. It is completely reclaimed and barely visible. Any motorized use would impact soils, vegetation, and wildlife habitat.	BLM has reviewed and verified the baseline information for D7073, including that the route is reclaiming. Potential impacts to soil and vegetation are discussed in Section 3.2.3. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation are discussed in Section 3.3.1.
	BRC I	This route should be open. It provides a scenic view into Ten Mile. It has not completely reclaimed. The presence of vegetation and soil crust shows that motorized use has not caused significant damage.	
D7209 A,D	RINS	These routes should be closed to protect and enhance raptor habitat.	BLM has reviewed and verified the baseline information for D7209, including that the route is associated with the location of bird habitat. Potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9.
D7278 A,B,C,D	COTD	This route should be open to full-sized vehicles to prevent a decrease in opportunities for full-sized vehicle users.	BLM has reviewed the baseline information for D7278 and confirms recreational use of the route. Alternatives vary among which type of vehicles are allowed on the route. Potential impacts to recreation are discussed in Section 3.3.1.
D7400 A,C,D	RwR	This route should be open. It is part of the Orange Trail and provides a challenging motorized experience with turns and whoops. It does not have much riparian vegetation.	BLM has reviewed the baseline information for D7400 and confirms recreational use of the route for jeeping/4-wheeling and motorcycling. Alternatives vary among which type of vehicles are allowed on the route. Potential impacts to water and riparian habitat is discussed in Section 3.2 6. Potential impacts to recreation are discussed in Section 3.3.1.
D7428 A,D	RwR	This route should be open. It provides a unique recreation experience that is more desirable than that of the Salt Wash graded road. With proper management, users could be directed to stay in the previously disturbed footprint.	BLM has reviewed and verified the baseline information for D7428. Potential impacts to recreation are discussed in Section 3.3.1.
D7860A	I	Closing this route would decrease user conflicts and benefit wildlife, especially raptors.	BLM has reviewed and verified the baseline information for D7860A, which is the portion of the route that is on BLM-managed land. Nesting

Route #/Alt.	Source	Comment Summarized	BLM Response
A,C,D	COTD	This route should be open. It accesses the Sunshine Wall rock climbing area and camping opportunities. It provides a valuable recreation experience for scenic exploration along striking cliffs just outside Arches National Park. The MFO is already in the process of mitigating negative impacts from camping along this route.	raptors are noted in the route report. Potential impacts to migratory birds, including raptors, are discussed in Section 3.2.9. (Note: raptor nest data is not disclosed due to confidentiality issues.) Potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10. Potential impacts to recreation, including conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
	SITLA	This route provides access to a portion of Sec. 32, T22S, R20E, SLB&M that would otherwise be inaccessible due to topography.	
D8121	COTD	This route accesses dispersed camping opportunities.	There is no D8121 route within this TMA. BLM checked the route inventory data and was unable to determine what route this may be referencing.
D8399 A,C,D	RwR	This route should be open. It provides connectivity to Lawson's Ledge, a motorized singletrack trail in Utah Raptor State Park. It provides a valuable singletrack recreation experience with a gentle grade, flowing turns, and rocky base. It also provides an exit for less-experienced motorcyclists.	BLM has reviewed and verified the baseline information for D8399, including that it is connector route. Potential impacts to recreation are discussed in Section 3.3.1.
D8704 A	COTD	This route should be closed. It is a lightly used powerline access route and is redundant with D1797.	BLM has reviewed and verified the baseline information for D8704, including that the use level is low and it provides ROW access.
D8738 A	COTD	This route should be closed. It has no purpose and need.	BLM has reviewed the baseline information for D8738, and confirms scenic driving is a recreational use of the route. Potential impacts to recreation are discussed in Section 3.3.1.
	I	This route should be open. It accesses quiet viewpoints and lunch stops.	
D8847 A,C,D	I	Closing this route would decrease user conflicts and benefit wildlife, especially great horned owls.	BLM has reviewed and verified the baseline information for D8847, including that the route is associated with the location of wildlife habitat. Potential impacts to migratory birds, including raptors, is discussed in Section 3.2.9; potential impacts to wildlife are discussed in Sections 3.2.8 and 3.2.10. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation, are discussed in Section 3.3.1.
D8869 A	SUWA	This route should be closed. It is a redundant, reclaiming connector with no purpose and need. It impacts bighorn habitat.	BLM has reviewed and verified the baseline information for D8869, including that the route is reclaiming. Potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation are discussed in Section 3.3.1.
	BRC	This route provides connectivity and a unique recreation experience for wildlife and habitat observation.	

Route #/Alt.	Source	Comment Summarized	BLM Response
D9099 A,D	RwR	This route accesses a 360-degree view from the top of the Book Cliffs to the top of Labyrinth Canyon, with the Henry Mountains in the background. It's a highlight of Enduro Loop and also accessible to four-wheeled vehicles. It provides motorized access for singletrack users and those with mobility impairments.	BLM has reviewed and verified the baseline information for D9099, including scenic driving as a recreational use of the route. Potential impacts to recreation are discussed in Section 3.3.1.
D9141 A,C,D	SUWA	This route should be closed. Use of the route damages riparian vegetation and contributes to noise and visual impacts that affect the experience of boaters on the Green River in Labyrinth Canyon.	BLM has reviewed and verified the baseline information for D9141. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to visual resources are discussed in Section 3.2.5. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation and noise, are discussed in Section 3.3.1.
	BRC	This route provides a valuable motorized recreation experience. There are no documented user conflicts. There is no data showing significant damage from motorized use. Non-motorized users should not be given preferential treatment.	
DC1 A,D	SUWA I	This route should be closed. Motorized use impacts wildlife, soil, vegetation, and other user groups. Motorcycle noise impacts users seeking quieter experiences. Dust from motorized use impacts air quality and visual quality.	BLM has reviewed the baseline information for DC1, and confirms the route is a motorcycle connector route. The issue of dust is discussed in Sections 1.6.3, 3.2.2, and 3.2.5. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation and noise, are discussed in Section 3.3.1.
	BRC I	This route should be open. It provides connectivity as part of the Dead Cow system. It provides a unique singletrack experience. Any damage seems to have occurred from natural events. Closing this route would concentrate use in other areas rather than dispersing on the landscape.	

Route #/Alt.	Source	Comment Summarized	BLM Response
DC2 A,C,D	SUWA I I	This route should be closed. It is located in sensitive riparian areas. Motorized use impacts wildlife, soil, vegetation, and other user groups, including river runners in Labyrinth Canyon. Motorcycle noise impacts users seeking quieter experiences. Dust from motorized use impacts air quality and visual quality. Singletrack opportunities should be concentrated in other areas of the TMA in order to protect riparian resources and the unique non-motorized user experience available in Labyrinth Canyon. Closing the route would protect the WSR corridor and its flatwater paddling recreation experience.	BLM has reviewed and verified the baseline information for DC2, including the location of the route being associated with wildlife, soil, and vegetation resources. The route report confirms the route as a motorcycle connecter route. The issue of dust is discussed in Sections 1.6.3, 3.2.2, and 3.2.5. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to water and riparian resources are discussed in Section 3.2.6; potential impacts to Special Designations, including Wild and Scenic Rivers, are discussed in Section 3.2.4. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation and noise, are discussed in Section 3.3.1.

Route #/Alt.	Source	Comment Summarized	BLM Response
	I BRC RwR	This route should be open. It is a connector that contributes to a loop opportunity. It provides a unique recreation experience for singletrack users. Closing this route would concentrate use in other areas rather than dispersing on the landscape. Use of this route does not appear to impact river runners, riparian habitat, or water quality. This route should be open. It provides connectivity as part of the Dead Cow system. It provides a unique singletrack experience. Any damage seems to have occurred from natural events. Closing this route would concentrate use in other areas rather than dispersing on the landscape. Dead Cow Loop, an iconic motorcycle trail, connects a couple minor tributaries of the Green River that have carved small slickrock canyons that traverse pour-offs. The bottom line is that options exist to minimize any negative impacts of Dead Cow Loop on top of the major mitigation that RwR has already accomplished in conjunction with BLM. Dead Cow Loop is part of the Dee Pass Motorized Trail focus area because the 2008 RMP recognized it as important in the balance of multiple uses.	

DC3 A,C,D	SUWA I I	This route should be closed. It is located in sensitive riparian areas. Motorized use impacts wildlife, soil, vegetation, and other user groups, including river runners in Labyrinth Canyon. Motorcycle noise impacts users seeking quieter experiences. Dust from motorized use impacts air quality and visual quality. Singletrack opportunities should be concentrated in other areas of the TMA in order to protect riparian resources and the unique non-motorized user experience available in Labyrinth Canyon. Closing the route would protect the WSR corridor and its flatwater paddling recreation experience.	BLM has reviewed and verified the baseline information for DC3, including the location of the route being associated with the location of riparian/wetland resources. The route report confirms the route is a connector route for motorized recreation (e.g., motorcycles). The issue of dust is discussed in Sections 1.6.3, 3.2.2, and 3.2.5. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to water and riparian resources are discussed in Section 3.2.6; potential impacts to Special Designations, including Wild and Scenic Rivers, are discussed in Section 3.2.4. Potential impacts to recreation, including the conflicts between motorized and non-motorized recreation and noise, are discussed in Section 3.3.1. BLM is aware of multiple routes, many of them user-made, that parallel the Green River. The designated route in the RMP is the one that is under consideration in this TMA.

	I BRC RwR	This route should be open. It provides connectivity as part of the Dead Cow system. It provides a unique singletrack experience. Any damage seems to have occurred from natural events. Closing this route would concentrate use in other areas rather than dispersing on the landscape. This route should be open. It is a connector that contributes to a loop opportunity. It provides a unique recreation experience for singletrack users. Closing this route would concentrate use in other areas rather than dispersing on the landscape. Use of this route does not appear to impact river runners, riparian habitat, or water quality. Dead Cow Loop, an iconic motorcycle trail, connects a couple minor tributaries of the Green River that have carved small slickrock canyons that traverse pour-offs, primarily in the southern tributaries (The Tubes) more so than the northern one (Dead Cow Canyon). The pour-offs often contain water, which is a unique feature for a motorized trail in the desert, and the slickrock base of each canyon has limited any erosion or sedimentation. RwR has spent hundreds of hours assisting BLM's management of Dead Cow Loop. First, we rerouted access to The Tubes away from the Five Miles Of Whoops to a well-designed singletrack that hasn't braided in seven years and counting. Second, we blocked off the southern extension of D2763B that went from The Tubes to a historic cabin, which was closed in 2014. Third, we blocked off the primary ("Low Water") route of Dead Cow Loop that went all the way down Dead Cow Wash to the river and along Cow Bottom, directing all traffic to the secondary ("High Water") route that stays above and back off the rim of river canyon. This section from Dead Cow Wash all the way to its merge with the road (D2763B) goes across a sand flat, so it's whooped and braided, but could easily be routed further southeast (further away from the river) to utilize rockier terrain that would prevent the development of whoops or braids. The closed routes ("Low Water" and the historic cabin) could	

		be further blocked and enforced, as they are occasionally poached, but the vast majority of use already stays on the designated loop. The October 6th COTD letter pointed out that the GIS data for the parallel routes (D2763B and DC3 below The Tubes) is inaccurate, which was due to poor satellite reception in the river canyon when both routes were mapped over two decades ago. The letter is correct that D2763B refers to the road that is at the bottom, while DC3 refers to a singletrack above and east of there. Note that there are actually three singletracks east of there, with the first one being atop the gravel deposit with signs marking it as the designated singletrack. However, another singletrack exists east of there down between the gravel deposit and the cliff of Navajo Sandstone. A third singletrack exists atop the Navajo Sandstone, and actually drops down through a passage in the cliff. This third, cliff-top singletrack is the most fun, but probably the least useful if BLM seeks to further minimize the presence of motorcycles near the river (beyond closing "Low Water" and the historic cabins). The singletrack at the base of the cliff would be useful because it's on smooth slickrock that wouldn't whoop or braid, and it's screened from the river by the gravel deposit. In the worst-case scenario, if the singletrack at the base of the cliff bounces sound from the cliff to the river, motorcycles could simply use the road (D2763B), which is whooped and closer to the river but screened by a wall of vegetation. The bottom line is that options exist to minimize any negative impacts of Dead Cow Loop on top of the major mitigation that RwR has already accomplished in conjunction with BLM. Dead Cow Loop is part of the Dee Pass Motorized Trail focus area because the 2008 RMP recognized it as important in the balance of multiple uses.	

Route #/Alt.	Source	Comment Summarized	BLM Response
DFT1 A,D	RwR	This route provides a loop opportunity from the White Wash staging area and an alternative to Enduro Loop. Impacts could be mitigated by re-routing.	BLM has reviewed and verified the baseline information for DFT1, including that it provides a loop opportunity. Potential impacts to recreation are discussed in Section 3.3.1.
EL2A A,D	I RwR	This route should be designated for motorcycle use. It has been re-routed away from the riparian area and is now located in the non-riparian portion of a sinuous wash bottom. Closing this route would concentrate use on the seismic-line route through the sand flats further south, which would cause more issues for maintenance and create a less desirable recreation experience.	BLM has reviewed the baseline information for EL2A and confirms motorcycle use as a recreational use of the route. Alternatives vary between types of vehicles allowed on the route. Potential impacts to water and riparian resources are discussed in Section 3.2.6. Potential impacts to recreation are discussed in Section 3.3.1.
EL8 A,C,D	RwR I	This route should be open. It provides connectivity and a valuable recreation experience. Use of the route has not caused impacts that require much maintenance.	BLM has reviewed the baseline information for EL8 and confirms the route is a connector route and recreational use of the route includes motorcycle use. Alternatives vary between types of vehicles allowed on the route. Potential impacts to recreation are discussed in Section 3.3.1.
OWW1 A,D	RwR	This route should be open. It provides a challenging motorized experience with turns and whoops. It does not have much riparian vegetation.	BLM has reviewed the baseline information for OWW1 and confirms motorized use of the route, including motorcycling and jeeping/4-wheeling. Alternatives vary between types of vehicles allowed on the route. Potential impacts to water and riparian resources are discussed in Section 3.2.6. Potential impacts to recreation are discussed in Section 3.3.1.
REDROCK A,B,C,D	BRC I	This route should be open. It is a connector that provides a unique recreation experience. Vegetation growing along the route is evidence that users are staying on the route and not damaging resources.	BLM has reviewed and verified the baseline information for REDROCK. Alternatives vary between types of vehicles allowed on the route. Potential impacts to soils and vegetation are discussed in Section 3.2.3. Potential impacts to recreation are discussed in Section 3.3.1. No changes are needed to the alternatives.
RF1 A,B,C,D	SUWA	This route should be closed. It leads to illegal off-route use that creates widening and braiding. It impacts important wildlife habitat, vegetation, soils, and an ephemeral stream.	BLM has reviewed the baseline information for RF1 and confirms resources associated with the location of the route and UTV/ATV as a recreational use of the route. Alternatives vary between types of vehicles allowed on the route. Potential impacts to soils and vegetation are discussed in Section 3.2.3; potential impacts to wildlife are discussed in Sections 3.2.8, 3.2.9, and 3.2.10. Potential impacts to water and riparian resources are discussed in Section 3.2.6. Potential impacts to recreation are discussed in Section 3.3.1.
	BRC I	This route provides a unique ATV user experience and connectivity. Vegetation growing along the route is evidence that use is not damaging resources.	

Route #/Alt.	Source	Comment Summarized	BLM Response
SF1 A,B,C,D	RwR I	This route provides a unique recreation experience. It offers a loop opportunity with Brian's Trail. It could be further re-routed, but motorized users appear to be staying on the route.	BLM has reviewed the baseline information for SF1 and confirms it is a connector route. Alternatives vary between types of vehicles allowed on the route. Potential impacts to recreation are discussed in Section 3.3.1.
SW1 A,C,D	RwR	This route should be open. It provides a unique motorized recreation experience as a circuitous course through deep sand. It accesses a view of the Green River at the end. It has few cottonwood trees.	BLM has reviewed the baseline information for SW1; the route report confirms motorized use of the route, including motorcycles. Jurisdictional access is confirmed as an alternate access on the route report. Alternatives vary between types of vehicles allowed on the route. Potential impacts to recreation are discussed in Section 3.3.1. No changes are needed to the alternatives.
	SITLA	This route provides access to a portion of Sec. 36, T22S, R16E, SLB&M.	
	I	This route should be designated for motorcycle use. It accesses White Wash from Green River City. This route minimizes conflicts between motorcycles and full-size vehicles.	
TT1 A,C,D	RwR	This route should be open. It accesses prominent rock formations and provides a valuable recreation experience.	BLM has reviewed and verified the baseline information for TT1. Alternatives vary between types of vehicles allowed on the route. Potential impacts to recreation are discussed in Section 3.3.1.
TTIP1 A,B,C,D	SUWA	This route should be closed. Use of the route causes damage to vegetation and soils. It impacts important wildlife and plant habitats. Use should be concentrated in the White Wash Open Area.	BLM has reviewed the baseline information for TTIP1. The route report confirms that TTIP1 is a connector route, and that ATV use is a recreational use of the route. Alternatives vary between types of vehicles allowed on the route. Potential impacts to recreation are discussed in Section 3.3.1. Potential impacts to soils and vegetation are discussed in Section 3.2.3 of the EA; potential impacts to wildlife are discussed in Section 3.2.8, 3.2.9, and 3.2.10.
	BRC I I	This route should be open. It is a connector that provides a loop opportunity and a unique recreation experience for ATV users. Vegetation along the route shows that use is not damaging resources. This route helps disperse users rather than concentrating them on the landscape.	

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APPENDIX N IMPLEMENTATION GUIDE

for the Labyrinth/Gemini Bridges Travel Management Plan

DOI-BLM-UT-Y010-2020-0097-EA

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ACRONYMS

Acronym	Full Terminology
BLM	Bureau of Land Management
BMP	Best management practice
CFR	Code of Federal Regulations
EA	Environmental Assessment
ESA	Endangered Species Act
FAMS	Facility Asset Management System
FLTP	Federal Lands Transportation Program
GIS	Geographic information system
GPS	Global positioning system
GTLF	Ground Transportation Linear Features
HPTP	Historic Properties Treatment Plan
LWC	Lands with wilderness characteristics
MFO	Moab Field Office
MUTCD	Manual on Uniform Traffic Control Devices
NCA	National conservation area
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OHV	Off-highway vehicle
RMP	Resource Management Plan
RMZ	Recreation management zone
ROW	Right-of-way
SRMA	Special Recreation Management Area
TMA	Travel Management Area
TMP	Travel Management Plan
TTM	Travel and Transportation Management
VRM	Visual Resource Management

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N.1 INTRODUCTION

Creating a Travel Management Plan (TMP) route network and analyzing the potential resource or resource use effects in an Environmental Assessment (EA) as part of the National Environmental Policy Act (NEPA) process is the first of two key steps in the travel management planning process. Implementing the travel network decisions and actively managing the designated travel route system on the ground following the EA is the second key step.

DOCUMENT OVERVIEW

This document, the TMP Implementation Guide (Guide), will guide the Labyrinth/Gemini Bridges TMP, located on lands administered by the BLM's Moab Field Office (MFO). This Guide provides operation and management guidance for the Labyrinth/Gemini Bridges Travel Management Area (TMA) off-highway vehicle (OHV) route network as analyzed in the Labyrinth/Gemini Bridges TMP EA and adopted and designated in the Decision Record.

This Guide is intended to serve as a standalone manual for operating and maintaining the TMA's designated travel route network in accordance with the Decision Record. It helps fulfill the purpose and need for the TMP as detailed in the EA in meeting current and future public access and resource management needs, supports management decisions in the 2008 Moab Field Office Record of Decision and Approved Resource Management Plan (2008 RMP), and complies with the NEPA and other federal regulations.

As part of ongoing travel management, new route designations may be added or changed in the future to respond to growing public demand for access, Title V right-of-way (ROW) considerations, or concerns of damage to resources. Any new or changed designations will be subject to a site-specific review under the NEPA.

Primary operation and management actions discussed in this Guide include maintenance and resource protection, public education and outreach, visitor services, working with partners and volunteers, law enforcement, directional and regulatory signing, reclamation, monitoring, and engineering and resource program interface.

Monitoring efforts are of key importance and will help the BLM determine the effectiveness of operation and management, informing the BLM on issues that may need to be addressed through adaptive management or additional management actions. The Labyrinth/Gemini Bridges TMP EA identified several important resource and use issues at the heart of the BLM's commitment to provide for multiple land uses while protecting sensitive cultural and natural resources. They include:

- Impacts of OHV travel on known cultural resource sites
- Route-related soil erosion, and its resulting impacts on vegetation and water quality
- Impacts of travel routes and OHV use on visual resources
- Impacts of travel routes and OHV use on wildlife and migratory birds
- OHV-related disturbances of sensitive species plants habitat
- OHV-related disturbances on sensitive and/or Endangered Species Act (ESA) listed wildlife species habitat

- Impacts from OHV travel on the defining characteristics of lands with wilderness characteristics and other special management area designations
- Providing access for recreation opportunities and experiences

In addition, the route evaluation process conducted as part of the TMP EA identified monitoring activities specific to individual routes. General monitoring schedules are included in the 0 "Strategies and Schedules" section of this guide.

Note: The BLM intends to fully implement the Labyrinth/Gemini Bridges TMP according to this Guide. However, the operation and management actions discussed in this document are subject to available staff and funding. For the EA it was assumed that staff and funding would be available to implement the TMP-this assumption is carried through in this Guide. Grants, new appropriations, partnerships, and volunteers may be used to supplement budgets and workforce when possible.

Additionally, mileages, percentages, and other numbers used in this guide are approximate projections for comparison and analytical purposes only. They do not reflect exact measurements or precise calculations. Table mileages and percentages may not sum properly due to rounding.

TRAVEL MANAGEMENT AREA OVERVIEW

The 303,994-acre TMA is in Grand County and falls under the jurisdiction of the BLM MFO. For more details, see the attached maps and Section 1.4 of the EA.

The TMA contains the following specially designated areas (i.e., areas formally designated by Congress or through an RMP process):

- Highway 279/Shafer Basin/Long Canyon Area of Critical Environmental Concern (ACEC)
- Ten Mile Wash ACEC
- Scenic Wild and Scenic River (WSR) segment of the Green River
- Labyrinth Rims/Gemini Bridges Special Recreation Management Area (SRMA)
- 40-mile segment of the Old Spanish National Historic Trail (NHT)

There are also areas characterized as lands with wilderness characteristics (LWC) that are not specially designated but are managed for undeveloped character and to provide opportunities for primitive recreation as appropriate.

BACKGROUND ON BLM TRAVEL AND TRANSPORTATION MANAGEMENT

In the 1980s, in response to Presidential Executive Orders 11644 (Federal Center 1977) and 11989 (National Archives 1972), the BLM began to address public concerns regarding the proliferation of unplanned roads and trails and their impact on public land resources and uses. by designating all public lands as either "open," "limited," or "closed" to OHV use in accordance with the designation criteria in the Code of Federal Regulations (CFR), under 43 CFR § 8342.1.

National BLM policy requires state and field offices to develop Travel and Transportation Management (TTM) plans using a comprehensive, interdisciplinary approach. Using a collaborative approach can resolve or prevent resource conflicts and issues associated with travel on BLM lands. The Labyrinth/Gemini Bridges TMP was developed using the TTM process.

(This TMP addresses public OHV use of routes in the TMA. Non-motorized uses will be addressed in a separate planning process.) See the BLM's travel management handbook (BLM 2012a) and manual[25] (BLM 2016c) for more information on the TTM process.

The BLM's TTM process ensures proactive management of public access and resources in compliance with travel-related regulations and best management practices (BMPs). The process moves from broad-scale land use plan decisions achieved in RMPs or equivalent documents to more site-specific, project-level decisions and actions (e.g., those included in the EA and this document). TTM project-level decisions address specific implementation, operation, and maintenance actions for routes and access and recreation-related needs. TTM goals are to:

- Provide and improve sustainable access for public needs and experiences.
- Protect natural resources and settings.
- Protect cultural resources in compliance with Section 106 of the NHPA.
- Promote the safety of public land users.
- Minimize conflicts among various public land users.

N.2 TRAVEL MANAGEMENT DECISIONS

2008 RMP DECISIONS AND CURRENT MANAGEMENT SETTINGS

Previous Individual Route Designations and General Travel Management Guidance

The 2022 Labyrinth/Gemini Bridges TMP route network designations supersede the individual route and area designations assigned in the TMA by the BLM's 2008 RMP travel plan (for more details on that designation effort, see pages 18-20 and 36-37 of the 2008 RMP). In some cases, individual route designations developed in the 2022 Labyrinth/Gemini Bridges TMP modify route-specific designations developed in 2008. In addition to assigning project-level route designations, the 2008 RMP also provided overarching travel management-related considerations, goals, objectives, and management decisions (see 0 of this Guide and pages 126-130 as well as Appendix N of the 2008 RMP) to guide future travel management planning efforts such as this 2022 Labyrinth/Gemini Bridges TMP.

Area Designations

An area designation is a land use planning (i.e., RMP-level) 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 areas under their jurisdiction as open, limited, or closed to OHVs. OHV area designations are overarching and broader than individual route designations, which are more comprehensive, detailed and route-specific. After OHV area designations are assigned in RMPs, individual routes *may be* designated in areas designated as "open," and individual routes *must be* designated in areas designated as "limited." Typically, individual preliminary route designations of open, limited, or closed are identified during a systematic route evaluation process and analyzed in an EA accompanying a proposed TMP. This was the case for the Labyrinth/Gemini Bridges TMP/EA project.

[25] The BLM travel management manual was last updated in 2016 and should be used instead of the more outdated handbook when manual topics overlap with handbook topics.

The 2008 RMP designated 99.4% of the TMA as "Limited to Designated Routes," with the White Wash Sand Dunes area designated as "Open." For a depiction of OHV area designations in the TMA, see Map 30 in the 2008 RMP (BLM 2008b). Though there are exceptions for emergencies and other instances, OHV and mechanized vehicle use is limited to designated routes within the TMA except in the White Wash Sand Dunes area (1,866 acres).

ROUTE DESIGNATIONS

The purpose of the Labyrinth/Gemini Bridges TMP process was to, among other things, revisit and reconsider the viability of routes designated in the 2008 Travel Plan. For details on route designation types and how they were determined, see Section 2.1 of the EA. For details on each assigned route designation, see the route reports discussed in Appendix J of the EA. Route designations may fall under the general designation categories of OHV-Open, OHV-Limited, and OHV-Closed. In some cases, more specific route designations may be called for under these basic designation categories. For instance, if additional management is called for by the IDT on an OHV-Open route to help mitigate a resource concern, the route would be designated as "Open with Management" but still be grouped under the general "OHV-Open" category since it would remain available to OHV use (i.e., public motorized use). Conversely a travel route may be as assigned a more specific designation of "Limited to Authorized Use," limiting route use to authorized users (e.g., grazing permittees) only. This specific designation would be grouped under the broad "OHV-Closed" category since it would be closed to OHV users. See the Decision Record for more information on route designations in the Labyrinth/Gemini Bridges TMP.

TRANSPORTATION ASSET TYPES AND THE FACILITY ASSET MANAGEMENT SYSTEM

"Transportation asset" is a term used to describe roads, primitive roads, and trails that comprise the BLM's transportation system. It is the general term used to categorize all BLM-managed "transportation assets" contained within the Facility Asset Management System (FAMS). The BLM travel management manual states, "The inclusion of a transportation linear feature in FAMS is not a decision—inclusion in FAMS is a management tool to aid in the implementation of route-related decisions such as administration, maintenance, emergency repair, etc." (BLM 2016c). If the data are available, the BLM records FAMS numbers during evaluation for routes that are already in the FAMS.

Closed routes, reclaiming routes, and routes in wilderness areas are not to be included in the FAMS. Below are BLM travel management manual (BLM 2016c) definitions for the three FAMS asset types:

> Road: A linear route declared a road by the owner, managed for use by low-clearance vehicles having four or more wheels, and maintained for regular and continuous use.
>
> Primitive Road: A linear route managed for use by four-wheel drive or high-clearance vehicles. These routes do not normally meet any BLM road design standards. Unless specifically prohibited, primitive roads can also include other uses, such as hiking, biking, and horseback riding.

Trail: A linear route managed for human-powered, stock or off-highway vehicle forms of transportation or for historical or heritage values. Trails are not generally managed for use by four-wheel drive or high-clearance vehicles.

NON-MOTORIZED ROUTE USE

Users can engage in non-motorized and non-mechanized travel anywhere on public lands, including those within the TMA, unless an area or route is closed for safety or a specific resource concern. Therefore, routes that limit motorized vehicle use to official or administrative purposes or otherwise are designated OHV-Closed are often open to non-motorized and non-mechanized uses, including but not limited to hiking and horseback riding. In the MFO, mountain bikes are limited to designated routes. Mountain bikes are allowed on all motorized routes, as well as on routes designated for mountain bike use.

E-BIKES

E-bikes are only authorized on OHV routes; however, an Authorized Officer may allow, as part of a land-use planning or implementation-level decision, e-bikes, or certain classes of e-bikes, whose motorized features are not being used exclusively to propel the e-bike for an extended period of time on roads and trails upon which mechanized, non-motorized use is allowed. E-bikes are by default allowed on all trails designated for motorized use. E-bikes are defined 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.

CROSS-COUNTRY OHV TRAVEL

Cross-country motorized travel is allowed only in the 1,866-acre White Wash Sand Dunes area. Outside of this open area, cross-country motorized travel within the TMA is prohibited. The 2008 RMP specifically addresses how the OHV-Limited area designation restricts cross-country travel:

> The limited designation in the Approved RMP replaces the large amount of area currently available for cross country travel within the planning area. As a result, the Approved RMP provides a substantial amount of protection to natural (vegetation, soils, scenery, riparian, and wildlife) and cultural resources by eliminating cross-country travel which can be detrimental to these resources. The Approved RMP allows for motorized access and opportunities within the limited designation while still providing protection for sensitive resources and non-motorized recreation users.

PUBLIC LANDS ACCESS

Introduction

Access to and across BLM lands within the TMA is influenced by land tenure and various land-use authorizations, such as rights-of-way (ROWs) for roads and utilities. Routes in the existing transportation network which cross non-federal land or areas affected by special land-use authorizations will continue to see use under current and foreseeable travel patterns, though their public use is not legally ensured for the long-term. These routes constitute priorities for pursuing legal access acquisition (or adjudicating existing access rights) across non-federal land to ensure long-term access for the public and for the maintenance and operation of authorized uses. This project's ePlanning page shows the TMP route network in relation to BLM surface ownership in the TMA.

TMA Access to and from Other Jurisdictions

Access to and within the TMA exists primarily from U.S. Highway 191 and State Route 313. In addition to these developed roads, many secondary routes provide access within the TMA. Access to the TMA is primarily from BLM lands, though a few routes enter from private and state lands. In areas where BLM-administered routes cross private lands, access into the TMA from these routes is not ensured for the long-term unless the BLM acquires legal permission across these lands. TMP route designations do not apply to private lands and access across private lands in the TMA is a concern for the public and for the BLM's management of adjacent public lands. The BLM may seek future easements from willing landowners to secure long-term public access across these lands. To avoid new ground disturbance and impacts to resources, the BLM typically prescribes use of existing roads in ROWs issued to access private land.

N.3 IMPLEMENTATION

INTRODUCTION

This Guide's primary purposes are to implement the designations in the adopted Labyrinth/Gemini Bridges TMP and to create a management framework that allows for current and future needs of users while ensuring the protection of resources and reducing or preventing user conflicts. The implementation strategies in this section are designed to assist in achieving these purposes.

IMPLEMENTATION STRATEGY AND PRIORITIES

Priority of Implementation Actions

TMP implementation is staff- and funding-dependent and should be based on the strategies and priorities discussed below. The implementation priorities are based on the BLM's projected ability to operate and maintain the designated travel network in a manner that may change TMA conditions and influence visitor behavior to achieve desired conditions. Specific components of TMP implementation are described in more detail elsewhere in this plan. This section provides the reader with a sense of key implementation actions and timing.

Monitoring, adaptive management, and budget limitations can affect the BLM's implementation priorities and timeline of completion. When selecting areas/routes for TMP implementation, priorities will be assigned using the five factors listed below. These factors are adapted from a model project in the BLM's Travel and Transportation Handbook (BLM 2012a).

1. Would implementing the action maintain and enhance public safety?

2. Would the action be implemented in an area of high resource value (natural, cultural, historic, biological, scientific, scenic, recreational, etc.)?
3. Does the area/route include habitat for special status species?
4. Does the area/route have above-average surface disturbance?
5. Does the action resolve significant community or administrative interface issues?

The primary implementation actions described below may be done concurrently, combined, or conducted in the order in which they are funded. The BLM may attempt to complete implementation in the order shown with heightened priority acknowledged for special emphasis areas such as special designations, areas with sensitive resources, and areas of intensive use (see Section 0 for a listing of special emphasis areas in the TMA). The following list indicates the BLM's Labyrinth/Gemini Bridges TMP primary implementation actions and their general/current order of priority, as established by MFO recreation staff. As with the factors listed above, it is adapted from a model project in the BLM's Travel and Transportation Handbook (BLM 2012a):

1. Continue public education and outreach efforts. Develop and distribute public access maps and informational brochures of the designated route network in print and electronic (web-based) formats.
2. Sign the open route network to make open routes more apparent and attractive than closed routes. Pursue funding for materials and staff needed to implement route and transportation facility signing efforts.
3. Conduct an appropriate level of maintenance consistent with established maintenance intensity levels on the designated transportation system.
4. Establish route closures and assess restoration needs based on inventory and monitoring. Pursue funding for route closure and reclamation if necessary; then begin reclamation of closed routes.
5. Establish or maintain partnerships with existing local groups and clubs and local, county, State, and tribal government organizations. As needed and when possible, recruit and train volunteers to establish monitoring patrols and place route markers to augment BLM efforts.
6. Install informational kiosks and signs. Maintain and upgrade existing kiosk boards as necessary.
7. Monitor compliance with the TMP route network designations, including the route network markers.
8. Make changes to the route network and adjust management strategies as necessary.

Breaking down these primary implementation actions into a more refined schedule of individual tasks serves to track implementation progress. Table 54, below, provides a refined task list with phased scheduling and task notes.

Table 54: TMP Implementation Action Tasks and Scheduling

Phase	Task	Implementation Notes
Phase I	Assign a FAMS navigational identification number to each route that is designated open or limited.	*Enter in FAMS. Update GIS database to "crosswalk" with evaluation and inventory numbers.*
Phase I	Develop and publish up-to-date, readily available map of the TMA BLM travel route network.	*This is the first step in the effort to increase public knowledge of the travel network and plans for its future. To be cost-effective, maps may cover an area larger than just TMA BLM lands.*
Phase I	Develop a signing plan and initiate an outreach program.	*This can be done at the District level.*
Phase I	Pursue funding for outreach literature, signs, and staff needed to implement the route-marking effort.	
Phase I	Establish databases and protocols for collecting monitoring data. Identify initial sites for resource monitoring.	*Clear identification of the information required would result in more effective monitoring and data recording.*
Phase I	Prepare for initial signing of network.	*As funding allows, this may include hiring seasonal trail ranger(s) or contracting for initial signing.*
Phase I	Sign the travel route network with route markers and inventory maintenance and restoration needs. Prioritize by area.	*The principal goal is to make the open and limited travel routes readily identifiable to users.*
Phase I	Set up partnerships with existing local groups and clubs and local, county, State, and tribal government organizations. As needed/possible, recruit and train volunteers to establish patrols and place route markers.	*Greater public compliance with OHV regulations may be achieved over time by involving user groups for this task.*
End of Phase I	Monitor compliance with the TMP route network. Publish an annual report online.	*The report could include pictures of some actions taken.*
End of Phase I	Pursue funding for route reclamation. Establish restoration priorities using data from inventories and monitoring.	
Phase II	Take actions to reclaim "Closed and Decommissioned" travel routes that continue to receive vehicle traffic.	*Timely reclamation of decommissioned routes would reduce the potential for continued use.*
Phase II	Update travel network maps and re-publish as necessary.	

Phase	Task	Implementation Notes
All Phases of Plan	Monitor and maintain the open route network markers based on direction in this guide's sign plan.	
Phase II or III	Install bulletin boards/kiosks at primary portals to public lands and where needed based on monitoring.	*Only install at non-portal sites if sites that require additional visitor information have been identified through monitoring.*
Phase III	Explore options for completing a visitor survey for each TMA.	

Funding Strategy

The BLM will seek adequate funding to manage and maintain the TMA's route network. Funding will be needed for labor and supplies to provide law enforcement, recreation and visitor services, outreach programs, the restoration and decommissioning of closed routes, and maintenance and operational costs (supplies, materials, tools, equipment, vehicles, communications, etc.). Operational and monitoring funding for cultural resources protection, wildlife surveys, transportation system maintenance, and related costs should be determined on an ongoing project basis and planned annually.

EDUCATION AND OUTREACH

Introduction

Public education and outreach are important priorities in implementing the TMP. Successful implementation includes providing the public with information about route designations, laws and regulations, land use ethics, safety notices, and resource values that may be affected by travel and transportation on public lands. Interpretive media will be distributed through news releases, traditional brochures and guides, travel maps, informational signing, social media sites, electronic media from BLM websites, and other means. Educational efforts will be coordinated with adjacent land managers to minimize user confusion and present a seamless message to the public across different land jurisdictions and media outlets.

Objectives

The main education objectives for the Labyrinth/Gemini Bridges TMP include attaining voluntary compliance with route designations and closures and reducing conflicts among public land users. Ensuring compliance with route designations will promote the safety of public land users, facilitate resource protection by discouraging the proliferation of unauthorized routes, and help achieve other identified objectives.

The outreach initiative will promote respect for public, private, and state trust land by providing information on access to public lands, encouraging users to obtain permission from landowners if traveling across private or state trust lands, and by specifying where to get additional information and maps. Target messages or themes for this educational effort include:

- Public lands provide diverse recreational opportunities enjoyed by various users.
- Restricting travel to designated travel routes protects resources and public access.
- Tread Lightly! (www.treadlightly.org)/Leave No Trace (www.lnt.org) outdoor ethics

- Share the trail (https://www.imba.com/ride/ride-vibes).
- Respect other users of public land and the rights of private landowners.
- Be aware of current fire restrictions and help prevent wildfires.
- Practice OHV ethics and safety.
- Prevent the spread of invasive species.

Outreach Strategies

Effective communication with the public requires clear, concise messaging. This can be accomplished through direct and indirect public contact and through physical and virtual means. Though not exhaustive, the following list outlines potential targeted methods of communication:

- Kiosks and interpretive signage
- Visitor center displays
- In-person public presentations
- Paper and electronic format maps available to the public
    - General visitor map of designated route network (must follow mapping standards of the BLM's Publication Standards Manual Handbook (H-1553)).
    - Special area maps
    - Work with commercial map makers (National Geographic and Latitude 40) to ensure that their data reflects the updated travel plan
- Website/electronic media
    - Georeferenced PDF maps for viewing on portable electronic devices
    - ArcGIS Online map server
    - Google Earth keyhole markup language (KML) / keyhole markup language zipped (KMZ) files
    - Universal global positioning system (GPS) files (GPX)[26] for use with GPS units
    - GPS-compatible route and basemap data loaded on memory cards for sale online and/or at appropriate BLM offices and visitor centers
- Social Media

Signs are one of the most visible mediums used to convey information about the BLM and are often the only formal contact the public has with the BLM. Appropriate, consistent signing that conforms to national standards will help ensure a safe and enjoyable visit to public lands. For more specifics on signing, see this guide's sign plan (Section 0).

Maps and other information relating to the travel and transportation network will be available to the public at a future date in paper and electronic form at visitor centers, on BLM websites, and displayed on informational kiosks throughout the TMA. The BLM will expand and improve educational efforts to foster responsible land-use ethics among different user groups by leveraging interpretive resources from recognized national organizations such as Tread Lightly! Inc. and Leave No Trace, both of which have signed National Memoranda of Understanding with the BLM. Educational materials will also include information on the impacts that inappropriate visitor behavior has on TMA resources or other resource uses. The BLM will incorporate

[26] A GPX is a text file for exchanging GPS data that can include waypoints, tracks, and routes.

information about public land values and user ethics into the terms and conditions of permits and land-use authorizations to reach a wider audience.

Partnerships

To achieve travel management implementation objectives, the BLM will seek to develop and maintain partnerships with a broad range of local, county, state, tribal, and federal agencies, as well as service-oriented volunteers, schools, and non-governmental organizations.

Partnerships enhance opportunities for community involvement in travel management implementation. Official partnerships may be established through agreements including memoranda of understanding, cooperative agreements, assistance agreements, landowner agreements, letters of agreement, and other types of documents for contributed goods and services.

SIGN PLAN

Signing is a key element in implementing comprehensive travel and transportation plans on the ground. The BLM will apply discretion and professional judgment to select the best signing methods for each situation using the guidance set forth in the Sign Plan BMPs, Appendix 0, and may develop more detailed, area-specific plans as needed. The sign component of this guide is intentionally broad in scope. Rather than addressing specific sign needs, requirements, or locations, it establishes sign standards and guidelines for implementation and management of TMP objectives. This is not a static implementation plan; it may be modified as new signing needs are identified. Additional details for signs on BLM lands (installation, ordering, etc.) can be found in the BLM's 2016 National Sign Handbook (BLM 2016b) and the Federal Highway Administration's Manual on Uniform Traffic Control Devices, which is also known as the MUTCD (FHWA 2019).

MAINTENANCE AND ENGINEERING

Overview

This section covers maintenance and engineering considerations for the TMA route network. The "Route-by-Route Details" list presented in Appendix 0 shows the maintenance and engineering-related details for routes in the network at the time the TMP is approved. These routes will be added to the Ground Transportation Linear Feature (GTLF) dataset, which is the most up-to-date dataset for Utah BLM, and updates in the route network in GTLF will serve as updates to the TMP.

The routes will also be included in the FAMS. Each route will have a FAMS route number, a primary route management objective, a functional classification, a FAMS asset type, maintenance intensity, FAMS inclusion/nomination status, and Federal Lands Transportation Program (FLTP) and Federal Lands Access Program eligibility status. More details on these implementation data types are provided later in this section.

Route maintenance on BLM lands can include general grading and shaping of route surfaces, maintenance and installation of water control structures, placement of gravel surfacing, washout repairs or realignment, etc. The BLM will maintain roads on public lands in the TMA as specified by maintenance intensities, and condition assessment developed and conducted in accordance with the following BLM roads manual and handbooks policies:

- Manual MS-9113 - Roads (BLM 2015a)
- Handbook H-9113-2 Roads Inventory and Condition Assessment Guidance & Instructions (2015b)
- Handbook H-9115-2 Primitive Roads Inventory and Condition Assessment Guidance & Instructions (BLM 2012c)

The conditions and use levels of routes determine what maintenance intensities they receive. Route conditions, design standards, and guidelines are based on average daily traffic, functional classifications, and terrain. Changes to the transportation network (e.g., new routes, re-routes, or closures) in the TMA are made through project-level planning with site-specific review as appropriate under applicable laws.

Maintenance efforts will focus on sustaining navigability for designated routes in the travel network without substantially changing the recreational experience that individual routes provide. In addition to the BLM, authorized users (e.g., miners, grazing permittees, and utility maintenance crews) have performed intermittent maintenance on roads in the past. Various agreements exist between the BLM and these authorized users to allow them to perform emergency spot maintenance on a case-by-case basis to restore access for authorized activities. A current route maintenance MOU exists between the MFO and Grand County and is expected to remain in place in the future. No matter who performs the work, the top priorities for route maintenance are public safety, protection and/or enhancement of resources, maintaining route standards, and ensuring consistency with route designation decisions.

Engineering Interface

This section describes the interface with the BLM Engineering program as an ongoing component of travel management planning and implementation. The components described below may only be fully attributed or documented as time and resources allow.

Routes in the Facility Asset Management System

The FAMS is the BLM's official database for the management of transportation system assets and facilities and plays a vital role in planning for the management and stewardship of BLM assets. All appropriate designated roads, primitive roads, and trails within the travel network addressed in this TMP are classified as transportation assets in the FAMS and will be tracked in the FAMS as well as the GTLF geospatial database.

Routes in the Federal Lands Transportation Program

The BLM project lead will coordinate with BLM engineering staff to determine which routes are eligible for FLTP status. FLTP-eligible routes are:

- Owned and maintained by the federal government
- Important and highly valued by the BLM
- Located on, adjacent to, or provide access to federal lands
- Included in the national Federal Lands Transportation Facilities (FLTF) inventory

Routes in the FLTP provide access to high-use recreation locations and federal economic generators. Documenting FLTP eligibility for FLTP funding is a requirement for travel management plans (TMPs) in the 2016 BLM Travel Management Manual (BLM 2016c).

Route Functional Classifications

The BLM uses three functional classifications (collector, local, and resource) to categorize its roads.[27] These classifications reflect the area served, type and volume of traffic, and maintenance standards. These classifications are described in the subsections below, with text taken from the BLM roads manual (BLM 2015a):

> Collector Roads: "These BLM roads normally provide primary access to large blocks of land and connect with or are extensions of a public road system. Collector roads accommodate mixed traffic and serve many uses. They generally receive the highest volume of traffic of all the roads in the Bureau system. User cost, safety, comfort, and travel time are primary road management considerations. Collector roads usually require application of the highest standards used by the Bureau. As a result, they have the potential for creating substantial environmental impacts and often require complex mitigation procedures."
>
> Local Roads: "These BLM roads normally serve a smaller area than collectors and connect to collectors or public road systems. Local roads receive lower volumes, carry fewer traffic types, and generally serve fewer uses. User cost, comfort, and travel time are secondary to construction and maintenance cost considerations. Low volume local roads in mountainous terrain, where operating speed is reduced by effect of terrain, may be single lane roads with turnouts. Environmental impacts are reduced as steeper grades, sharper curves, and lower design speeds than would be permissible on collector roads are allowable."
>
> Resource Roads: "These BLM roads normally are spur roads that provide point access and connect to local or collector roads. They carry very low volume and accommodate only one or two types of use. Use restrictions are applied to prevent conflicts between users needing the road and users attracted to the road. The location and design of these roads are governed by environmental compatibility and minimizing Bureau [BLM] costs, with minimal consideration for user cost, comfort, or travel time."

Primary Route Management Objectives

The primary route management objective for each route influences the type of maintenance and engineering to be applied to it. The BLM's GTLF guidelines state that the primary route management objective is "the BLM's reason for the route. [It] summarizes multiple reasons into a single presentable statement" (BLM 2014c). Primary route management objectives "should reflect management area direction, including desired future conditions, uses, recreational outcomes and settings, as well as TMP objectives" (BLM 2016c). The BLM's GTLF guidelines (BLM 2014c) notes three possible individual route management objectives:

- *Access* - Access to specific location for specific task/project.
- *Connectivity* - Primary objective is travel between 2+ other routes.
- *Experience* - Primary objective is to provide for recreational experience.

[27] Not all routes are considered "roads" in the context of BLM travel management. For example, a trail is a route but not a road. Therefore, functional classifications only pertain to roads and primitive roads. Most of the BLM-managed routes in the TMA function as resource roads.

Travel Route Best Management Practices (BMPs) and Standard Operating Procedures (SOPs)

The following BMPs and SOPs will be applied to travel routes in the TMA:

Best Management Practices

- Road Drainage
    - Provide adequate drainage from the surface of all roads by using out sloped or crowned roads, drain dips, or in sloped roads with ditches and cross-drains or relief culverts.
    - Vary road grades to reduce concentrated flow in ditches and culverts and on fill slopes and road surfaces.
    - Size drainage structures appropriately to handle anticipated flow during normal runoff or storms.
    - Locate relief culverts or roadside ditches to prevent fill erosion or direct discharge of sediment into streams.
    - Prevent cross drains, culverts, water bars, dips, and other drainage structures from discharging onto erodible soils or fill slopes without outfall protection.
    - Plan natural road cross-drainage by in-sloping and using relief culverts or out-sloping and by grade changes. Plan for effective and proper spacing for dips or water bars based on road grades and soil erosion potential.
    - Design roads for minimal disruption of drainage patterns.
- Road Maintenance
    - Maintain erosion control features through periodic inspection and maintenance, including cleaning drainage dips and cross-drains, repairing ditches, marking culvert inlets to aid in location, and clearing debris from catch basins and culverts.
    - Avoid using roads during wet periods if such use would damage the road surface (i.e., cause rutting) and impact drainage features (i.e., breach drain dips).
    - Grade road surfaces only as often as necessary to maintain a stable running surface and effective surface drainage.
    - Conduct spot maintenance on primitive roads to correct safety issues, conserve resources, or to maintain desired recreation experiences. In most cases, grading the full length of primitive roads is not required or desired.
    - Route maintenance will occur within the route prism.
- Design features for Threatened and Endangered species and BLM Sensitive plant habitat
    - All efforts will be made to avoid disturbance in potential habitat areas.
    - Maintenance activities will occur outside the flowering period.
    - Dust will be suppressed using water.
    - If disturbance outside the existing travel surface is required for maintenance activities, then surveys will be conducted within suitable habitat. If plants are located, then appropriate consultation with FWS will be initiated.
- General

- Ensure that road specifications and plans are consistent with good safety practices.
- Location, design, construction, and maintenance of roads, primitive roads, and trails should comply with guidelines identified in the BLM Roads Manual (BLM 2015a), the BLM Primitive Roads Manual (BLM 2012d), the U.S. Forest Service's Trail Construction and Maintenance Notebook (USFS 2007), Guidelines for a Quality Trail Experience: Mountain Bike Trail Guidelines (BLM and IMBA 2017), and the National Off-Highway Vehicle Conservation Council's Great Trails resource guide (Duford 2015).
- Emphasize the use of existing roads (through continued use or reconstruction) to minimize new road construction.
- Adapt plans to the soils and terrain to minimize disturbance and damage to soil productivity, vegetation, water quality, and wildlife habitat.
- Implement mitigation techniques when designing and implementing the route system.

Standard Operating Procedures

- Standards and guidelines shall be followed per BLM Manuals 9113 (BLM 2015a), 9114, and 9115 (BLM 2012d) for BLM road, trail and primitive road maintenance, new construction, or reconstruction.
- The standards and guidelines for primitive roads shall be based on the functional requirements of the various types of recreational motorized users.
- The BLM should not develop, endorse, or publish road or trail ratings. The BLM will describe the physical aspects of a road, primitive road, trail, or recreation site as necessary to avoid visitor inconvenience and align visitor expectations with existing conditions.
- Maintenance will be completed only to the identified maintenance intensity level in support of resource protection, delivery of services to the public, and public safety.
- Maintenance standards for each designated route will be documented, and route modifications will be identified and recommended if necessary.
- Maintenance of routes may be done to minimize soil erosion and other resource degradation. This maintenance will be done on a case-by-case basis, depending upon annual maintenance funding and available resources.
- Once the number and type of barriers is determined, maintenance procedures for physical barriers will be developed and tracked manually or systematically by a system such as the FAMS.

Maintenance Intensities

Routes in the TMA network will be maintained in accordance with assigned maintenance intensities and in consideration of resource issues. Maintenance intensities provide guidance for the minimum standards of care for the annual maintenance of BLM routes based on identified management objectives (natural, cultural, recreation setting, and visual). Each maintenance intensity category provides operational guidance to field personnel on the appropriate intensity,

frequency, location, and type of maintenance activities that will be undertaken to keep routes in acceptable condition. They do not describe route geometry, type, types of use, or other physical or managerial characteristics of routes.

The aim of BLM route maintenance in the TMA is to sustain navigability for network roads, primitive roads, and trails without substantially changing the routes' recreational experiences. The top priorities are to protect visitors, reduce hazards, and prevent the degradation of resources.

Based on resource management needs and functional classifications, each route in the TMA will be assigned a maintenance intensity level, which provides the basis for route maintenance in the BLM FAMS database.

Table 55, below, describes maintenance intensities. The table's maintenance intensity descriptions are derived from the first appendix item of the BLM Roads Manual (BLM 2015a). Details on the objectives and funding levels for each maintenance intensity are also in the BLM's Roads Manual.[28] Most primitive roads are likely to have low maintenance intensities but will be managed to protect sensitive resources and provide for an acceptable level of health and safety risk given the type of use. Maintenance intensity levels provide the basis for performing maintenance and updating the BLM GTLF and FAMS database for the TMA.

Table 55: Maintenance Intensities Under 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.
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.

Upgrading a road's surface, width, or permanently raising the maintenance intensity level on a specific route may change the network, and therefore may trigger the need to determine if additional environmental analysis is required.

Transportation Facilities

This TMP does not identify specific network-related facilities that may need improvement or development. Such proposed improvements or development would be addressed in specific

[28] The BLM Roads Manual referenced above mentions maintenance intensity levels 2 and 4, which are not in the table below because they are "Reserved for Possible Future Use."

activity-level or project-level proposals and be subject to site-specific analysis under the NEPA. Examples of such proposed improvements or development include campsites, staging areas, protective fencing, barriers, information kiosks, administrative gates, trailheads, and non-motorized trails. Once completed, these improvements or developments would be incorporated into this TMP and considered part of the travel network.

New Route Development

The addition of new routes is part of the operation and management of the overall travel network. New route development may be appropriate, depending on the situation. For example, resource protection or administrative concerns might necessitate the relocation of an existing route. The BLM or members of the public might request new routes to improve or enhance access or experiences (e.g., creating a travel loop). Engineering staff will be involved early in the process of planning, locating, designing, constructing, and choosing and applying BMPs associated with new routes. New routes and changes to the network will require an appropriate level of NEPA review.

New routes may be proposed through site-specific project plans, permits, or ROW requests. The route evaluation process and NEPA review (both of which may be done concurrently) must occur prior to the implementation or construction of a new route. If authorized, new routes and any associated ROWs would become part of the designated transportation system; closed routes would be removed from the transportation system. The BLM's Travel Management Manual (BLM 2016c) provides broad guidelines on how to appropriately add new routes to a BLM travel network.

All new roads, primitive roads, and trails shall meet the standards for design, construction, and maintenance found in BLM manuals and handbooks (e.g., "Appendix 8: Trail Planning and Standards" in the BLM Travel and Transportation Management Handbook (BLM 2012a)). Among other guidance, all new TMA routes shall meet the standards for design, construction, and maintenance found in the BLM's Roads Design Handbook (BLM 2011) and Primitive Roads Design Handbook (2012b). Such guidance provides details on specific design requirements such as degree of curvature, sight distance, alignment, etc.

Route Realignment or Upgrade

Route widening, realignments, or travel surface upgrades may occur if:

- Necessary to achieve route standards or management objectives.
- Necessary for public safety.
- Planned in accordance with TMA route maintenance and construction standards.
- Appropriately addressed in a project-level EA or other NEPA document.

Processing of Proposed Route Changes

The process of adding new routes (OHV) or adding administrative routes to the designated route network and implementing other route changes require appropriate NEPA review. All proposed route changes may be processed as follows:

- Route locations will, at a minimum, be provided via a map or located using accepted GPS devices and presented to the BLM (if proposed by a third party) for consideration.

Locations of route proposals off designated OHV routes will be documented and mapped using non-OHV methods. The proposed location will be staked and flagged or otherwise identified for on-the-ground review by resource specialists. The BLM may require that a licensed surveyor provide a cadastral survey (to be reviewed by a BLM cadastral surveyor) of a route prior to issuance of a ROW authorization.

- Route proposals submitted to the BLM shall include a description of the route (including its proposed width), its proposed use(s) (including expected traffic and design vehicle), and rationale for its need.
- The route location shall be analyzed for potential conflicts, such as (but not limited to): wildlife habitat and movement, adverse effects to NRHP -eligible cultural resources, visual resources, other recreation uses, mining claims or leases, grazing facilities, ROWs, public safety, and proximity to other jurisdictions (such as private land). A structured process will be used to evaluate and document potential route conditions.
- The conflict assessment may lead to development of mitigation actions or alternative locations or designs.
- NEPA review will be conducted to determine the environmental effects of the proposed route, any reasonable alternatives, and recommended mitigation.
- A decision will be issued by the field manager based on 2008 RMP conformance, resource objectives, and environmental impacts.
- If the decision is to approve the addition of the route, this TMP will be updated accordingly.

ENFORCEMENT

Overview

Law enforcement coverage in the TMA is currently provided by BLM law enforcement and local sheriff and/or police departments. The BLM maintains the authority to temporarily, permanently, partially, or completely suspend any activity based on safety issues or unacceptable resource impacts. Enforcement actions typically occur in response to complaints, and patrols are conducted on a periodic basis, depending on other priorities. Typical law enforcement concerns related to public use in the TMA include route proliferation, dumping, vandalism, theft of government property, littering, interfering with livestock operations, medical emergencies, search-and-rescue operations, illegal removal of natural resources, unauthorized cross-country OHV use, firearms violations, and driving under the influence of alcohol or drugs. State vehicle laws will be applied to OHV use where applicable. The following measures are key to effective law enforcement in the TMA:

- Provide for a regular and systematic presence of BLM and partner agency law enforcement.
- Expand and maintain interagency cooperation.
- Increase public education efforts to promote awareness of and voluntary compliance with use restrictions and regulations through information posted on handouts, kiosks, and websites, etc.
- Prioritize the use of limited law enforcement resources to the greatest effect:

    - Concentrate law enforcement efforts during high-use periods such as weekends and holidays.
    - Focus targeted enforcement in the highest-use areas.
- Support volunteer efforts to educate the public on rules and proper land use etiquette, such as non-governmental organizations leading Leave No Trace seminars.

Regulations to be Enforced

The public land regulations described in 43 CFR Part 8340 (GPO 2016), 43 CFR Part 8360 (GPO 2009a), and 43 CFR § 9268.3 (GPO 2001) will be enforced in the operation and management of the designated travel network within the TMA. These regulations will be enforced by BLM law enforcement officers to protect public safety and resources. They may be supplemented as deemed necessary by Supplementary Rules, which may be established pursuant 43 CFR Part 8360 under a separate action to implement use restrictions identified in RMP decisions. State of Utah motor vehicle laws and regulations, including OHV regulations, apply on BLM-administered lands in the TMA and will continue to be enforced.

Patrols

In addition to responding to complaints, emergency situations, and where monitoring has found user conflicts or resource concerns, BLM law enforcement officers and field staff will focus patrols to detect and deter ongoing and potential future illegal activity, check compliance with route designations, and educate visitors about BLM, state, and federal laws and regulations. During regular patrols, law enforcement officers and field staff will document observed OHV impacts to resources as appropriate or as a general component of monitoring. Routine, highly visible patrols by BLM staff will also help to maintain an effective authoritative presence in the field.

Personnel from partner agencies, such as the Utah Division of Wildlife Resources (UDWR), Utah State Parks, the Grand County Sheriff's Department, and the Utah Highway Patrol may also assist BLM staff with law enforcement duties on BLM-administered lands in the TMA. Local police departments may patrol in wildland-urban interface areas. Coordinated interagency efforts may be undertaken to provide an official presence during times of peak use or to supplement ongoing resource protection-related operations.

SUPPLEMENTARY RULES

Supplementary rules can be established where current regulations (including route designations) do not provide adequate public safety or resource protection. See 43 CFR § 8365.1-6 (GPO 2009b) for the supplementary rulemaking process. Developing and posting speed limits is an example of a supplementary rule that could be drafted and applied within the TMA.

N.4 LONG-TERM MONITORING PROTOCOL FOR OHV IMPACTS AND OTHER ITEMS

OVERVIEW

Introduction and Purpose of Monitoring

Monitoring is an important component of successful TMP implementation. Monitoring efforts will help determine the effectiveness of route management and inform the BLM on route use-related issues that may need to be addressed. The EA identified a number of important resource and use issues at the heart of the BLM's commitment to provide for multiple land uses while protecting sensitive cultural and natural resources. The following issues are of particular importance in the TMA:

- Impacts of OHV travel on known cultural resource sites
- Soil erosion and its resulting impacts on vegetation
- OHV-related disturbances of special status species plant habitat or populations
- OHV-related disturbances on special status species wildlife habitat or populations
- Impacts from OHV travel on the defining characteristics of lands with wilderness characteristics and other special management area designations
- User conflicts within the TMA
- Route proliferation within the TMA

As required in 43 CFR § 8342.3 ("Designation changes"), "The authorized officer shall monitor effects of the use of off-road vehicles. Based on information so obtained, and whenever the authorized officer deems it necessary to carry out the objectives of this part, designations may be amended, revised, revoked, or other actions taken pursuant to the regulations in this part" (GPO 2016). In the broadest sense, monitoring helps to determine if adequate progress is being made toward management objectives. Among other things, this means that the monitoring program will be used to determine:

- If resource protection and resource use objectives are being met.
- Visitor satisfaction.
- Use patterns and volumes.
- The condition of roads and trails, the condition of public use areas, and compliance with route designations and use restrictions.
- The effectiveness of cross-jurisdictional enforcement.

Additional monitoring information and materials can be found in Appendix 0.

Where to Find Monitoring Guidance

Monitoring requirements can be found in the Biological Opinion, Historic Properties Treatment Plan (HPTP), and specific route evaluation reports. Additional monitoring will occur as part of ongoing monitoring and other resource monitoring (such as wilderness monitoring, lands with wilderness character inventory, visual resource inventory, sensitive species monitoring, range management monitoring, new project site consideration etc.). The BLM will compile specific monitoring requirements from the Biological Opinion, HPTP, and specific route evaluation reports into a checklist so that those monitoring requirements can be tracked and documented.

Who Conducts Monitoring

An effective monitoring program is dependent on establishing a cadre of monitoring personnel who work with the BLM to report issues or concerns that they encounter while performing their normal daily activities. Monitoring may be conducted by BLM staff, UDWR personnel,

commercial Special Recreation Permit holders, grazing permittees, and other partners as approved or authorized by the BLM.

Baseline Monitoring Data

In compliance with the 2017 Settlement Agreement, the MFO assembled the Labyrinth/Gemini Bridges Travel Management Plan Baseline Monitoring Report (BLM 2019). This report can be found on this project's ePlanning page.

Assembling this report involved collecting information on visually apparent unauthorized surface disturbances off routes as well as visually apparent damage to public lands resources caused by OHV use within lands with BLM-inventoried wilderness characteristics. The baseline monitoring data was used to help inform route decisions within the TMP. See Appendix 0 for more details on baseline monitoring report requirements associated with the 2017 Settlement Agreement.

TYPES OF MONITORING

Introduction

There are three basic types of monitoring detailed in this guide: implementation, effectiveness, and resource monitoring. Implementation and effectiveness monitoring assess the effectiveness of management actions. Resource monitoring documents how various indicators of resource health change over time.

Implementation Monitoring

Implementation monitoring is the most basic type of monitoring, and simply determines whether management actions in the TMP have been implemented in the manners prescribed by the applicable planning documents. Implementation monitoring documents the BLM's progress toward full implementation of land use plan (i.e., 2008 RMP) decisions. There are no specific thresholds or indicators required for this type of monitoring.

Effectiveness Monitoring

Effectiveness monitoring is used to determine if TMP implementation activities have achieved 2008 RMP goals and objectives. Effectiveness monitoring results are used to evaluate implementation progress and the effectiveness of the TMP in achieving desired outcomes and conditions. If adverse impacts are discovered, effectiveness monitoring results will also be used to identify adaptive management measures. Effectiveness monitoring will evaluate route conditions, public safety issues, and changes in visitor use patterns and preferences. Effectiveness monitoring may also quantify OHV user compliance.

Effectiveness monitoring asks the following question: Was an activity successful in achieving its objective? Effectiveness monitoring requires knowledge of the objectives established in the 2008 RMP as well as indicators that can be measured. To see the 2008 RMP's travel management-related goals, objectives, and management decisions, see Appendix 0 of this Guide. Indicators are established by technical specialists to address specific questions and avoid unnecessary data collection. Effectiveness is measured against the benchmark of achieving the goals and objectives established by the 2008 RMP, which may include regulated standards for resources.

Effectiveness monitoring for the route network will be conducted by staff, volunteers, users, and partners *as time and funding permit*; it may include the following elements:

- Visually document implementation or establishment of closure practices (signs, gates, berms, rocks, etc.) or road decommissioning practices and monitor effectiveness of closure. Establish photo-monitoring points to monitor long-term effectiveness of closing/decommissioning routes.
- Determine the level of OHV use across the landscape using trail counters and aerial photos over time. Traffic counters may be employed to determine levels of use on selected routes.
- Identify route proliferation, unauthorized route creation, route conditions, recreation conflicts, and resource damage compared to baseline monitoring. Measure illegal off-trail and off-road travel as linear disturbances or as area impacts, depending on the level and type of use that occurs.
- Monitor litter/trash.
- Monitor reclamation project success.
- Initiate and maintain collaborative partnerships among government agencies, local governments, business communities, volunteers, user groups, stakeholders, educational institutions, individuals, and the private sector to achieve recreation management objectives through BLM-developed monitoring techniques.
- Quantify OHV user compliance and evaluate route conditions, public safety, and changes in visitor preferences and use patterns. It may also help to identify adaptive measures as adverse impacts are discovered.
- Administer a survey on recreation demand, preferences, uses, satisfaction, and information needs in the TMA. This should be done as soon as possible, and maps updated periodically. Work with partners such as universities and user groups to conduct the surveys. Base specific schedule of surveys on TMA conditions and available resources.
- Acquire visitor feedback to monitor whether TMA BLM lands have been clearly mapped and signed for the public. This could be done as part of the survey efforts described above.
- Consider information from recreational groups, records of field contacts, written trail register comments, and public phone calls to the MFO as part of monitoring the effectiveness of travel management in reducing conflict between different types of users.
- Monitor signing effectiveness through field visits and consideration of amounts of maintenance required.
- Assess primitive road and trail conditions.
- Assess indicators of potential recreation impact issues (e.g., number of new bare soil areas attributable to visitor use, number of campfire pits, additional litter or trash along primitive roads, etc.).

Resource Monitoring

Resource monitoring documents how implementation of the TMP influences natural resources over time. Validating management actions' effects on natural resources is more complex than determining the result of compliance or effectiveness monitoring.

Resource monitoring will be adaptive- monitoring protocols or techniques may be adjusted as new methods are developed or if it is discovered that current monitoring is not meeting management information needs. Routes with "Open with Management" or "Limited with Management" designations have monitoring specified for various resources, and those resource monitoring protocols will be implemented (subject to funding and available resources) on or along those specific routes. Resource monitoring may be accomplished through standard field office protocols in accordance with the 2008 RMP (see below).

TMA-Specific Monitoring

Appendix E in the 2008 RMP includes specific monitoring guidelines applicable to various resources/uses. Although various resources/uses could somehow be impacted by travel management, these guidelines include specific methodologies for OHVs, travel and transportation management, and recreation (see table below).

Table 56: 2008 RMP Travel Management-Related Monitoring Methodologies

Resource	Suggested Monitoring and Methodology
Travel Management	Travel management and OHV use monitoring within the planning area will focus on compliance with specific route and area designations and restrictions with primary emphasis on those routes or areas causing the highest levels of user conflicts or adverse impacts to resources. Monitoring will focus on the travel designation requirement that all motor vehicles remain on designated routes. Monitor the effect of the use of off-road vehicles. On the basis of information so obtained, and whenever necessary, the designations may be amended, revised, revoked, or other action taken. Modifications to the route system in the Approved RMP will not be considered until implementation of the travel portion of the plan has been substantially completed which includes mapping, signing, monitoring, and evaluation. The process for considering route modifications will be detailed in the Implementation Plan developed for the RMP after completion of the ROD. BLM could impose limitations on types of vehicle allowed on specific designated routes if monitoring indicates that a particular type of vehicle is causing disturbance to the soil, wildlife, wildlife habitat, cultural or vegetative resources, especially by off-road travel in an area that is limited to designated roads. The RMP must include indicators to guide future plan maintenance, amendments, or revisions related to OHV area designations or the approved road and trail system within "Limited" areas. Indicators could include results of monitoring data, new information, or changed circumstances (IM 04-005). Actual route designations within the "Limited" category can be modified without completing a plan amendment, although NEPA compliance is still required.
Resource	Suggested Monitoring and Methodology
Recreation	Designated roads and trails will be monitored to ensure compliance with the administrative goals of maintaining or meeting Utah Rangeland Health Standards. Designated dispersed campsites will be visited to ensure that motorized camping vehicles are using single paths to the campsite.
Travel	Travel management and OHV use monitoring within the planning area will focus on compliance with specific route and area designations and restrictions, with primary emphasis on those routes or areas causing the highest levels of user conflicts or adverse impacts to resources. Route or area closures will be regularly monitored for compliance. Findings will be reported in the annual report.

When monitoring indicates that use of a designated route is resulting in unacceptable resource degradation, the adaptive management process (see Section 0 below) will be triggered and applied.

Field Specific Monitoring Protocols

This section describes how implementation, effectiveness, and resource monitoring will be accomplished.

Ad hoc monitoring

BLM staff will be briefed on the issues addressed in the EA and alerted to informally monitor for related resource impacts as they go about their daily work within the TMA. They will be directed to pay close attention to any unauthorized off-route use and apparent user conflicts. During ad hoc monitoring BLM staff may use the "Motor Vehicle Impact Monitoring Protocol," similar protocol, or may provide a description of the location and impacts to the appropriate resource staff (Field Manager, Assistant Field Manager, Outdoor Recreation Planner, Field Technician, etc.).

Ad hoc monitoring results will be used to help the BLM continually adapt its strategic monitoring efforts including focusing law enforcement patrol to particular areas if needed. Ad hoc monitoring may include input from authorized users and members of the public who should be encouraged to supply such information. Ad hoc monitoring may also include general consideration of the route itself and maintenance, signing, or other needs that should similarly be passed to appropriate BLM staff.

Strategic monitoring

The BLM will conduct strategic monitoring based on requirements from the Biological Opinion, HPTP, and specific route evaluation reports. Additional strategic monitoring will occur as part of ongoing monitoring and other resource monitoring (such as wilderness monitoring, lands with wilderness character inventory, visual resource inventory, sensitive species monitoring, range management monitoring, new project site consideration etc.).

The BLM will compile specific monitoring requirements from the Biological Opinion, HPTP and specific route evaluation reports into a checklist so that those monitoring requirements can be tracked and documented.

ADAPTIVE MANAGEMENT

Overview of Adaptive Management

Adaptive management is a decision process that "promotes flexible decision making that can be adjusted in the face of uncertainties as outcomes from management actions and other events become better understood" (Williams et al. 2009). A similar definition is found in 43 CFR § 46.30 (GPO 2011). In adaptive management, problems are assessed, designs are formulated to address problems, and then designs are implemented. During and after implementation, the BLM conducts monitoring, gathers and evaluates data, and adjusts management based on new findings. However, new problems could arise, or new approaches might be tried after management is adjusted, which could start the cycle over again. Figure 41, below, shows the cycle of adaptive management.

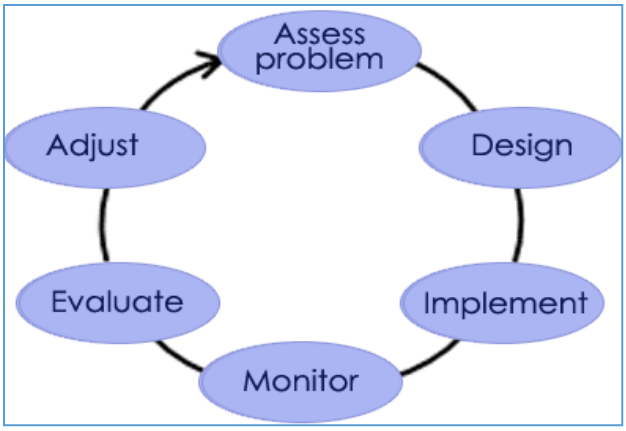

Figure 41: Adaptive Management Cycle

Implementing Adaptive Management in the TMA

Some designated routes in the TMA are in or near resources of concern (e.g., special status plants or wildlife, highly erosive soils, etc.) and mitigation is highlighted in route evaluation forms. In addition, Appendix 0 details management strategies for habitat evaluations and monitoring within special status species habitat. The BLM should mitigate adverse effects throughout the TMA on a case-by-case basis as directed in the 2008 RMP. For designated routes identified for adaptive management, results from ongoing monitoring and assessment may be used to adjust and improve management decisions over time. For TMA BLM-administered lands, sufficient monitoring must be planned to determine whether adequate progress is being made toward achieving priority tasks. If progress is insufficient to achieve tasks in a realistic time period, management actions should be revised.

Adaptive management monitoring may be based on Limits of Acceptable Change indicators. Below are some examples of Limits of Acceptable Change indicators/triggers which may require adjusting the TMP:

- Desired recreation experiences are not being met as determined by surveys, visitor sign-in logs, or other data-gathering processes conducted in the TMA
- Habitat conditions of priority or special status species continue in a downward trend as a result of recreation or travel impacts
- Riparian condition trend is not improving as a result of recreation or travel impacts
- There is degradation of cultural sites or wilderness area boundaries

Adaptive management monitoring focuses on changing conditions that could affect route designations. Through adaptive management, the BLM may modify the TMP to respond to a variety of issues or concerns that could arise in the TMA throughout the life of the TMP. Some more general examples of factors that might alter management are listed below:

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

- Availability of funding to manage and operate the travel management network

Applying adaptive management is an essential component of travel planning. Throughout the life of the TMP, the BLM may use adaptive management and rely on monitoring data to improve this plan. Modification actions based on adaptive management may require additional site-specific analysis in accordance with the NEPA.

ROUTE DESIGNATION CHANGES

The TMP will remain in effect until revised or replaced by a completely new TMP, RMP revision, or amendment supported by an appropriate level of NEPA. The TMP may be updated and maintained as monitoring and adaptive management indicate changes are needed to individual route designations to protect resources or ensure user safety. In addition, any individual, organization, or governmental body may propose that a current route designation be changed. Requests to change route designations must be submitted in writing to the MFO Field Manager and will be processed as follows:

- Upon receipt of a route change proposal, it will be reviewed by the Field Manager. The Field Manager will determine whether the proposal has merit. If the request is rejected, a letter will be sent to the requester indicating the reasons for rejection. If accepted, the request will be forwarded to the appropriate BLM staff and reviewed for recommendations as to the appropriateness of the proposal, and levels of required NEPA review and analysis. When accepting a proposal, the Field Manager will consider cost recovery.
- Modifications of the road network during implementation of the TMP may require new site-specific review as appropriate under the NEPA.
- Modifications and minor realignments, including alignment changes made through implementation actions shall be documented in the official record, kept on file in the MFO, and considered as an update to the TMP.

The Moab Field Manager has the authority to make final decisions on route changes. A formal decision to accept or reject a specific request for a route change will only be issued following an appropriate level of NEPA review that includes evaluation of a proposal's effect on the total travel network.

TRACKING PLAN IMPLEMENTATION PROGRESS

In accordance with the BLM travel management manual, "Field offices will track planning and implementation progress using the travel management module in the Recreation Management Information System. States will track statewide progress through long-range transportation plans (see section 6.8 (of the Travel Management Manual)) using the BLM state's TTM planning schedule" (BLM 2016c).

N.5 MITIGATION

OVERVIEW

Travel management-related mitigation is prescribed and executed at multiple levels: first, as described in the 2008 RMP; second, as a component of the selection of a travel network alternative where routes are assigned an OHV designation that considers impacts to resources, route purpose and need, route redundancy, etc.; and third, as specific mitigation measures

prescribed by the BLM IDT during route evaluation and documented in route evaluation reports. Many of the routes with "Open with Management" or "Limited with Management" designations have specific mitigation measures prescribed (e.g., applying erosion control measures on a route segment that has ongoing erosion issues). For route-specific mitigation details, see the route reports for this project as well as in Appendix 0 of this Guide.

Additional mitigation will also occur as a result of resource monitoring via adaptive management. Emerging issues (related to specific routes and management actions) may be identified through adaptive management monitoring, and mitigation would be applied if monitoring reveals that conditions require mitigation. Typical mitigation measures would be the BMPs that respond to identified resource or resource use issues. Monitoring would continue to be done during and after mitigation measure implementation.

Travel Management Mitigations in the 2008 RMP.

The 2008 RMP provides the following management statements that are closely tied to travel management mitigation.

Table 57: 2008 RMP Travel Management-Related Mitigation Guidance

Management Decisions	
TRV-5	BLM could impose limitations on types of vehicle allowed on specific designated routes if monitoring indicates that a particular type of vehicle is causing disturbance to the soil, wildlife, wildlife habitat, cultural or vegetative resources, especially by off-road travel in an area that is limited to designated roads.
TRV-8	Where the authorized officer determines that off-road vehicles are causing or will cause considerable adverse impacts, the authorized officer shall close or restrict such areas. The public will be notified as to these closures and restrictions.
TRV-9	Any routes that are not baseline routes will be signed "Closed" on the ground. Such routes will be considered as impacts to the area's natural character, and use of such routes will be considered cross country use and not allowed. Non-inventoried routes should be rehabilitated.
TRV-14	Limit mechanized (mountain bike) travel to designated trails and managed routes for resource protection purposes. Routes that are no longer available for motorized travel may be converted to bike routes upon application of site-specific NEPA analysis.
"Mitigations" section (N.7.2.2) from Appendix N	
	Mitigations that can be utilized to address conflicts could include: 1.Non-designation; 2.The season and timing of use; 3.The types of vehicle use, motorized and non-motorized; 4.Re- routing of segments; and 5.Other methods of travel.

Route Management Mitigation Actions for Various Impact Scenarios

Appendix 0 presents examples of route management mitigation actions that address potential route-related resource concerns for riparian areas and water quality, wildlife and vegetation, user conflicts, vandalism, etc. The BLM Travel Management Handbook (BLM 2012a) has additional examples of mitigation measures in "Appendix 5: TTM Challenges and Solutions for Recreation/Trail Management."

N.6 ROUTE CLOSURES

INTRODUCTION

Under certain circumstances, to protect public health and safety or prevent unnecessary or undue resource degradation due to unforeseen circumstances (e.g., catastrophic wildfire resulting in destabilized soils and unsafe conditions in a critical watershed), routes may need to be closed or restricted. The authority for implementing such closures and restrictions is given in Section 302 of the Federal Land Policy and Management Act, which requires the Secretary of the Interior to take action to prevent unnecessary or undue degradation of the lands.

The two principal federal regulations for closures and restrictions during TTM are the special rules provided for OHV management in 43 CFR § 8341.2 (GPO 2000) and the closures and restrictions for visitor services in 43 CFR § 8364.1 (GPO 2004).

CLOSURES IN GENERAL

The 2008 RMP states, "Where the authorized officer determines that off-road vehicles are causing or will cause considerable adverse impacts, the authorized officer shall close or restrict such areas. The public will be notified as to these closures and restrictions." 43 CFR § 8364.1 regulates the ability of the authorized officer to close or restrict a specific use or uses of the public lands for the protection of persons, property, and resources. Unlike the special rules found in 43 CFR § 8341.2, these closure and restriction orders can apply to any transportation mode or activity but require a formal notification process, including Federal Register publication. The use of this authority is limited to two years by policy, but extensions are approved on a case-by-case basis. NEPA compliance is required for use of this authority.

EMERGENCY CLOSURES

Emergencies are unforeseen events of such severity that they require immediate action to avoid dire consequences. In the event of an emergency, immediate actions (e.g., closures or public land use restrictions) must be taken to prevent or reduce risks to public health or safety, property, or important resources. Section 2.3 of the BLM NEPA Handbook (BLM 2008a) defines the following actions as typical emergency situations:

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

TEMPORARY CLOSURES

Where OHV activities are causing considerable adverse effects to resources, temporary closures can be implemented under the authority of 43 CFR § 8341.2 and § 8364.1. The purpose of a temporary closure and restriction is to protect public health and safety or prevent undue or unnecessary resource degradation due to unforeseen circumstances and should not be used in lieu of permanent closures. The BLM's Travel Management Manual states,

> Where off-highway vehicles are causing or will cause considerable adverse effects upon soil, vegetation, wildlife, wildlife *and fisheries* habitat, cultural resources, historical resources, threatened or endangered species, wilderness suitability, other authorized uses, or other resources, the affected areas will be immediately closed to the type(s) of vehicle

causing the adverse effect until the adverse effects are eliminated and measures are implemented to prevent their recurrence (43 CFR § 8341.2). (BLM 2016c)

If site, issue, or resource-specific evaluation is deemed adequate through the NEPA analysis process associated with either the 2008 RMP or the EA for this TMP, temporary closures and restrictions exercised under this process may not require further NEPA review. This may include closure of routes or areas.

N.7 ROUTE DECOMMISSIONING AND RECLAMATION

OVERVIEW

When a closed route is successfully decommissioned and reclaimed, it should blend into the surrounding natural landscape. Effective reclamation of closed routes is important for meeting a variety of management objectives, including:

- Attainment and maintenance of physical and social settings that support prescribed recreation opportunities and outcomes in SRMAs.
- Reduced visitor confusion resulting from unmarked non-system routes.
- Increased visitor safety through reclamation or rerouting of unsafe non-system routes.
- Reduced operation and maintenance costs associated with un-reclaimed routes slated for reclamation.
- Restored natural appearance of the landscape.
- Restored natural habitat and reduced habitat fragmentation.

See Appendix 0 for details on reclamation methods as well as the routes that are earmarked for reclamation under the chosen alternative. Note that not all routes designated as OHV-Closed are decommissioned, as they may remain available for authorized use or other non-OHV uses.

PRIORITIES

Certain routes earmarked for reclamation will have a higher implementation priority than others, as determined by the BLM's resource specialists. The BLM will prioritize reclamation in special management areas (e.g., SRMAs), special designation areas (e.g., ACECs, etc.), and other sensitive areas. In general, initial reclamation efforts may focus on the following priority types, in order of importance:

1. Routes that pose a public safety hazard
2. Routes leading into a designated wilderness area
3. 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 other resources requiring special management or protection

GENERAL RECLAMATION STRATEGY

The overall objective for routes earmarked for reclamation is to remove the route footprint from the landscape using a variety of reclamation techniques. The most cost-effective and non-disruptive method of reclaiming these routes and preventing further use is to disguise their location. If disruptive reclamation techniques are to be used, sensitive timeframes or seasons for protected, sensitive, or management priority species should be considered. To minimize route

closure impacts, whenever practicable, the BLM may implement the non-disruptive closure methods first. Initially, most of the routes earmarked for reclamation may be allowed to naturally reclaim. Alternatively, by applying low-impact manual reclamation techniques, surface disturbances may be kept to the minimum necessary to close most routes and fulfill management objectives.

During the route evaluation process the most appropriate method of reclamation was identified for each route based on factors such as geography, topography, soils, hydrology, and vegetation, as well as management objectives, reclamation costs, modes and conditions of travel, recreation settings, and other factors. The BLM will compile a prioritized list of routes scheduled for reclamation including the reclamation method as prescribed by the TMPs route evaluation reports.

Post-reclamation monitoring of routes is essential to maintaining successful closures. If monitoring indicates the need for additional reclamation efforts after less intrusive closure methods have not been successful, the BLM may consider other closure options through adaptive management. Unless determined as necessary at the beginning of the implementation process, surface-disturbing reclamation actions may only take place after less intrusive methods have been tried. For example, continued vehicular use on a closed route may indicate that natural reclamation has been ineffective on that route. If it is determined that surface-disturbing reclamation techniques are necessary to effectively close a route, the Reclamation Techniques Toolbox in Appendix 0 will be used. It features a series of options designed to effectively ensure that closed routes are reclaimed and revegetated. The minimum necessary or "least impact" treatment analyzed in the Reclamation Techniques Toolbox may be applied to each route slated for reclamation to achieve desired outcomes.

RECLAMATION STANDARDS

If disruptive reclamation techniques will be used in route reclamation, the reclamation standards listed below should be followed as applicable.

a. Routes slated for reclamation will not alter natural hydrologic function and condition of the affected watershed (e.g., closed routes will not divert runoff from natural drainage patterns).
b. Disturbed areas will be fully re-contoured and re-vegetated with BLM-approved seed mixtures or plantings.
c. Seeding will be done where necessary to aid reclamation of closed routes. Appropriate seed mixtures shall be selected for each site based on site conditions. Reclamation techniques include ripping the surface with a tractor to break up compacted soil and facilitate moisture retention. Broadcast seeding shall be done prior to winter. Some areas should be fenced to prevent disturbance and allow for grazing rest during the first two growing seasons. This technique is typically used near main roads where camping or parking may occur.
d. The BLM will utilize native material such as rock and large woody debris to the greatest extent practicable in combination with manufactured storm water structures (e.g., silt fence, straw waddles, etc.), and mechanical erosion control techniques (e.g., ripping, pocking, etc.) to minimize erosion and facilitate site stability.

e. Reclamation techniques for routes in designated wilderness and lands with wilderness characteristics will attempt to return the area to its original condition in the shortest amount of time.
f. Weed and vegetation treatment control measures will be implemented as needed to promote re-vegetation with native plants, prevent any new weed establishment, and control existing weed sources.

Consult Appendix C from the 2008 RMP for stipulations for surface-disturbing activities, which may apply to some forms of intrusive route reclamation.

N.8 CULTURAL RESOURCE CONSIDERATIONS

Properly considering cultural resources is a critical component of effective travel management:

> The BLM must address cultural resources in consultation with state historic preservation officers and under various state-specific protocol agreements, if applicable. The cultural resource inventory strategy required to make TTM decisions should be commensurate to the identified risk to resources. This risk should be based on the known presence of historic properties or on the potential/likelihood for historic properties to occur in a given area based on professional knowledge, judgment, and feedback received during the planning and consultation processes. (BLM 2016c)

All cultural resource identification efforts, assessments, consultations, mitigations, treatments, protection measures, and/or site treatments for the Labyrinth/Gemini Bridges TMP have been addressed in separate NHPA Section 106 compliance documents and are therefore not addressed in this document. Cultural resource compliance documents for this TMP undertaking consist of (but are not limited to) a Class III Intensive Field Survey report (and any report amendments or addendums that may take place in the future), government-to-government Tribal consultation correspondences and documents, interagency consultation correspondences and documents (including the State Historic Preservation Office), consulting party consultation correspondences and documents, a HPTP developed through consultations under the Travel PA, and any HPTP amendments or addendums that may take place in the future. All future decisions and actions regarding cultural resources for the Labyrinth/Gemini Bridges TMP undertaking will take place through the HPTP and any continuing project consultation, as guided by the Travel PA.

N.9 REVISED STATUTE 2477 ASSERTIONS

A travel management plan is not intended to provide evidence, bearing on, or address the validity of any Revised Statute 2477 (R.S. 2477) assertions. R.S. 2477 rights are determined through a process that is entirely independent of the BLM's planning process. Consequently, this TMP process does not take into consideration R.S. 2477 evidence. BLM bases travel management planning on purpose and need related to resource uses and associated access to public lands and waters given consideration to the relevant resources. At such time as a decision is made on R.S. 2477 assertions, the BLM will adjust its travel routes accordingly (BLM Manual 1626).

N.10 ROADSIDE CAMPING AND PULL-OFF CONSIDERATIONS

A management decision in the 2008 RMP allows dispersed camping “where not specifically restricted” and that “all vehicle use associated with dispersed camping activities is required to stay on designated routes.” Another decision states that “parking areas associated with dispersed

campsites will be marked during travel plan implementation." These decisions will be adhered to in implementing this TMP. The 2018 Labyrinth Rims/Gemini Bridges Recreation Area Management Plan (RAMP) limits camping within the TMA as follows:

> Camping is limited to designated sites on 90,957 acres[29] of the [TMA]. In certain locations, such as along Utah Highway 313, all of the designated sites are within developed campgrounds. In the remaining areas where camping is restricted, campsites are marked and designated. These areas include lands to the east of the Dubinky Well Road, Bartlett Wash, Gemini Bridges and Bride Canyon, as well as lands designated as desert bighorn sheep lambing habitat. On the remainder of the TMA lands, dispersed camping is currently allowed, although driving off road to access campsites is not allowed. With increased visitation, resource damage is occurring and it is likely that additional camping restrictions may be imposed in the future. (BLM 2018)

Regarding other incidental pull-off considerations such as passing, users are expected to comply with 43 CFR § 8341.1 and not operate an OHV "in a manner causing, or likely to cause 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."

N.11 GAME RETRIEVAL

The 2008 RMP does not allow OHV use off designated routes for big game retrieval.

N.12 NEEDED AUTHORIZATIONS

As part of implementing the TMP, the BLM may seek to acquire legal access to public land where appropriate and necessary. The BLM may also identify needs and request funding for access, exchanges, and acquisitions and incorporate them in the existing ranking system. Easements, ROWs, and permissive access license agreements may include the acquisition of road or trail easements or the issuance of ROWs on an existing or historic physical access. The BLM may pursue such actions where they may contribute to natural resource protection or recreation enhancement opportunities. Easements may be acquired through donation or purchase following the procedures set forth in the BLM's Acquisition Handbook (H-2100-1) (BLM 2002). The BLM's Travel Management Manual provides guidance concerning authorized and permitted motorized uses (BLM 2016c).

N.13 GROUND TRANSPORTATION LINEAR FEATURE GEOSPATIAL DATA

The BLM's Travel Management Manual provides the following guidance concerning the maintenance of travel management geographic information systems (GIS) data in the GTLF format (BLM 2016c).

For GTLF adherence guidance, consult the BLM's GTLF data standard, data report, and data implementation guidelines (BLM 2014a, 2014b, and 2014c). A GTLF database is a geospatial database of motorized and non-motorized transportation linear features as they exist on the

[29] Due to the increase in camping and its effects on natural and cultural resources, the BLM is in the process of limiting camping to designated sites in additional areas, increasing this to 208,099 acres within the TMA (see DOI-BLM-UT-Y010-2021-0094-EA).

ground. Features include all linear features, not just what is within the BLM Transportation System.

The GTLF geodatabase exists to track route conditions and guide future management decisions. Utilized as an adaptive management tool, the geodatabase should be updated regularly to continually collect and update future changes in the transportation system, such as changing use patterns, incorrectly inventoried routes, and route migration. Tracking such changes would increase the effectiveness of implementation within the TMA by facilitating management adjustments and informing future management actions.

N.14 PRE- AND POST-TMP/EA MANAGEMENT ACTIONS IN GENERAL

Creating a TMP route network and analyzing the potential resource or resource use effects in an EA is a key component of travel management, but other important related actions take place before and after the TMP and its EA are approved. Many of these actions (monitoring, enforcement, etc.) are described in previous sections of this document. Active management of the routes in the TMA requires consistent monitoring and maintenance. Statewide, OHV recreation continues to increase, and the trend is expected to continue in this TMA as well. The BLM's Travel Management Manual provides a reminder on the importance of continuing TTM beyond the development of an initial TMP:

> [TTM] is a dynamic process. Upon completion of a TMP, the BLM should keep information and data concerning the travel network and transportation systems up to date, as staffing, budget and priorities allow. The BLM may modify the travel network and transportation systems through monitoring and adaptive management protocols or by specific BLM actions and authorizations. It is critical that the BLM continue TTM after completion of the initial TMP as a routine part of land management. (BLM 2016c)

N.15 REFERENCES FOR THE IMPLEMENTATION GUIDE

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N.16 APPENDICES TO THE LABYRINTH/GEMINI BRIDGES IMPLEMENTATION GUIDE

TRAVEL MANAGEMENT-RELATED GOALS OBJECTIVES, AND MANAGEMENT DECISIONS FROM 2008 RMP

Table 58: 2008 RMP Transportation Language

Transportation	
TRV-2	BLM, in preparing its RMP designations and its implementation-level travel management plans, is following policy and regulation authority found at: 43 CFR Part 8340; 43 CFR Subpart 8364; and 43 CFR Subpart 9268.
TRV-3	Provide opportunities for a range of motorized recreation experiences on public lands while protecting sensitive resources and minimizing conflicts among various users. Identification of specific designated routes will be initially established through the chosen Travel Plan accompanying this RMP (see Appendix N) and may be modified through subsequent implementation planning and project planning on a case-by-case basis. These identified routes will be available regardless of other management actions. These adjustments will occur only in areas with limited route designations and will be analyzed at the implementation planning level. These adjustments will be done through a collaborative process with local government and will include public review of proposed route changes. Site-specific NEPA documentation will be required for changes to the route designation system.
TRV-5	BLM could impose limitations on types of vehicle allowed on specific designated routes if monitoring indicates that a particular type of vehicle is causing disturbance to the soil, wildlife, wildlife habitat, cultural or vegetative resources, especially by off-road travel in an area that is limited to designated roads.
TRV-6	OHV access for game retrieval, antler collection and dispersed camping will only be allowed on designated routes (designated routes/spurs and have been identified specifically for dispersed camping; parking areas associated with dispersed campsites will be marked during travel plan implementation). Adherence to the Travel Plan is required for all activities, except where otherwise explicitly permitted.
TRV-7	Only designated roads and managed open areas are available for motorized commercial and organized group use (see Maps 2 and 3 for route designations).
TRV-8	Where the authorized officer determines that off-road vehicles are causing or will cause considerable adverse impacts, the authorized officer shall close or restrict such areas. The public will be notified as to these closures and restrictions.
TRV-9	Any routes that are not baseline routes will be signed "Closed" on the ground. Such routes will be considered as impacts to the area's natural character, and use of such routes will be considered cross country use and not allowed. Non-inventoried routes should be rehabilitated.
The proposed action also supports other RMP Transportation management actions, including TRV-4, TRV-10, and TRV-11	
Recreation and Off-Highway Vehicles	
REC-2	Where unacceptable damage to natural or cultural resources by recreational use is anticipated or observed, BLM will seek to limit or control activities by managing the nature and extent of the activity or by providing site improvements that make the activity more sustainable or by a combination of management controls and facility development. Such management actions will seek to reduce or eliminate the adverse impact while maintaining the economic benefits associated with a wide range of recreation uses.
REC-3	BLM will consider and, where appropriate, implement management methods to protect riparian resources, special status species, and wildlife habitat while enhancing recreation opportunities. Management methods may include limitation of visitor numbers, camping and travel controls, implementation of fees, alteration of when use takes place, and other similar actions to be approved through normal BLM procedures.

REC-5	Recreational off-highway vehicle (OHV) and mechanized travel will be consistent with area and route designations described in the travel management plan. BLM will work with agency and government officials and permit holders to develop procedures, protocols, permits or other types of authorization, as appropriate, to provide reasonable access for non-recreational use of OHVs for military, search and rescue, emergency, administrative, and permitted uses.
REC-6	Dispersed camping is allowed where not specifically restricted. Dispersed camping may be closed seasonally or as impacts or environmental conditions warrant. All vehicle use associated with dispersed camping activities is required to stay on designated routes.
REC-13	Support Grand County's efforts to obtain approval of corridor management plans for Utah Scenic Byways (Utah Highways 128, 313, and 279) and provide assistance, where feasible, in the development of byway facilities consistent with other decisions of the RMP.
REC-39	Labyrinth Rims/Gemini Bridges SRMA (excerpts): • Front country type use takes place along SR 313 and the Island in the Sky Road. This highway was designated the Dead Horse Mesa Scenic Byway by the State of Utah in the early 2000s. To manage dispersed camping and protect scenic values, BLM establishes a 1-mile-wide corridor along SR 313 and the Island in the Sky Entrance Road where camping is limited to designated sites, wood cutting and firewood gathering are prohibited, and portable toilets are required. BLM currently limits camping in the corridor to the Horsethief Campground, the Lone Mesa, and Cowboy Camp camping areas. BLM also limits camping and prohibits woodcutting and firewood gathering in a one- mile-wide corridor along the Gemini Bridges Road. Manage the small Cowboy Camp for tent camping and manage the Lone Mesa area for group use. Manage Hatch Wash and the lower section of West Coyote Creek for primitive, nonmotorized recreation. • In addition to the Mineral Bottom Takeout, BLM manages several additional facilities in the area including the Mill Canyon Dinosaur Interpretive Trail, the Halfway Stage Station Interpretive Site, and the Copper Ridge Sauropod Trackway Interpretive site. BLM also manages and maintains route markings (with user group assistance) on the Monitor and Merrimac, Seven Mile Rim, Poison Spider Mesa, Golden Spike, Goldbar Rim, Gemini Bridges, Lower Monitor and Merrimac, Bar M, and Klondike Bluffs routes which are used by both motorized and non-motorized visitors. The 3-D, Crystal Geyser, Hellroaring Rim, Secret Spire, and Wipeout Hill routes are authorized for Jeep Safari and other uses. New motorized routes will not be considered in the Hatch Wash Hiking and Backpacking Focus Area. • Manage backcountry areas to facilitate scenic motorized touring on designated routes with special emphasis upon establishment of low-development, end of route parking areas and route signing. • Improve the road to the Mill Canyon Dinosaur Trailhead to accommodate passenger car traffic. • Focus Area -- Scenic Driving Corridors: Highway 313 and the Island in the Sky Road (Utah Scenic Byway): Manage for scenic driving enjoyment. The corridor is defined as having a width of 1/2 mile from centerline (or to border of adjoining Focus Area; see Appendix A). • Focus Areas -- Non-Mechanized Recreation: o Goldbar/Corona Arch Hiking Focus Area (4,191 acres) covers the lands below the Golden Spike OHV route inclusive of the Culvert Canyon drainage to the northern rim of Long Canyon exclusive of the main stem of the Day Point Road. Manage the Corona Arch Trail for hiking only. Develop a hiking loop route in Culvert Canyon from the canyon bottom up to Jeep Arch and back on the western bench of Culvert Canyon to the canyon to just canyon from the railroad spur. Apply a no surface occupancy stipulation for oil and gas leasing and preclude other surface-disturbing activities (see Appendix A) to protect primitive hiking opportunities and scenic values. No new motorized routes will be considered. o Spring Canyon Hiking Focus Area (457 acres) will be established upstream from the Spring Canyon Bottom Road. No new motorized routes will be considered. o Labyrinth Canyon Canoe Focus Area (7,709 acres) inclusive of the rims along the east side of Labyrinth Canyon from Placer Bottom to Mineral Bottom exclusive of

	the Hey Joe Mine OHV and mountain bike route. No new motorized routes will be considered. o Seven Mile Canyons Equestrian Focus Area (1,026 acres) inclusive of the north and south forks of Seven Mile Canyon westward from the junction of the two canyons. Equestrian use in this area will be restricted to private (non-commercial) horse use. No new motorized routes will be considered. • Focus Areas -- Mountain Bike Backcountry Touring (excerpts): o Bar M Mountain Biking Focus Area (2,904 acres) between Arches National Park, U.S. Highway 191, and the Bar M area state lands, exclusive of motorized access for the Copper Ridge Jeep Safari Route and the 191 rock quarry access road. Convert existing routes to mechanized use and provide for a limited number of new and connecting routes to support use of area as the destination for the 191 bike lane. Recommend that the old highway route in Moab Canyon be managed for non-motorized use to facilitate use of the route as part of the 191 bike lane. o Mill Canyon/Upper Courthouse Mountain Biking Focus Area (5,744 acres) inclusive of areas within the Mill Canyon and upper Courthouse drainages with continued use of the Seven Mile Rim Jeep Safari route for motorized use, with non-motorized trailheads near the Mill Canyon Dinosaur Trail and the Halfway Stage Station. Manage the Mill Canyon Dinosaur Trail for hiking only (35 miles of road designated for motorized travel; 23 miles of route managed for mechanized use only). o Focus Area -- Motorized Backcountry Touring: Gemini Bridges/Poison Spider Mesa Focus Area (16,299 acres) for multiple use, including full-size OHV, ATV, and motorcycle use with consideration given to managing routes suitable for each vehicle type. Travel will be intensively managed on designated routes only. Close the spur route to Gemini Bridges to facilitate public use and help restore damaged lands along the spur route. Construct a parking area near the bridges. • Focus Areas – Specialized Sport Venue (Motorized): o Dee Pass Motorized Trail Focus Area (35,290 acres) for motorcycle and ATV use: This is the area for competitive motorized events. Competitive routes within this area will be identified based on site-specific NEPA analysis. All routes designated for motorized use in the accompanying Travel Plan will remain open while Section 106 cultural resource inventories are conducted. If these inventories indicate the presence of eligible sites within the travel corridor, the route will be altered or closed. All new routes will require Section 106 cultural resource inventory prior to designation. Establish a managed OHV route system with provision for ongoing management of existing single-track routes to maintain their singletrack character. o Airport Hills Motocross Focus Area (285 acres): Manage the Focus Area for motocross use in partnership with local government under the Recreation and Public Purposes Act. A patent will be issued to local government. • Focus Area – Managed OHV area (cross country travel allowed): White Wash Sand Dunes Open OHV Focus Area, (1,866 acres) encompassing the area around the dunes themselves. Manage the central portion of the White Wash Sand Dunes for motorized sand play with exception of the dune field cottonwood trees and White Wash water sources which will be closed to motorized travel and fenced.
The proposed action also supports other RMP Recreation management actions, including REC-33 and REC-34.	
Other Resources and Off-Highway Vehicles	
SOL-WAT-20	No additional OHV routes will be allowed in saline soils other than those already designated in the Travel Plan accompanying this RMP (see Appendix N). An exception will be considered on a case-by-case basis for proposed routes in the Dee Pass Motorized Focus Area and in the Utah Rims SRMA. Exceptions could also be considered on a case-by-case basis outside these two areas if potential impacts could be mitigated and if the action will benefit other natural and cultural resources.

WSR-4	OHV travel will be limited to designated routes or closed, depending on the river segment.

MONITORING SUPPORT MATERIALS

The BLM will continue to monitor its adherence to the TMP for the Labyrinth/Gemini Bridges TMA, including the guidance in Section N.4 of this Implementation Guide. Below are additional tools the BLM may use as part of its long-term monitoring of the TMP.

Example Monitoring Form

Recreation Monitoring Report

Observer: _____ Date: _____
Location: GPS/Universal Transverse Mercator or Township/Range/Section: _____
Topographic /Quad: _____
Describe Specific Location:

What was observed: (Check the appropriate items and describe them below) Please be very specific with your observations.
_____ Off-Road Vehicle Activity (Car, Truck, OHV; Recent/Old)
_____ How many vehicles were observed
_____ Use of Mechanized Equipment off road (What type)
_____ Litter/Dumping (Quantity consisting of what items)
_____ Cutting Wood/Vegetation (What kind and how severe)
_____ Destroyed Property, government, state, and private (What type)
_____ Evidence of Human Waste (including toilet paper).
_____ Boundary Signs (Apparent, Replacement necessary, Need for signing)
_____ Number of people encountered and from what state
_____ Other (describe) _____

Corrective action taken:

Recommended corrective action:

Was anyone contacted? What was said?

Additional comments

Strategies and Schedules

Travel Management				
Location(s)	Issue/Objective	Indicator (what)	Protocol (how/methods)	Trigger/Action
Designated road/trail system	Management of designated system	• Number of roads/trails meeting targeted maintenance intensities • Placement and retention of all signing	Road/trail condition assessments	
		Average daily traffic	Traffic counters on key roads/trails	
		Number of illegal, off-system vehicle incursions	• Visual inspections • Field Office protocols	
Soil, Water, and Air				
Location(s)	Issue/Objective	Indicator (what)	Protocol (how/methods)	Trigger/Action
TMA-wide	Study the effects of continuing erosion that endanger floodplain soils. Map out these areas.	• Gully, rill, and sheet erosion • Vegetative cover • Compaction	• Monitor erosion • Monitor vegetative cover • Monitor impacts and gully progressions • Collect and analyze sedimentation and erosion data	
Wildfire burns and other select disturbed areas	Assess the effects of disturbance and reclamation	• Erosion or stabilization • Vegetative cover	Visual inspection	• Large wildfire • Erosion and flooding

Recreation				
Location(s)	Issue/Objective	Indicator (what)	Protocol (how/methods)	*Trigger/Action
SRMAs	Produce targeted recreation opportunities specific to each SRMA (or RMZ within the SRMA if RMZs are established in the future).	Realization of targeted benefits for each SRMA.	• Visitor surveys • Focus groups	Targeted recreation benefits not realized
		Physical setting conditions, such as remoteness, naturalness, facilities	• Monitor "development creep" with regard to authorizing expansion of designated road systems and recreation facilities into settings targeted as more primitive; monitor lack of development in SRMAs where development was targeted • Monitor landscape change via VRM	
		Social setting conditions, such as group size, encounters with other users, and evidence of use	• Existing Field Office protocols for evidence of use (rapid site inventory, human impact site monitoring) • Actual counts for group size and encounters	
		Administrative setting conditions, such as visitor services, management controls, mechanized use	• Monitor level of effort to provide visitor information and assistance appropriate to targeted settings • Monitor level of regulation, signing, and permitting applied as appropriate to targeted settings	

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ROUTE RECLAMATION

Closed OHV Routes and Travel Maps

In general, OHV-Closed routes should not appear on the travel map associated with the TMP. However, the BLM may choose to include some OHV-Closed routes on maps as helpful points of reference or when needed or helpful for authorized users.

Disguising Routes with Natural Materials

This method, sometimes referred to as "vertical mulching," is used to hide routes from view. If routes are not on travel maps and are not evident to visitors, they will be unlikely to receive additional use. Often, the first several hundred feet of illegal routes or routes slated for reclamation may be disguised to look like surrounding areas by placing rocks, dead wood and plants, and in some cases planting live vegetation in a natural-looking arrangement. Where possible, materials used should be large enough and abundantly placed in order to deter people familiar with route locations from easily removing them. In some cases, mechanical tools such as shovels, rakes, and other hand tools may be employed to obliterate embankments, ruts, water bars and ditches.

Ripping and Reseeding Routes

This process mechanically removes routes from the landscape and revegetates them. Native seed mixes should be used. Mechanical removal may be accomplished by hand or, among other methods, with the use of power equipment, excavators, bulldozers, or harrow or seed drills. Herbicides may also be used for revegetation. Based on site-specific conditions, seeding and planting treatments may include:

- Preparing a seedbed.
- Selecting an appropriate seed mix.
- Applying the seed.
- Covering the seed.

Due to the broad spectrum of situations encountered, all possible treatment options and combinations of treatments may be utilized. This process ultimately results in closed routes becoming undetectable.

Barrier Installation

In locations where it is impractical to employ any of the previous methods (e.g., extremely rocky areas) and in areas where administrative use may occasionally be required on a route closed to the public, it may be necessary to install natural or human-made barriers such as large boulders, fences with gates, or other barriers to physically prevent unauthorized use. Where possible and practical, these measures may be removed when routes are reclaimed or fully disguised.

Closing Routes with Informational Signs

This measure may be applied in cases where the previous measures have failed and ripping and seeding or the use of physical barriers is impractical or ineffective. It may also be used on routes to establish an "administrative use only" designation or to identify seasonal closures. Signs may

be clearly marked and placed in locations where they may be highly visible. Signs should be removed when routes are reclaimed or fully disguised.

Other Reclamation Considerations

In general, route closures for recreation are most effective when the designated route system provides the desired recreational opportunities, and closed routes are completely naturalized to eliminate the visual remnants of the former routes. Therefore, route closures will be most effective when any new routes, route redesigns, or reroutes within the transportation system are completed prior to implementation of route reclamation efforts.

A first step in reclamation is to obliterate obvious tracks and other evidence of use on closed routes. Techniques to accomplish this include hand-raking and cutting track edges or berms to break up straight lines. Additional techniques include placing small rocks on routes and mulching routes with local vegetation or dead plant materials. Reclamation actions would typically be limited to the portion of an unauthorized route that is within line of sight from an open route. The objective of obscuring the route to the visual horizon is to blend the disturbed area into the landscape, therefore discouraging continued use of closed routes and reducing the need for signage. The work may be limited to existing surface disturbance, and any reclamation work should first be cleared with the appropriate BLM office's Authorized Officer. A travel route that has historical significance (e.g., an old wagon trail) will not be subjected to any surface disruption. Because surface-disturbing reclamation actions may draw public attention to reclamation sites, the BLM may choose to provide informative signs near the sites that explain the need for and value of resource protection.

Where practicable, reclamation actions may include leaving the beginning portion of a closed route exposed. This would provide pullout areas or dispersed camping opportunities and is likely to discourage or prevent new surface disturbances elsewhere. Also, where appropriate, management may direct travel along open routes to concentrate traffic on maintained routes away from closed routes. This could include focusing maintenance on certain routes far from closed routes. Users may be more attracted to such well-maintained routes because of a more comfortable travel experience. Signing that strategically emphasizes use of routes far away from closed routes could also concentrate traffic away from closed routes. Routes far from closed routes could be well-signed and more emphasized in interpretive materials while routes near closed routes could receive minimal signing and low levels of publicity.

Reclamation Techniques Toolbox

A full suite of reclamation techniques may be employed throughout the TMA, depending on the appropriateness of the method for each route to be reclaimed. While most routes may be reclaimed naturally, some may require more intrusive, surface-disturbing restoration methods. The full suite of closure reclamation techniques considered for use within the TMA is described in the Reclamation Techniques Toolbox below. As deemed appropriate by BLM management, these closure methods may be used in any combination for each route.

Table 59: Reclamation Techniques Toolbox

Manual Techniques	
Passive/ natural reclamation	Allow the route to naturally reclaim without any signing, surface disturbance, or replanting of vegetation. This method is proposed in lightly used areas and on routes where restoration is already occurring. The goal is to avoid attracting attention by not signing or fencing these lightly used routes. This is the least obvious method of closure, least costly to the BLM, and provides a high degree of naturalness when successfully implemented.
Fence and sign/fence only/gate	This method applies to upland routes, dry wash routes and routes limited to authorized users for administrative use. This type of closure has little surface disturbance and is used in areas where fence cutting would be expected to be minimal. Generally, the fence type would be T-post and four strand smooth wire; however, the fence type could be increased to pipe rail/steel rail as needed while still maintaining a small footprint at the beginning or end of a route. Fencing and signs can later be removed to complete the reclamation process. A locked gate could be used to control unauthorized use on routes limited to authorized users such as grazing permittees and BLM staff.
Sign only	This method applies mainly to upland routes in lightly used areas and is proposed for routes in lightly used areas and/or in areas where compliance with signage is expected to be good. The signage can later be removed to complete the reclamation process.
Rake out tracks only	This applies mainly to sandy washes where erasing the evidence of use in lightly used areas may be enough to prevent attracting future use. This is very light on the land and provides a high degree of naturalness when done. The goal is to avoid attracting attention to lightly used routes. Monitoring and raking is required to ensure effectiveness and may be required for up to one year.
Rake out tracks and sign	This method applies mainly to sandy washes in lightly used areas. A sign reinforces the closure by placing physical notice for visitors and to assist law enforcement. This method is low cost to the BLM and provides a moderate degree of naturalness when complete. A downside to this method is the potentially high number of closed signs that can accumulate in a given area and the public perception that many routes are being closed, leading to vandalism. Monitoring is required to ensure effectiveness. Signage can be removed to complete the reclamation.
Vertical mulch with berm/ fence and sign	This method works in upland areas where occasional use of routes in lightly used areas prevents natural restoration. A sign provides physical notice and assistance to law enforcement. A T-post and four strand smooth wire fence works best when the fence is placed in an area where bypassing it is difficult. Combined with a sign and/or fencing, actively placing cuttings of sagebrush, transplanted bushes, and scattering dead vegetation in the wheel tracks may be enough to prevent use. Placement of plants in the closed route to the visible horizon minimizes cost and surface disturbance. Seed mixtures may also be applied to enhance the effectiveness of reclamation.
Barriers	Physical blockades constructed to prevent the passage of vehicles. Barriers may be earthen mounds, wire fence, pipe rail fence, post and cable fence, concrete wall sections (also referred to as Jersey or K-rail barriers), or free-standing steel structures commonly referred to as Normandy barriers. To the greatest extent practicable, the BLM may utilize native, natural materials, such as rocks, vegetative debris and wood to minimize further visual impacts to the landscape. For example, wooden split rail fencing may be preferable to metal fencing.
Fence/ barrier with signs and parking area	Where an open route dead-ends at a closed route or limited use route, the BLM may develop a simple trailhead at the end of the open, motorized route, with parking space and signage indicating the shift in authorized uses. This would clearly demarcate the boundary between the terminus of an open route and the beginning of a closed or limited use route. By making it evident that a closed route is still open to other forms of use (typically non-motorized and/or non-mechanized uses), this closure method eases the transition from one use to another. Thus, this method of closure may lessen public opposition to route closures and increase public compliance with route designations.

Mechanical Techniques	
Berm with signs	This method would be applied in upland areas where a berm cannot be bypassed. This type of closure has less surface disturbance because soil is only moved to create a berm at the beginning or end of a closed route. Signage provides physical notice to visitors and assistance to law enforcement. The berm stands as an indicator of closure if the sign is removed, providing additional notice to visitors. After a route has restored, berms can be removed or flattened to complete the reclamation process.
Rip/ harrow	A more expensive but effective way to eliminate route use and expedite vegetation regrowth. These techniques are necessary in high use areas where use is likely to continue on a route if it is not made completely obvious that the route is being restored. 100% of a closed route surface is disturbed by this method. A tractor-towed disc harrow or a finger-type winged ripper mounted on a tractor or bulldozer would be the typical equipment used. Benefits include reduced soil compaction and improved seed germination and establishment. Drawbacks to these methods are: (1) significant plant growth (20% cover) may take up to five years; (2) no regrowth may occur if barriers are bypassed and use continues on the ripped roadbed; (3) the complete removal of existing vegetation resulting in a temporarily prominent disturbed area; (4) increased likelihood of invasive weed infestation, and (5) possible disturbance of undiscovered subsurface cultural resources. Under this method, soils would be ripped or harrowed to a depth of 18 to 24 inches. Preferably compacted soils would be ripped in two passes at perpendicular directions to a minimum depth of 1,824 inches at a furrow spacing of no more than 2 feet.
Engineering/ Grading	If a closed route begins at a route that is regularly maintained with heavy equipment (Maintenance Intensity Level 5), the main route may be maintained in such a way that there is a formidable ditch and berm on the sides of the route, deterring illegal motorized travel on the closed route.

ROUTE-BY-ROUTE DETAILS

As timing and resources allow BLM will assign the following attributes for each route and track that information in the GTLF dataset:

- Evaluation Route #
- FAMS #
- Primary Route Management Objective
- Functional Classification
- FAMS Asset Type
- Maintenance Intensity
- Indicator of route's inclusion in FAMS
- Indicator of route's FLTP eligibility
- Indicator of route's Federal Lands Access Program eligibility

SIGN PLAN BMPS

This section identifies and describes BMPs for signing routes on BLM land. It focuses on portal/entry signs and route marker signs for individual routes. Additional details for signs on BLM lands (installation, ordering, etc.) can be found in the BLM's 2016 National Sign Handbook (BLM 2016b) and the Federal Highway Administration's MUTCD (FHWA 2019).

Signing Objectives

The main objectives of this sign plan are to identify designated routes on the ground in a clear and consistent manner to eliminate or minimize off-network travel and other misuse of the TMA while reducing user conflict and resource impacts. To accomplish this, the BLM may create and distribute well-designed signs so that the public can understand the designated travel network and comply with its terms and regulations. Signs in the TMA should adhere to a consistent theme and will be consistent with all applicable laws, regulations, policies, and land use plans.

Specific objectives of this sign plan are to:

1. Address signing priorities and areas of special emphasis.
2. Provide an orientation to the types of signs, their design, and their uses in the TMA.
3. Address sign placement for current and proposed signs.
4. Outline basic protocols for the monitoring and maintenance of the sign system, including future signing needs.

General objectives for the BLM's use of signs in the TMA are to:

1. Identify public lands.
2. Promote the health and safety of visitors to the public lands.
3. Meet visitor needs for information and direction.
4. Ensure visitors are aware of route designations.
5. Use sign communication to:
    a. Inform the visitor of the natural and management features of the public lands and waters.
    b. Enhance visitor experiences.
    c. Reduce or mitigate user and management issues.
6. Uniformly promote public awareness of the BLM's multiple use mandate and stewardship responsibilities in managing the U.S. public lands and waters through consistent messages and signage.
7. Provide uniformity in the shapes, materials, messages, and appearance of BLM signs.

The BLM's 2016 National Sign Handbook (BLM 2016b) provides specific objectives pertaining to sign design:

> The BLM must use and place signs judiciously; use the established emblem or wordmark, where appropriate; use approved international symbols and established standards of the sign industry; comply with Uniform Federal Accessibility Standards (UFAS) guidelines; meet specifications established in the Manual on Uniform Traffic Control Devices (MUTCD) for vehicle and pedestrian traffic control signs; comply with federal, state, and local laws, as appropriate; and complement other media, such as maps, brochures, and webpages.

Sign Types and Design

Sign Types Overview

Under the final TMP, various types of signs and markers will be installed according to the current BLM policies and guidance for recreation and travel management signing. Signs appropriate to travel settings (i.e., Backcountry, Frontcountry, etc.) may be installed along roads, primitive roads, and trails. BLM travel management signs should use positive, clear, and simple messaging (BLM 2012a).

Signs are intended to guide, inform, and protect visitors. This section groups and defines the types of signs used on the BLM public lands and waters. Each of these categories has its own requirements and functions. Ideally, to avoid sign clutter, messages should not be mixed on a single sign or in a grouping of signs. The following categories of signs and may be installed in the TMA and include categories listed in the BLM's National Sign Handbook (BLM 2016b):

- Identification
- Guide (navigation)
- Informational
- Traffic control devices
- Regulatory/warning/safety
- Miscellaneous (temporary, special event, etc.)

Sign Design Overview

From large, informational portal signs to small, individual route markers, clear and accurate signing is crucial to provide all users of the travel network with the information they need to comply with route designations and meet TMP goals and objectives. New signage may incorporate elements from the design standards outlined in the most current version of the BLM's National Sign Handbook (BLM 2016b) in addition to design specifications from the BLM sign shop. Any deviations from these standards must be approved by the BLM National Sign Coordinator.

Portal/Entry Signs

Large portal identification signs (see Figure 42 – Figure 44, below) may be installed at the beginning of popularly used areas, routes, or entrance points. The BLM's National Sign Handbook (BLM 2016b) provides greater detail on formatting BLM signs.

Figure 42: Portal/Entry Sign Example

Figure 43: Non-NCA BLM Identification Sign

The illustration at the top of the sign example above (taken from the latest BLM sign handbook) may be used for non-NCA BLM land identification signs in the TMA. According to the BLM sign handbook, this type of sign may require a waiver or approval if located within another agency's ROW. Within BLM ROWs, the BLM state engineer can make the determination on a case-by-case basis; otherwise, signs should comply with the U.S. Department of Transportation's MUTCD standards. The handbook goes on to provide specifications for MUTCD-compliant identification signs.

Figure 44: MUTCD-Compliant BLM Identification Signs

Directional/Guide Sign Overview

Directional signs are essentially guide signs, which typically use arrows and distance indicators to provide guidance for the wayfinding process with roads and trails (BLM 2016b).

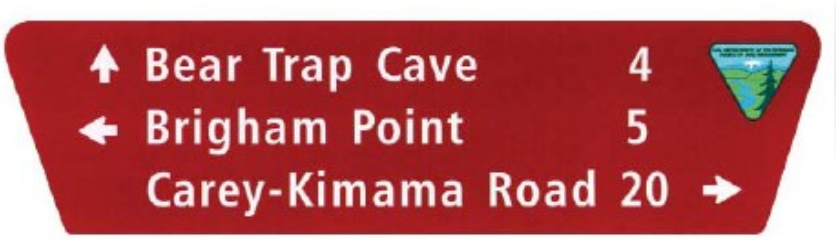


Figure 45: Directional Guide Sign with Guidance to Multiple Destinations

Figure 46: Directional Guide Sign with Guidance to One Destination

Information Signs

Information signs may also be used throughout the TMA. See examples below.

Figure 47: BLM Information Sign Examples

Overview of Route Identification Marker Signing and Numbering Standards

Route markers are a specific type of guide sign. Most TMA signs may be route marker guide signs. Most primitive roads and trails may be identified by their number with flexible, brown fiberglass markers, generally referred to as fiberglass or Carsonite posts. Figure 48 provides an example of a layout for route markers. Most BLM route markers have white lettering on a brown background.

Figure 48: Route Marker Examples

All numbers and decals should be placed within the top portion of the post that will not be driven into the ground. At a minimum, these signs should convey the managing agency and the numeric route identifier along with any other important symbols or graphics, such as those denoting what type of use is allowed or authorized.

Each route ID should come from a pre-assigned TMA -specific block of numbers. Local input may be sought when naming loops and trails. The numbering system will be flexible, and numbers may not always be in numeric order. Note: routes that travel between field offices or planning areas may use the navigation number that was assigned to them in the jurisdiction or area that had the earliest designation date.

During the planning process, final navigational identifying numbers may be assigned for marking routes on the ground and in future published maps. However, throughout the travel management process, each travel route may have been assigned more than one identifying number. During the route evaluation phase of travel planning, a unique number is assigned that ensures that routes in GIS correspond to routes in a separate evaluation database. Sometimes existing route label numbers are changed to clarify segments into transportation assets (e.g., roads, primitive roads, and trails). These evaluation numbers are used in route reports (described in Appendix J of the EA). Finally, navigational identifying numbers are assigned as described above, and they become the official FAMS asset numbers as well. All versions of the various identifying number schemes may be maintained in a GIS database.

To limit the number of markers at an intersection, two routes may be identified on one post using arrow symbols and using both sides of the double-sided fiberglass posts. When adding a route name or where more than two international symbols are needed to convey a restriction or

allowable use, the BLM may develop special decals which clearly state needed messages or trail names. If a volunteer group adopts a route, they may be allowed to develop a decal to place on the route's markers. On sign marker posts, trail names or trail adopters may be identified and labeled above route numbers. Not all route markers need to include a route name and numeric route identifier.

Where there is potential for a route to be traveled by motorized vehicles past its designated terminus, "Motorized Route Ends" signs or decals may be used. Routes that are open to administrative use only may be marked prominently with standard "closed" route signs (usually at the beginning of the route) and may be used in conjunction with route markers that display a standard "administrative use only" message.

Figure 49: BLM Route Marker on the Ground

Where designated OHV routes intersect with closed routes, "closed" route markers may be placed only where absolutely necessary for resource protection or public safety. When these closed routes are completely reclaimed either through natural re-vegetation or reclamation efforts, and the "closed" route markers are no longer necessary, the markers may be removed.

Implementation of signing should be completed in accordance with current BLM policy and guidance per the most current BLM sign handbook (BLM 2016b). Specifics for sign design, use, and location are also determined by the BLM's Roads Manual (BLM 2015a) and Primitive Roads Manual (BLM 2012d), the BLM's Sign Manual (BLM 2004), and the BLM's Travel Management Handbook (BLM 2012a).

Markers for Travel Routes That Are Open and Limited

Markers for travel routes that are open or limited to OHV travel may follow the basic layout depicted in the signs in Figure 49:. Each marker post may contain the following elements:

- Arrow pointing in the direction of the route being marked

- Route identification number
- Symbols of allowed uses to which the route is open
- Symbols of prohibited uses to which the route is closed
- BLM logo

Markers may also have a decal with GPS coordinates marked at strategic locations.

Markers for Routes That Are Limited or Closed

Markers for travel routes where public motorized vehicle travel is allowed but limited (with various restrictions) may use signs formatted like the first sign in Figure 50 below. Markers for travel routes that are decommissioned or closed to all forms of motorized vehicle travel may use signs similar to that at the right in Figure 50. Where motorized vehicle travel is allowed for administrative use, signs stating closure to OHVs may be used. Once a route has been decommissioned, and the route footprint has revegetated and blends in with the adjacent landscape, signs may be removed so as not to attract attention to the fact that a travel route once existed.

Figure 50: Route Designation, Restriction, and Closure Signs

Additional Sign Examples

In addition to portal/entry signs, directional signs, general guide signs, designated route marker guide signs, and closure/limitation signs, the following signs may be used:

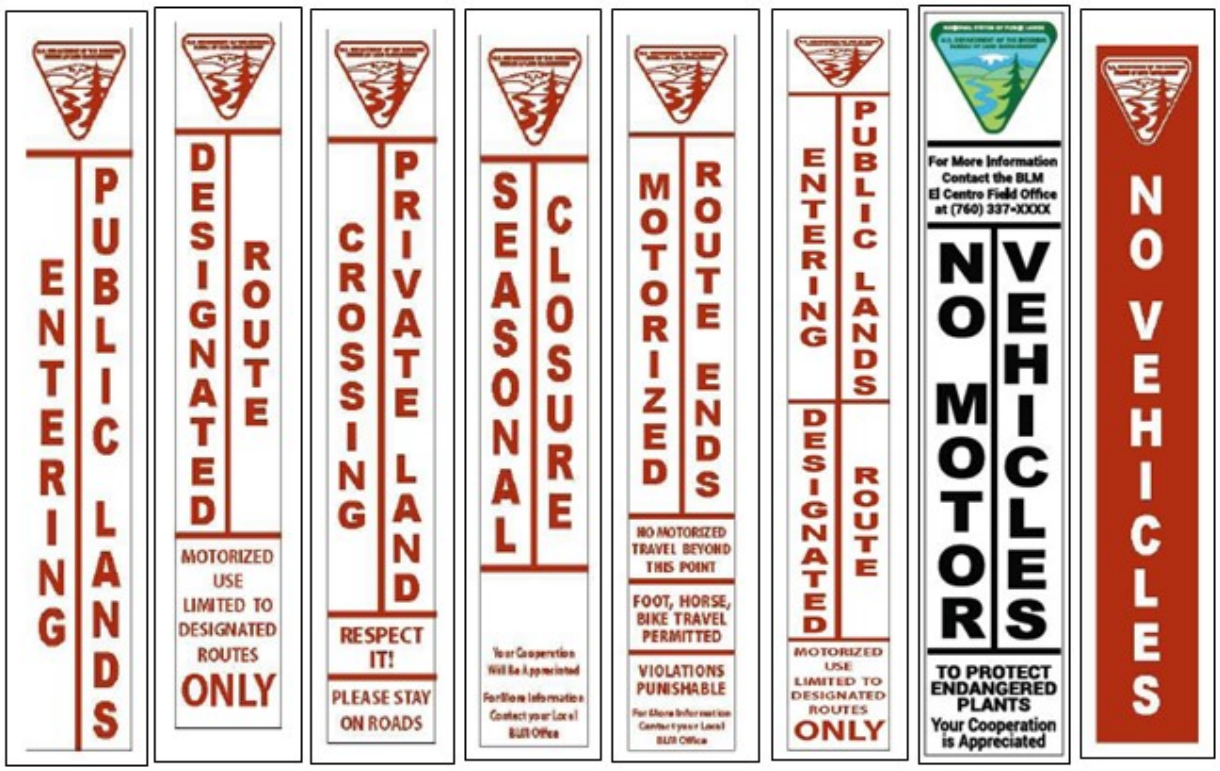


Figure 51: Additional Travel Management Signs

Sign Placement

Priorities for Placing Signs

Priorities for the placement of signing are listed below:

1. Public health and safety
2. Entrances to and boundaries of areas of national significance (e.g., national monuments, designated wilderness areas, etc.)
3. Special management areas (e.g., concentrated recreation sites, watchable wildlife sites, trails, backcountry byways, etc.)
4. Travel corridors receiving intensive use
5. Enhancement of visitor experience and convenience
6. Concentrations of major thoroughfares crossing large blocks of BLM-managed public lands

Priority should be given to the installation and maintenance of route markers (e.g., guide or navigation signs). The intention is to make the network of open and limited routes more obvious and attractive than the closed routes.

Sign Distribution

Signing should be kept to the minimum necessary for visitor management and assistance. Signing may also be used as a tool for resource protection and regulatory and informational purposes. Though signs may not be placed on every route in the travel network, most routes designated as OHV-Open or OHV-Limited to motorized/mechanized travel may be marked with

their navigation number or route identification number at their beginnings and at major intersections. Route markers may be placed periodically to confirm the identity of the route being traveled, serving as reassurance markers. Signing may also occur at other points where following a primitive road or trail might be difficult or confusing to visitors. At the intersection of two major connector routes, larger guide signs with destinations and mileages may be used. Other signs, such as identification signs, kiosks, and regulatory signs may be placed within the TMA as needed according to BLM management priorities.

Sign Monitoring and Maintenance

Monitoring/Maintenance Overview

Through monitoring and ongoing public input, strategies may be developed to constantly improve signing effectiveness. Maintenance procedures and schedules may be developed for signs and markers. Such procedures and schedules would include anticipated replacement needs. A sign inventory and database (see below) may also be created to facilitate tracking of sign locations and sign maintenance.

Signs may be removed or destroyed during the first few years following implementation. Sign replacement could involve utilizing different techniques to more securely ensure a sign's physical placement (e.g., using concrete instead of a stake). The messages some removed or destroyed signs conveyed may also be communicated through alternate means (e.g., public notices, increased BLM interaction with visitors, etc.).

Public message signs may be routinely evaluated to ensure that they are adequately meeting user needs and are consistent with BLM goals and policies. As kiosks typically require more maintenance than other signs, they may be monitored more frequently for evidence of damage and other problems.

The BLM may strive to monitor and maintain TMA signs. Signs may be updated, repaired, or replaced as soon as possible; signs that are found to be unnecessary may be removed. General sign maintenance should be conducted according to Chapter 8 of the BLM's National Sign Handbook (BLM 2016b). Public land users will be encouraged to report missing or damaged signs, and volunteer efforts may be developed to help monitor and replace signs. Costs may be identified through the sign inventory database. For consistency, all future signing should conform to the design standards set forth in the BLM's National Sign Handbook (BLM 2016b).

Sign Surveys and Inventories

A sign inventory (stored in a GIS database) should be developed and maintained. On a regular basis, the BLM should evaluate signs and other communication products (brochures, maps, etc.) for effectiveness (BLM 2016b).

A sign survey may be used to create a sign inventory. Current markers and signs may be inventoried upon TMP implementation. The sign survey used to create a GIS database of sign inventory details may include photos and information such as location, category, sign text, size and color, substrate material, and condition. An electronic GPS data dictionary and fillable electronic BLM sign survey form are available online. More details can be found on page 8 of the BLM's National Sign Handbook (BLM 2016b).

Sign Effectiveness Planning and Review

The review of existing and proposed signs is essential to assess the need for and usefulness of each sign. Field staff involved with sign placement should have input during this review, helping to determine which signs are worthwhile, which signs should be eliminated, and which signs should be clarified. Field staff may also identify locations where signs are needed to resolve use problems, to improve stewardship ethics, or to accommodate public health and safety issues. Each sign should be planned and reviewed to fulfill the minimum review requirements of the BLM's National Sign Handbook, including visibility, location, condition, etc. (BLM 2016b).

ROUTE MANAGEMENT MITIGATION ACTIONS FOR VARIOUS IMPACT SCENARIOS

Introduction

The following sections present *examples* of possible route management mitigation actions that could be considered to address potential route-related resource concerns. These actions were considered during the route evaluation and alternatives development process. Mitigating actions are listed under resource-conflict scenario descriptions in order of possible implementation from least restrictive to most restrictive. For additional examples of mitigation measures, consult "Appendix 5: TTM Challenges and Solutions for Recreation/Trail Management" in the BLM's Travel Management Handbook (BLM 2012a). It provides mitigation measures to address the following topics:

- Route density
- Access management
- Circulation improvement
- Parking improvement
- User conflict resolution
- Quality and diversity of trail experiences

Cultural Resources

See the Historic Properties Treatment Plan (HPTP) developed for the Labyrinth/Gemini Bridges TMA.

Riparian and Water Quality

Route Location Degrades Riparian Conditions

1. Relocate the route to avoid riparian areas.
2. Raise the route above water level if route is necessary, and it cannot be relocated. Remove compacted road fills and replace with permeable fills (such as corduroy) that allow riparian vegetation root systems to continue to function. If riparian crossing is unavoidable, choose nick points where crossing can occur with minimized impacts.
3. Close the route if no suitable mitigation is possible and perform reclamation.

Route-Associated Human Use Degrades Riparian Conditions

1. Place information and interpretive signs encouraging positive behavior (e.g., "Use only when dry," etc.).
2. Raise the route above water level or place barriers to keep vehicles and people on routes. Remove compacted road fills and replace with permeable fills (such as corduroy) that allow riparian vegetation root systems to continue to function. If riparian crossing is unavoidable, choose nick points where crossing can occur with minimized impacts.
3. Relocate the route to allow riparian condition to improve.
4. Close the route if no suitable mitigation is possible and perform reclamation.

Route-Associated Human Use Contributes to Water Quality Degradation and Excessive Erosion

1. Review the situation to determine source of degradation; monitor to determine severity.
2. Place water control measures on the route, such as lead-off ditches and rolling dips to drain the entire road surface.
3. Check and ensure adequate buffer strips are provided at drainage structures to avoid direct drainage into water bodies.
4. Tighten spacing between drainage structures based on soil types and route grade.
5. Take reasonable measures to further harden/stabilize the route.
6. Relocate the route or raise the grade if the route is incised.
7. Close the route if no suitable mitigation is possible.

Wildlife and Vegetation

Route-Associated Human Use Degrades a Wildlife Habitat

1. Educate route users through interpretive signs and other information facilities.
2. Place use limitations on the route (time/season of use, type of use, number of users).
3. Review management plans for species (including recovery plans for ESA-listed species) and follow recommendations.
4. Design mitigation plans to address:
    - Temporary conditions
    - Seasonal conditions
    - Year-round conditions
5. Develop specific mitigation measures based on the site if species management plans are insufficient.
6. Initiate consultation with the U.S. Fish and Wildlife Service (in the case of ESA-listed species).
7. Replace/enhance habitat to offset problems caused by human use; methods could be to:
    - Augment food/water sources.
    - Place barriers along the route to protect specific habitat features.
    - Relocate or expand reproduction sites to be away from the route.
8. Relocate the route.
9. Close route if no suitable mitigation is possible and perform appropriate reclamation. Regarding intrusions into wildlife habitat, a management decision from the 2008 RMP says, “Where the authorized officer determines that off-road vehicles are causing or will cause considerable adverse impacts, the authorized officer shall close or restrict such areas. The public will be notified as to these closures and restrictions” (BLM 2008b).

Route-Associated Human Use Degrades Plant Communities

1. Place interpretive signs to encourage vehicles and people to stay on routes.
2. Conduct public outreach and education regarding noxious weeds and conserving vegetation.

3. Fence the area or place barriers to manage people.
4. Develop a program to improve desired plant communities.
5. Close the route and perform reclamation.

Route Use Contributes to Invasive Plant and Noxious Weed Spread

1. Educate the public about the spread of invasive weeds to prevent new infestations.
2. Encourage thorough cleaning of vehicles entering the area and include cleaning requirements for contractors or authorized users and permittees of the route.
3. Increase weed treatment along the route.
4. Require use of certified weed-free hay for horse users using the route.
5. Possibly limit the season of use on the route to prevent the spread of seeds if weeds are more likely to be spread during a particular season.
6. Limit the route to administrative use.

User Conflicts

Different Travel Speeds Cause Conflict Between Route Users

1. Place signs and information kiosks to raise awareness of need for considerate use of the area.
2. Monitor situation on the ground and request law enforcement support as necessary.
3. Conduct public outreach and education in an attempt change behavior.
4. Eliminate conflicts by separating uses or limit traffic by type or time of use.

Sound Levels Cause Conflict Between Recreationists and/or Local Residents

1. Place signs and information kiosks to raise awareness of sound issues.
2. Monitor situation on the ground and request law enforcement support as necessary.
3. Conduct public outreach and education in an attempt change behavior.
4. Implement “Quiet Time” use restrictions.
5. Reroute traffic to minimize conflict.
6. Place sound-reducing vegetative or constructed embankment barriers (if applicable).
7. Close route if no suitable mitigation is possible.

Administrative Use Attracts Unpermitted Use

1. Limit the amount or season of authorized use of the routes.
2. Add additional signing to the routes indicating they are limited to administrative vehicle use and public non-motorized use.
3. Fence and gate the routes at their intersections with open routes.

Vandalism and Other Resource Impacts

Route Use-Related Resource Vandalism of Range, Wildlife, or Other Facilities

1. Sign and provide informational materials to the visiting public about the protection of range and wildlife facilities.
2. Close the area around range and wildlife facilities to camping and recreational shooting.
3. Designate facility access routes as limited to administrative use.

Route Causes Unacceptable Recreation Settings Characteristic Changes

1. Investigate the cause and implement signage and law enforcement as necessary.
2. Design mitigation plans to address:
    - Short-term conditions
        - Implement new signing and public outreach to explain problem.
        - Implement temporary use restrictions (e.g., no overnight camping).
        - Issue emergency closure order and address conditions during closure.
    - Long-term conditions
        - Implement signing and mapping protocols for the area.
        - If no suitable mitigation is possible, amend 2008 RMP to close the area.
        - Issue emergency closure order and address conditions during closure.
3. Close areas near the route contributing to unacceptable changes.

Proposed Route Exceeds a Visual Resource Management (VRM) Objective

1. Take appropriate action to make the proposed route less noticeable (e.g., landscaping) using the Visual Contrast Rating worksheet.
2. Realign or relocate the proposed route.
3. If no suitable mitigation is possible, construction of the proposed route should not be allowed.

RELEVANT CONSERVATION MEASURES

Through consultation with the U.S. Fish and Wildlife Service (USFWS) the following Conservation Measures have been developed and will be adhered to regardless of the alternative selected for this TMP.

The conservation measures from the 2008 Moab RMP will apply to the designated travel network. Additional conservation measures were developed though consultation with the United States Fish and Wildlife Service (USFWS) and referenced in the Biological Opinion on the Labyrinth TMP (received by BLM in June of 2023, attached as Appendix O). These TMP-specific Conservation Measures are detailed below.

Mexican Spotted Owl

The following recommended conservation measures have been provided to minimize the effects of recreation and noise disturbances to Mexican spotted owls. These conservation measures were identified in the 2012 Recovery Plan (USFWS 2012).

1. Recreation Disturbance:
    a. The following guidelines apply to Protected Activity Centers (PACs) during the breeding season, (1 Mar - 31 Aug). If non-breeding is inferred or confirmed that year per the accepted survey protocol, restrictions on noise disturbances can be relaxed depending on the nature and extent of the proposed disturbance (Swarthout and Steidl 2001, 2003).
    b. No construction of new facilities (e.g., trailheads, OHV trails) or expansion of existing facilities should take place in PACs during the breeding season. Any construction within PACs should be considered on a case-specific basis. Modifications to existing facilities pertaining to public health, safety, and routine maintenance are excepted (e.g., removal of dangerous trees in a campground; replacement of road culverts within campgrounds, etc.). However, when implementing such activities, those conducting the work should use all measures possible to avoid potential effects on owls (e.g., use least disruptive machinery; timing of the project to minimize disturbance).
    c. Managers should, on a case-specific basis, assess the presence and intensity of currently allowed (permitted and non-permitted) recreational activities. The assessment should include distance, frequency, duration, and source of the disturbance. If recreation is determined to be a problem (e.g., increased OHV or hiking use), limit human activities during the breeding season in areas occupied by owls (timing may vary depending on local nest chronology). Disturbance here is defined as the presence of 1 to 12 people; group sizes exceeding 12 people should not be allowed. In areas where nest and roost sites are not identified, human disturbance should be limited to ≤ 2 disturbances per hour (averaged over a 24-hour period) throughout the PAC. Where nest and roost sites are known, disturbance should be limited to ≤ 2 disturbances per hour (averaged over a 24-hour period) within line of sight of the nest/roost sites. In some cases, disturbances may be avoided by routing trails and recreational uses (e.g., OHV use) outside of PACs through signing in order to designate zones free from human disturbances during critical periods.

d. Seasonal closures of specifically designated recreational activities (e.g., OHV use, rock climbing, or biking) should be considered where disturbance to breeding owls seems likely.
e. Conduct education through signing, interpretation events, access permitting, or other information sources to inform the public of proper and legal behaviors when encountering owls. For example, land managers in some areas are maintaining permanent, all-weather signs that inform the public that the area is home to a sensitive species; visitors should stay on the trail and be as quiet and unobtrusive as possible.
f. If owls are not detected in a PAC during the breeding season, restrictions on non-habitat-altering recreation can be relaxed depending on the nature and extent of the proposed disturbance.

2. Noise Disturbance:
    a. The following guideline applies to areas within PACs during the breeding season (1 March to 31 August). If non-breeding is inferred or confirmed that year per the accepted survey protocol, restrictions on noise disturbances can be relaxed depending on the nature and extent of the proposed disturbance.
        i. Managers should, on a case-specific basis, assess the potential for noise disturbance to nesting owls.
        ii. Breeding-season restrictions should be considered if noise levels are estimated to exceed 69 dBA consistently (i.e., >twice/hour) or for an extended period of time (>1 hr) within 165 ft. of nesting sites (if known) or within entire PAC if nesting sites are not known.

Southwestern Willow Flycatcher

The following are recommended conservation measures to minimize the effects of recreation and noise disturbance on Southwestern willow flycatcher:

During the breeding season (April 15 to August 31):

1. No construction of new facilities (e.g., trailheads, OHV trails) or expansion of existing facilities should take place within 0.25-mile of occupied habitat.
2. Consider trail closures or restrictions on OHV use (and other activities likely to cause noise disturbance) within 0.25-mile of occupied habitat.
3. If occupancy is unknown (i.e. no protocol-level occupancy surveys were done in the past year), occupancy will be assumed within suitable habitat.
4. Occupancy surveys must be done during the breeding season prior to project activities. Occupancy status determined by protocol-level surveys will apply throughout the following breeding season.

The following measures apply year-round:

5. Avoid alteration of the hydrologic regime and degradation of riparian habitat.
6. If disturbance of riparian vegetation occurs within suitable or designated critical habitat, re-vegetate the disturbed area with native species.
7. If riparian vegetation is lost within suitable or designated critical habitat, mitigate for habitat loss by restoring riparian habitat in an area approved by the Service.

Endangered Plants

Plan and implement surveys for each ESA-listed plant species in all areas of where potentially suitable habitat or critical habitat occurs within 300 ft. of travel routes.

Protect occupied habitat from recreational access and use.

APPENDIX O BIOLOGICAL OPINION

The USFWS's Biological Opinion for the Labyrinth/Gemini Bridges TMP is attached.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
2369 W Orton Circle, #50
West Valley City, Utah 84119

In Reply Refer to:
FWS/R6/2023-0035336

Memorandum

To: Field Manager, Moab Field Office, Bureau of Land Management, Moab, Utah

From: Utah Field Supervisor, Ecological Services, U.S. Fish and Wildlife Service, West Valley City, Utah SONYA DYER Digitally signed by SONYA DYER Date: 2023.06.22 10:07:17 -04'00'

Subject: Final Biological Opinion for Bureau of Land Management's Labyrinth/Gemini Bridges Travel Management Plan

In accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 et seq.), and the Interagency Cooperation Regulations (50 CFR 402), this transmits our final biological opinion (BO) on Bureau of Land Management's (BLM) proposed Labyrinth/Gemini Bridges Travel Management Plan (TMP) (hereafter, Plan). Our BO evaluates the effects of the Plan to Mexican spotted owl (*Strix occidentalis lucida*), Southwestern willow flycatcher (*Empidonax traillii extimus*), Jones cycladenia (*Cycladenia humilis* var. *jonesii*), Colorado pikeminnow (*Ptychochelius lucius*), bonytail chub (*Gila elegans*), humpback chub (*Gila cypha*), and razorback sucker (*Xyrauchen texanus*), and also evaluates effects to designated critical habitat for Mexican spotted owl, Colorado pikeminnow, and razorback sucker. Our BO is based on information provided in your final biological assessment (BA) dated January 13, 2023, correspondence between our offices, and other sources of information.

Navajo sedge (*Carex specuicola*) was also analyzed as part of the BA. We concur with your determination of may affect, not likely to adversely affect for this species because Plan routes do not occur in close proximity to cliffs containing the species, thus direct and indirect effects are unlikely to occur. California condor (*Gymnogyps californianus*) was also analyzed as part of the BA, and we concur with your determination of no jeopardy within the experimental, non-essential population area because there is no suitable nesting habitat within the Plan area, and we do not expect use of routes in the Plan area to affect condor feeding behavior such that behavioral responses resulting from indirect or direct effects of route use would jeopardize the population.

Consultation History

This section summarizes significant steps in the consultation process:

- October 16, 2008: We issued the Biological Opinion for the BLM Moab Field Office (MFO) Resource Management Plan (RMP) (USFWS 2008; BLM 2008). This consultation included various aspects of resource management including travel management, recreation, oil and gas leasing and development, wildlife, and special status species.

- January 13, 2023: We received transmission of the final BA and initiated formal consultation for the BLM Moab Field Office Labyrinth Travel Management Plan.

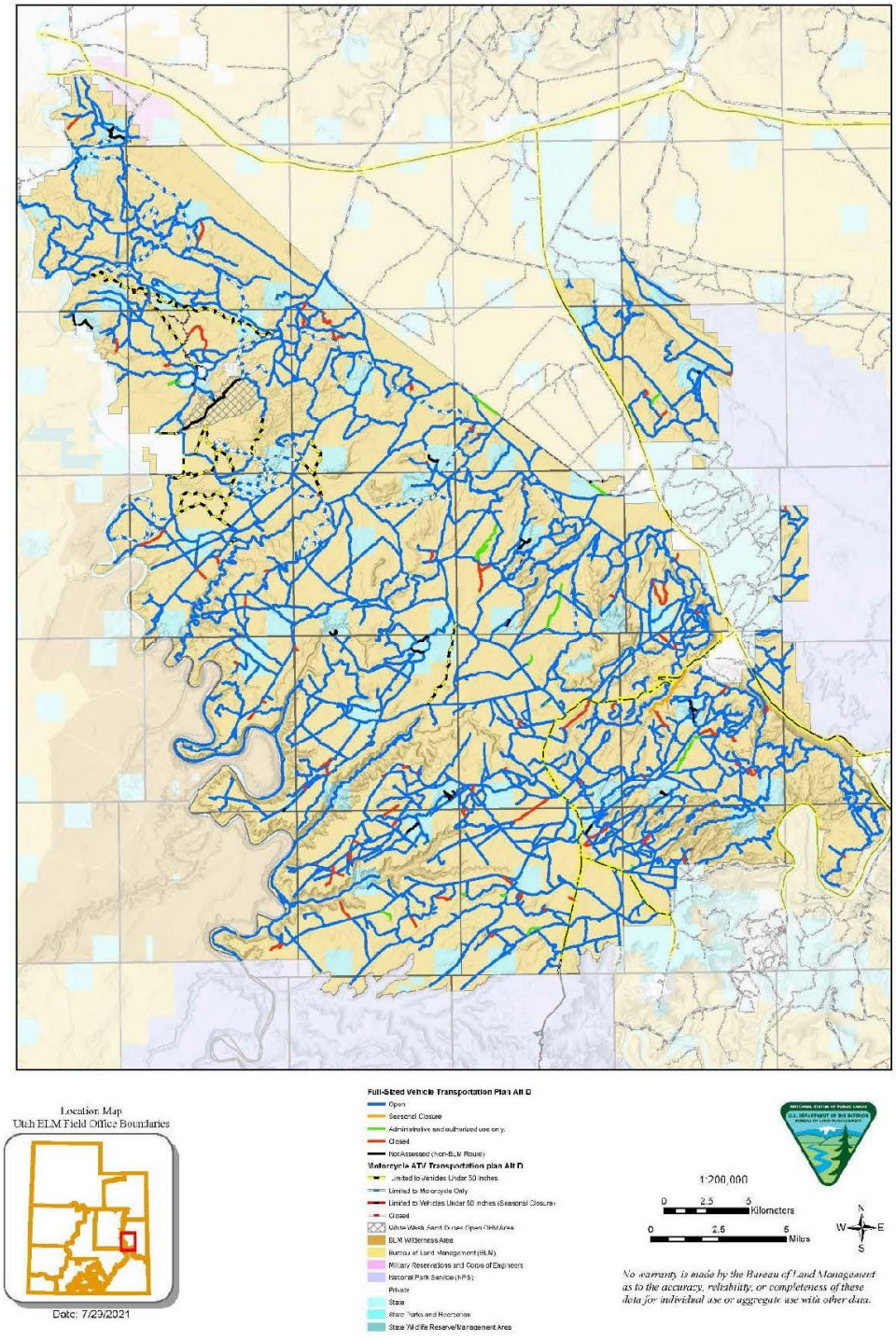
Biological Opinion

1. Proposed Action

The Bureau of Land Management (BLM) Moab Field Office (MFO) is proposing to designate an off-highway vehicle (OHV) travel route network on an estimated 303,994 acres of BLM lands in the Labyrinth/ Gemini Bridges Travel Management Area (TMA) (Figure 1). As described in the BA (BLM 2023), an OHV is "any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain …" (BLM 2023a). Though the term "OHV" is associated with off-road vehicles (ORVs), under BLM's planning program, OHVs include full-size cars, trucks, and all-terrain vehicles (ATVs) or motorcycles. E-bikes are also considered OHVs unless a management action allows otherwise. A travel route network is a network of routes occurring on public lands or within easements granted to the BLM that are recognized, designated, decided upon, or otherwise authorized for use.

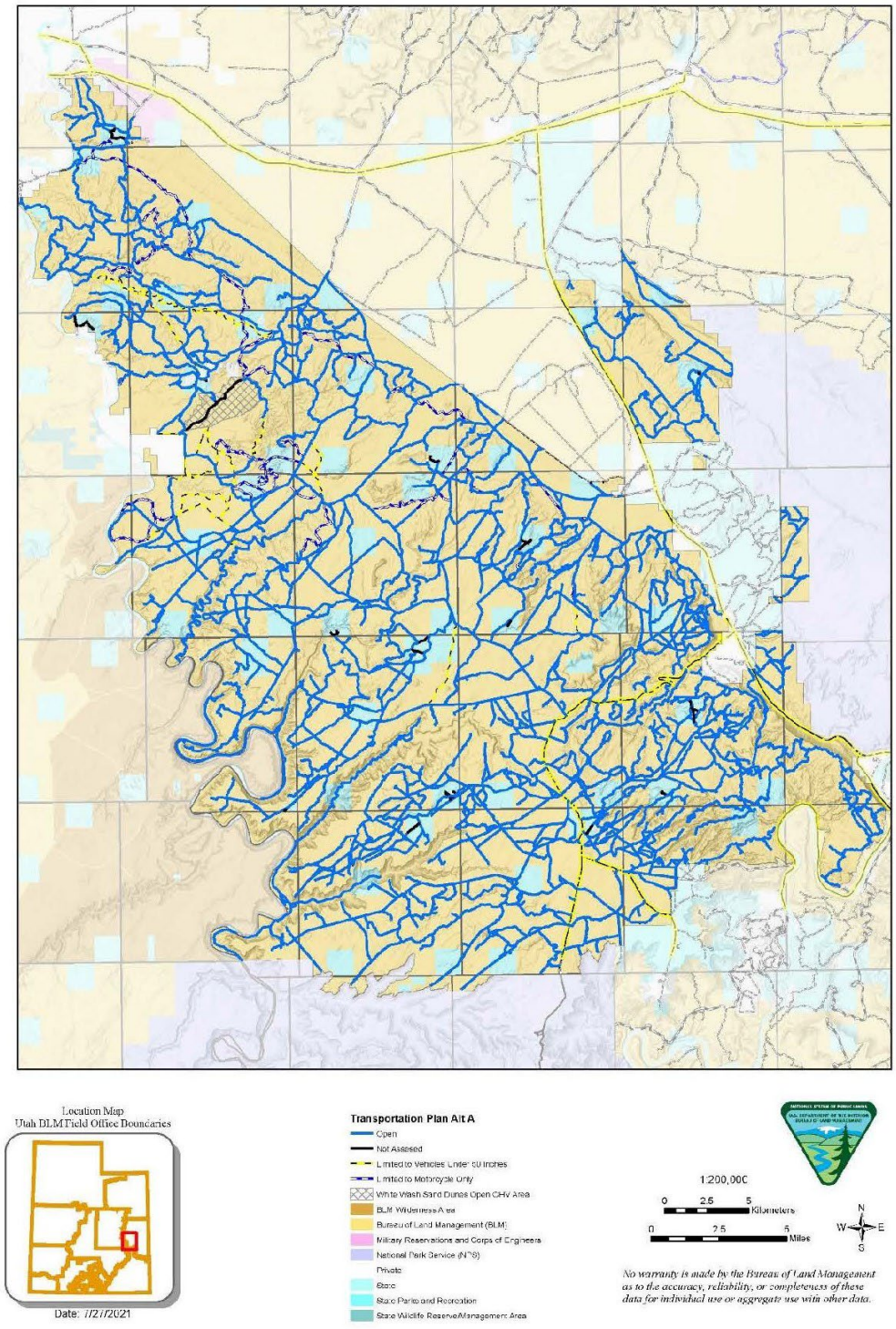
The Plan's travel network route designations will replace the route designations identified by the 2008 BLM RMP (Figure 2; BLM 2008) based on a more recent evaluation of all inventoried routes in the Labyrinth/ Gemini Bridges TMA. Alternative D is the alternative carried forward for evaluation in this BO. Alternative D proposes to designate OHV travel on approximately 1,128 miles (mi) of roads that travel across BLM lands that were designated in the 2008 TMP. This alternative closes approximately 52 mi of roads currently designated in the 2008 TMP, as defined below:

- OHV-open – Open year-round to all motorized vehicle travel.
- OHV-limited – Certain restrictions or limitations apply to motorized vehicle use.
- OHV-closed – Route not available for public motorized vehicle use.



Appendix Map 3: Alternative D Routes

Figure 1. Proposed Labyrinth/ Gemini Ridges Travel Management Plan route designations and travel route network as depicted in Appendix C (Map 3) the BA (BLM 2023).



Appendix Map 2: Alternative A Routes

Figure 2. Current Labyrinth Travel Management Plan route designations and travel route network as depicted in Appendix C (Map 2) of the BA (BLM 2023).

The 1,128-route miles include the route miles designated under the 2008 BLM RMP. This plan will also recognize Grand County's designation of one 5.5-mi ebike route located on an exisiting bike trail. The designated travel route network will be implemented, operated, and maintained according to the route designations and the Implementation Guide for the Labyrinth/Gemini Bridges Travel Management Plan (TMP Implementation Guide, Appendix M of the Labyrinth/Gemini Bridges Travel Management Plan Environmental Assessment). The travel network route designations chosen for this project will replace the route designations assigned in the TMA by the 2008 Moab Field Office Record of Decision and Approved Resource Management Plan (BLM 2008). No construction of new routes will be necessary to implement the proposed action since the proposed travel route network already exists on the landscape. This BO analyzes the effects of the designation, use, maintenance, decommission, or reclamation of the Plan's proposed travel route network to ESA-listed species and includes an analysis of activities that are reasonably certain to occur from the proposed action. The BLM states in the BA that any future route designation(s) will be completed in compliance with the National Environmental Policy Act (NEPA) and other legal requirements, including the ESA. Additional section 7 consultations may be required for site-specific actions that may affect listed species or their critical habitats.

1.1. Action Area

The action area occurs in Grand County, Utah, and is located west of Arches National Park, east of the Green River, south of Interstate 70 and north of the Island in the Sky District in Canyonlands National Park (Figure 1; Figure 2). The action area is located within the Labyrinth/ Gemini Bridges TMA, which encompasses approximately 303,994 acres of BLM-managed land and includes the proposed travel routes to account for direct effects and additional buffers from the outer edges of proposed travel routes to account for indirect effects to listed species, including dust and weeds (nonnative, invasive plants), noise, and sedimentation:

- The 300 foot (ft.) buffer is our recommended avoidance distance from disturbance areas to listed plants based on the potential for fugitive dust and weeds to affect plant growth and reproduction from numerous studies (Johnson et al. 1975; Case 1990; Environmental Protection Agency (EPA) 1995; Tyser and Worley 1992; Masters and Sheley 2001; Novak and Mack 2001; Chambers 2000; Gelbard and Belnap 2003; Gelbard and Harrison 2003; Veranth et al. 2003; Etyemezian et al. 2004; Bradley and Mustard 2006; Chambers et al. 2007, 2013; Padgett et al. 2007; Davies 2008; Wijayratne et al. 2009; Leonard 2007; Lewis 2013, 2016; Davies and Hulet 2014; Berry et al. 2015; Waser 2017; for more information, see Section 3, *Effects of the Action*).
- The 0.5 mi noise buffer is based on noise reduction recommendations found in the Mexican spotted owl recovery plan (USFWS 2012) and the distances required to attenuate loud noises generated by motorized equipment such as OHVs.
- The 100-year floodplain is based on the potential for all four endangered fish species to use some portion of this area when inundated with water. Physical habitat for the Colorado River endangered fishes includes areas of the Colorado River system that are inhabited or potentially habitable by fish for use in spawning and feeding, as a nursery, or to serve as corridors between these areas (59 FR 13378). In addition to river channels, these areas also include bottom lands, side channels, secondary channels, oxbows, backwaters, and other areas within the 100-year floodplain (59 FR 13378).

- The 0.25 mi buffer is used to assess indirect effects to Southwestern willow flycatcher, based on distances required to attenuate loud noises generated by motorized equipment such as OHVs (USFWS 2002f).

1.2. Applicant Committed Conservation Measures

The section 7 consultation for the BLM MFO RMP was completed in 2008 and included conservation measures for ESA listed species to be applied throughout the field office jurisdiction (Appendix K, BLM 2008; USFWS 2008). All surface disturbing implementation activities described below will continue to follow the BLM-Committed Conservation Measures and Species-Specific BLM Committed Conservation Measures described in Appendix K of the MFO RMP (BLM 2008, Appendix K; BLM 2023). Key conservation measures are identified below while a more complete list of general and species-specific conservation measures can be found in Appendix K of the RMP (BLM 2008).

1.2.1. Mexican spotted owl

The BLM will implement key conservation measures to address recreation use and disturbance that follow the specific guidelines from the 2012 MSO Recovery Plan (USFWS 2012) and the BLM MFO RMP (2008). These include:

- Surveys, according to USFWS protocol, will be required prior to any disturbance related activities that have been identified to have the potential to impact Mexican spotted owl, unless current species occupancy and distribution information is complete and available. All surveys must be conducted by USFWS certified individuals and approved by the BLM authorized officer.
- Assess habitat suitability for both nesting and foraging using accepted habitat models in conjunction with field reviews. Apply the appropriate conservation measures below if project activities occur within 0.5 mile of suitable owl habitat, dependent in part on if the action is temporary or permanent.
- For all temporary actions that may impact owls or suitable habitat:
    - If action occurs entirely outside of the owl breeding season, and leaves no permanent structure or permanent habitat disturbance, action can proceed without an occupancy survey.
    - If action will occur during a breeding season, survey for owls prior to commencing activity. If owls are found, activity should be delayed until outside of the breeding season.
    - Eliminate access routes created by a project through such means as raking out scars, revegetation, gating access points, etc.
- For all permanent actions that may impact owls or suitable habitat:
    - Survey two consecutive years for owls according to established protocol prior to commencing of activity.
    - If owls are found, no actions will occur within 0.5 mile of identified nest site.
    - If nest site is unknown, no activity will occur within the designated Protected Activity Center (PAC).
    - Avoid placing permanent structures within 0.5 mi of suitable habitat unless surveyed and not occupied.

    - Reduce noise emissions (e.g., use hospital-grade mufflers) to 45 dBA at 0.5 mile from suitable habitat, including canyon rims (Delaney et al. 1997). Placement of permanent noise-generating facilities should be determined by a noise analysis to ensure noise does not encroach upon a 0.5-mi buffer for suitable habitat, including canyon rims.
    - Limit disturbances to and within suitable owl habitat by staying on designated routes.
    - Limit new access routes created by the project.
- BLM will, in areas of designated critical habitat, ensure that any physical or biological factors (i.e., the primary constituent elements), as identified in determining and designating such habitat, remains intact during implementation of any BLM-authorized activity.
- For all BLM actions that *"may adversely affect*" the physical and biological features in any suitable Mexican spotted owl habitat, BLM will implement measures as appropriate to minimize habitat loss or fragmentation, including rehabilitation of access routes created by the project through such means as raking out scars, revegetation, gating access points, etc.

1.2.2. Southwestern willow flycatcher

The BLM will implement key conservation measures to address recreation use and disturbance that follow the commitments stated in the BLM MFO RMP (2008). For a complete record of committed conservation measures, please refer to Appendix K of the RMP. These include:

- Surveys will be required prior to operations that *"may adversely affect"* the Southwestern willow flycatcher unless species occupancy data and distribution information is complete and available. Surveys will only be conducted by BLM-approved personnel. In the event species occurrence is verified, project proponents may be required to modify operational plans at the discretion of the authorized officer. Modifications may include appropriate measures for minimization of adverse effects to the Southwestern willow flycatcher and its habitat.
- BLM will monitor and restrict, when and where necessary, authorized or casual use activities that *"may adversely affect"* the Southwestern willow flycatcher, including but not limited to, recreation, mining, and oil and gas activities. Monitoring results should be considered in the design and implementation of future projects.
- BLM will ensure project design incorporates measures to avoid direct disturbance to populations and suitable habitats where possible. At a minimum, project designs should include consideration of water flows, slope, seasonal and spatial buffers, possible fencing, and pre-activity flagging of critical areas for avoidance.
- The BLM will continue to address illegal and unauthorized OHV use and activity upon BLM administered lands. In order to protect, conserve, and recover the Southwestern willow flycatcher in areas of heavy unauthorized use, temporary closures, or use restrictions beyond those which are already in place, may be imposed. As funding allows, BLM should complete a comprehensive assessment of all OHV use areas that interface with Southwestern willow flycatcher populations. Comparison of Southwestern willow flycatcher populations and OHV use areas using GIS would give BLM personnel another tool to manage and/or minimize impacts.

- All surface-disturbing activities should be restricted within a 0.25-mile buffer from suitable riparian habitats and permanent surface disturbances should be avoided within 0.5 mile of suitable Southwestern willow flycatcher habitat.
- Unavoidable ground disturbing activities in occupied Southwestern willow flycatcher habitat should only be conducted when preceded by current year survey, should only occur between August 16 and April 30 (the period when Southwestern willow flycatcher are not likely to be breeding), and should be monitored to ensure that adverse impacts to Southwestern willow flycatcher are minimized or avoided, and to document the success of project specific mitigation/protection measures. As monitoring is relatively undefined, project specific requirements must be identified.
- BLM will ensure that plans for water extraction and disposal are designed to avoid changes in the hydrologic regime that would likely result in loss or undue degradation of riparian habitat.
- Native species will be preferred over non-native for revegetation of habitat in disturbed areas.
- Limit disturbances to within suitable habitat by staying on designated routes.
- Habitat disturbances (i.e., organized recreational activities requiring special use permits, drilling activities, etc.) will be avoided within 0.25 mile of suitable Southwestern willow flycatcher habitat from May 1 to August 15.

1.2.3. Jones cycladenia

To assist and support recovery efforts, BLM will minimize or avoid surface disturbances in habitats that support the species. The BLM will continue to commit to conducting habitat assessments in modeled, potential habitat and surveys in suitable habitat for Jones cycladenia before any new surface disturbance takes place within 300 ft. of modeled, potential habitat. Site-specific projects would implement a minimum 300-ft. avoidance buffer between surface disturbance and Jones cycladenia plants. Methodology and more detail can be found in Appendix K of the 2008 RMP (BLM 2008).

1.2.4. Colorado River Fishes

The BLM will implement key conservation measures to address recreation use and disturbance that follow the commitments stated in the BLM MFO RMP (2008). For a complete record of committed conservation measures, please refer to Appendix K of the RMP. These include:

- Unoccupied, suitable habitat areas should be protected in order to preserve them for future management actions associated with the recovery of the Endangered Colorado River Fish, as well as approved reintroduction, or relocation efforts.
- BLM will avoid impacts where feasible, to habitats considered most representative of prime suitable habitat for these species.
- Surface-disturbing activities will be restricted within 0.25 mi of the channel centerline of the Colorado, Green, Duchesne, Price, White, and San Rafael Rivers
- Surface-disturbing activities proposed to occur within floodplains or riparian areas will be avoided unless there is no practical alternative or the development would enhance riparian/aquatic values. If activities must occur in these areas, construction will be designed to include mitigation efforts to maintain, restore, and/or improve riparian and aquatic conditions. If conditions could not be maintained, offsite mitigation strategies should be considered.

- In areas adjacent to 100-year floodplains, particularly in systems prone to flash floods, BLM will analyze the risk for flash floods to impact facilities. Potential techniques may include the use of closed loop drilling and pipeline burial or suspension as necessary to minimize the potential for equipment damage and resultant leaks or spills.
- Water depletions from any portion of the Upper Colorado River drainage basin above Lake Powell are considered to adversely affect and adversely modify the critical habitat of these endangered fish species. Section 7 consultation will be completed with the Service prior to any such water depletions.
- Design stream-crossings for adequate passage of fish (if present), minimum impact on water quality, and at a minimum, a 25-year frequency run-off.

2. Species Accounts, Effects, and Conclusions

2.1. Status of the Species

2.1.1. Mexican spotted owl

Species Description

A detailed account of the taxonomy, biology, and reproductive characteristics of the Mexican spotted owl (hereafter, referred to as Mexican spotted owl, spotted owl, and owl) is found in the final listing rule (58 FR 14248, March 16, 1993), the original Recovery Plan (USFWS 1995), and in the revised Recovery Plan (USFWS 2012). We completed a five-year status review in 2013 and recommended no change to the Mexican spotted owl's classification as threatened or its recovery priority number of 9C - a subspecies with a moderate degree of threat and a high potential for recovery (USFWS 2013). The information provided in those documents are included herein by reference.

The Mexican spotted owl is one of three subspecies of spotted owl recognized by the American Ornithologists' Union (AOU 1957). The other two subspecies are the northern (*S. o. caurina*) and the California spotted owl (*S. o. occidentalis*). The Mexican spotted owl occurs in forested mountains and canyon lands in Utah, Colorado, Arizona, New Mexico, and the western portions of Texas. The species also occurs in several States of Mexico.

Life History and Population Dynamics

Mexican spotted owls breed sporadically and do not nest every year (Ganey 1988). Courtship begins in March and eggs are laid in late March or, more typically, early April. Incubation begins shortly after the first egg is laid and is performed entirely by the female. Female spotted owls incubate for approximately 30 days and eggs usually hatch in early May (Ganey 1988). Females brood their young almost constantly, leaving their nests for only brief periods during the night (Forsman et al. 1984; Delaney et al. 1999a).

Spotted owls have one of the lowest clutch sizes among North American owls (Johnsgard 1988); females lay one to three eggs, two being the most common. Nestling owls fledge from four to five weeks after hatching, from early to mid-June in most cases (Ganey 1988). Three weeks after leaving the nest owlets can feed on their own (Forsman et al. 1984). Spotted owls are "perch and pounce" predators (Forsman et al. 1976). Their prey items include woodrats, mice, voles, rabbits, gophers, bats, birds, reptiles, and arthropods. Spotted owls dwelling in canyons of the Colorado Plateau take more woodrats and fewer birds than do spotted owls from other areas (Ward and Block 1995; Willey and Willey 2010).

The Mexican spotted owl's life history is characterized by high and reasonably constant adult survival rates, low juvenile survival rates, and relatively low and highly variable reproductive rates (USFWS 2012). These life history characteristics allow owls to reproduce when conditions are favorable and to survive unfavorable periods with little or no reproduction, a strategy that has been coined "bet-hedging" (e.g., Boyce 1986; Franklin et al. 2000). In the rocky-canyon habitats in southern Utah, mesic sites (e.g., Cedar Breaks and Zion) exhibit higher occupancy and recolonization rates and lower extirpation rates than xeric sites (e.g., Grand Staircase – Escalante or Capitol Reef), suggesting mesic sites are more stable (i.e., constant occupancy) than xeric sites (Willey and Willey 2010; Hockenbary 2011). Mesic habitats may have more favorable microclimates and habitat structure, roost and nest sites, and diverse habitats for the owl's prey.

Status and Distribution

In 1993, we listed the Mexican spotted owl as threatened under the ESA (58 FR 14248, March 16, 1993). We developed the first recovery plan in 1995, and revised it in 2012 (USFWS 1995, USFWS 2012).

The 2012 Recovery Plan identifies five Ecological Management Units (EMUs; Figure 3) in the United States, based on: physiographic provinces, biotic regimes, perceived threats to habitat or individual birds, administrative boundaries, and owl distribution (USFWS2012). The five EMUs are: Colorado Plateau, Southern Rocky Mountains, Upper Gila Mountains, Basin and Range-West, and Basin and Range-East. Within Mexico, the 2012 revised Recovery Plan also delineated five EMUs: Sierra Madre Occidental Norte, Sierra Madre Occidental Sur, Sierra Madre Oriental Norte, Sierra Madre Oriental Sur, and Eje Neovolcanico.

In the U.S., most owls are found on National Forest lands; however, in most areas of the Colorado Plateau EMU, owls are found only in rocky-canyon habitats, which primarily occur on National Park Service (NPS) and BLM administered lands (USFWS 2012).

The revised Recovery Plan (USFWS 2012) identifies 1,324 known owl sites in the United States. An owl site is an area used by a single or a pair of adult or subadult owls for nesting, roosting, or foraging. There were 758 known owl sites from 1990 to 1993, and 1,222 owl sites from 1990 to 2004 in the United States. The increase in number of known owl sites is mainly a product of new owl surveys being completed within previously un-surveyed areas. Thus, an increase in abundance in the species range-wide cannot be inferred from these data.

In Mexico, information on the status of the Mexican spotted owl is limited (Tarango et al. 2001). The original Recovery Plan (USFWS 1995) identifies 34 known owl sites in Mexico, with most located in the Sierra Madre Occidental Mountain Range. It is not known if the distribution of Mexican spotted owl in Mexico has changed nor how many additional sites have been recorded since 1995. We estimate owl sites in the United States represent 97 percent of the known total range-wide population (USFWS 2012).

Figure 3. The Labyrinth Gemini TMA action area within the Mexican Spotted Owl Ecological Management Unit Boundaries. The five EMU's wholly within Mexico are not pictured here.

The primary threats to the Mexican spotted owl at the time of listing were even-aged timber harvest and catastrophic wildfire (58 FR 14248, March 16, 1993). Grazing, recreation, and other land uses were also mentioned as possible factors influencing the Mexican spotted owl population. Our most recent threat assessment in the revised Recovery Plan identified large, severe wildfires as the primary threat to the species (USFWS 2012). Historical and current anthropogenic uses of Mexican spotted owl habitat include domestic and wild ungulate grazing, recreation, fuels reduction treatments, resource extraction (e.g., timber, oil, gas), and development (USFWS 2012). These activities have the potential to reduce the quality of owl nesting, roosting, and foraging habitat, and may cause disturbance during the breeding season (USFWS 2012).

Overall, the status and distribution of the Mexican spotted owl has not changed significantly range-wide in the U.S. since the time of listing (which includes Utah, Colorado, Arizona, New Mexico, and extreme southwestern Texas).

Critical Habitat Description

We designated critical habitat for Mexican spotted owl on August 31, 2004 (69 FR 51382). Designated critical habitat includes approximately 8.6 million acres of forested mountain and canyon habitat on Federal lands in Arizona, Colorado, New Mexico, and Utah. Critical habitat continues to support the needs of the Mexican spotted owl throughout all EMUs located in the United States.

The physical and biological features relevant to Mexican spotted owl canyon habitat in the action area are:

- Canyon walls containing crevices, ledges, or caves;
- Presence of water (often providing cooler air temperature and often higher humidity than the surrounding areas);
- Clumps or stringers of mixed-conifer, pine-oak, pinyon-juniper, and/or riparian vegetation; and canyon walls containing crevices, ledges, or caves; and
- Woody debris to support prey populations.

In the Colorado Plateau EMU, designated critical habitat includes over 3.3 million acres of Federal lands. We designated five separate critical habitat units for Mexican spotted owl in Utah, totaling approximately 2,252,857 acres (69 FR 53182). Of that total, approximately 362,135 acres are located on lands administered by BLM (USFWS 2012).
For a more detailed description of Mexican spotted owl critical habitat, see the final listing and critical habitat rule (69 FR 53182).

2.1.2. Southwestern willow flycatcher

Species Description

The Southwestern willow flycatcher (*Empidonax traillii extimus*) is a small passerine bird associated with riparian habitats, and one of four currently recognized subspecies of *Empidonax traillii* (Hubbard 1987; Unitt 1987).

Life History and Population Dynamics

The Southwestern willow flycatcher is a riparian obligate species that nests in dense riparian habitat. Southwestern willow flycatchers breed in patchy to dense riparian habitats along streams or other wetlands, near or adjacent to surface water or underlain by saturated soil. They historically nested primarily in willows (e.g., *Salix exigua*, *S. gooddingii*), buttonbush (*Cephalanthus occidentalis*), and seepwillow (*Baccharis salicifolia*), but now also nest in thickets dominated by tamarisk (e.g., *Tamarix ramosissima*) and Russian olive (*Elaeagnus angustifolia*). Occupied Southwestern willow flycatcher sites consist of dense vegetation in the interior that is generally 10 to 13 ft. above ground, or in aggregates of dense patches interspersed with openings. Saturated soil is present at or near the breeding site during wet or non-drought years (Sogge and Marshall 2000, USFWS 2002e). In Utah, the Southwestern willow flycatcher is typically found in mixed native and exotic riparian species habitats, generally dominated by coyote willow, tamarisk and Russian olive (Johnson et al. 1999a and 1999b).

Egg-laying can begin as early as May but typically occurs in mid-June. Young typically fledge at 12 to 15 days of age, usually between June and mid-August. Second clutches are common if the first attempt is unsuccessful. Southwestern willow flycatchers defend breeding territories that are typically 0.25-5.7 acres. Breeding territories have been found primarily where surface water or saturated soil is present, and nests are usually less than 20 meters from water (Johnson 2005). Flycatchers eat a wide range of invertebrate prey, including flying, and ground- and vegetation-dwelling, insect species of terrestrial and aquatic origins (Durst et al. 2008).

Southwestern willow flycatchers migrate annually from wintering grounds in southern Mexico and Central America to breeding grounds in North America and can be found breeding in Utah from approximately April 15 to August 31 (Unitt 1987, Finch et al. 2000, USFWS 2002f). On the breeding grounds, Southwestern willow flycatchers have higher site fidelity (to a local area) than nest fidelity (to a specific nest location) but can move among sites within stream drainages and between drainages (Paxton et al. 2007). Within-drainage movements are more common than between-drainage movements (Kenwood and Paxton 2001). Banded flycatchers were recorded moving from 150 ft. to 275 mi from season to season (and sometimes within season) to try to nest (Paxton et al. 2007).

Status and Distribution

We listed southwestern willow flycatcher under the ESA as endangered on March 29, 1995 (60 FR 10695 10715). The Final Recovery Plan for the southwestern willow flycatcher was completed in August of 2002 (USFWS 2002f). Major factors threatening the species include habitat loss and modification, invasion of breeding habitats by exotic plant species, brood parasitism by brown-headed cowbirds (*Molothrus ater*), the vulnerability of small population numbers, and stresses that occur to the species during migration and in wintering habitats.
The primary cause of the flycatcher's decline is loss and modification of habitat. The southwestern willow flycatcher depends upon one of the most critically endangered habitats in North America: southwestern riparian ecosystems. While Southwestern riparian ecosystems have always been limited on the landscape due to natural disturbance and regeneration events such as floods, fire, and drought, loss of these ecosystems have accelerated due to human-caused factors (USFWS 2002f). With increasing human populations and the related industrial, agricultural, and urban developments, riparian ecosystems have declined from reductions in

water flow, interruptions in natural hydrological events and cycles, physical modifications to streams, modification of native plant communities by invasion of exotic species, and direct removal of riparian vegetation (USFWS 2002f).

The flycatcher occurs from near sea level to over 8500 ft. but is primarily found in lower elevation riparian habitats (USFWS 2002f). The historical breeding range of the Southwestern willow flycatcher included southern California, southern Nevada, southern Utah, Arizona, New Mexico, western Texas, southwestern Colorado, and extreme northwestern Mexico (Hubbard 1987, Unitt 1987, Browning 1993, USFWS 2002f). The flycatcher's current range is similar to the historical range but the amount of suitable habitat within that range is much reduced compared to historical levels. Throughout its range, the flycatcher occurs in relatively small, isolated, widely dispersed locales, reflecting the distribution of suitable riparian habitat (USFWS 2002f).

In Utah and Colorado, the northern boundary of *E. t. extimus* is adjacent to the southern boundary of *E. t. adastus*. The Southwestern Willow Flycatcher Recovery Plan recognized that the subspecies boundary needs resolution for legal and management purposes (USFWS 2002f). Based on available evidence at the time, the Southwestern Willow Flycatcher Recovery Team approximated the boundary as running along the southern portion of Utah and Colorado (Figure 4a), although it clearly acknowledged that more work is needed on exactly where to place the boundary (USFWS 2002f).

A 2008 U.S. Geological Survey study to resolve the subspecies boundary between *E. t. extimus* and *E. t. adastus* found evidence for a region of genetic intergradation between the two subspecies (Paxton et al. 2008). The study modeled changes in geographic patterns of genetic markers as a function of latitude and elevation and created multiple subspecies boundaries, with the strength of each predicted boundary evaluated based on how much genetic variation it explained (Paxton et. al 2008). The 30 percent probability line (Figure 4b), which represents a 30 percent predicted probability of a breeding site containing C-group haplotypes (a group of cytochrome-b haplotypes closely associated with *E. t. extimus*; Paxton 2000, Paxton et al. 2008), explained the most genetic variation compared to other predicted boundaries. As discussed in Paxton et al. (2008), designating a subspecies boundary ultimately becomes a regulatory and management decision based on how much of the genetic variation unique to *E. t. extimus* should be protected, because, biologically, the boundary is a region of intergradation rather than a discrete line. As such, for analysis in this BO, we used the 30 percent contour line to determine the extent of *E. t. extimus* in the project area.

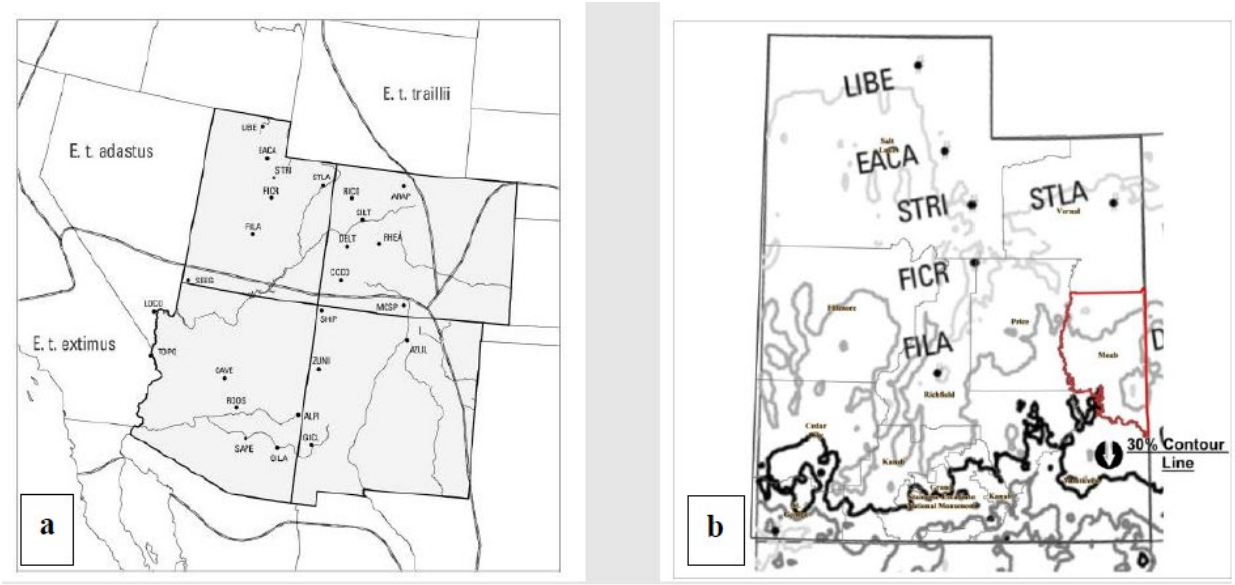


Figure 4. a) The solid-dashed lines represent the approximate location of the currently managed subspecies boundaries, with the northern boundary of *E. t. extimus* estimated near the southern border of Utah (USFWS 2002f). **b)** Contours indicate the predicted probability of a breeding site containing C-group haplotypes based on latitude and elevation, with each line representing 10% increment probabilities from 10–90% (Paxton et al. 2008). The 30% probability line (bold) represents the largest genetic distance between *E. t. adastus* and *E. t. extimus* and is the delineation used for analysis in this BO. Figure adapted from Paxton et al. (2008) BLM (2023).

There are currently 288 known southwestern willow flycatcher breeding sites in California, Nevada, Arizona, Utah, New Mexico, and Colorado holding an estimated 1,299 territories (Durst et al. 2008). About 50 percent of the 1,299 estimated territories throughout the subspecies range are located at four locations in New Mexico and Arizona. In Utah, the only confirmed breeding territories occur along the Virgin River (within the Lower Colorado Basin Recovery Unit). The Utah Division of Wildlife Resources and the Virgin River Program have monitored territories on the Virgin River since 2002, and the number of flycatcher territories in the Virgin River system has ranged from 7 to 9 in recent years (Edwards and Woodhouse 2022).

In the past 25 years, there have been multiple flycatcher detections in the Colorado, Green, Dolores, and San Juan River systems, but no nests have been found to date. Surveys in 1997 and 1998 found 43 singing flycatchers at 23 sites along the San Juan River in UT (Johnson and Sogge 1997, Johnson and O'Brien 1998). These surveys were repeated along the San Juan River in 2015 and 2016; in 2015, there were 101 detections at 47 of the 53 sites surveyed, and in 2016 there were 53 flycatchers at 22 of the 57 sites surveyed (Johnson et. al 2015, 2016). Flycatchers were also detected in surveys of the Colorado and Green Rivers in 1999 to 2001, with 151 singing flycatchers detected at 87 sites, and on the Dolores River in 2017, with 12 flycatchers detected (Johnson 2002, Petry 2017). However, during following-up surveys for all river systems and years, only three flycatchers were detected during the second survey, none were detected during the third survey, and no nests were found. Therefore, it appears that flycatchers use the Colorado, Green, Dolores and San Juan Rivers primarily as migratory stopovers but not

as breeding habitat. Furthermore, there is uncertainty about whether these migrant flycatchers are *E. t. extimus* or *E. t. adastus* subspecies. To address this question, the BLM Moab Field Office has funded genetic research to determine subspecific identity of flycatchers along the upper Dolores River, Dolores River/Colorado River Confluence, and Upper Colorado and Green Rivers, with fieldwork expected to begin in 2023.

Critical Habitat Description

Critical habitat for the flycatcher was formally designated on July 22, 1997 (78 FR 343 534*)*. On August 15, 2011, we proposed a revision to the critical habitat designation and on January 3, 2013, a total of 208,973 acres of critical habitat were designated for southwestern willow flycatchers across Arizona, New Mexico, California, Nevada, and Utah (78 FR 343). Within Utah, critical habitat was designated along the Virgin River in Washington County, the San Juan River in San Juan County, and the Paria River in Kane County. No Critical Habitat has been designated on lands administered by the Moab BLM.

The physical and biological features of the habitat to sustain the essential life history functions of the species include:

- Riparian vegetation along a dynamic river or lakeside that is comprised of dense trees and shrubs; and
- Insect prey populations found within or adjacent to riparian floodplains or moist environments.

For a more detailed description of southwestern willow flycatcher critical habitat, see the final listing and critical habitat rule (78 FR 343).

2.1.3. Jones Cycladenia

Species Description

Jones cycladenia is a long-lived herbaceous perennial in the dogbane family (Apocynaceae). Plants are 4.3 to 14.2 inches (in.) tall with hairless stems and leaves (Welsh et al. 2003). The lowermost leaves are reduced to rudimentary bracts (small, leaf like structure positioned beneath the flower), enlarging and becoming green and leafy upwards. The main leaves are oval to circular or broadly egg-shaped with rounded to acute leaf tips. Flower petals are rose purple and dimorphic (of two kinds) - they are either broadly or narrowly lobed. The large seed pods are approximately 1.8 to 3.7 in. long with brown seeds each containing a tuft of hair (coma) that is around 0.8 in. long. Flowering occurs from mid-April to early June (Welsh and Atwood 1975; Welsh et al. 2003).

Life History and Population Dynamics

Jones cycladenia is a clonal plant. Each plant (genet = genetic individual) sends up numerous stems (ramets) from rhizomes (underground stems that produce roots and shoots at their nodes). Several to a hundred above-ground stems could originate from a single plant, with the average number of stems per plant being 22.2 (Sipes et al. 1994; Wolf et al. 1992). Plants generally do not exceed 32.8 ft. in any one direction, but may overlap with other plants, making the distinction of individual plants difficult (Sipes and Wolf 1997; Wolf et al. 1992). Therefore, in population surveys the number of stems is typically counted.

Plant survivorship and mortality are difficult to estimate because the loss of a stem does not mean that the plant has died (Wolf et al. 1992; Spence and Palmquist 2007). In some years, such as during times of severe drought, plants enter dormancy and may not emerge at all, but will emerge the next year or under favorable conditions (Hughes 2014; Spence and Palmquist 2007). Jones cycladenia flowers have an extremely low visitation rate by potential pollinators. Infrequent flower visitors include a variety of diurnal insects, including butterflies and bees (Sipes et al. 1994; Sipes and Tepedino 1996). We are uncertain which floral visitors are the primary pollinators for the species. Members of the Apocynaceae family are generally pollinated by butterflies (Sipes et al. 1994).

Status and Distribution

Jones cycladenia was listed as threatened under the ESA on May 5, 1986 (51 FR 16526). Threats to Jones cycladenia include oil, gas, and mineral exploration and development; OHV use; and livestock grazing. Pollinator availability, small populations, and low levels of sexual reproduction, although not considered threats in and of themselves, are factors that may exacerbate the effects of existing threats (51 FR 16526, May 5, 1986; Sipes et al. 1994). In our latest biological report and final recovery plan, we identified energy and mineral development as a future threat while OHV use and livestock grazing were no longer threats to the species (USFWS 2021a, b).

Jones cycladenia occurs in 20 populations, comprising 60 sites, across its range in central and southern Utah in Grand, Emery, San Juan, Garfield and Kane Counties, and northern Arizona in Mohave County (USFWS 2021 a, b). Sites are defined as plant locations recorded by one or more researcher over time within an individual population. These sites have been grouped into 20 populations based on NatureServe criteria (occurrences more than 1.2 mi apart over suitable habitat or more than 0.6 mi apart over unsuitable habitat are separate populations) (NatureServe 2004). These populations are organized geographically into four recovery units for the taxon: San Rafael Swell, Greater Circle Cliffs, Moab, and Pipe Spring recovery units (USFWS 2021b). The species occurs on Ute Tribal land as well as State of Utah, NPS, and BLM land.

Jones cycladenia occurs within desert shrub and scattered pinyon-juniper and wild buckwheat - Mormon tea communities at elevations ranging from 4,400 to 6,000 ft. The species is known to occur on shallow, gypsum soils developed from shale substrates of the Wasatch, Summerville, Cutler, and Chinle formations in the Colorado Plateau (Sipes and Boettinger 1997; J.G. Management Systems, Inc. (JGMS) 2014). Populations are found on all aspects and on moderate to steep slopes. Associated plant species include juniper (*Juniperus* sp.), wild buckwheat (*Eriogonum* sp.), and Mormon tea (*Ephedra* sp.).

Critical Habitat Description

Critical habitat has not been proposed or designated for Jones cycladenia.

2.1.4. Colorado River Fishes

2.1.4.1. Bonytail

Species Description

The bonytail (*Gila elegans*) is a cyprinid native to the Colorado River Basin. Individuals have large fins and a streamlined body that typically is very thin in front of the tail. They have a gray or olive-colored back, silver sides, and a white belly (Sigler and Sigler 1996). The mouth is

slightly overhung by the snout and there is a smooth low hump behind the head that is not as pronounced as the hump on a humpback chub.

Life History and Population Dynamics

Little is known about the ecology of and habitat requirements of bonytail because it was largely extirpated throughout its range prior to extensive fishery surveys. Bonytail are considered a species that is adapted to mainstem rivers, as it has been observed in pools and eddies while eating terrestrial and aquatic insects (USFWS 2002b). Adults have been collected in deep, swift, rock-sand areas (Valdez and Clemmer 1982) and observed in pools and eddies in mainstem rivers (USFWS 2002b). Spawning of bonytail has never been observed in a river, but ripe fish were collected in Dinosaur National Monument in Utah during late June and early July suggesting that spawning occurred at water temperatures of about 64.4 degrees Fahrenheit. Similar to other closely related *Gila* species, bonytail probably spawn in rivers in spring over rocky substrates, and spawning has been observed in reservoirs over rocky shoals and shorelines. It has been recently hypothesized that flooded bottomlands may provide important bonytail nursery habitat (Bestgen et al. 2017).

Status and Distribution

Bonytail chub were first listed as endangered on April 23, 1980 (45 FR 27710). We finalized the latest recovery plan for the species in 2002 (Service 2002b). Formerly reported as widespread and abundant in mainstem rivers, its populations have been greatly reduced over the last century. In Utah, bonytail occur in the Colorado and Green rivers. This species was one of the first fish species to reflect the changes that occurred to the Colorado River system from construction of Hoover Dam, which caused an alteration to the natural flow regime of the river. Other causes for the near extinction of this fish include habitat loss/alteration and competition with nonnative fishes in the Colorado River (USFWS 2002b). Remnant populations presently occur in the wild in low numbers and no known wild, self-sustaining populations of bonytail exist in the Upper Basin (USFWS 2002b).

Bonytail are so rare that it is currently not possible to conduct population estimates. In response to the low abundance of individuals, the Recovery Program implemented a stocking program to reestablish populations in the Upper Basin (Recovery Program 2010 and 2014), and since 2000, approximately 880,087 bonytail have been stocked (Recovery Program 2022). To date, stocked bonytail do not appear to be surviving as well as stocked razorback sucker. Since 2009, an increasing number of bonytail were detected at several locations throughout the Upper Colorado River Basin where stationary tag-reading antennas are used. In 2015 and 2016, researchers documented natural bonytail reproduction for the first time since listing (Bestgen et al. 2017). Recent recaptures of bonytail in the Green River a year after stocking provide promising results that individuals are surviving.

Critical Habitat Description

We designated critical habitat for bonytail chub on March 21, 1994 (59 FR 13374). We designated seven reaches of the Colorado River, totaling 312 river mi and 55,656 acres of associated 100-year floodplain. This includes 139 river mi and 5,837 acres of adjacent 100-year floodplain in portions of the Green and Colorado River in Utah (59 FR 13374). See Section

2.1.5 *Critical Habitat for Listed Colorado River Fishes* for information relevant to designated critical habitat for all Colorado River fishes.

2.1.4.2. Colorado pikeminnow

Species Description

The Colorado pikeminnow is the largest cyprinid fish native to North America and evolved as the main predator in the Colorado River system. It is a long, slender, cylindrical fish with silvery sides, greenish back, and creamy white belly. Historically, individuals may have grown as large as 6 ft. long and weighed up to 100 pounds (lbs.) (Sigler and Miller 1963), but today individuals rarely exceed 3 ft. or weigh more than 18 lbs. (Osmundson et al. 1997).

Life History and Population Dynamics

Adult Colorado pikeminnow prefer medium to large rivers, where they occur in habitats ranging from deep, turbid rapids to flooded lowlands. Slow-moving backwaters serve as nursery areas for young pikeminnow (USFWS 2002c). The Colorado pikeminnow primarily eats fish, but smaller individuals will also feed on insects and other invertebrates. Colorado pikeminnow are long distance migrators, moving hundreds of miles to and from spawning areas, and require long sections of river with unimpeded passage. They are adapted to desert river hydrology characterized by large spring peaks of snow-melt runoff and low, relatively stable base flows.

Status and Distribution

The Colorado pikeminnow were first listed on March 11, 1967 (32 FR 4001). Full protection under the ESA occurred on January 4, 1974. It is currently designated as endangered throughout its range, except in the Salt and Verde River drainages in Arizona. We developed a recovery plan for the Colorado pikeminnow in 1991 and subsequently revised the plan in 2002 (USFWS 2002c).

Based on early fish collection records, archaeological finds, and other observations, the Colorado pikeminnow were once found throughout warm water reaches of the entire Colorado River Basin down to the Gulf of California, including reaches of the upper Colorado River and its major tributaries; the Green River and its major tributaries; and the Gila River system in Arizona. The current range of the Colorado pikeminnow is reduced due to flow regulation, habitat loss, migration barriers (i.e., dams), and the introduction of nonnative fishes. The species now exists only in the Upper Colorado River system. The mainstem of the Colorado River from Palisade, Colorado, to Lake Powell has known populations within this region (USFWS 2002c).

In Utah, Colorado pikeminnow spawn in two principal sites, including Gray Canyon in the lower Green River and the lower Yampa River (USFWS 2002c). The most recent population estimates for Colorado pikeminnow in the Green River show 489 adult fish in the Desolation-Gray Canyon reach and 244 adult fish in the lower Green River reach (Bestgen et al 2018). Population estimates for adult Colorado pikeminnow for the Colorado River between the confluence with the Green River upstream to the bottom of the Westwater stretch show 220 adult fish in the most recent year of available data (Elverud et al. 2020). In 2020, 125 young-of-year Colorado pikeminnow were encountered on the lower Green River from Labyrinth to Stillwater, and none on the middle Green River from Split Mountain to Sand Wash. Over the 2011-2013 sample period, studies indicated abundance of adult Colorado pikeminnow declined in the Green River

Subbasin, but in the Desolation-Gray Canyon and lower Green River reaches, numbers were stable.

Critical Habitat Description

We designated critical habitat for Colorado pikeminnow on March 21, 1994 (59 FR 13374). Designated critical habitat includes six reaches of the Colorado River System, including portions of the Colorado, Yampa, Green, White, and San Juan rivers, totaling 1,148 mi of critical habitat for the species (59 FR 13374). This includes approximately 60,468 acres within the 100-year floodplain. In Utah, we designated 726 mi of critical habitat, or about 45,923 acres within the 100-year floodplain, along portions of the Green, Colorado, White, and San Juan rivers. See Section 2.1.5 *Critical Habitat for Listed Colorado River Fishes* for information relevant to designated critical habitat for all Colorado River fishes.

2.1.4.3. Humpback chub

Species Description

The humpback chub is a medium-sized freshwater cyprinid endemic to the Colorado River Basin. The pronounced hump behind its head gives the humpback chub a striking, unusual appearance. It has an olive-colored back, silver sides, a white belly, small eyes, and a long snout that overhangs its jaw (Sigler and Sigler 1996). This fish can grow to nearly 20 in. and may survive more than 30 years in the wild (USFWS 2002d). It uses its large fins to "glide" through slow-moving areas to feed on insects.

Life History and Population Dynamics

The humpback chub requires relatively warm temperatures for spawning, egg incubation, and survival of larvae. Unlike Colorado pikeminnow and razorback sucker, humpback chub are not known to make extended migrations for spawning. Instead, humpback chub occupy and complete their entire life cycle in the canyon-bound reaches of the Colorado River mainstem and its larger tributaries. This species' habitat preferences are not well understood, but are associated with a variety of habitats, including pools ranging from 3 ft. to 50 ft. in depth with turbulent to no current, eddies, upwells near boulders, and areas near steep cliff faces. Young and spawning adults are generally found in sandy runs and backwaters (USFWS 2002d). Substrates of occupied habitat include silt, sand, boulder, and bedrock (USFWS 2011).

Status and Distribution

Humpback chub were listed as endangered on March 11, 1967 (32 FR 4001). We finalized the latest recovery plan for the species in 2002 (USFWS 2002d). The primary threats to humpback chub are stream flow regulation and habitat modification; competition with and predation by nonnative fishes; parasitism (Asian tapeworm [*Schyzocotyle acheilognathi*]); hybridization with other native *Gila* species; pesticides and pollutants (USFWS 2002d). The existing habitat, altered by these threats, has been modified to the extent that it impairs essential behavior patterns, such as breeding, feeding, and sheltering. Other threats to humpback chub are flow regulation and habitat modification, predation by nonnative fishes, and pesticides and pollutants (USFWS 2002d).

Because of the successes in humpback chub recovery, we published a 5-year review in 2018 proposing to reclassify humpback chub from endangered to threatened status (USFWS 2018a).

On January 22, 2020, we issued a proposed rule to downlist the humpback chub from endangered to threatened status (85 FR 3586) and published the final rule to downlist humpback chub to threatened status on October 18, 2021, which went into effect on November 17, 2021 (86 FR 57588).

Historic abundance of the humpback chub is unknown and historic distribution is surmised from various reports and collections that indicate the species presently occupies about 68% of its historic habitat (USFWS 2002d). Populations of humpback chub have been identified in the Upper Colorado River Basin with the highest concentrations found in the Black Rocks and Westwater Canyon reaches of the Colorado River near the Colorado/Utah State line (USFWS 2002d). Humpback chub mostly occur in portions of the mainstem Colorado River and two large tributaries, the Green and Little Colorado rivers. Currently, there are five known self-sustaining populations of humpback chub. Four occur in the Upper Colorado Basin Recovery Unit and one occurs in the Lower Colorado Basin Recovery Unit.

In Utah, four wild populations of humpback chub inhabit canyon-bound sections of the Colorado and Green Rivers, including Desolation and Gray Canyons, Cataract Canyon, Black Rocks, and Westwater Canyon. Desolation and Gray canyons of the Green River hold one of three abundant populations of this species (USFWS 2002d) in the Upper Basin. Although humpback chub are primarily resident fish, some movement between populations is expected. The most recent estimates of the Cataract Canyon humpback chub population is 295 fish (Badame 2008). For the Desolation/Gray Canyons population, the most recent estimate is 1,672 (Howard and Caldwell 2018); for Black Rocks, 404 fish (Francis et al. 2016); and for Westwater, 3,290 fish (Hines et al 2020).

Critical Habitat Description

We designated critical habitat for Humpback chub on March 21, 1994 (59 FR 13374). Across Colorado, Utah, and Arizona, we designated 379 river mi of critical habitat and 13,149 acres of associated 100-year floodplain. We designated 139 river mi and 5,835 acres of adjacent 100-year floodplain in portions of the Green and Colorado Rivers in Utah (59 FR 13374). See Section 2.1.5 *Critical Habitat for Listed Colorado River Fishes* for information relevant to designated critical habitat for all Colorado River fishes.

2.1.4.4. Razorback sucker

Species Description

The largest native sucker to the western United States, the razorback sucker is a catostomid endemic to the Colorado River Basin (USFWS 2002e). Adults are olive to dark brown coloration above, with pink to reddish brown sides and a bony, sharp-edged dorsal keel immediately posterior to the head, which is not present in the young (Sigler and Sigler 1996). The species can reach lengths of 3 ft. and weights of 16 lbs. (Sigler and Sigler 1996; USFWS 2002e).

Life History and Population Dynamics

Except during periods before and after spawning, adult razorback sucker are thought to be relatively sedentary and have high fidelity to overwintering sites (USFWS 2002e). Razorback suckers are migratory spawners, and upon reaching sexual maturity, they travel long distances to

reach spawning sites (USFWS 2002e). Mature adults breed in spring from April to June on the ascending limb of the hydrograph by congregating over cobble and gravel bars in backwaters and impounded tributary mouths near spawning sites (USFWS 2002e; Zelasko et al. 2009). Larval fish drift downstream into nursery habitats, which include persistent, shallow, warm, and sheltered shorelines of backwaters, floodplains, or similar habitat types with cover present (vegetation and turbidity) to avoid predation (86 FR 35708).

The species feeds primarily on algae, aquatic insects, and other aquatic macroinvertebrates. Habitat occupied by the sucker appears to be seasonal, and they prefer warm water rivers. Adult razorback suckers require eddies and sheltered shoreline habitats maintained by high spring flows. These high spring flows maintain channel and habitat diversity, flush sediments from spawning areas, rejuvenate food production, and form gravel and cobble deposits used for spawning.

Status and Distribution

We listed razorback sucker as an endangered species on October 23, 1991. On March 14, 1989, the USFWS was petitioned to conduct a status review of the razorback sucker (56 FR 54957). We finalized the recovery plan for the species in 2002 (USFWS 2002e). Due to recent successes in razorback sucker recovery, we published a 5-year review in 2018 proposing to reclassify razorback sucker from endangered to threatened status (USFWS 2018b). On July 7, 2021, we issued a proposed rule to downlist the razorback sucker from endangered to threatened status (86 FR 35708), and the final rule to downlist razorback sucker to threatened status is expected to be published in late 2023.

The current range of the species is reduced due to flow regulation, habitat loss, migration barriers, and the introduction of nonnative fishes. Historically, the razorback sucker occupied the mainstem Colorado River and many of its tributaries from northern Mexico through Arizona and Utah into Wyoming, Colorado, and New Mexico. Populations of this species in the Upper Colorado River Basin occur in the Green, Upper Colorado, and San Juan rivers (USFWS 2002e). The Green River has the only known spawning areas for the razorback sucker. Populations have been identified in the Colorado River from Rifle Colorado to Lee's Ferry, Arizona, and in areas of the Green, Gunnison, and Yampa Rivers (USFWS 2002e).

The primary threats to razorback sucker are stream flow regulation and habitat modification; competition with and predation by nonnative fishes; and pesticides and pollutants (USFWS 2002d). The existing habitat, altered by these threats, has been modified to the extent that it impairs essential behavior patterns, such as breeding, feeding, and sheltering. Significant changes have occurred in razorback sucker habitat through diversion and depletion of water, introduction of nonnative fishes, and construction and operation of dams (56 FR 54957) and reservoirs.

Known spawning sites for razorback sucker are located in the lower Yampa River, in the Green River near Escalante Ranch, and in the Colorado River near Loma, Colorado, but other, less-used sites, such as Desolation Canyon, are likely also utilized for spawning (USFWS 2002e). (USFWS 2002e; Osmundson and Seal 2009). Data on razorback sucker populations shows the most recent population estimates of adult razorback suckers in the mainstem Colorado River is

1,066 fish. Approximately 40 percent of the mainstem Colorado River population of razorback suckers are found between Westwater Canyon and the Potash Boat Ramp in Utah (Bestgen et al. 2012). The total number of razorback sucker larvae captured annually has increased significantly on the lower Green River near Labyrinth and Stillwater since sampling began in 2009 (Bestgen, et al. 2018; UDWR 2018, 2020a, UDWR 2020b).

Critical Habitat Description

We designated critical habitat for razorback sucker on March 21, 1994 (59 FR 13374). Designated critical habitat includes portions of the Green, Colorado, Duchesne, White, and San Juan rivers and their associated 100-year floodplains (59 FR 13374). Across Colorado, Utah, New Mexico, Arizona, Nevada, and California, we designated 1,724 river mi of critical habitat. This includes approximately 272,079 acres within the 100-year floodplains. In Utah, we designated 688 river mi and about 46,590 acres within the associated 100-year floodplain as critical habitat. See Section 2.1.5 *Critical Habitat for Listed Colorado River Fishes* for information relevant to designated critical habitat for all Colorado River fishes.

2.1.5. Critical Habitat for Listed Colorado River Fishes

We designated critical habitat for the Colorado River Fishes (razorback sucker, Colorado pikeminnow, humpback chub, and bonytail chub) on March 21, 1994 (59 FR 13374). Designated critical habitat for all four species includes approximately 1,980 river mi of habitat in portions of the 100-year floodplains in Colorado, Utah, New Mexico, Arizona, Nevada, and California. The 100-year floodplain is generally included as part of the critical habitat designation; however, only those portions of the floodplain that contain the physical and biological features are considered part of critical habitat. Critical habitat for humpback chub and bonytail are primarily canyon-bound reaches, while critical habitat for the Colorado pikeminnow and razorback sucker include long stretches of river required for migration corridors and larval fish drift. In Utah, Colorado pikeminnow and razorback sucker share approximately 45,895 acres of designated critical habitat along the Green and Colorado rivers.

The physical and biological features of critical habitat for the four Colorado River fish species includes:

- Water: A quantity of water of sufficient quality that is delivered to a specific location in accordance with a hydrologic regime that is required for the particular life stage for each species;
- Physical habitat: Areas of the Colorado River system that are inhabited or potentially habitable by fish for use in spawning, nursery, feeding, and rearing, or corridors between these areas; and
- Biological habitat: Food supply, predation, and competition.

For a more detailed description of the Colorado River fishes critical habitat, see the final listing and critical habitat rule (59 FR 13374) as well as species specific sections, above.

2.2 Environmental Baseline

Regulations implementing the ESA (50 CFR 402.02) define the environmental baseline as the condition of the listed species or its designated critical habitat in the action area, without the

consequences to the listed species or designated critical habitat caused by the proposed action. The environmental baseline includes the past and present effects of all Federal, state, or private actions and other human activities in the action area, the anticipated effects of all proposed Federal projects in the action that have already undergone formal or early section 7 consultation, and the effects of state or private actions that are contemporaneous with the consultation in process. The consequences to listed species or designated critical habitat from ongoing agency activities or existing agency facilities that are not within the agency's discretion to modify are part of the environmental baseline.

The MFO-managed lands offer a diversity of recreation opportunities for scenic driving, OHV use, mountain biking, BASE jumping, hiking, and equestrian use (BLM 2023). Historical and cultural uses of MFO lands include woodcutting, ranching, tourism, mining, seed collection and other outdoor recreational opportunities. The entire TMA is managed in the 2008 RMP as a Special Recreation Management Area (SRMA) and contains a number of focus areas and many high-use recreation routes. The TMA also contains the Ten Mile Wash Area of Critical Environmental Concern (ACEC) and a portion of the Highway 289/Shafer Basin/Long Canyon ACEC (BLM 2023). Visitation has remained steady in this area of the MFO – the most recent estimate of annual visitation indicates the Labyrinth/ Gemini SRMA receives about 483,921 visitor days per year (BLM 2019). Within the entire field office, increase in visitation is expected to increase by approximately 3.1 percent a year (BLM 2016a).

2.2.1. Mexican Spotted Owl

Status of the Species within the Action Area

The Mexican spotted owl action area includes suitable and critical habitat that occurs within 0.5 mi of proposed routes on BLM lands based on the potential for noise harassment (Section 1.1, above). The action area includes all lands regardless of land ownership within the 0.5 mi buffer distance. Based on geospatial and field evaluations by the MFO, there is 57,030 acres of suitable habitat in or within 0.5 mi of the TMA. Additionally, there is 8,892 acres of designated critical habitat for Mexican spotted own in or within 0.5 mi of the TMA. The action area contains 53,253 acres of suitable habitat and 3,802 acres of designated critical habitat. There are no identified acres of suitable habitat located within designated critical habitat in the action area.

The TMA and action area occurs within the Utah portion of the Colorado Plateau EMU. Approximately 15 percent (206 owl sites) of all known owl sites recorded in the U.S. since 1989 occur in the Colorado Plateau EMU (USFWS 2012). Most owl sites within this EMU are on NPS administered lands (64 percent), followed by BLM administered lands (22 percent), and then Forest Service (FS) administered lands (13.5 percent; USFWS 2012, Appendix B, Table B.1). These numbers are best interpreted as minimum cumulative numbers of locations where at least one owl was recorded during at least one breeding season since 1989. We do not have information on how many of these sites within the Colorado Plateau EMU are currently occupied.

Steep-walled rocky canyon lands provide typical owl habitat in the Colorado Plateau EMU. Canyon habitat is used by owls for nesting, roosting, and foraging and includes landscapes dominated by vertical walled rocky cliffs within complex watersheds, including many tributary side canyons (USFWS 2012). Rock walls must include caves, ledges, and fracture zones that provide protection for nesting and roosting sites. Breeding sites are located below canyon rims;

however, it is known that owls use areas outside of canyons (i.e., rims and mesa tops). Owl nests and roosts primarily on cliff faces using protected caves and ledges, and forage in canyon bottoms, on cliff faces and benches, and along canyon rims and adjacent lands. These areas frequently contain small clumps or stringers of mixed-conifer, ponderosa pine, pine-oak, pinyon-juniper, and or riparian vegetation (USFWS 2012). In Utah, owls have been documented using canyon bottoms and adjacent rims for foraging (Willey 1998). Mexican spotted owls typically occur in metapopulations (spatially separated populations; USFWS 2012), and most populations in Utah occupy large canyon complexes.

Mexican spotted owl habitat assessments and surveys within the action area were performed as early as 2001 and have continued regularly through 2022. All areas (approximately 90,500 acres, BLM 2023, p. 34) that models (Willey 1997, Lewis 2014, and Willey 2000) indicate as suitable habitat have had various levels of field evaluations and surveys, as applicable. Throughout the TMA, all suitable habitat identified (57,030 acres) has been regularly surveyed for owls. The MFO identified an additional 33,460 acres of modeled habitat unsuitable for nesting or breeding in the TMA, and therefor has not surveyed those areas. Surveyors identified high-quality habitat by ground-truthing modeled habitat through field visits to identify likely nesting or roosting habitat. High-quality habitat characteristics include deep, narrow, and long canyon complexes with exposed rocky cliffs or ledges that meets the species needs (USFWS 2012). This is standard practice since we and other species experts recognize that the habitat models over-estimates the amount of suitable habitat (USFWS 2002a).

Other than in the Hell Roaring PAC, no owls have been detected since 1999 in the TMA. A survey conducted in 2012 detected an individual owl on two separate occasions in Hell Roaring Canyon and surveys conducted in 2013 detected a pair of owls in the same location. The BLM established a PAC spanning 1554 acres at the owl site, which owls have occupied as recently as 2020 (BLM 2023, pp. 36). A complete record of Mexican spotted owl habitat evaluations and survey history in the action area can be found in Table 5 of the BA (BLM 2023, pp. 34 to 35).

There is the likelihood for spotted owls in PACs located outside of the TMA to forage or use the action area at various times during the year, although we have no documentation of this. Available information suggests that Mexican spotted owls in Utah use relatively large home ranges and movement to peripheral areas in the nonbreeding season are typical (Willey 1998; Willey and Van Riper 2007; USFWS2012). Big Chief PAC is directly adjacent to the TMA and a small portion (17 acres, or less than 1 percent of the total PAC area) of foraging habitat associated with the PAC is found within a half-mile of the TMA. Owl pairs have regularly occupied Big Chief PAC since 1999 and the core nesting habitat is located approximately one mile southeast of the TMA. Six mi southeast of the TMA, surveyors detected a single male owl in Lions Mesa PAC in 2013 and delineated a PAC. Additionally, three historic PACs are found within one to two mi of the TMP, all of which MFO has consistently monitored with no known occupancy since 1999. Surveyors have also identified several single owls in the MFO over the past ten years, however these detections did not result in any PAC designations. Within a 50-mile radius of the TMA, over 40 PACs have been delineated on NPS and BLM- managed lands (BLM 2023, pg. 36). Suitable habitat within the action area may be used by PACs outside of the TMA for foraging and juvenile dispersal; however, we would not expect more than occasional use of the action area by these owls as surveys have not identified any other breeding pairs.

Based on our review of best available information, the action area supports the occupancy of two individuals, or a breeding pair, within suitable habitat. We based our estimate on the current and historic survey data in the action area, which have been conducted throughout the entirety of suitable habitat within the action area. Additional annual surveys are needed to monitor the occupancy of the existing PAC and detect new owl sites in suitable habitat.

We have not issued incidental take for any formal consultations within the action area to-date. Our only formal consultations for the species in the action area was the Moab Resource Management Plan (BLM 2008) and the Moab Master Leasing Plan and RMP Amendments (BLM 2016b) and we didn't issue incidental take at that time.

Status of Critical Habitat within the Action Area

The TMA contains approximately 8,892 acres of designated critical habitat within critical habitat unit CP-14 of the Colorado Plateau EMU, which covers Federal lands in four Utah counties (Grand, Wayne, Garfield, and San Juan) and includes canyon and steep-sloped mixed conifer nesting habitat as well as additional foraging and dispersal habitat (69 FR 51382). This acreage represents approximately 1 percent of the CP-14 unit (941,068 acres), less than one percent of the Colorado Plateau EMU (3.3 million acres), and less than one percent of the total designated critical habitat for the species (8.6 million acres).

The action area (lands within 0.5 mi of proposed routes) contains 3,802 acres of critical habitat, representing less than one percent of designated critical habitat within the Colorado Plateau EMU and the total designated critical habitat for the species. Models indicate the action area contains 1,744 acres of potentially suitable habitat within designated critical habitat; however, through field assessments the MFO has determined there is not suitable nesting habitat within critical habitat, and therefore no surveys have been conducted in critical habitat within the TMA (BLM 2023).

Not all acres of designated critical habitat contain the physical and biological features essential to the conservation of the species, such as cooler and often more humid conditions than the surrounding areas; steep canyon walls with crevices, ledges, or caves; high percent of ground litter and woody debris; and riparian or woody vegetation. Critical habitat was designated across large tracks of Federal land with known owl sites where canyon landscapes are common (69 FR 53183), resulting in large polygons that often include suitable and unsuitable habitat for the species, based on expert opinion by Service biologists and more recent habitat models (Willey 1997). Best available information indicates that modeled habitat in conjunction with field assessments provides the best indication of potential occupancy and owl sites inside and outside of critical habitat.

Factors Affecting Species and Critical Habitat within the Action Area

Stressors to Mexican spotted owls in the action area include recreation; road use and development in canyons; grazing; and climate change (USFWS 2012). The extent to which these stressors are affecting Mexican spotted owls within the action area is presently unknown. Unlike in other portions of its range, fire is not a landscape-scale threat to Mexican spotted owl habitat in the action area and the Colorado Plateau EMU because the incidence and extent of stand-replacing fires in cliff and canyon habitat is very low (USFWS 2012). Additionally,

because of the canyon habitat preferred by Mexican spotted owls in Utah and the lack of active timber harvest within the action area, we do not identify timber harvest as a threat.

Recreation and road use are likely the most important stressors affecting the species within the TMA and action area. Recreation ranks as a primary land use within the Colorado Plateau EMU because of high recreation pressure on public lands (USFWS 2012). Recreation intensity is high in this region of Utah, and visitation is expected to continue to increase by approximately 3.1 percent per year (BLM 2016a). The potential for recreation to affect owl presence and recovery is compounded by the terrain, with owls established in narrow canyons having less opportunity to move away from human activity. Activities such as hiking, camping, hunting, rock climbing, mountain biking, and OHV use occur in owl habitat within the TMA and Colorado Plateau EMU (USFWS 2012).

OHV routes facilitate recreation access to occupied and suitable habitat with foraging, roosting, and nesting owls. The BLM identified approximately 162 mi of existing travel routes directly overlapping or within 0.5 mi of suitable habitat. This includes 1.6 mi of routes within known occupied habitat. There are also currently 2.8 mi of roads in or within 0.5 mi of critical habitat (BLM 2023, pp.37).

We considered the level of use of the routes in and near occupied habitat and determined routes near PACs currently receive low OHV use (Roe 2023). The BLM evaluated all existing routes within 0.5 mi of Hells Roaring PAC and identified them as primitive 2-track roads that receive low use and are likely to be traveled at low speeds. Routes do provide connection to recreation opportunities within the TMA. A broad range of recreational activities are allowed to occur on BLM lands, often with limited oversight: Dispersed camping can result in noise disturbance and increased gathering of firewood, reducing prey habitat; target shooting, and OHV use may generate loud and disruptive noises; and canyoneering and rock climbing could disturb potential nesting habitat areas. These stressors vary throughout the action due special designations and land protections. The entirety of the TMA is managed as a Special Recreation Management Area and contains a number of focus areas, Areas of Environmental Concern, and high-use recreation routes. While there is potential for these activities to occur in the action area, we expect overall recreation use to be low near occupied habitat based on the current low level of road use and geological limitations. We discuss effects of the action as it related to Mexican spotted owl below in more detail (see Section 3.1, *Effects of the Action*).

Livestock grazing occurs in the TMA and may occur in the action area. It is often associated with livestock and human presence; motorized vehicle and equipment use; increased noise; surface disturbance; and changes in vegetation. Changes in vegetation can include alteration of vegetation structure, composition, an increase or decrease in productivity of selected plant species, and an increase or decrease in the nutritive quality of available forage (Taylor 1986). In addition, there may be an increase or decrease in habitat diversity as habitat structure is altered. Livestock grazing may subsequently negatively or positively affect foraging success and initiation of nesting birds where otherwise suitable habitat exists.

Both the Intergovernmental Panel on Climate Change (IPCC) and the U.S. Global Climate Change Research Program (USGCRP) conclude that changes to climatic conditions, such as temperature and precipitation regimes, are occurring and are expected to continue in western

North America over the next 100 years (Frankson et al 2017; Gonzalez et al. 2018; IPCC 2021; USGCRP 2017). The Southwestern United States (Southwest) is warmer (an average annual temperature increase of 1.6°F) since 1901, but there hasn't been much change to annual precipitation (Hoerling et al. 2013; Gonzalez et al. 2018). Since 1950, the Southwest was warmer than any comparable period in the last 600 years; however, recent droughts (between 1901 to 2010) were not as severe or as long lasting as those experienced in the last 2,000 years (Hoerling et al. 2013).

Down-scaled climate projections for the Colorado Plateau predict a 10 °F increase in mean annual temperature by 2100 (Munson et al. 2011). A consensus of 22 models predicts annual temperatures to exceed the 1950 to 1999 range of variability by the 2030s, with spring precipitation declining by 11 to 45 percent by the end of the century (Garfin et al. 2010; Krause 2015). These changes are likely to increase drought frequency, and severe droughts in the Colorado Plateau in the future could exceed any recently experienced (Seager et al. 2007). These climatic changes are expected to adversely affect ESA-listed species and their habitats (Gonzalez et al. 2018; 78 FR 61622, October 3, 2013).

2.2.2. Southwestern willow flycatcher

Status of the Species within the Action Area

The action area includes suitable habitat for Southwestern willow flycatcher that occurs within 0.25 mi of routes within the TMA on BLM lands based on the potential for indirect effects of noise (Section 1.1, above). The action area includes all lands regardless of land ownership within the 0.25 mi buffer distance.

The TMA occurs within the Upper Colorado River Basin Recovery Unity for the species (USFWS 2002f). As discussed in Section 2.1.2 (*Status and Distribution*), there is no biological evidence for a discrete northern boundary of the Southwestern willow flycatcher range (Paxton et al. 2008); however, designation of a northern boundary is necessary for the analysis in this Biological Opinion. For this analysis, we delineated a northern boundary for *E. t. extimus* using the 30% probability contour in Paxton et al. (2008) and extended the boundary past the 30% probability contour to capture riparian habitats within the same watershed (HUC 10 and 12 units), since Southwestern willow flycatchers commonly move among sites within stream drainages (Kenwood and Paxton 2001; Paxton et al. 2007).

Based on this northern boundary and our geospatial evaluations of the TMA (Appendix A), we estimate there are 1,323 acres of suitable Southwestern willow flycatcher habitat within 0.25 mi of TMA routes. In this BO, the action area is different than the flycatcher action area analyzed by BLM in the BA, which placed the northern boundary at the 30% probability contour line (BLM 2023, p. 44).

Protocol surveys were conducted within the action area from 2006 to 2012, with 7 flycatchers detected during the first and occasionally the second protocol survey period (Table 1). No nests were found during surveys. We agree with BLM's assessment that the best available information suggests that suitable habitat within the action area is used by migrants but is unoccupied by breeding Southwestern willow flycatchers (BLM 2023, p. 46). Therefore, this analysis will focus on effects of the action on migrating Southwestern willow flycatchers.

Table 1. Southwestern willow flycatchers detected during protocol surveys within the action area (BLM 2023).

Year	Drainage	Habitat	Agency	Acres	Detections
2006	Green River	Suitable breeding	USGS	40.2	0
2007	Green River	Suitable breeding	NPS	236.5	1
2012	Green River	Suitable breeding	NPS	58.3	3
2012	Green River	Suitable breeding	NPS	82.8	3

Factors Affecting the Species within the Action Area

Recreation and road use are likely the most important stressors affecting the species within the action area. There is a total of 68.3 mi of existing routes within 0.25 mi of suitable habitat in the action area. All existing routes (100 percent) are currently designated as Open and affect approximately 1,323 acres of suitable habitat along the Green River. BLM evaluated route use within the action area and characterized routes as high use, medium use, or low use based on weekly visitation levels. BLM found that approximately 39.6 mi of routes (58.0 percent) had high use, 10.9 mi (15.9 percent) had medium use, and 17.8 mi (26.1 percent) had low use (Table 2).

Table 2. BLM evaluations of the level of use of routes currently open to OHV use within 0.25 mi of suitable habitat for Southwestern willow flycatcher.

Route Management	Miles	Use level of routes		
		% High	% Medium	% Low
Open to OHV use	68.3	58.0	15.9	26.1
Closed to OHV use	0	0	0	0

Recreation activities such as hiking, camping, hunting, fishing, target shooting, mountain biking, and OHV use may occur in flycatcher habitat within the action area. These activities can cause a reduction in vegetation through trampling, clearing, woodcutting and prevention of seedling germination due to soil compaction; bank erosion; increased incidence of fire; promoting invasion by exotic plant species, causing loss of suitable habitat; promoting increases (subsidizies) in predators and scavengers due to food scraps and garbage (ravens, jays, grackles, skunks, squirrels, domestic cats, etc.); and promoting increases (subsidizies) in brood-parasitic cowbirds (USFWS 2002f). The potential for noise from recreation to disturb breeding flycatchers is high given the distribution of suitable habitat, which occurs in narrow riparian corridors adjacent to travel routes, limiting the species' ability to avoid human activity. Furthermore, recreation visitation is expected to continue to increase by approximately 3.1 percent per year (BLM 2016a).

Water management may also contribute to loss and modification of habitat within the action area. The action area is downstream of several dams along the Colorado River, including Flaming Gorge Dam. Dams inhibit the natural cycles of flood-induced sediment deposition,

floodplain hydration and flushing, and timing of seed dispersal necessary for establishment and maintenance of native riparian habitats (USFWS 2002f). Surface water diversions and groundwater pumping for agricultural, industrial, and municipal uses also affect riparian habitats within the action area, with the principal effect being the reduction of water in riparian ecosystems and associated subsurface water tables (Briggs 1996, USFWS 2002f).

Land uses such as grazing also deteriorate riparian habitats within the action area. Overgrazing by domestic livestock has been a significant factor in the modification and loss of riparian habitats in the arid western United States (Rickard and Cushing 1982; Cannon and Knopf 1984; General Accounting Office 1988; Clary and Webster 1989; Belsky et al. 1999). If not properly managed, livestock grazing can significantly alter plant community structure and stream channel morphology, reducing habitat suitability for Southwestern willow flycatchers (USFWS 2002f).

Status of Critical Habitat within the Action Area

There is no designated critical habitat for Southwestern willow flycatcher in the action area.

2.2.3. Jones Cycladenia

Status of the Species within the Action Area

The TMA provides potential soil structure for Jones cycladenia but no plants or populations of Jones cycladenia are known to occur within the TMA; however, protocol level surveys have not been performed as part of the Plan. A portion of the TMA overlaps with the Moab recovery unit (9,729 acres or approximately 5 percent of the recovery unit; USFWS 2021b). The nearest Jones cycladenia detection is located approximately 3 mi south of the TMA boundary within the recovery unit. Modeled potential habitat is extensive throughout the TMA (42,595 acres of structurally suitable soils), which was developed using GIS layers of suitable geologic formations, soil structures, and elevation ranges (JGMS 2014; BLM 2023 p. 57). Within 300 ft. of current TMP roads, there are 9,194 acres of soils that potentially offer structure suitability for Jones cycladenia (BLM 2023 p. 57). The majority of modeled potential habitat has not been surveyed for the species.

Approximately 130 mi of travel routes occur in or within 300 ft. of Jones cycladenia modeled potential habitat in the action area and are designated as follows (BLM 2023, p. 60):

- 128.5 mi- OHV-Open
- 0 mi- OHV-Closed
- 0 mi-undesignated

In addition, approximately 40 mi of routes occur in or within 300 ft. of the Moab recovery unit. The potential for Jones cycladenia to occur in the action area is low based on expert opinion from the Service and BLM field botanists despite the modeled potential habitat in the action area. Plants are distinctive and showy and flowering plants would be difficult to miss within 300 ft. of the current and proposed travel routes.

Status of Critical Habitat within the Action Area

Critical habitat has not been proposed or designated for Jones cycladenia.

Factors Affecting the Species within the Action Area

Factors that could affect Jones cycladenia and its modeled potential habitat include natural or human-directed disturbances, such as increased recreation and vehicle use; introduction or proliferation of weeds; vegetation clearing activities; rights of way maintenance; livestock grazing; and climate change. The extent to which these factors are affecting Jones cycladenia within unsurveyed, modeled potential habitat in the action area is presently unknown.

The existing travel routes support an unknown level of use where potential habitat occurs within the action area. Some of this traffic may support recreation including OHV use within other parts of the TMP outside of the action area. Recreational use may result in effects to the species from plant damage and mortality, habitat degradation, soil compaction, erosion, weed invasion and fugitive dust generation, as discussed in more detail below (Section 3.2, *Effects to All Plants*).

The existing travel routes include paved and unpaved roads or trails. Paved and unpaved roads may contribute to weed invasions from vehicle transport of plant parts and soil disturbances, as discussed in more detail below (Section 3.2, *Effects to All Plants*). We do not have information on the presence and extent of weeds in modeled potential habitat the action area.

Unpaved roads are large sources of fugitive dust. Dust accumulation within nearby habitat can negatively affect the growth and physiology of ESA-listed plants, as discussed in more detail below (Section 3.2, *Effects to All Plants*).

Livestock grazing can have detrimental effects on native plants and plant communities. Effects include changes in vegetation composition and abundance, increased soil erosion and compaction, a reduction in water infiltration rates, and an increase in runoff (Robinson and Bolen 1989; Waser and Price 1981; Holecheck et al. 1998; Loftin et al. 2000), leaving less water available for plant production (Dadkhah and Gifford 1980).

The ecological effects of grazing include: (1) alteration of species composition of communities, including decreases in density and biomass of individual species, reduction of species richness, and changing community organization; (2) disruption of ecosystem functioning, including interference in nutrient cycling and ecological succession; and (3) alteration of ecosystem structure, including changing vegetation stratification, contributing to soil erosion, and decreasing availability of water to biotic communities (Fleischner 1994). Livestock may also increase the spread of weeds such as cheatgrass and red brome (DiTomaso 2000). As a result, there may be decreased recruitment and reproductive output, and increased plant damage or individual mortality.

Both the Intergovernmental Panel on Climate Change (IPCC) and the U.S. Global Climate Change Research Program (USGCCR) conclude that changes to climatic conditions, such as temperature and precipitation regimes, are occurring and are expected to continue in Utah and western North America over the next 100 years (Frankson et al 2017; Gonzalez et al. 2018; IPCC 2021). The Southwestern United States (Southwest) is warmer (an average annual temperature increase of 1.6°F) since 1901, but there hasn't been much change to annual precipitation (Hoerling et al. 2013; Gonzalez et al. 2018). Since 1950, the Southwest was warmer than any comparable period in at least 600 years; however, recent droughts (between 1901 to 2010) were not as severe or as long as those experienced in the last 2,000 years (Hoerling et al. 2013).

Down-scaled climate projections for the Colorado Plateau predict up to a 10 °F (5 °C) increase in mean annual temperature by 2100 (Munson et al. 2011; Bryce et al. 2012). A consensus of 22 models predicts annual temperatures to exceed the 1950 to 1999 range of variability by the 2030s, with spring precipitation declining by 11 to 45 percent by the end of the century (Garfin et al. 2010; Krause 2015). These changes are likely to increase drought frequency, and severe droughts in the Colorado Plateau in the future could exceed any recently experienced (Seager et al. 2007). Many endemic plants of the Colorado Plateau are predicted to experience range reductions because of dispersal limitations and unsuitable climate conditions in currently occupied habitat (Krause et al. 2015). The response of Jones cycladenia to climate change and drought has not been evaluated and remains unknown. Jones cycladenia appears to have longer-distance dispersal capability than most endemic plants of the Colorado Plateau given the large distances between populations within its range (USFWS 2021a, b).

2.2.4. Colorado River Fishes

Status of the Species within the Action Area

There are 11,845 acres of the 100-year floodplain for the Colorado and Green rivers in the TMA. This includes 939 acres of the Colorado River's 100-year floodplain and 10,906 acres of the Green River's 100-year floodplain. The action area for the four Colorado River Fishes includes portions of the 100-year floodplains for the Colorado and Green rivers that intersect with proposed routes on BLM lands based on the potential for all four endangered fish species to use some portion of this area when inundated with water (Section 1.1, above). The action area includes all lands regardless of land ownership within the floodplain. The action area contains 9,089 acres of suitable habitat for all four listed fish species within the 100-year floodplains of the Colorado and Greens rivers. These 9,089 acres are also designated critical habitat for the razorback sucker and Colorado pikeminnow (See *Status of Critical Habitat within the Action Area*, below).

The Plan occurs within a hydrographic sub-basin for the mainstem Colorado River west of Moab, Utah. For all four endangered fish species, the Plan occurs within the Upper Colorado River Basin Recovery Unit. Currently, approximately 39 mi of travel routes occur in the Green and Colorado rivers and their associated 100-year floodplains in the action area, and these routes are designated as follows:

- 36.8 mi of OHV-Open routes
- 2.5 mi of OHV- Limited routes
- 0 mi of OHV-Closed routes

The TMA includes known, active migratory routes and as well as occupied habitat for Colorado pikeminnow, razorback sucker, humpback chub, and bonytail. At this time, we have no evidence of spawning occurring within the action area for any of the four species.

The fish-bearing waters of the TMA consists primarily of 44 mi of the Green River, also known as Labyrinth Canyon, as well as seasonally inundated side channels, backwaters, and confluence habitats associated with tributaries to the Green River, including Ten Mile Canyon, Spring Canyon, Hell Roaring Canyon, and Mineral Canyon. The Labyrinth Canyon segment in particular provides key connectivity, migration, nursery, and spawning habitat for the four

species. These fish species have overlapping needs and occupy different habitat in different stretches along the river as they migrate through the river system.

We have not issued incidental take for any formal consultations within the action area to-date. Our only formal consultations for the species in the action area was the Moab Resource Management Plan (BLM 2008) and the Moab Master Leasing Plan and RMP Amendments (BLM 2016b) and we didn't issue incidental take at that time.

Species-specific information in the action area includes:

- The action area is a migratory route for bonytail chub. Bonytail are stocked into the Green River, both upstream and downstream of the Plan area. Since 2000, approximately 880,087 bonytail have been stocked in the Green and Upper Colorado River subbasins (Recovery Program 2022).
- Colorado pikeminnow spawning locations occur upstream of the Plan area and known occurrences occur downstream of the TMA; therefore, adults and larval fish must pass the TMA during reproductive cycles. Population estimates for adult Colorado pikeminnow for the Colorado River between the confluence with the Green River to the bottom of the Westwater stretch north of the Plan area show 220 adult fish in the most recent year of available data (Elverud et al. 2020).
- Humpback chub spawning locations occur downstream of the Plan area. The Plan area is upstream of the Cataract Canyon population and is downstream of the Desolation-Gray Canyon, Black Rocks, and Westwater Canyon humpback chub populations. Although humpback chub are primarily resident fish, some movement between populations is expected. The most recent estimate of the Cataract Canyon humpback chub population is 295 fish (Badame 2008). For the Desolation-Gray Canyon population, the most recent estimate is 1,672 (Howard and Caldwell 2018); for Black Rocks, 404 fish (Francis et al. 2016); and for Westwater, 3,290 fish (Hines et al. 2020).
- Razorback sucker spawning locations occur upstream of the TMA and known populations occur downstream of the TMA; therefore, adults and larval fish must pass the TMA during reproductive cycles. Data on razorback sucker populations shows the most recent population estimates of adult razorback suckers in the mainstem Colorado River is 1,066 fish. Approximately 40 percent of the mainstem Colorado River population of razorback suckers are found between Westwater Canyon and the Potash Boat Ramp, which is approximately 3 mi downstream of the Project area (Bestgen et al. 2012).

Status of Critical Habitat within the Action Area

In the Labyrinth-Gemini TMA, there are 11,845 acres of designated critical habitat on the Colorado and Green Rivers for the Colorado pikeminnow and razorback sucker. Within the action area, there are 9,098 acres of designated critical habitat. This is approximately 20 percent of critical habitat for the species in Utah (45,895 acres), approximately three percent of the total critical habitat for razorback sucker (272,079 acres), and 15 percent of the total critical habitat for Colorado pikeminnow (60,468 acres). There is no critical habitat for bonytail or humpback chub within the action area. In particular, the Labyrinth Canyon segment contains critical habitat that is unique in that its gravel bars provide spawning habitat, while the lower-gradient

meandering character provides slackwater nursery habitats for larval and young-of-year Colorado pikeminnow and razorback sucker.

Factors Affecting the Species and Critical Habitat within the Action Area

Factors that could affect the four Colorado River fishes in the action area include streamflow regulation, competition with and predation by nonnative fish species, and habitat modification resulting in habitat loss, degradation, and fragmentation caused by watershed changes, including increased sedimentation and negative water quality changes (e.g., pollutants and pesticides).

The physical and biological features for critical habitat for Colorado pikeminnow and razorback sucker are present within the action area, although sometimes affected by human activities as described below.

Physical or biological feature – water

Water includes a quantity of water of sufficient quality delivered to a specific location in accordance with a hydrologic regime required for the particular life stage for each species. Past projects have resulted in depletions and changes in flows that have affected the endangered Colorado River fishes. These native fishes are adversely affected by depletions to water flow at sensitive life stages (Muth et al. 2000). Depletions may reduce high spring flows, resulting in changes to food supply and productivity. Reductions in water flows can reduce spawning habitat availability and adversely affect backwater habitats, resulting in lower habitat quality. Water depletions may also contribute to flow changes that favor nonnative fish species. Competition with nonnative fish species is a factor in the decline of the endangered Colorado River fishes and nonnative fishes are known to occupy the same backwaters that are very important for young Colorado pikeminnow and razorback sucker (Recovery Program 2014).

Physical or biological feature – physical habitat

The physical habitat includes areas of the Colorado River system that are inhabited or potentially habitable for use in spawning and feeding, as a nursery, or serve as corridors between these areas. In addition, oxbows, backwaters, and other areas in the 100-year floodplain, when inundated, provide access to spawning, nursery, feeding, and rearing habitats.

The completion of dams and diversions create fish passage barriers. If the barriers do not have the ability to pass fish, Colorado River fishes can no longer migrate to preferred habitats. Fish barriers isolate populations, decreasing the ability of individuals to interact, and hinder the transfer of genetic material.

The quantity and timing of flows influence how channel and various habitats are formed and maintained. Channel narrowing is a problem because as the channel width decreases, water velocity increases, and the amount of low velocity habitats, important to the early life stages of the fish, decreases. Habitat in the Colorado River has historically been shaped by an artificial flow regime, which resulted in decreased low flow habitats, disrupted vegetative communities, and altered channel morphology (Muth et al. 2000). However, recent operation changes have made this flow regime better match natural conditions. These changes have also improved temperature, channel morphology, and habitat conditions.

Physical or biological feature – biological environment Food supply, predation, and competition are important elements of the biological environment (59 FR 13374-13400). The biological environment in the action area is impaired by the presence of nonnative fishes that are now common in the Colorado River. Nonnative fishes occupy the same backwaters that are very important for young Colorado pikeminnow and razorback sucker. Specifically, smallmouth bass (*Micropterus dolomieu*), walleye (*Sander vitreus*), northern pike (*Esox lucius*), and channel catfish (*Ictalurus punctatus*) are present in this system and predate upon juvenile native fish. Programs are ongoing to remove bass, walleye, and northern pike from this system.

Other nonnatives found in the Colorado River include centrarchids (sunfishes) and nonnative cyprinids (minnows and carps). Reduction in flows contributes to further habitat alterations that support nonnative fish species, such as increased temperatures, reduced habitat availability, and reduced turbidity (Recovery Program 2014).

3. Effects of the Action

3.1. Effects Similar to all Avian Species

Noise, like that produced by OHVs, can broadly affect bird nest-site selection and mask biologically important sounds, such as mating call behavior and predator and prey sounds. Disturbance duration can vary from abrupt and brief (e.g., a single vehicle passing by) to extended disturbance (e.g., high traffic volumes on a busy holiday, or dispersed camping taking place within nesting or foraging habitat, etc.). Accordingly, species' response durations may also range from brief, immediate behavioral responses, such as alerting or flushing, to long-term responses, such as abandoning preferred habitat. When these stressors result in territory displacement, failure to initiate nesting, nest failure, or increased physiological stress, they negatively affect reproductive success of individuals and populations (Steven et al. 2011). Disturbances associated with human presence and noise could result in sub-lethal effects including elevated stress levels and reduced foraging time (Larson et al. 2016). If persistent, noise harassment and human presence could deter individuals from nesting or result in territory and nest abandonment, thereby reducing reproductive success or increasing juvenile mortality. Many animal species respond to human presence in the same ways they respond to predators (Blumstein and Fernández-Juricic 2010; Suraci et al. 2019). These responses include increased stress and expenditures of time and energy towards vigilance and avoidance behaviors, and consequently decreased expenditures of time and energy towards beneficial activities like foraging, breeding, nesting, roosting, or caring for young (Steven et al. 2011; Ortega 2012; Shannon et al. 2016).

Birds are more resistant than mammals to permanent hearing loss from loud noises because birds can regenerate damaged or destroyed sensory hair cells (Dooling and Popper 2007). However, loud and long-duration noises can cause temporary physical damage to a bird's hearing, which can increase predation risk, impair communication, and alter behaviors (Hashino et al. 1988, Hashino and Okanoya 1989, Hashino and Sokabe 1989). Birds exposed to noise over 100 dBA experienced temporary hearing loss as a result (Hashino 1988). Furthermore, the physical hearing damage from lower decibel noise over a long duration exposure (noise greater than 100 dBA for greater than 72 hours) was similar to damage caused by louder and shorter duration exposure (noise greater than 140 dBA for single blasts or 125 dBA for multiple, Hashino 1988). Average exhaust noise levels from common OHV models range from 94 to 107 dB (USFS

2018). Therefore, birds can suffer temporary hearing damage from OHVs operating in close proximity, especially when multiple vehicles are operating at once. This temporary hearing damage may increase when birds are exposed over long durations.

Recreation activities may also result in habitat degradation from surface disturbance, vegetation removal, and vegetation alteration (Monz et al. 2013). These effects could occur through trampling of vegetation, clearing vegetation, woodcutting and prevention of seedling germination due to soil compaction; bank erosion; increased incidence of fire; promoting invasion by exotic plant species (which can displace native vegetation utilized for foraging, security and thermal cover, nesting, etc.); promoting increases (subsidizies) in predators and scavengers due to food scraps and garbage (ravens, jays, grackles, skunks, squirrels, domestic cats, etc.); promoting increases (subsidizies) in brood parasitic cowbirds; loss of hydrologic function in riparian areas from travel route compaction; and noise disturbance. Effects of these activities may be species- and action-specific, but reductions in density and diversity of bird communities have been associated with recreational activities (Aitchison 1977; Blakesley and Reese 1988; Szaro 1980; Taylor 1986; Riffell et al. 1996).

The range of potential effects could also include direct mortality from collisions with OHVs, recreational shooting that results in deliberate targeting of animals, or off-trail travel (by foot, OHV, or other means) that results in alteration or destruction of foraging or nesting habitats. Because of these potential stressors, travel routes that traverse or travel adjacent to canyons or riparian habitats are of primary concern. Plan implementation activities that could affect special status animals and their habitats include installing new signs, road maintenance (grading, installing water control structures, etc.), route decommissioning or reclamation (including ripping the ground and planting seed, grading, recontouring), or installing fencing or barriers. Ground disturbance and loss of habitat from sign installations would be temporary, as these areas are likely to revegetate. Seeding and planting on closed routes could accelerate reclamation and help to reestablish habitat. Installation of signs, barriers, and other permanent structures outside of existing roadway prisms would result in a minor (discountable) loss of habitat.

3.1.1 Mexican Spotted Owl

There are 53,253 acres of suitable habitat within the action area, which includes BLM and state and private lands. The action area also contains 3,802 acres of designated critical habitat for Mexican spotted owl. Models indicate 1,722 acres of potential habitat within designated critical habitat; however, habitat evaluations have not identified any suitable habitat within designated critical habitat.

There are approximately 162 mi of existing travel routes within the action area. The TMP (Alternative D) would designate these routes as follows:

- 156.9 mi OHV-Open routes within suitable habitat
- 4.8 mi OHV-Closed routes within suitable habitat.
- 2.8 mi OHV-Open routes within critical habitat.
- 0 mi OHV-Closed routes within critical habitat.

The Plan would designate 1.6 mi OHV-Open routes within 0.5 mi of the Hell Roaring PAC (BLM 2023, p. 42).

Use and maintenance of the designated travel network may adversely affect Mexican spotted owls and critical habitat through a range of mechanisms related to human presence, noise, surface disturbances, and vegetation removal or alteration. We expect the continued authorization of OHV-open routes to maintain the current level of recreational usage of these routes. We expect the designation of OHV-closed routes to result in decreased OHV use and little to no recreational use of these routes. These stressors and their mechanisms are described above (see Section 3.1., *Effects Similar to all Avian Species*).

We anticipate that the primary effects of the Plan to Mexican spotted owls would occur from recreation and OHV use. Recreation activities in the action area may include hiking, camping, hunting, fishing, target shooting, biking, swimming, rafting, canyoneering, and rock climbing. OHV-open routes facilitate recreation access, human presence, and noise within the action area. Canyoneering and rock climbing may especially affect Mexican spotted owls as these activities could be focused in potential nesting habitat areas. Camping within foraging territories may result in noise disturbance and reductions in woody debris collected for campfires (woody debris is a critical habitat feature that supports prey populations), however wood gathering may vary throughout the action area due to varying land designations and protections.

Relatively little is known about the effects of recreation disturbance on Mexican spotted owls. The following studies show that recreation has the potential to negatively affect Mexican spotted owls depending on noise levels and seasonal use:

- Isolated incidents of Mexican spotted owls being hit by cars were documented in other areas of the Colorado Plateau EMU (USFWS 2012); however, we have no evidence of car related owl fatalities in the action area.
- 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 alone showed no association with the number of young fledged, once proximity and noise were analyzed together, proximity to road noise significantly affected reproductive success. Owls within 328 ft. of quiet roads (less than 60 dBA) fledged more young than owls farther from roads (328 to 2625 ft.). In contrast, owls within 328 ft. of loud roads (more than 60 dBA) fledged fewer young. For owls within 328 ft. of a road, the association of high noise levels and reduced reproductive success was strong (Hayward et al. 2011). We consider the proximity of proposed routes and proxies for their noise level (their level of use and speed limit) in our evaluation of incidental take below.
- A study of Mexican spotted owls 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). It is unlikely that the action area receives this level of disturbance, as the TMA receives less visitation than that of nearby National Parks (e.g. Canyonlands and Zion) in southern Utah.

- Studies of Mexican spotted owl tolerance (resilience) to mechanical human disturbance and noise found that owls were fairly resilient to short-duration disturbance caused by overflight of helicopters and fixed-wing aircraft (Delaney et al. 1999b; Johnson and Reynolds 2002) and chainsaw operation more than 197 ft. from roosts (Delaney et al. 1999b). Closer chainsaw operations caused most owls to flush from their perches. While we do not expect these activities to occur in the action area, they indicate resilience of the species to human disturbance.
- The largest known populations of Mexican spotted owls in the Colorado Plateau EMU occur within National Parks (132 owl sites), where some PACs support regular breeding pairs despite being in close proximity to heavily used hiking trails. The TMA receives less visitation than that of nearby National Parks (e.g. Canyonlands and Zion) in southern Utah.

For a more detailed review of recreation effects to owls, see the Mexican Spotted Owl Recovery Plan (USFWS 2012).

While our information is limited regarding the level of OHV and recreation effects to Mexican spotted owl within the action area, we expect that the continued authorization of OHV-Open routes would support the current level of use of these routes. Noise and recreation activity resulting from the proposed action could deter nesting, displace territories, or lead to nest abandonment (which could result in juvenile mortality). However, best available information indicates that recreational activity is low in the action area where there is occupied habitat for the species (Section 2.2.1, *Status of the Species within the Action Area*). We expect noise levels to be low in this portion of the action area based on the low speeds of vehicles and the low use along routes. Therefore, we expect overall effects to the species to be low from the proposed action. The OHV-closed designations will close a subset of the existing travel routes, directing OHV use to less-sensitive environments. Route closures in or near Mexican spotted owl habitat (suitable, occupied, and critical habitat) would be beneficial over the long-term by reducing recreational use and the associated negative effects mentioned above.

3.1.2. Southwestern willow flycatcher

Best available evidence suggests that suitable Southwestern willow flycatcher habitat within the action area supports migrant individuals but is currently not occupied by breeding Southwestern willow flycatchers. We expect effects of the proposed action to migrating Southwestern willow flycatchers would occur within 0.25 mi of designated travel routes.

Currently, there is a total of 68.3 mi of routes designated open to OHV use within 0.25 mi of suitable habitat within the action area, affecting 1,323 acres of suitable habitat along the Green River (Section 2.2.2). The proposed action would continue to authorize OHV use on all 68.3 mi of routes within 0.25 mi of suitable habitat and would continue to affect 1,323 acres of suitable habitat along the Green River. Our route mileage calculations and suitable habitat estimates in the action area differ from that reported by the BLM based on differences in methodology (see Section 2.2.2 and Appendix A).

Use and maintenance of the designated travel network may adversely affect migrating flycatchers through a range of mechanisms related to human presence, noise, surface

disturbances, and vegetation removal or alteration. We anticipate that the primary effects of the TMP to flycatchers would occur from recreation and OHV use.

Little is known about effects of noise on Southwestern willow flycatchers, though studies of related species indicate that anthropogenic noise leads to behavioral changes and avoidance of otherwise suitable habitat. For example, grey flycatchers (*Empidonax wrightii*) changed their occupancy patterns to avoid anthropogenic noise (Francis et al. 2011a), while ash-throated flycatchers (*Myiarchus cinerascens*) avoided noise when selecting nesting sites (Kleist et al. 2018) and responded to acoustic masking by increasing their vocalization frequency to compete with the background noise (Francis et al. 2011a). Avoidance of suitable habitat by *E. wrightii* was observed at treatment sites with a mean noise level of 56.1 dBA compared to reference sites with a mean noise level of 37.4 dBA (Francis et al. 2011b). The NPS measured ambient noise at national parks and monuments in Utah and found the median noise level in riparian habitats without OHV use (averaged across sites) was 39.6 dBA (NPS 2011a, 2011b, 2013). Meanwhile, average exhaust noise levels from common OHV models range from 94 to 107 dB (USFS 2018). A 10 dBA increase is judged to be about twice as loud by humans (Pater et al. 2009). Therefore, the noise level that caused avoidance of suitable habitat in flycatchers (Francis et al. 2011b) was approximately 1.5 times louder than reference site conditions. Meanwhile, OHVs operating within the TMP area would be approximately 2.4 to 2.6 times louder than reference riparian sites without OHV use (NPS 2011a, 2011b, 2013). Therefore, we can reasonably infer anthropogenic noise associated with OHV use could cause Southwestern willow flycatchers to avoid otherwise suitable habitat, potentially causing migrating flycatchers to forgo feeding and sheltering activities within the action area.

As discussed above, noise levels greater than 100 dBA have the potential to cause temporary hearing damage birds, which affects their predation risk, foraging efficiency, and communication (Dooling and Popper 2007). Meanwhile, noise levels emitted by common OHV models average 94 to 105 dB (USFS 2018). When point sources operating at the same time differ by less than 10 decibels, the perception of overall sound increases by 1 to 3 decibels with each additional point source (USDOT 2011). Therefore, we expect that exposure to noise at levels that cause hearing damage to birds will be most likely when multiple OHVs operate simultaneously within 0.25 mi of suitable habitat.

Table 3. Estimated route miles, suitable habitat acreage, and Southwestern willow flycatcher individuals that would be exposed to noise from OHV use and recreation activities. We assume the likelihood of adverse effects to migrating Southwestern willow flycatchers occurring within

the action area would correspond to the use level of authorized routes (See Appendix A for details on flycatcher exposure calculations).

Within action area	Total	Exposure		
		High	Medium	Low
Route miles	68.3	39.6	10.9	17.8
Suitable habitat acreage	1323	766.9	210.3	345.7
Est. individuals exposed annually	7	4	1	2
Est. individuals affected annually	5	4	1	0

While our information is limited regarding the level of OHV effects to Southwestern willow flycatcher in the action area, we expect that the continued authorization of OHV-Open routes would support the current level of use of these routes. We expect exposure of OHV effects to be most likely on high use routes (39.6 mi, or 58.0 percent of routes), moderately likely on medium use routes (10.9 mi, or 15.9 percent of routes), and unlikely on low use routes (17.8 mi, or 26.1 percent of routes). This corresponds to approximately 766.9 acres of suitable habitat exposed with a high likelihood of adverse effects, 210.3 acres of suitable habitat exposed with a moderate likelihood of adverse effects, and 346.7 acres where we expect effects of OHV use and recreation would be discountable (Table 3). The proposed route designations will result in a moderate to high likelihood of adverse effects on Southwestern willow flycatcher utilizing 977.2 acres of suitable habitat within the action area for migration. We expect these effects to be non-lethal and include loss of feeding and sheltering opportunities and temporary hearing damage due to noise disturbance from OHV use and recreation activities.

3.2. Jones cycladenia

The TMP would close 4.1 mi of travel routes in or within 300 ft. of suitable soils while continuing to authorize 124.4 mi as OHV open within 300 ft. of modeled potential habitat for Jones cycladenia (BLM 2023, p. 60). Additionally, the Plan would close 0.1 mi of routes in or within 300 ft. of the Moab recovery unit and continue to authorize 39.6 mi of routes in or within 300 ft. of the Moab recovery unit. Thus, the TMP would result in an overall smaller travel route network than currently exists within 300 ft. of modeled potential habitat and a similar route network within the recovery unit.

The Plan would reduce the authorized travel route network but allow the continued use of motorized vehicles and mechanized travel as well as OHV use on designated routes across much of the TMA. Effects of the action to ESA-listed plants includes plant mortality and damage; soil compaction, erosion, and habitat degradation from recreational use and maintenance activities in habitat (potential, occupied, and critical habitat); continued habitat fragmentation from the travel route network; effects to plant growth and reproduction from fugitive dust generation; the potential for encroachment of weeds (invasive, nonnative plants) from disturbance areas to occupied and potential habitat; effects to pollinators and seed dispersers; and pesticide and herbicide use from maintenance activities that affect plants, habitat and pollinators (Everett 1980; Spatt and Miller 1981; McCrea 1984; Santelmann and Gorham 1988; Farmer 1993; Sharifi

et al. 1997; Trombulak and Frissell 2000; Hobbs 2001; Veranth et al. 2003; Etyemezian et al. 2004; BLM 2008; Lewis 2013; Lewis 2016).

Recreational use of the travel route network is likely to affect ESA-listed plants through multiple pathways. OHV use may directly affect individuals through the crushing of plant individuals, causing injury or mortality. OHV use of the travel route network is expected to mobilize and spread dust (Farmer 1993; Trombulak and Frissell 2000). Dust accumulation within nearby habitat can negatively affect plant growth and physiology (Eller 1977; Spatt and Miller 1981; Thompson et al. 1984; Farmer 1993; Sharifi et al 1997; Trombulak and Frissell 2000; Hobbs 2001). Unpaved roads and surfaces are large sources of fugitive dust. The distance from a road at which dust can affect vegetation varies (Everett 1980; Spatt and Miller 1981; McCrea 1984; Walker and Everett 1987; Santelmann and Gorham 1988; Myers-Smith et al. 2006), but negative effects to plant growth and reproduction may occur up to 300 ft. away from dust sources during the growing and flowering season (Environmental Protection Agency 1995; Veranth et al. 2003; Etyemezian et al. 2004; Padgett et al. 2007; Wijayratne et al. 2009; Lewis 2013, 2016; Waser 2017).

The Plan is not expected to change current recreation visitation growth rates (BLM 2023, p. 60). Under the Plan, the number of vehicles using the existing travel network may increase once OHVs are allowed to use these routes, and we may expect a shift in use from the baseline condition where vehicles with trailers carrying multiple OHVs to more single OHVs and fewer vehicles with trailers. However, it is difficult to know how dust and weed effects to ESA-listed plants may change from the baseline condition other than we expect effects to continue and may increase.

The mortality of plants within and adjacent to travel routes may result in the effective fragmentation of populations and habitats (potential, occupied, and critical habitat). Negative effects of habitat fragmentation to plants and pollinators have been well documented (Aizen et al. 2002; Debinski and Holt 2000; Moody-Weis and Heywood 2001; Gathmann and Tscharntke 2002; Lennartsson 2002; Kolb 2008). Fragmented plant populations appear to be less attractive to insect pollinators, which spend more time in larger, unfragmented plant habitats (Aizen et al. 2002; Goverde et al 2002; Lennartsson 2002; Kolb 2008). Lower pollinator visitation rates are associated with reduced reproductive success in fragmented sites compared to intact sites (Jennersten 1988). Furthermore, insect pollinator diversity increases in larger plant populations with larger habitat areas (Mustajarvi et al. 2001) and decreases in isolated habitats with smaller plant populations (Steffan-Dewenter and Tscharntke 1999).

On- and off-trail travel may degrade habitat (potential, occupied, and critical habitat) through soil compaction, erosion, spread of noxious weeds, hydrologic changes (from headcuts), and destruction of biocrusts. Compaction changes soil characteristics by reducing pore spaces and increasing soil density, which results in reduced water infiltration, reduced seedling establishment, and increased competition with roadside weeds more adapted to disturbed conditions. The travel route network may contribute to weed invasions via introduced vehicle transport of plant parts and soil disturbances caused by OHV use and road maintenance activities (Forman and Alexander 1998; Gelbard and Belnap 2003). Establishment and spread of weeds can increase competition for water, space, and nutrients, resulting in decreased reproductive

success for ESA-listed plants. Many weeds are not limited to roadsides, but also encroach into surrounding habitats (Forman and Alexander 1998; Gelbard and Belnap 2003).

Other recreation activities in the TMA may include hiking, camping, hunting, fishing, target shooting, biking, swimming, rafting, canyoneering, and rock climbing. These recreational activities may similarly result in trampling or crushing of individuals; increased soil disturbance, erosion, and fugitive dust generation; removal, degradation, or alteration of suitable and occupied habitat; reduced seed banks; reduced pollinator visitation; and increased occurrence of weeds (Harper et al. 1998; Ouren et al. 2007; Roth 2012; Adams et al. 1982; Goeft and Alder 2001; White et al. 2006). As a result, there may be decreased recruitment and reproductive output, and increased plant damage or individual mortality.

All travel routes in the TMA already exist on the landscape. The OHV-closed designations will close a subset of the existing travel routes, directing OHV use to less-sensitive environments. Route closures in or near ESA-listed plant habitat (potential, occupied, and critical habitat) would be beneficial over the long-term by reducing recreational use and the associated negative effects to plants and habitats mentioned above.

The Plan's implementation activities also provide structured opportunities for habitat management that could improve or degrade conditions for ESA-listed plants. Such activities include installing new signs, road maintenance (grading, installing water control structures, surfacing, etc.), route decommissioning or reclamation (including ripping the ground and planting seed, grading, recontouring), installing fencing or barriers, or mulching on closed routes. Some of these activities may extend into nearby previously undisturbed areas. As with vehicular use, new ground disturbance may result in dust on plants, which would affect plant health and vigor. Disturbed areas may revegetate with weeds that would compete with existing plants attempting to recolonize those areas. Installation of signs, barriers, and other permanent structures inside of existing roadway prisms would result in a minor (discountable) loss of plant habitat.

3.3. Colorado River Fishes and Designated Critical Habitat

We would anticipate the effects of the action to be similar for all four Colorado River fish species. There are 9,089 acres within the 100-year floodplain of the Green and Colorado rivers in the action area. The entirety of the action area is also designated critical habitat for razorback sucker and Colorado pikeminnow. There are approximately 39 mi of existing travel routes within the action area. The TMP (Alternative D) would designate these routes as follows:

- 35.8 mi OHV-Open routes
- 0.5 mi OHV-Closed routes
- 2.6 mi OHV-Limited routes

Within the TMA, proposed roads occur within 100-year floodplain riverine habitats. Adverse effects to the Colorado River fishes are possible but are not likely to occur. While TMP routes are located within and near aquatic areas, these potential effects to the species are expected to be relatively minor. The TMP would close 0.5 mi of currently Open or Limited route designations within the action area. As such, the TMP would continue to designate majority of routes as

Open or Limited, resulting in an overall similar travel route network to what currently exists within the 100-year floodplain.

Some degradation from compaction of riparian and wetland soils from OHV use is expected as OHV travel does occur in these areas and visitation to the area has increased in recent years. OHV use during wet periods can result in surface rutting that, in areas of steeper grades, will increase erosion by concentrating and accelerating water flow and sediment transport. OHV travel in washes or dry streambeds and ephemeral drainages may result in detrimental effects to water quality that may lead to increases in sedimentation, salinity, and contaminant delivery to fish habitats of the Colorado and Green rivers. While there is the potential for sedimentation effects, all four fish species thrive in desert river ecosystems, which are sediment laden. Routes that traverse flooded backwaters or confluence habitats have a potential for direct vehicle strikes and localized effects to nursery habitats.

Vegetation disturbance or vegetation removal, including chemical treatment of vegetation, and increased invasive plant species may adversely affect cover, soil stability, forage base, water chemistry, water temperature, and nutrient levels. Pollutants in the area may affect Colorado River fish by decreasing water quality and effecting forage base. Lethal and sublethal effects may result from chemical spills. This may lead to decreases in reproductive success and decreases in survival at all life stages, including egg, larval, young-of-year, juvenile, and adult. Activities occurring under the TMP may also increase human presence, equipment use, and surface disturbance in Colorado River fish habitat. These actions may change water channel morphology, water chemistry, water temperature, and nutrient levels. These actions may also increase the occurrence of chemical leaks into drainages, vegetation disturbances or removal, soil disturbances and erosion, invasive plant species, and pollutants in drainages of Colorado fish habitat.

Travel management decisions may negatively affect the physical and biological elements for the Colorado River fishes designated critical habitat (USFWS 2008). Assuming an average road width of 10 ft., for the approximately 39 mi of routes in the action area, we estimate that 47.2 acres of critical habitat will continue to not function as critical habitat as a result of the action. Increased erosion associated with surface disturbance may degrade water quality and increase sediment in the water. This could increase the water temperature, decrease allochthonous plant material for food supply, increase turbidity, deplete oxygen, and could alter a specific hydraulic water regime which is required by a particular life stage for each species.

The Plan is not expected to change current recreation visitation growth rates (BLM 2023, p. 60), and no new routes will be created under the proposed action.

While our information is limited regarding the level of OHV and recreation effects to the Colorado River fishes and designated critical habitat within the action area, we expect that the continued authorization of OHV-Open routes would support the current level of use of these routes. Sedimentation, water contamination, and vegetation removal resulting from the proposed action could decrease water quality and forage base, resulting in decreases in reproductive success, and decreases in survival at all life stages, including egg, larval, young-of-year, juvenile, and adult. However, the species are adapted to turbid environments, and we anticipate that

routes will not be used while the Colorado and Green rivers are in flood stages and could be occupied by Colorado River fishes. Overall, we expect effects to the species to be low from the proposed action and a small proportion of critical habitat be affected in relation to the overall critical habitat available to the species.

4. Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the ESA.

Cumulative effects to the ESA listed species under the TMP would include, but are not limited to, the following broad types of effects:

- Increased recreational and economic use of non-federal lands within the TMA as a result of travel access;
- Changes in land use patterns or practices that adversely affect a species' potential, occupied, or critical habitat, including encroachment of human use and/or development into those habitats; and
- Management actions by some, or all, of the following groups, on lands adjoining or upstream of BLM administered lands (Figures 1 and 2):
    - Tribal Nations
    - State of Utah
    - County governments in Utah
    - Local governments in Utah
    - Private landholders in Utah

The TMA contains and is surrounded by a checkerboard pattern of land ownership including Federal, Tribal, State, and private landowners (Figures 1 and 2), where activities such as livestock grazing, coal development, human population expansion and associated infrastructure (increased trails and roads) development, research, and recreation activities (including OHV use and any activities that increase human presence), are expected to continue within the ranges of ESA-listed species (for more information, see the 2012 Grand County General Plan and 2017 Grand County Resource Management Plan (Grand County 2012, 2017)). The TMA encompasses an estimated 337,118 acres, of which 303,994 acres (approximately 90 percent) are managed by BLM (BLM 2023, Map 3-1).

Across the entire TMA, there is approximately 57,030 acres of suitable habitat and 8,892 acres of critical habitat for Mexican spotted owl. Suitable habitat in the TMA occurs on Federal, state, and private lands whereas critical habitat is only found on Federal lands. Activities associated with these cumulative effects have the potential to affect productivity with disturbances to breeding, nesting, and foraging behaviors and further fragmenting habitat of prey populations. Southwestern willow flycatchers occur in the action area and there are 1,323 acres of potentially suitable riparian habitat. These acres are surrounded by a checkerboard pattern of land ownership including Federal, State, and private landowners. Southwestern willow flycatchers are susceptible to activities on State and private lands. Many of these activities, such as livestock grazing, oil and gas exploration and development, potash mining development, fire management

from non-federal entities, human population expansion and associated infrastructure (increased trails and roads) development, research, and recreation activities (including OHV use and any activities that increase human presence), are expected to continue on State and private lands within the southwestern willow flycatchers' range. These activities will continue to affect southwestern willow flycatchers' productivity with disturbances to breeding, nesting, and foraging behaviors and further fragmenting and degrading habitat of prey populations. Potential habitat for Jones cycladenia spans approximately 42,595 acres of the TMA. Activities associated with these cumulative effects have the potential to injure plants, result in plant mortality, and adversely affect occupied and suitable habitat.

Declines in the abundance or range of Colorado River fishes and their critical habitats are attributed to various human activities on federal, state, and private lands, such as the following:

- human population expansion and associated infrastructure development;
- water retention, diversion, or dewatering of springs, wetlands, or streams;
- recreation, including off-road vehicle activity; and
- introductions of nonnative plants, wildlife, or fish or other aquatic species, which can alter native habitats, out-compete, or prey upon native species.

Cumulative effects to Colorado River fishes include the following types of effects:

- changes in land use patterns that further fragment, modify, or destroy potential spawning sites, breeding sites, occupied habitat and designated critical habitat;
- shoreline recreational activities and encroachment of human development that remove upland or riparian/wetland vegetation and potentially degrade water quality;
- competition with, and predation by, nonnative fish species introduced by anglers or other sources; and
- additional water depletions reducing habitat quality and quantity.

We expect many of these activities will continue on state and private lands and could contribute to cumulative effects to the species within the Plan action area.

Other reasonably foreseeable future activities include land development, fire management, irrigation, and recreational activities. Implementation of these projects will likely affect the environment through several mechanisms including water quality, water rights, and wildlife resources.

5. Conclusions

After reviewing the proposed action, the current status of species and critical habitat, the environmental baselines for the action area, the effects of the proposed action and the cumulative effects, it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the Mexican spotted owl, Jones cycladenia, Southwestern willow flycatcher, Bonytail chub, Colorado pikeminnow, Humpback chub, or Razorback sucker or result in the adverse modification of critical habitat for Mexican spotted owl, Colorado pikeminnow or razorback sucker. We base these conclusions on the following:

Mexican Spotted Owl

a. The applicant committed conservation measures from the 2008 RMP still apply to routes designated under this Travel Management Plan. If monitoring of Mexican spotted owl occupied habitat indicates that disturbance or use is occurring outside the designated OHV-open routes, the BLM will implement appropriate corrective actions as identified in the RMP.
b. All site-specific projects designed under the Plan would be subject to additional consultation requirements under section 7 of the ESA. Projects or activities not covered in this BO will be evaluated for effects to Mexican spotted owl.
c. The proposed route designations would occur entirely within the existing roadway footprint; no new ground disturbance would occur as a result of the Plan.
d. A complete survey history indicates one breeding pair of Mexican spotted owl occur in the action area. This represents less than 0.5 percent of the known population within the Colorado Plateau EMU and the total range-wide population of the species. We anticipate the Plan will result in the incidental take of no more than one pair of Mexican spotted owls and their young in the TMA per year over the life of the plan (Section 3.1 *Amount or Extent of Take Anticipated).* The proposed action would affect less than 0.5 percent of the Colorado Plateau EMU population (206 documented owl sites), and the total range-wide population (more than 1300 sites).

We conclude, based on the reasons listed above, specifically the proportion of the total population relative to the range-wide estimate and the low level of effects to the species from the proposed action, that Mexican spotted owl can sustain the loss estimated from the proposed action without resulting in jeopardy to the species.

Mexican Spotted Owl Critical Habitat

a. The action area contains 3,802 acres of designated critical habitat within 0.5 mi of proposed routes. This represents less than one percent of designated critical habitat within the Colorado Plateau EMU (3.3 million acres) and less than one percent of the total designated critical habitat for the species (8.6 million acres). Under the Plan, there would be no loss of designated critical habitat because the proposed route designations would occur entirely within existing roadway footprints and no new routes would be constructed.
b. Best available information indicates that Mexican spotted owl critical habitat continues to support the needs on the species in the Plan area. The Plan designations would continue to allow use on existing routes within or near Mexican owl critical habitat; no new ground disturbance would occur as a result of the Plan.

We conclude, based on the reasons listed above, specifically the relatively small proportion of critical habitat within the action area and the low level of effects to the physical and biological features within the action area that the proposed action would not appreciably diminish the value of the critical habitat for the conservation of Mexican spotted owl.

Southwestern willow flycatcher

a. The applicant-committed conservation measures from the 2008 RMP still apply to routes designated under this Travel Management Plan. If monitoring of Southwestern willow flycatcher suitable habitat indicates that disturbance or use is occurring outside the

designated OHV-open routes, the BLM will implement appropriate corrective actions as identified in the RMP.

b. All site-specific projects designated under the Plan would be subject to additional consultation requirements under Section 7 of the ESA. Projects or activities not covered in this BO will be evaluated for effects to Southwestern willow flycatcher.
c. The proposed route designations would occur entirely within the existing roadway footprint; no new ground disturbance would occur as a result of the Plan.
d. Southwestern willow flycatcher densities within the action area are expected to be low based on the acreage of suitable habitat and survey data collected throughout the action area. We have no evidence of breeding territories within the action area, or elsewhere in the Upper Colorado River Basin Recovery Unit in Utah, and assume individuals detected are migrants. We estimate 7 migrant individuals have the potential to occur within the action area (Appendix A). We anticipate the Plan will result in the incidental take of no more than 5 Southwestern willow flycatcher individuals in the TMA per year over the life of the plan (*See Amount or Extent of Take Anticipated*). Expected adverse effects are non-lethal and include loss of feeding and sheltering opportunities and temporary hearing damage due to noise disturbance from OHV use and recreation activities. Therefore, we conclude the proposed action will not jeopardize the continued existence of the species, nor will it prevent the future recovery of the Southwestern willow flycatcher population within the Upper Colorado Basin Recovery Unit.

We conclude, based on the reasons listed above, specifically the proportion of the total population relative to the range-wide estimate and the low level of effects to the species from the proposed action, that Southwestern willow flycatcher can sustain the loss estimated from the proposed action without resulting in jeopardy to the species.

Jones Cycladenia

a. No Jones cyladenia plants are currently known to occur within the TMA or within 300 feet of any current or proposed routes in the TMA. There is occupied Jones cycladenia habitat within the Moab Field Office and potential habitat is present in the TMA; however, formal surveys have not been conducted to determine the extent or presence of any suitable habitat or occupied habitat. Plants are distinctive and flowering plants would be difficult to miss within 300 feet of the proposed travel routes. A small portion of the Moab Recovery Unit overlaps with the TMA boundary, but the nearest Jones cycladenia individual is approximately three miles to the south.
b. The proposed route designations would occur entirely within the existing roadway footprint; no new ground disturbance would occur as a result of the Plan.
c. All site-specific projects designed under the Plan would be subject to consultation requirements under section 7 of the ESA. Projects or activities not covered in this BO will be evaluated in the future for effects to ESA-listed plants, including Jones cycladenia.

We conclude, based on the lack of effects to known individual plants and populations that the Plan will not result in jeopardy to Jones cycladenia.

Colorado River Fishes: Razorback sucker, Colorado pikeminnow, Bonytail, and Humpback chub

a. The applicant committed conservation measures from the 2008 RMP still apply to routes designated under this Travel Management Plan. If monitoring the Colorado River Fishes indicates that disturbance or use is occurring outside the designated OHV-open routes, the BLM will implement appropriate corrective actions as identified in the RMP.
b. All site-specific projects designated under the proposed Plan would be subject to consultation requirements under Section 7 of the ESA.
c. Although loss of forage base, sedimentation, and direct vehicle strikes are potential effects to the species in the 9,089 acres within the 100-year floodplain of the Green and Colorado Rivers in the action area, we believe these effects are insignificant or discountable to individuals or populations within the action area.

Therefore, we conclude, based on the low level of effects to the species from the proposed action, the Plan is not likely to jeopardize the continued existence of the Colorado River Fish.

Colorado River Fishes Designated Critical Habitat: Razorback sucker and Colorado pikeminnow

a. The action area contains 9,089 acres within the 100-year floodplain of the Green and Colorado Rivers that are designated critical habitat for razorback sucker and Colorado pikeminnow. This is approximately three percent of the total critical habitat for razorback sucker (272,079 acres) and 15 percent of the total critical habitat for Colorado pikeminnow (60,468 acres). There is no critical habitat for bonytail or humpback chub within the action area. We estimate that 47.2 acres of critical habitat will be lost as a result of the Plan. Loss of designated critical habitat through continued route use are expected to be minor (less than one percent) for both species when considering the entirety of the species' designated critical habitat.
b. The Plan designations would continue to allow use on existing routes within razorback sucker and Colorado pikeminnow critical habitat, and no new ground disturbance would occur as a result of the Plan.

We conclude, based on the reasons listed above, specifically the relatively small proportion of critical habitat within the action area and the low level of effects to the physical and biological features within the action area, that the proposed action would not result in destruction or adverse modification of designated critical habitat for Colorado pikeminnow or razorback sucker.

6. Incidental Take Statement

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. We further defined harm to include significant habitat modification or degradation that results in death or injury of listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. We define harass as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7 (o)(2), taking that is incidental to and not intended as part

of the agency action is not considered to be prohibited taking under the ESA provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

6.1. Mexican Spotted Owl

Amount or Extent of Take Anticipated

The action area includes 53,253 acres of suitable habitat (BLM 2023 pg. 38) within 0.5 mi of 156.9 mi of proposed routes within the TMA. As described in the environmental baseline, there is one designated PAC (Hell Roaring) within the action area and 17 acres of foraging habitat associated with a second PAC (Big Chief) located within 0.5 mi of the TMA. All suitable habitat within the action area consistently undergoes surveys. Based on best available information for the species and the action area (Section 2.2.1, *Status of the Species in the Action Area*), the canyon complexes support one breeding pair and likely provides foraging habitat for a owls outside of the action area. Occupied and suitable habitat occurs within 0.5 mi of routes designated as open status by the proposed action. All suitable habitat within the action area has been surveyed; however, areas recently surveyed that are currently unoccupied may become occupied sometime in the future.

We expect that the continued authorization of routes would maintain the current level of use of occupied and potentially occupied habitat in the action area. Recreational use varies throughout the TMA; however, routes that traverse occupied habitat are connector routes, generally experiencing low use and traveled at low speeds. We expect similar low effects where there is low route use and noise level within suitable habitat in the action area. There is the potential for larger effects within suitable habitat near medium and high use routes in the action area.

The continued noise levels and recreation activity resulting from the proposed action could lead to take in the form of harm for Mexican spotted owls occupying the action area. In some cases, noise levels and recreation could cause harm in the form of deterring nesting, displacing territories, or lead to nest abandonment (which could result in juvenile mortality). We expect the likelihood of direct effects (e.g., vehicle strikes) to be extremely low. We anticipate the Plan will result in the incidental take of no more than one pair of Mexican spotted owls and their young in the TMA per year over the life of the TMP.

Effect of the Take

Based on the data found in the Mexican Spotted Owl Recovery Plan, there are a total of 206 documented owl sites (one or more individuals) within the Colorado Plateau EMU (USFWS 2012). The proposed action would affect less than 0.5 percent of the EMU population, which is a subset of the range-wide Mexican spotted owl population (more than 1300 sites). Incidental take of Mexican spotted owls has not been issued within the action area prior to this consultation. We issued incidental take for Mexican spotted owl within the Colorado Plateau EMU for the following section 7 consultations:

- Trail Canyon TMP, which includes one pair of owls and their young per year indefinitely;
- Capitol Reef National Park Grazing and Trailing Project which includes one pair of owls and their young, per year for a total of five years (September 2018 through December 2023);

- The San Rafael Desert TMP, which includes one pair of owls and their young per year indefinitely; and
- The Canyon Rims TMP, which also includes one pair of owls and their young per year indefinitely.

None of these consultations are expected to result in take in the form of adult mortality of nesting owls. Because of this, we do not expect the combined effects of the take to have long-term effects on the recovery or continued existence of Mexican spotted owls in the Colorado Plateau EMU or rangewide.

6.2. Southwestern Willow Flycatcher

Amount or Extent of Take Anticipated

The action area contains 1,323 acres of suitable habitat within 0.25 mi of 68.3 mi of proposed routes within the TMA (Appendix A). As described in the environmental baseline, the action area is known to support migrating Southwestern willow flycatchers; however, we have no evidence of breeding occurring in the action area, or Upper Colorado River Basin Recovery Unit in Utah, and the exact number of individuals within the action area annually is unknown. Based on the available information for the species and the action area, the suitable habitat has the potential to support seven individuals based on flycatcher densities observed in surveys and potentially occupied riparian habitat (Appendix A). Potentially occupied habitat occurs within 0.25 mi of routes designated as open status by the proposed action. Portions of suitable habitat within the action area have not been consistently surveyed and areas of suitable habitat without survey data or that were historically unoccupied by the species may be occupied now or sometime in the future.

We assume use levels of routes will remain the same in the future and expect exposure to OHV-related effects to be most likely on high use routes (39.6 mi, or 58.0 percent of routes), moderately likely on medium use routes (10.9 mi, or 15.9 percent of routes), and unlikely on low use routes (17.8 mi, or 26.1 percent of routes). This corresponds to approximately 766.9 acres of suitable habitat exposed with a high likelihood of adverse effects, 210.3 acres of suitable habitat exposed with a moderate likelihood of adverse effects, and 346.7 acres where we expect effects of OHV use and recreation would be discountable (Table 3).

Based on the expected exposure and adverse effects within the action area (see Tables 2 and 3, Section 3.1.2), we anticipate five Southwestern willow flycatcher individuals will be taken annually throughout the life the TMP. We expect this take to be non-lethal, in the form of harm resulting primarily from noise disturbance from OHV and recreation activities within 0.25-mile of suitable habitat. If nesting is documented in the action area in the future, we recommend reinitiating consultation to consider effects on nesting birds.

Effect of the Take

We have not issued incidental take for any formal consultations within the action area to-date. Our only formal consultations for the species in the action area was the Moab Resource Management Plan (BLM 2008) and the Moab Master Leasing Plan and RMP Amendments

(BLM 2016b) and we did not issue incidental take at that time. Because of this, we do not expect the combined effects of the take to have long-term effects on the recovery or continued existence of Southwestern willow flycatcher in the Upper Colorado River Recovery Unit or rangewide.

6.3. Jones Cycladenia

Sections 7(b)(4) and 7(o)(2) of the ESA generally do not apply to listed plant species. However, limited protection of listed plants from take is provided to the extent that the ESA prohibits the removal and reduction to possession of ESA-listed plants or the malicious damage of such plants on areas under Federal jurisdiction, or the destruction of endangered plants on non-Federal areas in violation of State law or regulation or in the course of any violation of a State criminal trespass law.

6.4. Colorado River Fishes

The action area contains 9,089 acres of known migratory routes for all four Colorado River listed fish species; however, we have no evidence of spawning occurring in the action area. Due to the low levels of effects to the species from the proposed action, we do not anticipate incidental take of the Colorado River fishes associated with the Labyrinth- Gemini Bridges TMP. While there is the potential for sedimentation effects, all four fish species thrive in desert river ecosystems, which are sediment laden. There is also the potential for water contamination and loss of forage base; however, we would anticipate these effects to be discountable, and we would not expect any effects from the TMP and associated use to rise to the level of take.

6.5. Reporting Requirements

Upon locating a dead or injured Mexican spotted owl, Southwestern willow flycatcher, Colorado River fish, or other ESA-listed species, initial notification must be made within one business day to our Office of Law Enforcement in West Valley, Utah at telephone (435-303-0490), our Ecological Services Office at telephone (801) 975-3330, and the Southeastern Regional office of the Utah Division of Wildlife Resources at telephone (435)-613-3700. This reporting requirement will allow our field office or the UDWR to collect and process dead individual if necessary to determine cause of death.

Instructions for proper handling and disposition of such specimens will be issued by our Division of Law Enforcement consistent with the provisions of the Incidental Take Statement.

7. Reasonable and Prudent Measures AND Terms and Conditions

In order to be exempt from the prohibitions of Section 9 of the Act, BLM must ensure that any activities associated with the proposed action comply with the BLM-committed conservation measures and species-specific BLM committed conservation measures described in Appendix D of the Moab Field Office Proposed Resource Management Plan and Final Environmental Impact Statement (Moab PRMP/FEIS; BLM 2008). No additional reasonable and prudent measures or terms and conditions are necessary for this consultation.

7. Recommended Conservation Measures

Section 7(a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and

threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

We recommend incorporating the following guidance into the TMP to assist with management, protection, and recovery of listed species and their habitats at the landscape and site-specific levels. Available recovery plans, conservation agreements and strategies, scientific literature, and other available information should consistently be applied to occupied, suitable, and potentially suitable habitats of listed species. The following recommendations should be used in conjunction with available species-specific plans and literature and appropriately applied at the landscape and site-specific planning levels in a manner that ensures conservation and recovery of listed and sensitive species. In general, these guidelines should apply to listed and sensitive species habitats in areas of known and likely occurrence, particularly where recovery and conservation objectives have been identified by available species-specific plans.

7.1. Mexican Spotted Owl

The following recommended conservation measures have been provided to minimize the effects of recreation and noise disturbances to Mexican spotted owls. These conservation measures were identified in our 2012 Recovery Plan (USFWS 2012), and we recommend that the BLM implement them to the extent feasible:

1. Recreation Disturbance:
    a. The following guidelines apply to PACs during the breeding season, (1 Mar - 31 Aug). If non-breeding is inferred or confirmed that year per the accepted survey protocol, restrictions on noise disturbances can be relaxed depending on the nature and extent of the proposed disturbance (Swarthout and Steidl 2001, 2003).
    b. No construction of new facilities (e.g., trailheads, OHV trails) or expansion of existing facilities should take place in PACs during the breeding season. Any construction within PACs should be considered on a case-specific basis. Modifications to existing facilities pertaining to public health, safety, and routine maintenance are excepted (e.g., removal of dangerous trees in a campground; replacement of road culverts within campgrounds, etc.). However, when implementing such activities, those conducting the work should use all measures possible to avoid potential effects on owls (e.g., use least disruptive machinery; timing of the project to minimize disturbance).
    c. Managers should, on a case-specific basis, assess the presence and intensity of currently allowed (permitted and non-permitted) recreational activities. The assessment should include distance, frequency, duration, and source of the disturbance. If recreation is determined to be a problem (e.g., increased OHV or hiking use), limit human activities during the breeding season in areas occupied by owls (timing may vary depending on local nest chronology). Disturbance here is defined as the presence of 1 to 12 people; group sizes exceeding 12 people should not be allowed. In areas where nest and roost sites are not identified, human disturbance should be limited to ≤ 2 disturbances per hour (averaged over a 24-hour period) throughout the PAC. Where nest and roost sites are known, disturbance should be limited to ≤ 2 disturbances per hour (averaged over a 24-hour period) within line of sight of the nest/roost sites. In some cases,

disturbances may be avoided by routing trails and recreational uses (e.g., OHV use) outside of PACs through signing in order to designate zones free from human disturbances during critical periods.

d. Seasonal closures of specifically designated recreational activities (e.g., OHV use, rock climbing, or biking) should be considered where disturbance to breeding owls seems likely.
e. Conduct education through signing, interpretation events, access permitting, or other information sources to inform the public of proper and legal behaviors when encountering owls. For example, land managers in some areas are maintaining permanent, all-weather signs that inform the public that the area is home to a sensitive species; visitors should stay on the trail and be as quiet and unobtrusive as possible.
f. If owls are not detected in a PAC during the breeding season, restrictions on non-habitat-altering recreation can be relaxed depending on the nature and extent of the proposed disturbance.

2. Noise Disturbance:
    a. The following guideline applies to areas within PACs during the breeding season (1 March to 31 August). If non-breeding is inferred or confirmed that year per the accepted survey protocol, restrictions on noise disturbances can be relaxed depending on the nature and extent of the proposed disturbance.
        i. Managers should, on a case-specific basis, assess the potential for noise disturbance to nesting owls.
        ii. Breeding-season restrictions should be considered if noise levels are estimated to exceed 69 dBA consistently (i.e., >twice/hour) or for an extended period of time (>1 hr) within 165 ft. of nesting sites (if known) or within entire PAC if nesting sites are not known.

7.2. Southwestern Willow Flycatcher

The following are recommended conservation measures to minimize the effects of recreation and noise disturbance on Southwestern willow flycatcher:

During the breeding season (April 15 to August 31):

1. No construction of new facilities (e.g., trailheads, OHV trails) or expansion of existing facilities should take place within 0.25-mile of occupied habitat.
2. Consider trail closures or restrictions on OHV use (and other activities likely to cause noise disturbance) within 0.25-mile of occupied habitat.
3. If occupancy is unknown (i.e. no protocol-level occupancy surveys were done in the past year), occupancy will be assumed within suitable habitat.
4. Occupancy surveys must be done during the breeding season prior to project activities. Occupancy status determined by protocol-level surveys will apply throughout the following breeding season.

The following measures apply year-round:

5. Avoid alteration of the hydrologic regime and degradation of riparian habitat.

6. If disturbance of riparian vegetation occurs within suitable or designated critical habitat, re-vegetate the disturbed area with native species.
7. If riparian vegetation is lost within suitable or designated critical habitat, mitigate for habitat loss by restoring riparian habitat in an area approved by the Service.

7.3. Endangered Plants

- Plan and implement surveys for each ESA-listed plant species in all areas of where potentially suitable habitat or critical habitat occurs within 300 ft. of travel routes.
- Protect occupied habitat from recreational access and use.

8. Re-initiation Statement

This concludes formal consultation on your Plan. As provided in 50 CFR §402.16, re-initiation of consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and:

1. If the amount or extent of taking specified in the incidental take statement is exceeded;
2. If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;
3. If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or
4. If a new species is listed or critical habitat designated that may be affected by the identified action.

If any of the four re-initiation clauses occur, any activities causing such take must cease immediately pending re-initiation. To re-initiate section 7 consultation, BLM should immediately notify our office by phone or email.

We appreciate your commitment in the conservation of endangered and threatened species. If you require further assistance or have any questions, please contact Danielle Costantini at Danielle_costantini@fws.gov

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Appendix A: Evaluation of Southwestern Willow Flycatcher Occupancy in the Action Area

Our evaluation provided an estimate of flycatcher occupancy within the action area based on best available information. To estimate flycatcher density across the action area, we:

1. Calculated the acres of suitable habitat in the action area; and
2. Applied flycatcher density estimates derived from surveys conducted in the action area to all suitable habitat acreage.

Suitable Habitat

For this analysis, we considered suitable habitat (following habitat identified in the 2002 Recovery Plan) within 0.25 mi of proposed routes on BLM lands, regardless of land ownership, to be the potential noise harassment effect zone for Southwestern willow flycatcher and the species' action area for the Plan. We conducted a GIS analysis to determine suitable habitat in the Labyrinth-Gemini Bridges Travel Management Area within Paxton's 30% probability contour line and connected watersheds. To do so, we:

1. Created model extent by selecting HUC10 and HUC12 units that included Paxton's 30% probability contour in Utah.
2. Isolated streams and rivers order 4 and up.
3. Buffered layer from step 2 by 0.25 mi.
4. Selected waterbodies within the NHD_Area and NHD_Waterbody datasets that overlapped with the layer from step 2 and 4.
5. Buffered layer from step 6 by 0.25 mi.
6. Merged all layers and dissolved for final range.

We then identified Travel Management Plan routes within 0.25 mi of flycatcher suitable habitat to determine the action area:

1. Buffered TMP route layer by 0.25 mi.
2. Clipped buffered TMP route layer with SWFL potential habitat (from Part A) to get all potential habitat within 0.25 mi of TMP routes.
3. Digitized all suitable habitat within the layer created in step 8.
4. Buffered suitable habitat by 0.25 mi.
5. Clipped TMP route layer by the buffered suitable habitat layer created in step 10 to get all TMP routes within 0.25 mi of suitable habitat.

Through this process, we identified 1,323 acres of suitable flycatcher habitat within 0.25 mi of 68.3 mi of routes.

Estimating Flycatcher Density in the Action Area

Based on the best available survey data within the action area (see Table 1, Section 2.2.2; BLM 2023, p. 46), we use these data to calculate the density of Southwestern willow flycatcher in surveyed areas of suitable habitat, and estimate 0.00558 migrant Southwestern willow flycatchers per suitable habitat acre per year within the action area. We then applied this density to the total acres (surveyed and unsurveyed) of suitable habitat (1323 acres). This calculation identified the potential for 7 individual Southwestern willow flycatchers within the action area per year over the life of the TMP.

Conclusion

Through this analysis, we provided an estimate of annual flycatcher occupancy within the action area based on best available information. We calculated the acres of suitable habitat in the action area. We then applied flycatcher densities derived from surveys conducted within the action area to the total (surveyed and unsurveyed) acreage in suitable habitat. This calculation identified the potential for seven migrant individuals to occur in the action area.