BLM

United States Department of the Interior
Bureau of Land Management

Environmental Assessment for the North Fruita Desert Trails Master Plan

---

Grand Junction Field Office
2815 H Road
Grand Junction, Colorado 81506

DOI-BLM-CO-G010-2021-0016-EA

APRIL 2022

TABLE OF CONTENTS

1. INTRODUCTION AND BACKGROUND

The Bureau of Land Management (BLM) Grand Junction Field Office (GJFO) prepared this Environmental Assessment (EA) to analyze a proposal to construct approximately 29 miles of new or re-routed trails, and to close and reclaim approximately three miles of trails within the North Fruita Desert Special Recreation Management Area (NFD SRMA). The proposal also includes potential future development of up to an additional eight miles of trails, closure of up to two miles of existing routes, construction of two 0.5-acre progressive bicycle skill development areas, and changes to travel designations on existing routes within the NFD SRMA. Additionally, the proposal would authorize the use of Class I electric bicycles (e-bikes) on all existing and proposed trails in the NFD SRMA.

This EA also analyzes three alternatives to the proposed action:

- Authorize the proposed trails and trail modifications, but do not allow e-bikes on routes currently designated for non-motorized travel only.
- Authorize the proposed trails and trail modifications, and allow Class 1, Class 2, and Class 3 e-bikes on all existing and proposed trails in the NFD SRMA.
- No Action – no new routes, route modifications, or changes to route designations.

The NFD SRMA located within the BLM GJFO is a popular recreation area for residents of the Grand Valley, and even more popular as a destination for regional, state-wide, national, and international visitors. The primary attraction of the SRMA is its mountain bike trail system and camping opportunities. The developed and undeveloped dispersed campsites are within the core of a stacked loop trail system. This combination of trails and camping attracts large groups of families and friends who come for the opportunity to ride directly from their campsites onto the trails which range in difficulty from easy to advanced.

The current trail system within the SRMA includes approximately 33 miles of trails open to biking, hiking, and horseback riding. Currently, there are a total of 111 developed campsites, and on a typical spring or fall weekend visitors occupy an additional 75 to 100 dispersed campsites. The original trail system and camping activities emerged in the early 1990s and were entirely user-created. The BLM has since assumed a more active role in managing the area, formally planning and building camping facilities and trails. The BLM estimates that in 2020 annual visitation exceeded 95,000 in the NFD SRMA, continuing a trend of steady increases in visitation. Recreation activities in the NFD SRMA contribute significant economic and quality of life benefits to the City of Fruita and other adjacent communities in the Grand Valley. Effectively managing recreation infrastructure and activities is key to perpetuating the personal and community benefits that the area currently produces.

The BLM worked closely with several key partners including the City of Fruita, the Colorado Plateau Mountain Bike Trail Association (COPMOBA), and several Fruita businesses to coordinate and support management activities in the NFD SRMA. To promote and enhance the recreation area, these partners collaborated in 2017 on a grant application for a Colorado Parks and Wildlife (CPW) non-motorized trail planning grant. CPW awarded a grant to produce a trails master plan for the NFD SRMA. In 2018 the partners hired a consultant to produce a trails master plan. The intent of the master plan is to identify needed modifications to the existing trail system

(e.g., reroutes, closure, and restoration) and recommend new trails that would enhance the trail system to meet current and future management objectives for the area. The master planning process included extensive stakeholder engagement, onsite condition assessments, as well as trail and facility recommendations. The consultant completed the proposed master plan in 2019 (see North Fruita Desert Trails Plan document in e-planning. (https://eplanning.blm.gov/eplanning-ui/project/2014877/510)). Among other things, the plan recommended construction of 24.8 miles of new trails and 2.4 miles of re-routed trails to enhance the trail riding opportunities for both general recreation and for organized events.

In the summer and fall of 2020 the BLM completed on the ground verification of the consultant's geographic information systems (GIS) route data to confirm that the proposed alignments met BLM trail design standards. Through that process, the BLM identified some proposed routes requiring modifications, as well as additional routes that complemented the initial master plan recommendations. The modified proposal from the BLM included a total of approximately 38 miles of proposed linear disturbance (new routes plus closed and rehabilitated routes).

In 2020, the City of Fruita was awarded a CPW non-motorized trail planning grant to conduct cultural surveys on the routes recommended in the trails master plan. That funding was not sufficient to pay for the entire 38-mile BLM proposal, so the BLM modified the proposal, prioritizing approximately 32 miles of routes for cultural survey. A consultant completed those surveys in November 2020. The project partners hired consultants in May, June, and July 2021 to conduct biological and paleontological surveys on those same 32 miles of trails.

E-bikes. The popularity of e-bike use as a means of transportation and recreation is growing rapidly in the United States and around the world. E-bikes are bicycles with a battery-powered "assist" that is activated by pedaling, or in some cases, a throttle. When you pedal a pedal-assist e-bike, a small motor engages and gives you a boost, so you can zip up hills and cruise over tough terrain easier (Yeager 2019).

E-bikes look a lot like traditional bikes. They have the same type of wheels, pedals, handlebars, and geometry as traditional mechanical bikes. The only difference in appearance is the addition of the electrical drive system (i.e., electric motor, battery, throttle, display screen or controller). There are three types of electric motors: front hub, mid-motor, and rear hub. The batteries and motors make them heavier than ordinary bikes. In fact, e-bikes are about 20 pounds heavier than a traditional bike due to their design. Typically, an e-bike weighs about 38-70 pounds, depending on the type, battery and motor sizes, and materials used (eBike Generation 2021). A typical traditional mountain bike weighs between 25 and 30 pounds.

There are three classes of e-bikes.

- Class 1 e-bike - Equipped with a motor that provides assistance only when the rider is pedaling and that ceases to provide assistance when the bicycle reaches a speed of 20 miles per hour.
- Class 2 e-bike - Equipped with a motor that provides assistance regardless of whether the rider is pedaling but ceases to provide assistance when the bicycle reaches a speed of 20 miles per hour. Typically operated with a grip-twist or button throttle-assisted system.

- Class 3 e-bike - Equipped with a motor that provides assistance only when the rider is pedaling and that ceases to provide assistance when the bicycle reaches a speed of 28 miles per hour.

All classes limit the motor's power to one horsepower (750 watts).

Classification of E-bikes. It is the existence of a motor which explains why so many managers struggle to classify these vehicles—whether as bicycles or as motorized vehicles like mopeds or motorcycles. How they are classified in turn informs how they are regulated. (Rails to Trails 2020).

Federal regulation of e-bikes is the responsibility of the Consumer Product Safety Commission (CPSC). Public Law 107–319, 116 Stat. 2776 (the Act), enacted December 4, 2002, subjects low-speed electric bicycles to the Commission's existing regulations at 16 CFR (Code of Federal Regulations) part 1512 and 16 CFR 1500.18(a)(12) for bicycles that are solely human powered. For purposes of this requirement, the Act defines a low-speed electric bicycle as ''a two-or three wheeled vehicle with fully operable pedals and an electric motor of less than 750 watts (1 horsepower) whose maximum speed on a paved level surface, when powered solely by such a motor while ridden by an operator who weighs 170 pounds, is less than 20 [miles per hour] mph.'' The final rule was published in the Federal Register, Vol. 68, No. 29, Wednesday, February 12, 2003 - Rules and Regulations. CPSC regulation of e-bikes does not include their usage.

Colorado E-Bike Policy. Colorado House Bill 17-1151 allows Class 1 and Class 2 e-bikes on paths where bikes are allowed to travel and gives local jurisdictions the ability to prohibit e-bikes.

BLM E-Bike Policy. In 2019 and 2020, the Department of the Interior and the BLM issued new guidance regarding the management of e-bikes on BLM-administered public lands. This guidance can be found on BLM's national e-bike webpage, https://www.blm.gov/programs/recreation/e-bikes. On August 29, 2019, Secretary of the Interior David Bernhardt issued Secretary's Order (SO) 3376 for the purpose of increasing recreational opportunities through the use of Electric Bikes (e-bikes). The SO directed the BLM and other agencies (National Park Service, United States Fish and Wildlife Service, and Bureau of Reclamation) to expand access on public lands to e-bikes and begin the longer-term process of amending existing regulations to address e-bikes. The SO specifically directed the BLM to revise its off-road vehicle or off-highway vehicle (OHV) regulations at 43 CFR part 8340.

A proposed rule to revise the BLM's OHV regulations at 43 CFR part 8340 was published in the Federal Register on April 10, 2020 (85 FR 20229). By the close of the public comment period on June 9, 2020, nearly 24,000 public comments were received on the proposed rule. Issues raised by substantive comments resulted in the BLM updating some language in the final rule, which was published in the Federal Register on November 2, 2020, and became effective on December 2, 2020. The Final BLM E-bike Rule is in line with the Secretary's Order.

While the BLM intends for the rule to increase accessibility to public lands, e-bikes would not be given special access beyond what traditional, non-motorized bicycles are allowed.

The rule amends 43 CFR 8340.0-5 to define e-bikes, which are limited to Class 1, 2, and 3 e-bikes

as defined above.

The rule provides that authorized officers may authorize, through subsequent land-use planning or implementation-level decisions, the use of Class 1, 2, and 3 e-bikes on non-motorized roads and trails.

The rule provides managers the ability to exclude e-bikes that meet certain criteria from the definition of off-road vehicle (otherwise known as an OHV) at 43 CFR 8340.0-5(a).

The rule, however, does not result in any immediate on-the-ground changes or site-specific allowances for e-bike usage on BLM-administered public lands. In other words, the rule does not, by itself, open any non-motorized trails to e-bike use. Before any on-the-ground changes can occur, an authorized officer must issue a land use planning or implementation-level decision that complies with NEPA and other applicable legal requirements."

Specifically, 43 CFR 8342.2 now includes the following subparts regarding designation procedures for e-bike use:

(d) *E-bikes*

(1) Authorized officers 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; and

(2) If the authorized officer allows e-bikes in accordance with this paragraph (d), an e-bike user shall be afforded all the rights and privileges, and be subject to all of the duties, of a user of a non-motorized bicycle.

As an alternative to using this new "e-bike exception" to authorize e-bike use in areas with a "Limited" OHV area designation (as is the case with the NFD SRMA), the BLM may define e-bikes as OHVs and use the designation procedures described in 43 CFR 8342.2 to authorize e-bike use.

In this EA, the BLM GJFO is engaging in the required NEPA planning process to analyze the effects of authorizing (Alternatives A and D) or prohibiting (Alternatives B and C) e-bike use on the trails within the NFD SRMA.

1.1 PROJECT LOCATION AND LEGAL DESCRIPTION

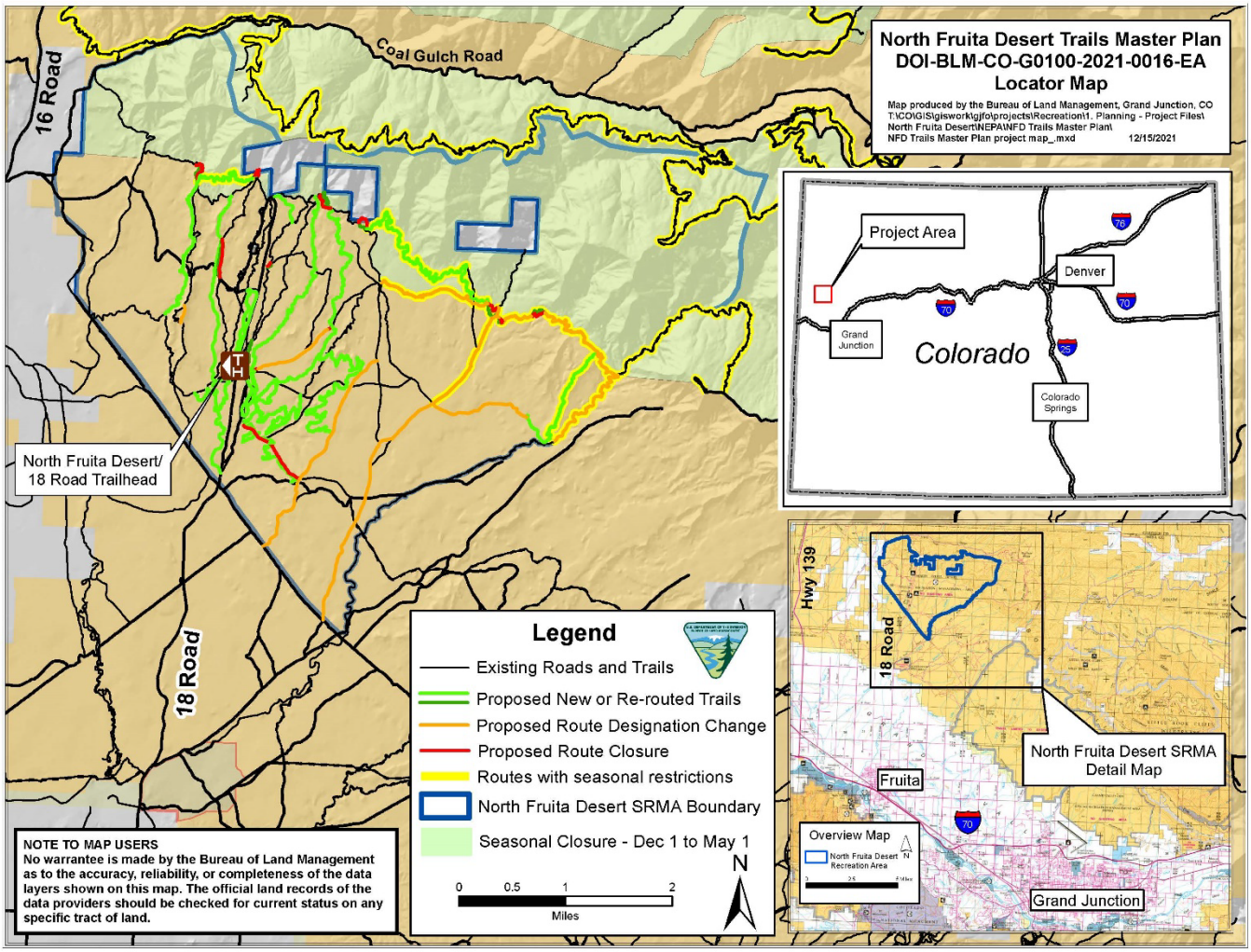
PROJECT LOCATION:
Approximately 10 miles north of the City of Fruita along 18 Road in Mesa County, Colorado

LEGAL DESCRIPTION:
Mesa County, Colorado
Ute Principal Meridian
T. 2 N., R. 2 W., sec. 3.

6th Principal Meridian
T. 8 S., R. 101 W., secs. 28, 29, 30, 31, 32, 33, 34, and 35.
T. 8 S., R. 102 W., secs. 25 and 36.
T. 9 S., R. 101 W., secs. 3, 4, 5, 6, 7, 8, and 17.

See locator map and project map in Figure 1 and Figure 2 below.

Figure 1: North Fruita Desert SRMA Locator Map



1.2 PURPOSE AND NEED

The purpose of the proposed action is to meet the BLM management objective for the NFD SRMA to "produce a diversity of quality mountain bicycling opportunities that add (to) visitors' quality of life while contributing to the local economy and fostering stewardship of natural and cultural resources" (BLM 2015).

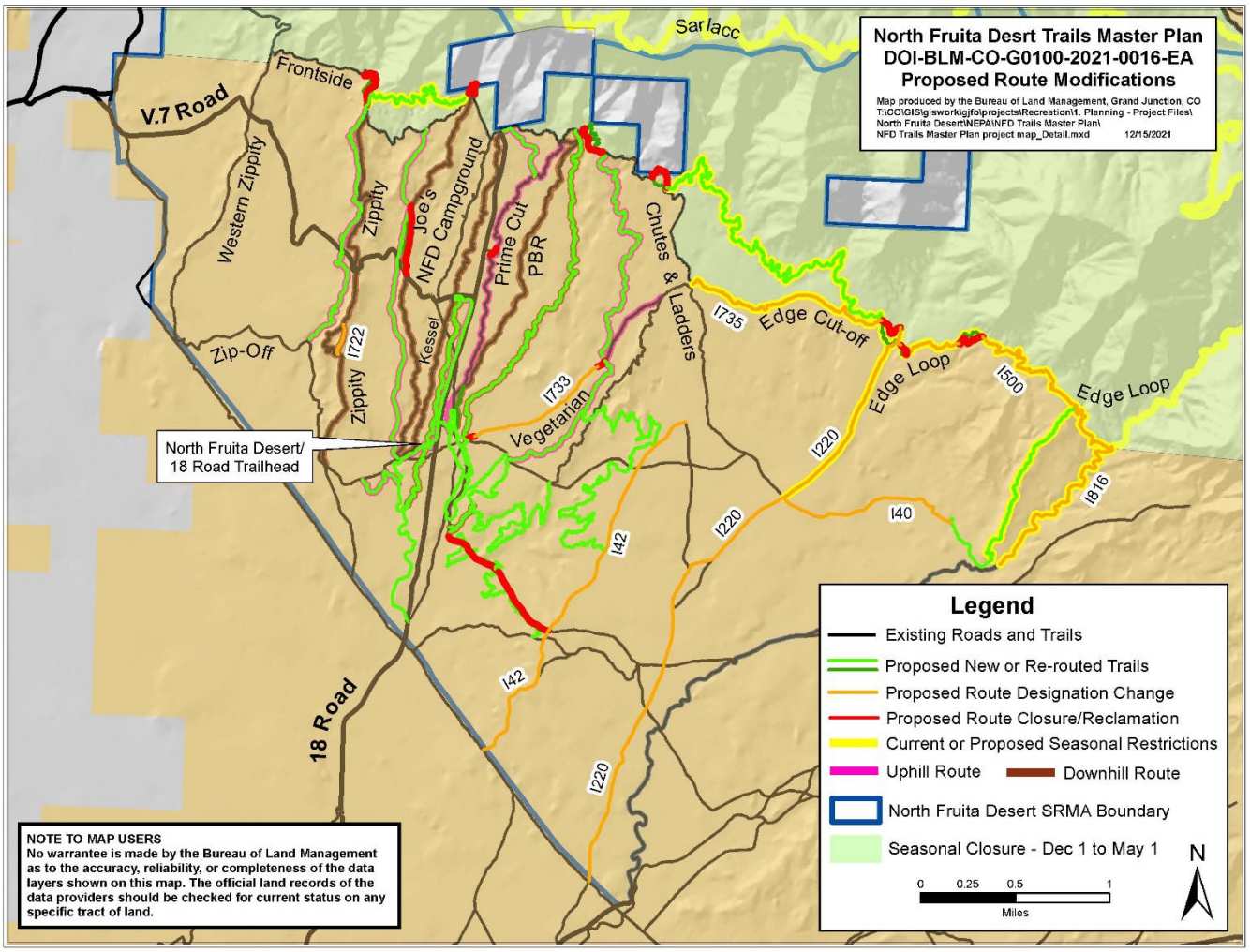
The BLM's need is to provide an updated trail infrastructure that can support large events, the expanded campground, and the overall increase in user visitations to the NFD SRMA and Grand

Valley. This proposal also addresses the BLM's need to respond to the growing demand for expanded access to trails open to electric bicycles (e-bikes).

1.3 DECISION TO BE MADE

The BLM Field Manager will decide whether to approve the proposed North Fruita Desert Trails Master Plan project based on the analysis contained in this EA. Under the National Environmental Policy Act (NEPA), the BLM must determine if there are any significant environmental impacts associated with the Proposed Action warranting further analysis in an Environmental Impact Statement (EIS). The BLM Field Manager may choose to: a) authorize the project as proposed, b) authorize the project with modifications, c) authorize an alternative to the proposed action, d) authorize a combination of the alternatives, or e) not authorize the project at this time.

Figure 2: North Fruita Desert SRMA Proposed Route Modifications



1.4 PLAN CONFORMANCE REVIEW

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: Grand Junction Resource Management Plan; amended by the Northwest Colorado Greater Sage-grouse Approved Resource Management Plan Amendment, approved September 15, 2015.

Date Approved: August 2015

Decision Number and Page: Goal SRMA-Wide, page 126-127

Decision Language: "The North Fruita Desert SRMA, through recreation program management and stakeholder involvement, will produce a diversity of quality mountain bicycling opportunities that add visitors' quality of life while contributing to the local economy and fostering stewardship of natural and cultural resources."

Decision Number and Page: REC-SRMA-OBJ-08 (North Fruita Desert SRMA), page 127

Decision Language: "Through the life of this plan, manage the SRMA to be a tourism-based recreation area, providing singletrack bicycling trail opportunities accommodating a range of skill levels (beginner, intermediate, and advanced) that can be marketed by stakeholders and partners as a family-focused mountain biking destination with close proximity to camping. Manage the SRMA for the following targeted recreation activities, experiences, and outcomes:

Activities: The targeted activities for the SRMA are mountain bicycling and camping.

Outcomes and Experiences:

1. Visitors' experience or seek to experience the closeness of family and friends while developing their riding skills and abilities.
2. Visitors realize personal benefits of easy access to the outdoors, improved fitness and health maintenance (physical and mental), development of technical competence (i.e., mountain biking and camping skills), and development of stronger social bonds with friends and family.
3. The community benefits from improved quality of life with higher levels of public land stewardship, stronger community relationships, and a healthier community.
4. The area economy is strengthened through recreation-related tourism revenue and increased desirability of the community as a place to live."

Decision Number and Page: REC-SRMA-AU-63 (North Fruita Desert SRMA), page 130

Decision Language: "Limit motorized and mechanized travel to designated routes throughout the SRMA."

Decision Number and Page: REC-SRMA-AU-64 (North Fruita Desert SRMA), page 130

Decision Language: "Work with stakeholders to design and construct any new system trails, access points or facilities identified as necessary for achievement of SRMA objectives, including promotion of the area as a regional, national, and international mountain biking tourism destination."

Decision Number and Page: REC-SRMA-MA-35 (North Fruita Desert SRMA), page 130

Decision Language: "Design and construct an event staging area and trail system to accommodate large-scale mountain bike races/events."

Decision Number and Page: REC-SRMA-MA-36 (North Fruita Desert SRMA), page 130

Decision Language: "Construct new system trails to accommodate activity-specific trails (e.g., mountain bike racing, directional travel trails, constructed technical trail features)."

Decision Number and Page: REC-SRMA-MA-37 (North Fruita Desert SRMA), page 130

Decision Language: "Connect/reroute routes to make loop opportunities that help achieve SRMA objectives. Reroute/repair unsustainable and eroding routes."

RMP Stipulations and Restrictions:
STIPULATION TL-20: Prohibit surface occupancy and use, surface-disturbing activities, and intensive human activities from December 1 to May 1 to protect big game winter range as mapped by the CPW. Certain areas and/or routes within big game winter range may be closed to foot, horse, motorized, and/or mechanized travel from December 1 to May 1.

- This stipulation would apply to 10.1 miles of trails. See Figure 2 for the location of these trails.
- This stipulation would apply to travel using bicycles and e-bicycles as well as any trail construction or maintenance activities.

STIPULATION TL-3: Migratory Bird Habitat. Prohibit surface occupancy and surface-disturbing activities, including vegetation-removal projects, in migratory bird habitat during nesting season (May 15 to July 15 or as site-specific analysis dictates) when nesting birds are present (GJFO RMP page 35).

WILDLIFE SENSITIVE RAPTOR NESTS TL CO STIPULATION: No surface use is allowed within an 805-meter (0.5-mile) radius of active or inactive raptor nests, as mapped in the Resource Management Plan, BLM's GIS database or other maps provided by local, state, federal or tribal agencies that are analyzed and accepted by the BLM, during the following time period(s), or until fledging and dispersal of young:

- Peregrine and prairie falcon nest cliff(s): March 15 to July 31.

1.5 RELATIONSHIP TO STATUTES, REGULATIONS, OTHER NEPA DOCUMENTS

In 2018, the BLM completed an environmental assessment and decision record (DOI-BLM-CO-S080-2018-0037-EA 18 Road Camping and Fee System) authorizing the construction of an event staging area and new campsites in the NFD SRMA. The BLM began implementing the first phases of that decision in 2020, with the construction of a 3.5-acre gravel parking and staging area, and 53 new campsites. That EA identified the need and intent to develop additional campsites in the SRMA and additional trails east of the event staging area that would support large-scale biking and running events. The NFD Trails Master Plan identifies the event staging and camping facilities as an integral part of the overall trail system. The 2018 EA also authorized actions to modify livestock grazing operations in the NFD SRMA to reduce overlap of recreation and livestock activities.

2. PROPOSED ACTION AND ALTERNTIVES

The purpose of this chapter is to provide information on the Proposed Action and alternatives. Alternatives considered but not analyzed in detail are also discussed. The BLM identified eight issues related to the proposed action. They include issues affecting threatened and endangered plants, soils, water, rangeland management, recreation, transportation and access, lands with wilderness characteristics, and wintering deer and elk.

Proposed Adaptive Management Common to All Action Alternatives

The BLM is proposing the following adaptive management for the proposed action and e-bike alternatives. The BLM may complete subsequent NEPA before implementing some of the proposed adaptive management actions.

As described in the GJFO Resource Management Plan, the BLM would manage the desired recreation setting characteristics to support the NFD SRMA outcome objectives. If BLM monitoring indicates the SRMA outcomes are not being achieved, settings would be incrementally adapted to facilitate achievement of SRMA outcomes. For example, the BLM would begin with visitor education, then, if necessary, progress to more intensive measures like use and timing limitations (e.g., different uses on different trails on different days, designating directional travel on system trails, etc.), issuance of permits, law enforcement patrols, etc. Only implement adaptive management measures if: 1) they are consistent with SRMA and other RMP objectives and 2) sufficient funding and long-term management commitments are secured from internal BLM sources and/or external managing partners.

Monitoring for the categories and indicators described below would be conducted primarily by BLM staff, partner agencies and volunteers. It would also include information reported by visitors to the NFD SRMA. In addition to onsite monitoring, the BLM may remotely obtain GPS tracking data using tools like online fitness tracking applications (e.g., Strava) to see when and where recreation activities are taking place.

1. Public Safety
    - If BLM confirms:
        - That the RMP objective (REC-OBJ-3) of limiting visitor exposure to unhealthy or unsafe human-created conditions (defined by a repeat incident in the same year, of the same type, in the same location, due to the same cause) is not being achieved,
        - Then the BLM may implement a progressive response using the actions identified below until documented safety incidents are resolved. If the BLM continues to identify safety concerns following implementation of the first mitigation measure, proceed to the next measure identified in the list below (i.e., a then b, then c):
            a. Education and outreach - trailhead signage, websites and social media, on-the-ground patrols
            b. Re-routing segments of trails within the trail corridor analysis area (30-meter corridor - 15 meters either side of center line) where incidents are occurring
            c. Only allow one way travel on trails with identified safety concerns.
2. Visitor Experience
    - If BLM monitoring indicates:
        - That recreation management outcomes and experiences specified in the GJFO RMP for the North Fruita Desert SRMA (see below) are not being achieved,
        - Then the BLM may implement adaptive management identified below to restore achievement of management goals and objectives.
            a. Education and outreach - trailhead signage, websites and social media, on-the-ground patrols
3. Wildlife
    - If BLM monitoring indicates:
        - Cyclists are violating the seasonal closure:
            a. Then the BLM may implement a progressive response using the actions identified below to protect wildlife winter habitat. If winter closure protections are not met using the first mitigation measure, proceed to the next measure identified in the list below (i.e., a then b)
            b. Place additional educational and informational signs explaining the purpose for winter closure and compliance requirements; and

c. Enhance the closure barriers to further restrict access and make enforcement easier.

* No supplementary rules would be published as a result of this EA. Law enforcement officers would utilize existing laws and regulations (e.g., 43 CFR 8364.1(d) Fail to comply with a closure or restriction order) to enforce violations of the seasonal closure.

- If BLM and CPW monitoring indicates:
  - Severe winter conditions* exist and deer and elk are concentrated on mapped severe winter range,

    a. Then the BLM may temporarily adjust the timing and geographic extent of the seasonal closure. The BLM would consult with CPW to determine conditions warranting additional seasonal closures.

    *Severe winter conditions exist when 90% of the individuals are located on mapped severe winter range and when the annual snowpack is at its maximum and/or temperatures are at a minimum in the two worst winters out of ten.

4. Soil Impacts
   - If BLM monitoring indicates:
     - That increased erosion is occurring on remote trails and BLM is not able to complete the maintenance necessary to address trail damage,

       a. Then the BLM may implement a progressive response using the actions identified below to reduce erosion and sedimentation. If erosion protections are not met using the first mitigation measure, proceed to the next measure identified in the list below (i.e., a then b)

       b. Modify segments of the routes (e.g., new grade reversals or rolling grade dips) within the trail corridor. This would include increasing drainage feature spacing to 30 to 40 feet in problem areas, or less than 25 feet in location within 300 feet of drainages.

       c. Re-routing segments of trails within the trail corridor analysis area (30-meter corridor - 15 meters either side of center line) where soil impacts are occurring.

       d. Construct erosion control basins to capture and hold sediment.

5. Rangeland Management Livestock

    - If livestock monitoring determines:

        a. Distribution of livestock is not occurring and use patterns are not consistent with proper grazing management,

            a. Then BLM may evaluate additional water sources in areas where water is sparse or lacking to increase distribution to improve proper grazing management. Additionally, water sources maybe fenced to curtail grazing use in an area when proper grazing utilization has been achieved.

2.1 ALTERNATIVES ANALYZED IN DETAIL

2.1.1 ALTERNATIVE A – PROPOSED ACTION

The proposed action is for the BLM and community partners to construct approximately 29 miles of new or re-routed trails, and to close and reclaim approximately three miles of trails within the NFD SRMA. The routes identified for closure would all be replaced by new routes (reroutes) designed to enhance recreation experiences and reduce resource impacts (e.g., soil erosion, reduced water quality) from the trails they would replace. The BLM would designate all of the new trails, along with all of the existing designated mechanized trails in the NFD SRMA, as open to Class 1 e-bikes, with a formal designation of "OHV Limited: Limited to Class 1 e-bikes". By definition, Class 1 e-bikes are 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 mph. The motor's power is limited to one horsepower (750 watts). Currently, e-bike use is not allowed in the NFD SRMA on routes designated for non-motorized use only. This alternative would prohibit Class 2 or 3 e-bikes on the proposed new trails or existing trails currently limited to non-motorized use in the NFD SRMA.

To provide opportunities in the NFD SRMA for individuals with disabilities, the BLM would authorize the use of non-wheelchair adaptive cycles, including those that meet the BLM definition of a Class 1 or 2 e-bike, and are sufficiently narrow to allow all of the vehicle's wheels to remain within the constructed/maintained tread width specified in the trail-specific trail management objective (TMO) for that trail. A BLM authorized officer may also allow exceptions for persons with disabilities on a case-by-case basis. See additional information on TMOs below. All classes of e-bikes would continue to be allowed on trails currently open to motorized vehicles. See the background section above for more information on BLM e-bike management guidelines and policy.

The BLM is also proposing to conduct additional trail development that is not described in detail in this proposal. The additional conceptual actions that may be reviewed and approved in the future are described below:

- Construction of up to an additional eight miles of trails;
- Reroutes (closure, reclamation and replacement) of up to two miles of routes; and
- Construction of two 0.5-acre progressive bicycle skill development areas within the

Upper NFD Campground.

The BLM would complete detailed environmental review, National Environmental Policy Act compliance, and site-specific surveys for these routes and areas in the future. Programmatic or general analysis of the impacts of these actions and their conceptual buffered alignment area is included in this EA. The BLM would determine the exact location and whether to authorize the facilities in the future through the process outlined above.

The BLM would implement an annual seasonal closure from December 1 to May 1 on 5.7 miles of the proposed new and rerouted routes, and 5.3 miles of existing routes to protect wintering big game in portions of the pinyon-juniper woodlands along the base of the Book Cliffs. See map in Figure 2.

The BLM would also change the travel management designations for the routes shown in Table 2.1 (identified in orange in Figures 1 and 2).

Table 2.1 Proposed Changes to Route Designations

Route Number	Current Designation	Proposed Designation	Route Miles
I816	Motorcycle Shared – open to foot, horse, bicycle, and motorcycle	Add 12/1 – 5/1 seasonal closure	1.2
I500	Shared Non-motorized– open to foot, horse, and bike	Add 12/1 - 5/1 seasonal closure	1.9
I735	Shared Non-motorized – open to foot, horse, and bike	Add 12/1 - 5/1 seasonal closure	1.2
I220	Open to foot, horse, and bike	Add 12/1 - 5/1 seasonal closure	1.1
I722	Closed	Limited to Foot (Hike)-Bike-Horse	0.2
I42	Open to foot, horse, and bike	Limited to Foot (Hike)-Bike-Horse + motorized administrative use for event support	2.2
I733	Open to foot, horse and bike	Close – no ground disturbing reclamation	0.8

Finally, for route I40 (one mile in length), the BLM would implement the mitigated route designation included in the 2015 GJFO travel management plan decision that was identified to go into effect following completion of the prescribed mitigation. That action would open route I40 to foot, horse, and bike use (traditional mountain bikes and Class 1 e-bikes).

See Figures 1 and 2 for a map of the proposed routes and route modifications described above.

The proposal would result in surface disturbance along approximately 32 linear miles of routes, including 29 miles of new disturbance (newly constructed routes) and three miles of existing

disturbance (routes to be closed and reclaimed). Based on the design features described in section 2.1.2 below, the BLM estimates the total area of surface disturbance (final tread width) for the initial phase of the project would be approximately 12.4 acres based on the following assumptions and calculations which are summarized in Table 2.2:

- 26 miles of the new routes (90%) would be 36 inches (3 feet) wide;
- 3 miles of the new routes (10%) would be 60 inches (5 feet) wide; and
- 3 miles of 36-inch (3-foot) routes would be closed and reclaimed.

Table 2.2 Estimated Surface Disturbance from Initial Proposed Action

Route length (miles/*feet*)	**Route width (feet)**	**Area (ft^2)**	**Acres of Disturbance**
26/137,280	*3*	411,840	9.5
3/15,840	*5*	79,200	1.8
3/15,840	*3*	47,520	1.1
		Total	**12.4**

The BLM estimates the total area of surface disturbance (final tread width) for the additional conceptual actions (locations yet to be determined) that may be reviewed and approved in the future would be approximately 4.6 acres based on the following assumptions and calculations which are summarized in Table 2.3:

- Construction of up to an additional eight miles of trails (3 feet wide);
- Closure and reclamation of up to two miles of routes (3 feet wide); and
- Construction of two 0.5-acre progressive bicycle skill development areas within the Upper NFD Campground.

Table 2.3 Estimated Surface Disturbance from Future Conceptual Actions

Route length (miles/*feet*)	**Route width (feet)**	**Area (ft^2)**	**Acres of Disturbance**
8/*42,240*	*3*	126,720	2.9
2/10,560	*3*	31,680	0.7
2 Bike Skills Parks	*N/A*	43,560	1.0
		Total	**4.6**

The trails would be constructed using a variety of hand tools (pick mattocks, shovels, mcleods, etc.) and motorized equipment (trail dozers, mini excavator, skid-steer). Finished tread width would vary from 24 inches to 60 inches. Approximately 5 to 10% of the routes would be wider than 36 inches to allow for race and event participants to safely pass one another at specified locations along designated courses without riding off constructed tread surfaces. All trails would be constructed with a full bench cut (not half-bench cut and fill). Temporary disturbance of up to 72 inches could occur during construction.

Corridor width would be approximately 6 to 9 feet, and corridor height would be approximately 10 to 12 feet (corridor is the cleared, or partially cleared, area above and to the sides of the trail tread.)

2.1.2 Design Features of the Proposed Action:

Consistent with the management objectives for the NFD SRMA, the BLM and its partners have designed the proposed trail system primarily for mountain biking activities using best management practices described in the GJFO Trail Design Criteria (BLM 2004), International Mountain Bicycling Association's (IMBA) "Trail Solutions" (IMBA 2004), "Managing Mountain Biking: IMBA's Guide to Providing Great Riding" (IMBA 2017) and "Guidelines for a Quality Trail Experience" (BLM/IMBA 2017). These best management practices (BMPs) include curvilinear design principles that utilize the contours of the natural topography, as well as frequent tread grade reversals, constructed bermed turns and jumps, and a combination of insloped and outsloped tread that are all part of modern "bike-optimized" trail design and construction. Tread grades would generally be less than 15%, but grades may be steeper where durable surfaces, like large rocks with down gradient armoring or purpose-built trail features (e.g., berms and jumps), can be incorporated into the trail design.

In addition to providing high quality mountain biking opportunities, these design features are intended to reduce soil erosion and sedimentation which can impact downstream water quality. In addition to constructing outsloped tread wherever possible, trail design would incorporate tread grade reversals or drainage features approximately every 50 to 100 feet, or approximately every 30 to 40 feet within 100 feet of natural drainages or where the tread grade exceeds 15%.

Several of the trails would be designed and managed for one-way directional travel to optimize trail-user experiences and reduce trail widening due to riders passing one another in opposite directions. Unlike designations, recommendations are not enforceable, but are guidelines to achieve user experience objectives, and promote visitor safety and resource protection. Design features that promote one-way directional travel include:

Uphill

- Gradual tread grades – generally less than 7%
- Constructed along the contours of hillsides with relatively steep cross slopes. This helps keep the tread width narrow and discourages two-way traffic since passing at high speeds is impractical on steep cross slopes.
- Subtle grade reversals and periodic changes in tread grade steepness to provide rest/recovery opportunities for riders.
- Occasional tighter radius turns or switchbacks that are easily negotiable at lower climbing speeds but interrupt the flow and fun of a descent.

Downhill

- Features that promote flow
    - Wider radius turns
    - Sight lines sufficient for riders to comfortably maintain speed
    - Berms and jumps
    - More pronounced and steeper tread grade reversals (e.g., dropping in and out of washes)
- Technical features that discourage uphill travel
    - Steep rocky sections,
    - Rock ledges/drops

- Berms and jumps

Essentially, trails designed for directional travel are more fun to ride in the preferred direction of travel and are often more difficult to ride in the opposite direction.

For visitor safety, the BLM would discourage equestrian and pedestrian use on the routes managed for downhill bicycle travel. The BLM would communicate recommended mode of transportation and direction of travel using onsite signage and maps along with online messaging and maps. To communicate recommended direction of travel, the BLM would implement methods that have proven effective on other trail systems designed and managed for directional travel. Those methods include:

- Labeling signs only on the side facing the user traveling in the preferred direction
- Including direction of travel arrows on all maps - trailhead kiosks, trail intersections, paper handout maps, and online maps
- Communicating with other service providers (bike shops, mapping apps, websites, etc.) to ensure that they understand and convey desired management strategies
- Posting onsite and online messages regarding the rationale for directional travel recommendations
- Posting "Wrong Way" signs if necessary

See Figure 2 above, and Table 2.4 below, for routes that the BLM would manage for downhill bicycle travel.

The BLM would manage the routes shown in Table 2.4 for directional travel (uphill or downhill only). All other routes would be managed for two-way travel. The BLM would post signs, messages, and maps at trailheads, trail intersections, and online (e.g., websites, social media) indicating preferred direction of travel.

Table 2.4 Trails Managed for Directional Bicycle Travel

Trail Name *(planning name for new trails)*	**Direction of Travel**
P2	Uphill
Zippity-do-da	Downhill
C2	Uphill
Joe's Ridge	Downhill
MoJoe	Downhill
Kessel Run	Downhill
Zip-up	Uphill
Trailhead return – west	Uphill
C1 Up	Uphill
C1 Down	Downhill
Prime Cut	Uphill
PBR and C4 (PBR extension)	Downhill
E5	Uphill

E2	Uphill
E4	Downhill
Veg-up	Uphill
Zip-out	Downhill
E1.1	Downhill

These trail design features, in combination with properly constructed tread features, create tread surfaces that would shed water and minimize erosion from the tread surface. In most cases, overburden cleared during trail construction would be widely broadcast both above and below the constructed tread surface or used to construct other trail features (berms and jumps). Excess soil or overburden would not be deposited in drainages.

The trails would be constructed with a combination of paid professional trail builders and trained volunteer trail crews. The trails would be constructed in phases starting in the spring of 2022. The completion date for all the proposed trails would be dependent on procurement of funding sources and volunteer labor.

At all trail and road intersections in the project area, the BLM and its partners would post signs indicating trail names with directional arrows, and travel management designations using international symbols indicating allowable uses (e.g., open to foot, horse and bicycle use, closed to motorized uses) wherever allowable uses change from one route to another. At trail intersections where allowable uses do not change, "Open to/Closed to" travel management designation signage is not needed. See example in Figure 3.

Figure 3: Sample Trail Intersection Sign with Travel Management Designations

The BLM would post educational and informational signs explaining the purpose for winter wildlife closures and compliance requirements at trailheads and seasonal closure boundaries, see example in Figure 4.

Figure 4: Sample Winter Wildlife Closure Information and Education Sign

Long-term monitoring and maintenance of the trail system would be performed collaboratively by BLM trail crews, community-funded trail crews (e.g., Mesa County trail crew, grant-funded professional trail crews), and volunteer trail crews. These partners would conduct onsite monitoring a minimum of two times annually (typically early Spring and early Fall) to identify and address maintenance needs, including mitigation of noxious weeds along trail corridors and closed/reclaimed trails. The BLM and/or its partners would perform interim maintenance on an as-needed basis (based on conditions reported by trail users or patrollers). Trail maintenance activities would restore the trail to the original design specifications described in the trail management objectives (TMOs - see below) and would address noxious weed infestations. Typical trail maintenance activities would include clearing drainage features (grade reversals and rolling grade dips), de-berming and outsloping tread, re-constructing technical trail features (berms, jumps, etc.), and controlling noxious weeds (physical removal or spraying herbicides as appropriate).

Trail Management Objectives - The NFD system-wide TMO is included in Appendix B. Detailed trail-specific TMOs would be developed prior to construction of each trail. Those trail specific TMOs would be based on the trail descriptions found in the NFD Trails Master Plan and on data displayed in the attribute table of the GIS layers for the proposed trails.

All trail users would be expected to remain within the constructed/maintained tread width specified in the trail specific TMO for that trail. As described above, the BLM would authorize the use of adaptive cycles that meet the CPSC definition of a Class 1 or Class 2 e-bike and are sufficiently

narrow to allow all of the vehicle's wheels to remain within the constructed/maintained tread width specified in the trail-specific TMO for that trail.

To promote visitor understanding of trail restrictions, trail management objectives, and responsible recreation practices (e.g., trail etiquette, interactions with livestock, mitigating the spread of noxious weeds), the BLM would:

- Train and orient BLM staff and volunteers (e.g., campground hosts, trail crews, trail ambassadors) to provide appropriate information to visitors
- Post onsite (kiosks, bulletin boards) and online (websites and social media) information and education messaging
- Communicate with other service providers (bike shops, mapping apps, websites, etc.) to ensure that they understand and convey desired management strategies

Cadastral Survey:

- The BLM and partners would identify and protect evidence of the public land survey system (PLSS) and related Federal property boundaries prior to commencement of any ground-disturbing activity. BLM cadastral surveyors would provide data research, evidence examination and evaluation, and locating, referencing, or protecting monuments of the PLSS and related land boundary markers from destruction. In the event of obliteration or disturbance of the Federal boundary evidence, the responsible party would immediately report the incident, in writing, to the AO. The BLM cadastral survey department would determine how the marker would be restored.

  The project would not encroach onto adjoining private lands, unless through prior agreement and in cooperation with private landowners. Where any part of the project is within one-quarter mile of a federal property boundary, BLM cadastral surveyors would evaluate existing title, survey, and use records, determine when boundaries require identification, and to select an appropriate method for identifying the boundary.

Special Status Species (Plants):

- The BLM would conduct monitoring of cacti along the proposed connector route (I40 connector) and route I40. If the BLM determines that the routes are impacting cacti the routes may be realigned or natural barriers may be installed to increase protection. Realignment would be constrained within the 30-meter buffer survey area, unless new surveys are completed.

<u>Design Features - GJFO Resource Management Plan:</u>

The following design features, including standard operating procedures and best management practices from Appendix H, and stipulations in Appendix B in the GJFO Resource Management Plan (RMP) are included as part of the proposed action to help reduce potential impacts associated with this project:

- H-36: Limit surface disturbance near drainage features and minimize surface disturbance on steep slopes, fragile soils, saline soils, and Mancos shale-derived soils.

- H-45: No operations using chemical processes (except for vegetation management) or other pollutants in their activities will be allowed within 200 feet of any water bodies. This includes staging equipment for refueling, as well as equipment maintenance.
- The project would be designed to avoid or otherwise ensure the protection of authorized rights-of-way on public lands within the project area, including coordination with ROW holders during the project development, and notification prior to initiating construction of the trails.
- A-32 Restrict surface disturbing activities to periods when wind speeds are less than 25 miles per hour.
- Due to the presence of the Mancos shale, which is known to contain fossils of scientific significance, a paleontologist would monitor construction of certain trail segments. In the event of inadvertent discovery of paleontological resources during construction, all activities would cease, and the trail construction crew would contact the BLM paleontologist in order to determine an appropriate course of action to protect any found resources. See GJFO RMP Appendix H, page H-46-47, Paleontology Standard Operating Procedures.
- Trail construction crews would be instructed to document any encounters with midget-faded rattlesnakes (date, time and location), and to avoid disturbing or harassing the snakes.
- V-1: All new surface-disturbing projects or activities, regardless of size or potential impact, will incorporate visual design considerations during final project design as a reasonable attempt to meet the Visual Resource Management class objectives for the area and minimize the visual impacts of the proposal. Visual design considerations will be incorporated by:
    - Using the Visual Resource Management contrast rating process; and,
    - Providing a brief narrative visual assessment.
- V-6: Restrict visual intrusion in Visual Resource Management Class I and II areas and within 0.25-miles of historic trails.
- V-12: Repeat form, line, color, and texture elements to blend facilities with the surrounding landscape.
- V-14: Perform final reclamation recontouring of all disturbed areas, including access roads, to the original contour or a contour that blends with the surrounding topography.
- The BLM would advise the trail construction crew that any spill of petroleum products would be reported to the BLM Authorized Officer immediately. The trail crew would quickly remove and properly dispose any soil contaminated by a spill. Contaminated soil could be temporarily stored on and covered by plastic sheathing.
- Trail construction personnel would inspect all construction equipment for weed seeds, and would clean machinery as needed, when entering and leaving the work sites (GJFO RMP Appendix H WEED-5, WEED-6, WEED-7 and WEED-13).
- VR-7: Minimize disturbance to soil and native vegetation as much as possible.
- WEED-4: Inventory all proposed projects for weeds prior to ground-disturbing activities.

If weeds are found, they should be treated (if the timing is appropriate) or removed (if seeds are present) to limit weed seed production and dispersal.

- WEED-5: Be cognizant of moving equipment and machinery from weed contaminated areas to uncontaminated areas.
- WEED-17: Inspect and document all ground-disturbing activities in noxious weed-infested areas for at least three growing seasons following project completion. For ongoing projects, continue to monitor until reasonably certain that no weeds are present. Plan for follow-up treatments based on inspection results.
- WEED-36: Maintain trailheads, campgrounds, visitor centers, boat launches, picnic areas, roads leading to trailheads, and other areas of concentrated public use in a weed-free condition. Consider high-use recreation areas as high-priority sites for weed eradication.
- WEED-37: Sign trailheads and access points to educate visitors about noxious and invasive weeds and the consequences of their activities.
- The BLM would instruct work crews on how to identify noxious weeds common to the area, so if any are found, the BLM can respond with a treatment (see GJFO RMP Appendix H WEED-3).
- S-14: Interim and final reclamation procedures shall utilize best available science and technology to protect natural resources from undue degradation.
- S-15: Use BLM GJFO Trail Design Criteria along with BLM Handbooks H-9113- 2 (BLM 2011b) and H-9115-2 (BLM 2012b) to evaluate road conditions for maintenance and mitigation.
- S-17: Consider site-specific soil and vegetative characteristics and reclamation potential in project design and layout.
- VR-9: When timely natural regeneration of the native plant community is not likely to occur, carefully select species that will not compete with or exclude botanical resources for revegetation efforts. Bare sites shall be seeded as soon as appropriate to prevent establishment of undesirable plant species.
- VR-10: Ensure that seed used for revegetation as well as straw and hay bales used for erosion control are certified free of noxious weeds.
- VR-11: Monitor revegetation sites to ensure successful establishment of desired species.
- VR-12: Monitor the long-term success of revegetation efforts to ensure successful establishment of desired species and detect any noxious weed infestations. If revegetation is unsuccessful, continue efforts to establish desired species in disturbed sites.
- FWS-10: Surface disturbance closer than 20 meters to a listed plant will be considered an adverse effect. Mitigating measures within this narrow buffer are important and helpful to individual plants, but not all adverse effects can be fully mitigated within this distance. Some adverse effects due to dust, dust suppression, loss of pollinator habitat, and toxic spills will likely remain. There are two possible exceptions to this rule: 1) the new disturbance is no closer to a listed plant than preexisting disturbance, and no new or increased impacts to the listed plant are expected; or 2) the listed plant is screened from the

proposed disturbance (e.g., tall, thick vegetation, or a berm acts as a screen or effective barrier to fugitive dust and other potential impacts).

- FWS -16: Protect nest sites from human disturbances by implementing Colorado Parks and Wildlife and US Fish and Wildlife Service recommended buffers around known nest sites.
- F&W-BGS-AU-03: STIPULATION TL-20: Big Game Winter Range. Prohibit surface occupancy and surface-disturbing activities from December 1 to May 1 to protect big game winter range as mapped by the CPW. Certain areas and/or routes within big game winter range may be closed to foot, horse, motorized, and/or mechanized travel from December 1 to May 1.
- CSU-08: Avoid Impacts or loss of Significant and/or relict plant communities (including old growth forests and woodlands, and significant plant communities).
- REC-65: (Resource objective): Through the life of the RMP, manage the North Fruita Desert RMZ to minimize recreation impacts to other resources, with special consideration given to protection/mitigation of the following resources: mule deer and elk winter range, water quality (non-point source erosion/sedimentation into the Colorado River), and soils.
- REC-66: (Resource use objective): Through the life of the RMP, minimize impacts from other resource uses to recreation to ensure those uses support RMZ recreation objectives. The following resource uses were identified for management consideration in the North Fruita Desert RMZ during the planning process: livestock grazing.

2.1.2 ALTERNATIVE B – No Action Alternative

Under the No Action Alternative, none of the proposed new trails or trail modifications described in the Proposed Action would take place. E-bikes would not be allowed on any of the trails currently limited to non-motorized use in the NFD SRMA.

2.1.3 ALTERNATIVE C – Trail System Modifications Only, No E-bikes

Under this alternative, the BLM would implement the trail system modifications (new trails, trail reroutes, route designation changes, and design features) described in Alternative A. The BLM would not authorize e-bike use on any of the proposed trails or existing routes that are currently limited to non-motorized uses in the NFD SRMA.

2.1.4 ALTERNATIVE D – Class 1, 2, and 3 E-Bike Alternative

Under this alternative, in addition to all the actions proposed in Alternative A, the BLM would designate all of the new trails, along with all of the existing designated mechanized trails in the NFD SRMA, as open to Class 1, 2, and 3 e-bikes, with a formal designation of "OHV Limited: Limited to Class 1, 2, and 3 e-bikes", as described in the e-bike classification section under the introduction and background section of this document. The bicycle is limited to 750 watts, must have fully operable pedals, and must fit within the standard trail width.

2.2 ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

During the initial scoping for this proposal, the BLM identified two action alternatives:

- Construct 29.1 miles of new trails, close and reclaim 2.6 miles of trails. Limit use to pedestrian, equestrian, and traditional mountain bikes; e-bikes would not be allowed.

- Construct 29.1 miles of new trails, close and reclaim 2.6 miles of trails. Limit use to pedestrian, equestrian, and traditional mountain bikes, plus allow Class 1 e-bikes on all current designated and newly proposed trails.

Public comments received during public scoping indicated strong support for allowing Class 1 e-bikes on trails in the NFD SRMA, so the BLM combined the two alternatives that were suggested during public scoping to create the new proposed action described in Alternative A above. The BLM determined that the proposed action, along with the addition of an alternative analyzing the effects of potentially allowing Class 2 and 3 e-bikes on the trails (as requested by another scoping comment), provides an adequate range of alternatives for analyzing effects and providing flexibility in the final decision on which routes and modes of travel the BLM would authorize.

The BLM considered an alternative that would have allowed e-bikes on some of the trails in the NFD SRMA and prohibited them on others. For example, allowing them on the proposed new trails but not on the existing designated trails. This alternative was eliminated due to the impracticality of managing and enforcing the different use designations on a densely concentrated interconnected trail system.

The BLM adjusted initial proposed alignments on four segments of trail to avoid sensitive plants identified during resource surveys.

3. PUBLIC INVOLVEMENT

3.1 Scoping

The BLM uses a scoping process to identify potential significant issues in preparation for impact analysis. The principal goals of scoping are to identify issues, concerns, and potential impacts that require detailed analysis. Scoping is both an internal and external process. Internal scoping was initiated when the project was presented to the Grand Junction Field Office (GJFO) interdisciplinary team on June 22, 2021.

External scoping was conducted by posting this project on the BLM's on-line National Environmental Policy Act (NEPA) register (ePlanning) on August 20, 2021. The eplanning website (https://eplanning.blm.gov/eplanning-ui/project/2014877/510) allows people to review and comment online on BLM NEPA and planning projects. The BLM conducted a 30-day public scoping comment period from August 20, 2021, to September 20, 2021.

On August 23, 2021, the BLM posted an announcement on Facebook (Facebook.com/BLM Colorado) encouraging the public to read about the proposal and submit comments during the

public scoping period. The Grand Junction Daily Sentinel published a story about the project and comment period in its September 1, 2021, print and e-editions. See Appendix A.

Commenters submitted their scoping comments via the e-planning website. The BLM received a total of 75 scoping comment submissions.

Of the 75 submissions, all but seven focused primarily on the potential inclusion of e-bike use on trails in the NFD SRMA. Below is a summary of commenters' reasons for support or opposition to allowing Class 1 e-bikes on the trails in the NFD SRMA.

Commenters in favor of allowing Class 1 e-bikes included the following reasons for their support:

- E-bikes allow older riders or riders with physical limitations to continue riding. Many also ride, or used to ride, traditional mountain bikes. Some were opposed to e-bikes prior to riding one.
- E-bikes provide more opportunities for more people to enjoy trails on public lands.
- E-bikes provide more opportunities for riders of different physical capabilities to ride together.
- E-bikes are very similar to traditional bikes.
    - E-bikes do not cause any more physical impact to trails than traditional bikes. Some cited recent research supporting this premise.
    - E-bikes are more like traditional mountain bikes than motorized dirt bikes.
        - They require human power (pedaling) to move forward.
        - They don't have the power and torque to spin the wheels in place and cause more trail damage.
        - They're quieter.
    - Historically, other advances in bicycle technology (lighter materials, suspension, bigger wheels and tires, different frame geometry, etc.) have made mountain biking easier and more accessible to more people.
- E-bike riders (commenters) have not experienced or witnessed user conflicts on the trails.
- Trail etiquette and common courtesy apply to all users regardless of mode of transportation. There is no reason to believe that e-bike riders will be any less responsible and courteous than other trail users.
- Most e-bike riders are interested in the assist the bike provides for going uphill rather than for achieving high speeds. Speed is related more to user skills and terrain than to type of bicycle.
- Public policy should come from informed facts, not beliefs about e-bikes.
- E-bike use and sales are growing in U.S. and they are already prevalent in Europe.
- Allowing e-bike use would increase the economic benefit to the local economy.
- E-bikes are here to stay - manage for them.
- The NFD SRMA is a good place to initiate the planning and implementation of an e-bike authorized trail system.
- Those opposed to e-bikes are a small percentage of the overall recreation community.
- Those opposed to e-bikes on trails are misinformed.
    - They haven't ridden an e-bike, so they can't make an accurate assessment.
    - They're elitist – they think cyclists shouldn't be on non-motorized trails if they can't ride without motor-assist.

Commenters opposed to allowing Class 1 e-bikes included the following reasons for their opposition:

- E-bikes have a motor, so they're a motorized vehicle.
- Higher speeds of e-bikes and differences in speed from other users cause safety hazards, different trail design standards and more potential for user conflict and trail damage.
- E-bikes allow more riders to travel farther distances, increasing crowding and resource impacts.
- E-bikes cause more physical damage to trails than traditional bikes.
- E-bike use will necessitate more trail maintenance.
- E-bikes disturb wildlife and livestock more than traditional bikes.
- Singletrack trails will be widened due to differing speeds and the need to pass other riders.
- There are already plenty of trails for e-bikers to use in areas that are open to motorized vehicles.
- There are opportunities elsewhere in the GJFO to develop trails that are designed specifically for e-bike use.
- E-bike use will change the recreation experience and outcomes for traditional mountain bikers and other non-motorized trail users.
- There needs to be places where traditional mountain bikers can ride trails that are not allowed.
- Allowing e-bikes on the NFD trail system would set a precedent that threatens non-motorized trails on all BLM lands.
- Land management agencies don't have the capacity to enforce regulations.
    a. Messaging about, and enforcement of, current e-bike regulations is inadequate.
    b. How would land managers keep Class 2 and 3 bikes from using the trails.
    c. Allowing e-bikes could lead toward a push for use by other forms of motorized OHV use.
    d. Allowing e-bikes would increase the need for law enforcement personnel and recreation personnel.
- E-bike proponents misinterpret Colorado HB 17-1151, mistakenly saying that it classifies e-bikes as non-motorized.
- Other communities in Colorado have assessed e-bike use and have decided to prohibit them on non-motorized trails.

One commenter suggested that Fruita could become a model for an e-bike trail network, but also expressed concern that expanded recreation opportunities could lead to increased trail and resource impacts. Another commenter expressed a similar theme but focused on the greater need for directional trails as use increases, especially if e-bike use is authorized on the trails.

The submission from the Colorado Plateau Mountain Bike Trail Association expressed broad support for the proposed action but declined to take an official position favoring or opposing the e-bike alternative. The submission suggested that if the BLM decided to allow e-bikes, they should proactively implement management strategies described as adaptive management actions in the scoping document, and that trails should be designed and constructed with e-bike use in mind.

A comment letter from the BlueRibbon Coalition (BRC) advocated for expanding recreation access and minimizing trail closures. They suggested the need to analyze the authorization of Class 2 and 3 e-bikes in addition to Class 1 e-bikes. The BRC letter noted the rapidly growing popularity and sales of e-bikes, necessitating the need to actively manage for expanded e-bike access on public lands. BRC cited a 2021 Executive Order (Advancing Racial Equity and Support for Underserved Communities) as a mandate to expand access to public lands for users with disabilities.

Of the comment submissions that didn't comment specifically about e-bikes, several simply voiced support for the proposed trail additions and modifications. Three comment submissions requested that the BLM plan for equestrian use on the proposed trail system.

Mesa County submitted a letter expressing general support for the proposed action and the community and economic benefits of recreation in the NFD SRMA. The letter referenced the Memorandum of Understanding between Mesa County and the BLM, and itemized coordination requirements related to road access, special event permits, law enforcement and emergency services. They also requested regular updates from the BLM regarding project implementation and monitoring.

Colorado Parks and Wildlife submitted a comment letter expressing general support of the proposed action, and general opposition to the e-bike alternative. They also identified concerns about the overlap of proposed and existing trails with CPW-mapped mule deer severe winter range. They requested ongoing consultation with the BLM regarding the trail segments that should be subject to timing limitations. The BLM and CPW met on October 15, 2021, to discuss this issue and other adaptive management strategies. In response to this meeting, the BLM modified the proposed adaptive management actions in the EA. One modification identified an option to extend the seasonal closure dates during severe winters. Based on another request in CPW's comment letter, the BLM modified the proposed action to include installation of wildlife information and education signs at the onset of implementing seasonal closures rather than as an adaptive response if recreationists were not adhering to seasonal closures. CPW's comment letter noted the absence of identified thresholds for implementing a permit system as an adaptive management measure, and it reinforced the importance of adhering to other wildlife timing limitations included as design features in the proposed action.

Some commentors expressed concern about the growing impacts of recreation in general on public lands.

Some commenters referenced or cited studies that purportedly offered evidence backing either their support for, or opposition to, e-bike use on trails. Some cited specific studies (with attached documents or links to online content), while others only referenced unspecified research.

3.2 Public Comment Period

The preliminary draft of this EA was posted to the BLM ePlanning website https://eplanning.blm.gov/eplanning-ui/home and announced by press release for a 30-day

comment period starting January 28, 2022. Interested parties were notified of the availability of the EA.

During the public comment period, the BLM received 94 unique comment letters and emails, including letters from Mesa County, the Grand Valley Chapter of the Colorado Plateau Mountain Bike Trail Association (COPMOBA), Colorado Wildlands Project, People for Bikes, and the Blue Ribbon Coalition. Eighty-eight of the comment submissions were from individuals. See Attachment A for a list of substantive comments and responses to those comments. See attachment B to view all comment (substantive and non-substantive) submissions. A description of what constitutes a substantive comment was included on the BLM eplanning page for this project. It is also included here:

Substantive comments that will be addressed in the final environmental assessment are those that revealed new information, missing information, or flawed analysis that would substantially change conclusions.

Substantive comments do one or more of the following:

a. question, with reasonable basis, the accuracy of information in the EA.
b. question, with reasonable basis, the adequacy of methods for, or assumptions used for the environmental analysis.
c. present new information relevant to the analysis.
d. present reasonable alternatives other than those analyzed in the EA.
e. cause changes or revisions in one or more of the alternatives.
f. make factual corrections.

Comments that are not considered substantive by the BLM include the following:

a. comments in favor of or against the proposed action or alternatives without reasoning that meet the criteria listed above (such as "we disagree with Alternative Two and believe the BLM should select Alternative Three").
b. comments that only agree or disagree with BLM, Forest Service, or BOR policy or resource decisions without justification or supporting data that meet the criteria listed above (such as "more grazing should be permitted").
c. comments that don't pertain to the project area or the project (such as "the government should eliminate all dams," when the project is about a grazing permit).
d. comments that take the form of vague, open-ended questions.

Many of the comments focused on e-bikes and expressed similar themes to comments the BLM received during the public scoping period. See section 3.1 above for a summary of common reasons commenters cited for either supporting or opposing the authorization of e-bikes on the new proposed routes and on routes currently designated for non-motorized use only. Most of the comments received during the 2022 public comment period did not provide substantive information that would change the impact analysis conducted by the BLM in this EA.

Comments from Mesa County referenced the Mesa County Resource Management Plan and cited resource management objectives and policy statements from the plan that support responsible

development and management of recreation activities and opportunities in Mesa County. They also highlighted the importance of continued communication and engagement between Mesa County and the BLM.

Comments from COPMOBA generally supported the findings of the EA but suggested a need for the BLM to consider accommodations for adaptive cycling activities by disabled users.

Comments from Colorado Wildlands Project identified potential impacts to Lands with Wilderness Characteristics resulting from the authorization of e-bike use. They also identified the requirement for the BLM to apply impact minimization criteria to the routes proposed for travel management redesignations (e.g., authorization of e-bike use).

Comments from People for Bikes supported the Proposed Action and cited a recent EA from the Tahoe National Forest that authorized e-bike use on non-motorized trails.

Comments from the Blue Ribbon Coalition advocated for authorization of all classes of e-bikes, increased access for all public lands users, and greater accommodations for disabled users.

4. ISSUES

4.1 ISSUES IDENTIFIED

The Council on Environmental Quality (CEQ) Regulations state that EAs should "briefly provide sufficient evidence and analysis" for determining whether to prepare an environmental impact statement (EIS) or a finding of no significant impact (FONSI) (40 CFR 1501.5) and agencies should only briefly discuss issues other than significant ones (40 CFR 1500.4(e)). While many issues may arise during scoping, not all of the issues raised warrant analysis in an EA. Issues will be analyzed if: 1) an analysis of the issue is necessary to make a reasoned choice between alternatives, or 2) if the issue is associated with a significance impact, or where analysis is necessary to determine the significance of the impacts. The following sections list the resources considered and the determination as to whether they require additional analysis.

4.2 ISSUES ANALYZED IN DETAIL

The issues included in Table 4.2 below are analyzed in detailed in Section 5.2 of this EA. These issues were identified during public and agency scoping. Impact indicators are used to describe the affected environment for each issue, measure change, and to provide a comparison of the impacts between alternatives.

Table 4.2: Issues Analyzed in Detail

Issue	Issue Statement	Impact Indicator
Threatened and Endangered Plants	How would trail construction, use, and maintenance, as well as route closure and changes in route designations impact the Colorado	Proximity of Colorado hookless cactus, Grand Junction camissonia, and Grand

	hookless cactus, Grand Junction camissonia, and grand buckwheat?	buckwheat to proposed trails Proximity of individual plants, or extent of populations to the project area.
Soils	How would the new trails, modified trails, and closed trails contribute sedimentation compared to the natural background conditions or existing conditions?	Annual Tons of Sediment
Water	How would the new trails, modified trails, and closed trails contribute salinity to the hydrologic unit code 6 compared to the natural background conditions or existing conditions?	Annual Tons of Salt
Range Management	How would the proposed new trails affect livestock management and distribution?	Miles of trail within grazing allotment.
Recreation	How would the proposed changes to the trail system affect recreation setting characteristics and recreation opportunities (activities, experiences and outcomes) in the NFD SRMA and the GJFO?	Changes to physical, social and operational recreation setting characteristics, including: Number of miles of trails managed for non-motorized use Number of miles of non-motorized trails open to e-bike use Number of miles of trails managed for motorized singletrack use
Transportation and Access	How would the proposed changes to travel designations affect access to the NFD SRMA?	Miles of routes open to administrative access for motorized vehicles. Miles of routes open to general motorized, non-motorized and e-bike access.

Lands with wilderness characteristics	How would the proposed action impact the wilderness characteristics present in the Book Cliffs South unit?	Linear length of new routes constructed within the unit (miles)
Wintering big game	How would the proposed action impact wintering elk and mule deer during critical times of the year?	Acres of big game winter habitat in project area.

5. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the existing conditions relevant to the issues presented in Table 4.2 and discloses the potential effects of the Proposed Action and No Action alternatives on those issues. No additional mitigation measures were identified as necessary following the analysis of each issue therefor no discussion of mitigation or residual impact is provided below.

This EA draws upon information compiled in the Grand Junction Field Office RMP (BLM 2015) as amended.

5.1 ASSUMPTIONS FOR ANALYSIS

Deer and elk distribution across the landscape, including winter range, may be altered from past patterns due to large wildfires north of the project area.

5.2 ISSUES ANALYSIS

5.2.1 ISSUE 1: How would trail construction, use, and maintenance, as well as route closure and changes in route designations impact the Colorado hookless cactus, Grand Junction camissonia, and grand buckwheat?

AFFECTED ENVIRONMENT

Over the past five years (2016 through 2021) numerous biological plant surveys have been completed for the NFD Campground and associated trail access to existing mountain bike trails, and the 18 Road realignment project. Additionally, several pipeline rights-of-way (ROW) have also been surveyed since 2014 for rare plants. Collectively approximately 1,600 acres of public land has been surveyed for listed or sensitive plants in the area between 16 Road and 21 Road, and Coal Gulch and the Highline Canal. All routes shown in Figure 1: North Fruita Desert SRMA Locator Map labeled as proposed new or re-route trails, and proposed route closure have been fully surveyed in 2021.

The North Fruita Desert (NFD) is suitable habitat for one federally listed plant: Colorado hookless cactus; and multiple BLM sensitive plants: grand buckwheat, eastwood evening-primrose (Grand Junction camissonia), DeBeque milkvetch, and Dolores River skeletonplant. BLM and Colorado Natural Heritage Program (CNHP) records indicate the presence of these species in the NFD. Biological surveys were completed along the proposed mountain bike trails in May 2021. Surveys

recorded seven occurrences of Colorado hookless cactus, seven occurrences of Grand Junction camissonia, and 13 occurrences of Grand Junction buckwheat. No DeBeque milkvetch or Dolores River skeletonplant was recorded along the trails. Follow-up surveys were completed in August where the proposed trail alignment was within 20-meters of Colorado hookless cactus or Grand Junction camissonia and reroutes were proposed to avoid or minimize impacts to the rare plants. One dead Colorado hookless cactus was located during the follow-up surveys of reroutes (25-meters from the trail), and no additional BLM sensitive plants were documented.

Reasonably Foreseeable Environmental Trends

As stated previously in the EA, the NFD campground is experiencing increasing usage, and the expansion of camping and creation of an events area helps manage the current use, but also further increases usage. New trails would provide more opportunities for mountain bike riders, and would also generate additional interest in the area, increasing user numbers. Cheatgrass is very common throughout the project area and dominant in degraded rangeland habitat. Increases in weed seed introduction, cheatgrass spread, off trail travel, and habitat fragmentation from the proposed trails would be likely to occur.

Planned Actions in the Area

Grazing, camping, day use, hiking and mountain biking usage will continue in the NFD SRMA, as well as the issuance of Special Recreation Permits (SRPs) for mountain bike, running races, and other events.

ENVIRONMENTAL EFFECTS

Alternative A – Proposed Action

The construction of the proposed new trails would not affect Colorado hookless cactus, or impact Grand Junction camissonia as trails have been designed to avoid all individual plants by a minimum of 20 meters from the edge of trail disturbance. Surveys for the proposed trails recorded thirteen occurrences of grand buckwheat covering approximately 18 acres, and totaling thousands to tens of thousands of individual plants. The grand buckwheat was primarily found in the southern portion of the project area and were too numerous to fully count and map. Based on a 5-foot-wide disturbance corridor for the proposed trails, approximately 0.39 acres of occupied habitat would be directly impacted. This represents 2.2% of the occupied habitat mapped within 30 meters of the trails. Where the proposed trails utilize existing routes in or near grand buckwheat habitat, additional fragmentation of habitat would be minimized. While globally rare, the grand buckwheat is locally abundant, and numerous unmapped occurrences of the plant are present in the north desert area. For that reason, impacts are likely to be much less than calculations infer.

The 20-meter buffer has been sufficient to protect rare plants occurring alongside mountain bike trails, however the inclusion of Class 1 e-bikes could increase ridership, trail speeds, and overall impacts to habitat. Weed seed spread would be the primary impact to rare plants, as they depend upon healthy native plant communities for their habitat. The spread of Non-natives (weeds) could lead to habitat conversion, reducing native perennial species, and outcompeting rare plants for limited resources (water, sunlight, and bare ground) that are essential for their existence.

Route Designations

- There would be no new impacts associated with the BLM's proposed route designation changes that would add seasonal closures (I816, I500, I735, I220). These routes have not been surveyed for rare plants, but are currently designated as open to foot, horse, bike, and in one case motorcycle, and were designated through the 2015 Grand Junction Travel Management Plan and covered by the 2015 Grand Junction Field Office RMP section 7 consultation with the U.S. Fish and Wildlife Service.

- The proposed designation changes to route I722 would have no impacts to rare plants, as surveys have determined that no species of concern are present in or near the alignment.

- Route I40 is currently designated under the GJFO 2015 comprehensive Travel Management Plan as closed with a mitigated designation that will change the route designation to open to foot, horse, and bicycle following designation of a connector route with proper alignment across a drainage. The GJFO 2015 TMP and associated Environmental Impact Statement included broad consultation with the FWS on the existing routes included in the plan. Route I40 has not been surveyed and would connect to a proposed route where cacti were found. No new surface disturbance is proposed on the existing designated route. If the proposed I40 connector trail is approved then the BLM would implement the mitigated designation on the existing I40 route of open to foot, horse, and bicycle, as approved under the comprehensive TMP. The BLM would conduct surveys and monitoring of cacti along the existing I40 and proposed I40 connector route. If the BLM determines that the route is impacting any cactus the route may be realigned or natural barriers may be installed to increase protection. Implementation of this design feature may require additional NEPA compliance and re-initiation of section 7 consultation if cacti are located within 20-meters of route I40, and design features are insufficient to avoid impacts to the listed species.

- The I42 Route has not been surveyed, and borders occupied grand buckwheat habitat, however the limited addition of administrative motorized use on a well-established existing route is unlikely to increase impacts if no additional surface disturbing route maintenance is required. This route was covered by the prior RMP consultation.

- Route I733 was not included in the biological survey. The proposed action of closing the route does not include any new ground disturbance and therefore would have no impact on threatened, endangered, or sensitive plants.

- Overall, the inclusion of Class 1 e-bikes would likely to lead to increased riders on the trails, as this would be the first new trail system opened to e-bikes. As trails are ridden in, they become more technical over time, and the increased usage would likely accelerate that process. As that happens, riders may go off trail (cut corners) and create new routes to bypass more technical sections, which would increase impacts to habitat through soil compaction, weed spread, and can lead to trails being closer to listed and sensitive plants. If monitoring determines that off-route travel is impacting listed or sensitive plants adaptive management may be necessary to minimize impacts to the rare plants. Techniques such as: trail maintenance; off trail route decommissioning; or trail reroute may be necessary to address impacts. If reroutes are required to address resource impacts, reroutes would be limited to the 30-meter survey buffer area, and ensure a 20-meter buffer is

maintained between the trail and rare plant occurrences, unless thick vegetation, physical barriers or topography provide protections.

The following RMP restrictions apply to the proposed action: NSO-13, and CSU-9. NSO-13 prohibits certain surface uses to protect threatened plants from indirect impacts, and loss of immediately adjacent suitable habitat. The NSO provides guidance to maintain existing buffer distances where pre-existing disturbance exists, and reduce redundancies in roads to minimize fragmentation, and minimize direct impacts from motorized and mechanized users of roads, routes and trails. Furthermore, in undisturbed environments and ACECs, prohibit new disturbance within 200 meters (656 feet) of current and historically occupied and suitable habitat. This stipulation includes emergency closures of roads where damage to threatened and endangered habitat has occurred. CSU-9 applies to plant species listed as sensitive by BLM. Special design, construction, and implementation measures within a 100-meter (328 feet) buffer from the edge of occupied habitat may be required. In addition, relocation of operations by more than 200 meters (656 feet) may be required. As per the GJFO RMP (2015), "Stipulations could be excepted, modified, or waived by the Authorized Officer." Additionally, the RMP provides exceptions to the stipulations when certain criteria are met:

- 1. Section 7 consultation with USFWS on threatened or endangered species has been completed.
- 2. Valid current surveys for protected species have been completed.
- 3. Mitigation has been applied to avoid adverse impacts to protected species.

Section 7 consultation with the USFWS has been completed for the Grand Junction Field Office RMP (2015), including the Travel Management Plan. Route I40 was included in the TMP consultation (TAILS: 06E24100-2015-F-003). Surveys have been completed for the proposed new trails. Prior to implementing the mitigated designation of route I-40, surveys would be completed. Design features have been developed to avoid or minimize impacts to Colorado hookless cactus. The mitigated route designation would not result in new disturbance being closer to the listed cactus than existing disturbance. Generally, new disturbance within 20-meters of Colorado hookless cactus is considered to adversely affect the listed species. The effects determination takes into account the type and size of proposed disturbance, with mountain bike trails considered less impactful than well pads or other projects that would have a larger footprint and require the removal of all vegetation and stripping of topsoil.

Alternative B – No Action

Under the No Action alternative, the proposed trail system would not be built, e-bikes would not be authorized, and route designation would not be changed. Mountain bike visitations would likely continue to increase in the NFD SRMA, but not at the same rate as under Alternative A. Impacts to listed and BLM sensitive plants may still occur, but the new habitat fragmentation and disturbance would not occur. Weed spread would continue to occur along existing routes. Habitat degradation would be limited to areas along existing routes. Fewer impacts to listed and sensitive plants would occur under this alternative.

Alternative C – Trail System Modifications Only, No E-bikes

Impacts from Alternative C would be similar to those described under the proposed action (Alternative A), but e-bikes would not be permitted on the new trails, and ridership would not increase at the same levels. Weed spread, off trail soil compaction, and trail incursions near listed or sensitive plants would be fewer or take longer to occur under this alternative.

Alternative D – Class 1, 2 and 3 E-Bike Alternative

Impacts under this alternative would be similar to those described under Alternative A but would be expected to be greater due to the inclusion of Class 1, 2, and 3 e-bikes. Mountain bike trail user groups would not be separated, and the inclusion of faster e-bikes would increase the likelihood of user created trails near rare plants when trails are ridden-in and become more technical, or tight corners become difficult to make at higher speeds. Due to the inclusion of all classes of e-bikes this alternative is likely to result in the highest use and user numbers in the project area.

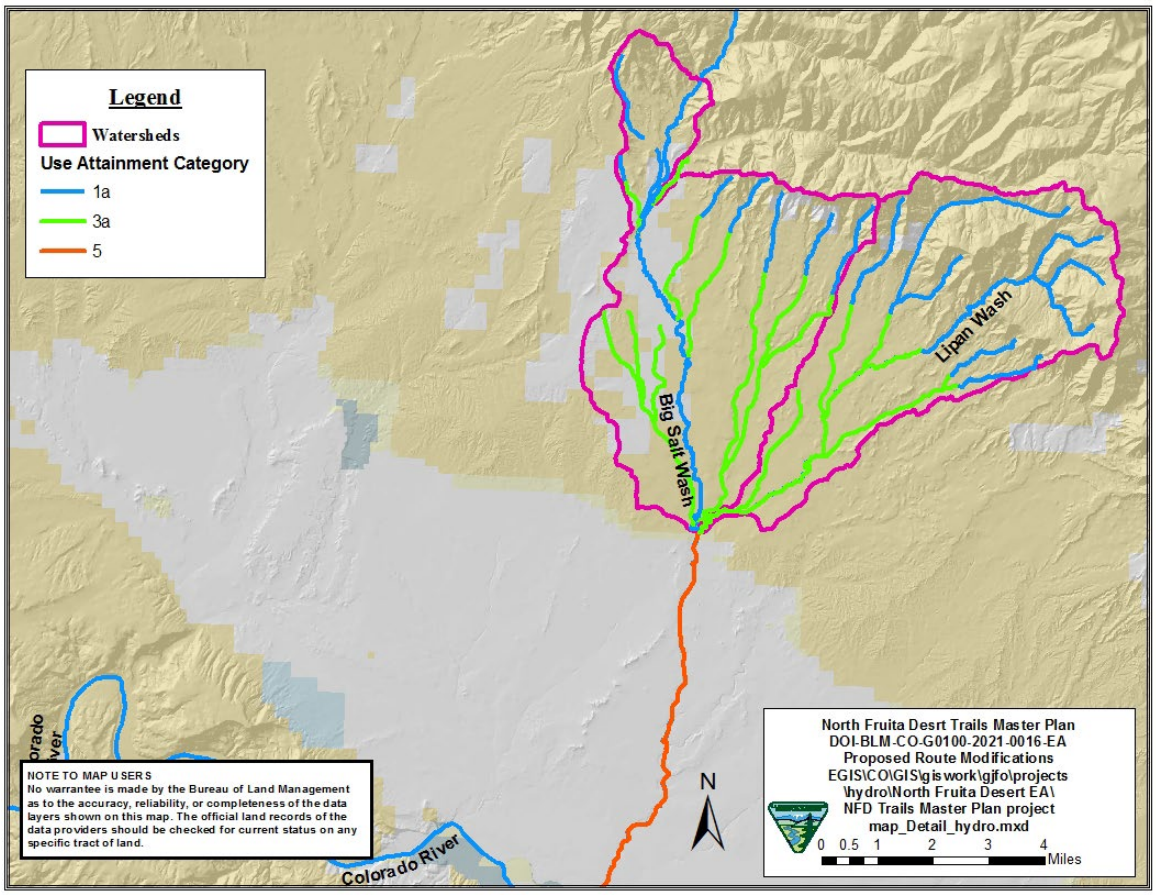
5.2.2 ISSUE 2: How would the new trails, modified trails, and closed trails contribute sedimentation compared to the natural background conditions or existing conditions?

AFFECTED ENVIRONMENT

The affected environment consists of watersheds, streams that drain the watersheds, and associated sediment and erosion. The 1996 National Water Quality Inventory ranks sediment as a leading cause of water quality impairment in assessed rivers and lakes (Rosgen, 2009). Accelerated erosion and deposition from hillslope and channel processes can impair designated uses in waterbodies in many ways. Accelerated erosion can be caused by trails and associated recreation. As with all recreational pursuits, it is clear that mountain biking contributes some degree of environmental degradation (Marion and Wimpey, 2021) and the North Fruita Desert SRMA is a heavily used recreation area.

The North Fruita Desert Trails Master Plan (Project) occurs in two 12-digit Hydrologic Unit Code (HUC 6) watersheds. The Lipan Wash watershed (140100051612) is the eastern most watershed, it drains 13,455 acres, has approximately 50.0 miles of routes, and has a route density of 0.004 miles of roads per acre. The Middle Big Salt Wash watershed (140100051612) is the western most watershed, it drains 15,601 acres, has 82.2 miles of routes, and a route density of 0.005 miles of roads per acre. These two watersheds are bounded by a steep escarpment known as the Book Cliffs to the north and drain into the Colorado River to the south. These two watersheds are in the Lower Colorado River Basin as identified by the state of Colorado (CWQCC, 2020). Lipan Wash is a tributary to Big Salt Wash which delivers water and sediment out of the watershed to the Colorado river (Figure 5.2.2.1).

Figure 5.2.2.1



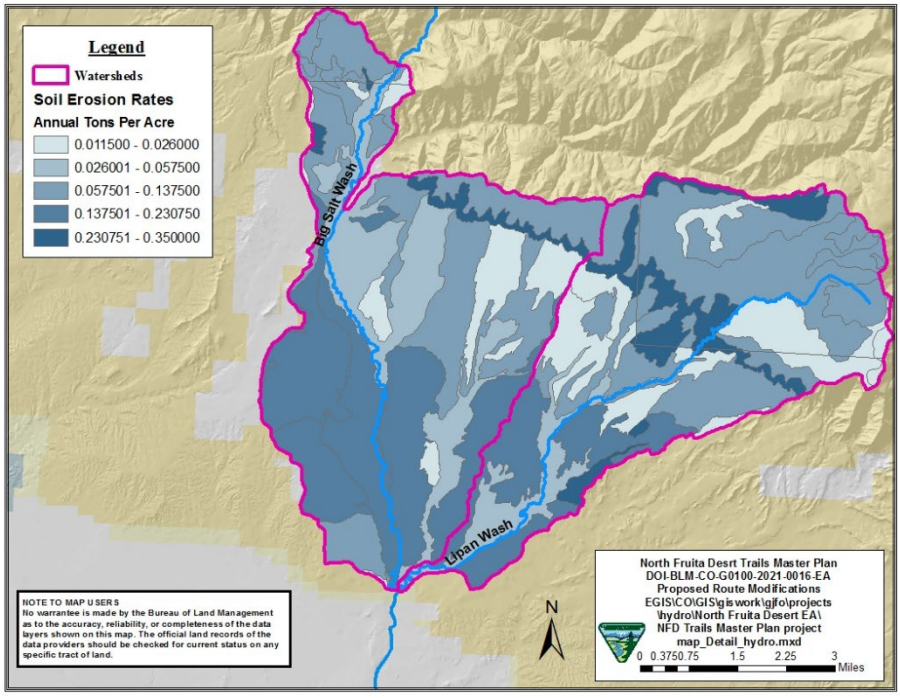
The Colorado Department of Environmental Quality (CDPHE) has delegated authority to administer water quality regulation within Colorado. Water quality regulations protect waters within Colorado. The project area includes two tributaries in the Lower Colorado River Basin. This area is within Western Colorado Sediment Region 3 and all of waters have beneficial uses and criteria to protect those uses (CWQCC, 2014) (CWQCC, 2020). The Aquatic Life use is the most sensitive of use and has the greatest potential to be impacted by erosion and sedimentation.

The 2022 Integrated Report (Colorado's report on status of waters) indicates that the streams within the area have not had data collected to determine use attainment, category 3b. These waterbodies have historically been on the 303(d) list as impaired (GJFO 2015) for several water quality standard exceedances including sediment but were categorized into the 3b category during a 2018 integrated report cycle. The category 3b designation indicates waters do not have data to be assessed or status unknown. Activities and uses such as roads and trails could lead to a relisting if data were collected due the potential for these activities causing increases in erosion and sedimentation impacting the Aquatic Life use.

Climate, soil properties, and geological features are primary driving factors in determining rates of sediment production. The Project occurs in a semi-arid desert that receives around 8 inches of precipitation per year (CSU, 2021). This limits plant growth and biological activity. Seasonal monsoonal moisture can deliver high intensity rainstorms in the summer months.

Soils and geologic characteristics withing these two watersheds further increase potential impacts. Watersheds soils are made from marine sediments, contain high levels of salts and selenium, and are easily eroded. Soil information from NRCS (2021) SSURGO data and GJFO RMP (2015) were used to describe the affected environment. There are 34 Soil Mapping Units (SMU) and the associated erosion rates for the area were estimated from erosion rates calculated from field data collected by BLM staff in watersheds adjacent to this area that had the same SMU. Erosion rates were estimated using the Rangeland Hydrology and Erosion Model (RHEM) (SWRC-ARS-USDA, 2021), the Watershed Erosion Prediction Project (WEPP) (USDA FS, 2021) and associated field data. There are 34 SMUs (NRCS, 2021) in the project area. Each SMU area was used to weight the erosion value to obtain the total soil erosion (annual tons per acre) for each watershed. Soil erosion rates are displayed in Figure 5.2.2.2.

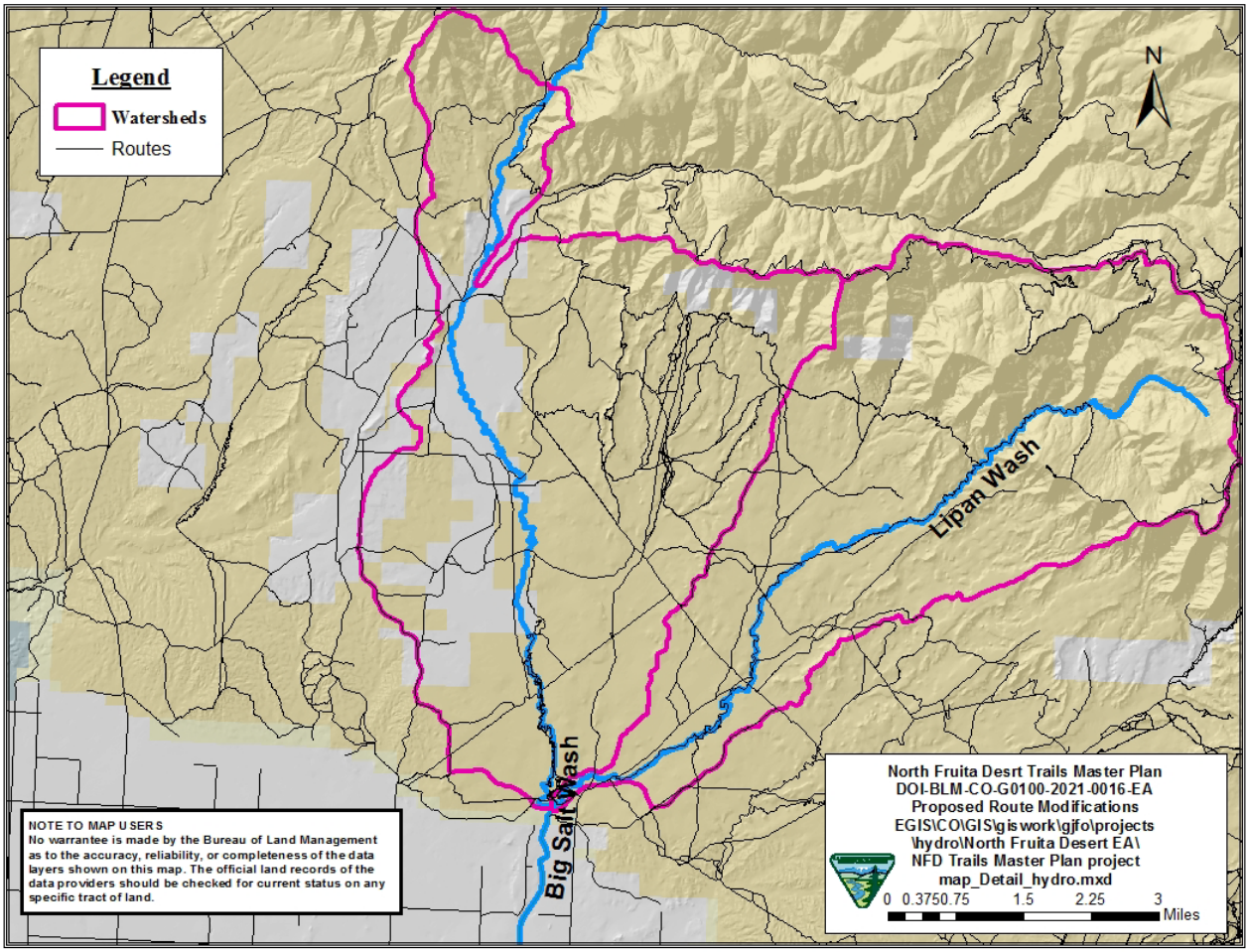
Figure 5.2.2.2



The watershed erosion in the two watersheds is 4,200 tons annually. This was estimated using RHEM. The mean annual load in the Colorado River is around 8 million tons per year. The erosion rate for each SMU (Figure 5.2.2.3) was multiplied by the acres for each SMU and summed. Erosion in a watershed occurs naturally, activities and uses can increase erosion.

Roads and trails are known uses that cause increased erosion in watersheds (Rosgen, 2006). Roads and trails within the watersheds are displayed in Figure 5.2.2.3.

Figure 5.2.2.3



There are 153 miles of routes in the two watersheds with an estimated average width of five feet. Approximately, 93 acres of the surface area in the watershed are covered by road or route surfaces. These routes have an estimated annual erosion rate of 1.38 tons per acre for a total of 128 annual tons of erosion and a sediment delivery of 10% or 13 tons annually entering the streams.

There are two primary locations that have high use due to the campground and trail access location. The North Fruita Desert Campground, Event Center, and Lower Campground have a history of high use. These uses on the current trails include foot and horse use, mountain bikes, and motorized OHVs. The level of use on each route is dependent on the route designation.

Reasonably Foreseeable Environmental Trends

Lands within the HUC 6 watersheds are very accessible to the public, have a high recreation use, contain many rights-of-ways for a variety of uses, allow grazing, and are prime areas for future oil and gas and alternative energy development (GJFO 2015). These activities are expected to continue into the foreseeable future, with the increasing population in the valley, expanding recreation, and increasing energy needs. This area could see increases that may lead to further impacts to soil erosion and water quality. All the aforementioned activities would disturb soils, and this disturbance could cause increased soil erosion and create water quality impacts.

Planned Actions in the Area

Planned actions in the area include paving and improving 18 Road. The Federal Highway Works Administration is partnering with Mesa County on paving approximately 6 miles of 18 Road, which would include drainage improvements and possibly minor realignments as well as widening the portions of the road. The BLM or livestock grazing permittee would also construct two livestock watering ponds, as described in the proposed action design features and livestock grazing sections that was previously analyzed in the North Fruita Desert Campground and Event Center EA.

ENVIRONMENTAL EFFECTS

Alternative A – Proposed Action

As with all recreational pursuits, it is clear that mountain biking contributes some degree of environmental degradation (Marion and Wimpey, 2021). Roads and trails used for recreation in GJFO all contribute to watershed degradation to some degree, even when proper installation processes are followed. Designated trails usually involve some level of construction. Once trails are constructed, impacts would continue for the life of the trail and maintenance is needed with a frequency dependent on the characteristics of the trail location. Trail construction impacts would be unavoidable, but most post-construction trail use impacts can be managed to decrease the intensity and duration or be avoided all together through the use of BMPs, trail design, and regular maintenance.

The Proposed Action has the potential to cause soil degradation, erosion, and contribute to water quality standard violations within two HUC 6 watersheds and to the Colorado River. These impacts wouldn't be the sole cause of an impairment but could be a contributing factor. If water quality impairments would occur in the future, adaptive management actions such as re-routes, trail modification, trail re-designs, additional trail drainage features, or trail closures could reduce sediment and prevent the degradation. Regular maintenance of the new and existing trails would further reduce the delivery of the generated sediment.

These impacts would vary in scale, timing, and in magnitude. Intensive use of recreation areas may cause irreversible damage to trails in a short period of time as increased use would reduce plant growth, destroy ground cover, and increase runoff and soil erosion (Seney 1991). Project specific elements that could cause these impacts are new trail development (building, closures, and re-routes) and trail use by mountain bikes and e-bikes, foot travelers, and other users. The activities surrounding the development phase of the project could lead to vegetation loss (acres), compaction (acres), and erosion (tons of sediment). When the trails are in use, impacts would include erosion, trail muddiness (miles of trails in flat terrain), degradation to the adjacent areas (sediment delivery and stream crossings), adjoining area degradation (acres), and impacts to water quality (Marian and Wimpey, 2021) (Duniway et al, 2010) (Seney 1991).

Use type can lead to differing levels of impact. The use of mountain bikes and electronic mountain bikes will have some level of impact to soils in the watershed due to use of trails. Use includes bike type and distance the bikes travel. The use type and rate of use can impact soils within the watershed and on trails.

Once vegetation is removed, soil erosion would be the primary concern, especially where trails channel water and it is no longer diverted from the tread. The development of a linear channel can be the direct result of the imprint of the tire and the torque applied by cyclists which, in turn, would lead to increased erosion. Rainfall intensity and slope gradient are key factors of sediment yield. Soil properties, such as structure, texture, and moisture content determine the resistance to erosion and play a secondary role (Seney, 1991). Interpreting Indicators of Rangeland Health (IIRH) attribute ratings indicate that hydrologic function and soil and site stability would be the primary ecosystem processes negatively impacted by road, trail, and pipeline development across ecological sites (Duniway et al, 2010).

During trail construction, surface organic materials and organic soils are removed from treads: trails built on sidehill location require even more extensive excavation. In addition, the underlying mineral soils would be compacted during construction and initial use to form a durable tread substrate that supports trail traffic. Soil compaction is caused by the weight of trail users and their equipment, which passes through feet, hooves, or tires to the tread surface. Compacted soils are denser and less permeable to water, which increases water runoff. However, compacted soils also resist erosion and soil displacement and provide durable treads that support traffic. From this perspective, soil compaction is considered beneficial, and would be an unavoidable form of trail impact. Furthermore, a primary resource protection goal would be to limit trailside impacts by concentrating traffic on a narrow tread. Success in achieving this objective would necessarily result in higher levels of soil compaction.

In contrast, post-construction soil displacement, erosion, and muddiness represent core forms of avoidable trail impact that require sustained management attention to avoid long-lasting resource degradation. Soil erosion exposes rocks and plant roots, creating a rutted and uneven tread surface. Erosion can also be self-perpetuating when treads erode below the surrounding soil level, hindering efforts to divert water from the trail and causing accelerated erosion and muddiness. Similarly, excessive muddiness renders trails less usable and aggravates users.

The associated lowering of the tread surface would create a cupped cross-section that intercepts and collects surface water. In flat terrain this water can pool or form muddy sections; in sloping terrain the water is channeled down the trail, gaining in volume, speed, and erosive potential.

Soil erosion is an indirect and largely avoidable impact of trails and trail use. Soil can be eroded by wind, but generally, erosion is caused by flowing water. To avoid erosion, sustainable trails would generally be constructed on slopes and with outsloped (sloping terrain) tread. However, subsequent use compacts and/or displaces soils over time to create a cupped or insloped tread surface that intercepts and carries water. The concentrated run-off picks up and carries soil particles downhill, eroding the tread surface.

Loose, uncompacted soil particles are most prone to soil erosion, so trail uses that loosen or detach soils contribute to higher erosion rates. Erosion potential is closely related to trail grade because water becomes substantially more erosive with increasing slope. The size of the watershed draining to a section of trail is also influential - larger volumes of water would be substantially more erosive. The water and sediment it carries would continue down the trail until a natural or constructed feature diverts it off the tread. Such features include a natural or constructed reversal in grade, an

outsloped tread, rocks or tree roots, or a constructed drainage dip or water bar. Once the water slows, it drops its sediment load, filling in tread drainage features and causing them to fail if not periodically maintained. Sediment can also be carried directly into watercourses, creating secondary impacts to aquatic systems. Properly designed drainage features are designed to divert water from the trail at a speed sufficient to carry the sediment load well below the tread, where vegetation and organic litter can filter out sediments. A well-designed trail should have little to no cumulative soil loss, for example, less than an average of one-quarter inch (6.3 mm) per year.

Soil displacement is caused by trail users pushing soil laterally, causing displacement and development of ruts, berms, or cupped treads. Soil displacement is particularly evident when soils are damp or loose and when users are moving at higher rates of speed, turning, braking, or other movements that create more lateral force. Soil can also be caught in hooves, footwear, or tire treads, flicked to the side or carried some distance and dropped. Regardless of the mechanism, soil is generally displaced from the tread center to the sides, elevating inslopes or berms, and compounding drainage problems.

Muddiness is caused when trails are located in areas of poor drainage or across highly organic soils that hold moisture; tread muddiness can become a persistent problem. Muddiness is most associated with locations where water flows across or becomes trapped within flat or low-lying areas. Soil compaction, displacement, and erosion can exacerbate or create problems with muddiness by causing cupped treads that collect water during rainfall or snowmelt. Thus, muddiness can occur even along trails where there is sufficient natural drainage. Subsequent traffic skirts these problem spots, compacting soils along the edges, widening mud holes and tread width, and sometimes creating braided trails that circumvent muddy sections. Muddiness can be avoided and has limited potential to cause measurable impacts due to the primary time of use of the trail system and the system design.

The impacts that would occur with the proposed action can be evaluated by examining the increased amounts of sediment. The development phase would cause more soil area (acres) to be disturbed leading to increases in watershed erosion and the level of erosion would vary depending on the soil properties and location within the watershed. The impacts from the trails themselves and from the use of the trails vary by user type (mountain bike, foot, etc.) and by the length of the trail use (miles) to help determine the amount of sediment generated from the trails (tons of sediment).

The impacts discussed above would all lead to changes in watershed hydrology and erosion, therefore erosion modeling can be used to evaluate the differences between alternatives. The Rangeland Hydrology and Erosion Model (RHEM) (SWRC-ARS-USDA, 2021), web tool calculates rangeland erosion, and the Watershed Erosion Prediction Project (WEPP) (USDA-FS, 2021) model calculates erosion from roads. These models are event-based models that use climate generating scripts to predict annual tons of erosion from uplands and roads on an annual basis. WEPP was used to estimate the differences in erosion from roads and compare the difference between alternatives. RHEM was used to calculate the amount of erosion within the watershed to evaluate the increase in new erosion from roads. Both model outputs include an estimate of annual tons of erosion based on rainfall events. The WEPP model estimates sediment delivery to streams.

Inputs for both models were derived using erosion rate field data collected in the watersheds adjacent to this area by BLM employees.

The adjacent watersheds have similar soil mapping units and the erosion rates for the project area were applied for RHEM. The average per acre of erosion for routes was derived from data collected by BLM in the adjacent watersheds. The routes in the adjacent watershed are generally user created and would represent a higher and more conservative annual erosion rate. This rate was used to calculate how erosion would change with the proposed action.

Currently there are 93 acres of routes in the watershed (BLM GIS) that create 128 annual tons of sediment and deliver 13 tons to the streams. The proposed action would increase the area within the watershed with routes by 12.4 acres causing an increase in erosion of approximately 17 tons annually and delivering 1.7 tons to streams. This is an estimated increase of 13% from routes in the watersheds; and an increase of 0.4% (17 tons/4,200 tons) in total sedimentation in the watershed annually. The increased erosion would occur in the two HUC 6 watersheds. The increase in disturbed acres and erosion would be unavoidable impacts that would persist for the life of the project. Trail construction design and location placement would reduce the need for maintenance. The sediment generated by the trails and from trail utilization would primarily be deposited to area buffer along the trail side, with the exception of the sediment generated near stream crossings or from trails that are within 300 feet of drainages. Impacts would be limited to the HUC 6 watershed and the ephemeral drainages within those watersheds. These could cause localized impacts to those drainage causing measurable increases in sedimentation to the 3b listed streams leading to future impairments. The BLM expects that design features listed is section 2.1.2 would reduce the amount of calculated sediment loads described above, if trails require maintenance beyond the anticipated needs, then the BLM would implement adaptive management described in section 2 to further reduce impacts.

The BLM evaluated stream crossings to account for the potential increase in sediment in local stream in the HUC 6 watershed and sediment delivered to the Colorado River. Stream crossings have higher potential for sediment generated by trails to enter at these locations. With the proposed action, there will be an increase of 14 stream crossings from 109 currently to a total of 123. These are unavoidable impacts and would persist for the life of the project. This could lead to a measurable increase in sediment in the HUC 6 watersheds and in the Colorado River. This could cause the currently listed 3b streams to be listed as impaired and placed on the 303(d) list or list of impaired waterbodies.

The impacts described above would from all the various user types on the routes systems. Allowing e-bikes would open up the use to additional user types, thus increasing usage and potentially increasing the distance users travel. The number of routes within different buffered distances from the NFD Campground and event center increases with the proposed action. The greatest increase is between 0.5 and 1.0 miles from the access locations (Table 5.2.2.1).

Table 5.2.2.1

Buffer Distances (miles from campground)	Miles of New Trails	New Stream Crossings
0-0.5	8.2	5
0.51-1.0	13.8	6
1.1-1.5	6.9	2
1.51-2.0	1.4	0
2.1-2.5	0.7	1
2.51-3.0	0.2	0
3.1-3.5	1.5	0

The majority of new miles and additional stream crossings are within two miles of the NFD Campground and event center. These crossings and miles of trails would be accessible and used regardless of user type due to the close proximity to major access points.

Environmental impacts from e-bikes use are largely unknown. Numerous studies have been conducted on the different impacts between foot travel, horse travel, and traditional mountain bikes, but the research on e-bike use is very limited. One study conducted by the International Mountain Biking Association (IMBA) had data showing there was similar erosion rates between traditional mountain bikes and Class1 e-bikes (IMBA, 2015). The study also suggests that there may be some additional torque with Class 1 e-bikes but could not fully determine if there were erosion differences. This study was conducted in a substantially wetter environment than the proposed action and provides a general reference to potential impacts in a wetter region. Until more research can be collected, adaptive manage should be utilized on trails within the North Fruita Desert recreation area.

If trail maintenance is necessary more frequently than expected, or if there are increased indicators of impacts on trails further from public access such as the NFD campground or event center, then reducing Class 1 e-bikes use may be necessary. Normal trail maintenance includes reshaping tread surface or cleaning trail drainage features and can be expected every 1 to 5 years or longer on some trail locations. Indicators of increased use or excessive impacts which lead to higher-than-normal maintenance include user complaints, tread loss, large rock exposure, root exposures, muddiness on sloped trails, and water channels developing in tread surfaces. If these indicators occur within 1 to 5 years following construction, then the BLM may implement adaptive management to reduce impacts.

If higher visitor use occurs than the BLM estimates, the amount of erosion calculated in the proposed action may be more than what the models predict. This would lead to higher potential for degradation of the watershed area, sediment delivery, and downstream impacts. The BLM completed WEPP model runs for the simulated trail segments. Decreasing the length of the trails by 50% decreased sediment generation by 65% on average, indicating that increasing drainage design features that would effectively shorten trail segments may reduce impacts.

Alternative B – No Action

Of the existing uses, roads can cause the greatest amount of increased erosion. Within the two HUC 6 watersheds there are 153 miles of roads and trails (BLM 2015). Table 5.2.2.2 compares the proposed action impacts.

Table 5.2.2.2

Impact Causing Element	Unit of Measure	Current Rate	Additional from Proposed Action	No Action
Vegetation Removal from Trail Construction	Acres	93	12.4	93
Compaction	Miles	153	29	153
Erosion	Annual Tons	128	17.1	128
Muddiness	Miles	153	29	153
Water Quality Degradation	Stream Crossings	109	14	109
Adjoining Impacted Acres	Acres	93	12.4	83

Vegetation loss, soil compaction, and muddiness would continue at the current levels with the No Action alternative. Watershed erosion would increase if other non-recreation activities increase in the watershed. Under the No Action alternative impacts associated with the proposed new trails would not occur.

Alternative C – Trail System Modifications Only, No E-bikes

The impacts would be similar to those described in the Proposed Action Section.

Alternative D – Class 1, 2 and 3 E-Bike Alternative

Impacts due to e-Bikes are largely unknown due to the limited amount of research. Numerous studies have been conducted on the different impacts between foot travel, horse travel, and traditional mountain bikes, but the research on e-bikes is very limited. There is limited research on Class 2 and 3 e-bikes on their physical impacts to trails compared to Class 1 e-bikes. However, a component of the soil displacement study conducted by the International Mountain Bike Association included a 'mini test' to begin to understand the differences between pedal assist (Class 1 and 3) and throttle (Class 2) e-mountain bikes. This limited study suggests that soil displacement was noticeably greater, especially at the crest of a climb, when a throttle system was engaged (IMBA, 2015).

E-bikes weigh more than traditional bicycles and have travel assisting mechanisms that could increase torque. These features may increase user numbers, allow users to travel greater distances or on more technical rides, and could cause more impacts. Due to the lack of research, adaptive manage should be utilized to allow for flexibility in managing impacts. If trail maintenance is needed more frequently to repair trail damage, or if the BLM observes an increase in impacts on

trails further from public access points, then reducing e-bike use may be needed. Normal trail maintenance includes reshaping tread surface or cleaning trail drainage features and can be expected every 1 to 5 years or longer on some trail locations. Indicators of higher-than-expected use or greater impacts which lead to higher-than-normal maintenance include but are not limited to user complaints, tread loss, large rock exposure, root exposures, muddiness on sloped trails, and water channels in tread surface. If these indicators occur within 1 to 5 years of trail construction, then adaptive management may be necessary to reduce the use of e-bikes.

If the BLM observes signs of higher use and trail damage as described above, the amount of erosion calculated in the proposed action would be more than the models predicts. This would lead to higher degradation of watershed area, sediment delivery, and downstream impacts.

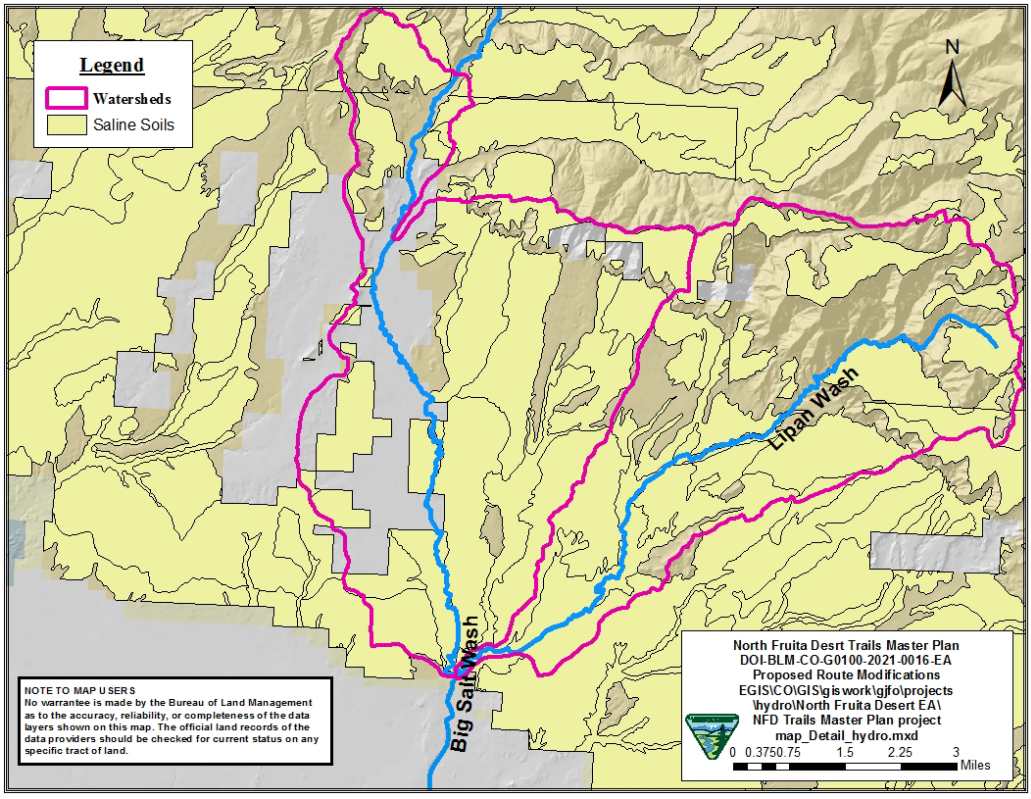
5.2.3 ISSUE 3: How would the new trails, modified trails, and closed trails contribute salinity to the hydrologic unit code 6 compared to the natural background conditions or existing conditions?

AFFECTED ENVIRONMENT

The proposed action would occur in two HUC 6 watersheds in the Upper Colorado River Basin as determined by the Colorado River Salinity Control Act (Public Law 93-320-June 24, 1974). Lipan Wash is a Tributary to Big Salt Wash which drains to the Colorado River in the Upper Colorado River Basin. The soils within the affected environment contain salts and these salts cause impacts to the Colorado River users. Impacts would include reduced agricultural productions, reduced drinking water quality, and corrosion of pipes (Morford, 2021). The Colorado River Salinity Control Act calls for creating a plan through the Colorado River Salinity Control Program to reduce salt loading in the Colorado River. BLM is obligated to ensure projects minimize salts to the existing load. The Colorado River transports between 7 and 9 million tons of salt annually to the Gulf of California depending on climatic control and salt mitigation practices within the basin (Morford, 2021). The Grand Valley Irrigation District (Grand Junction, Colorado) comprises approximately 2% of the irrigated area [in the Upper Colorado River Basin] but contributes approximately 13% of the anthropogenic salinity load within the whole basin. Most of soils in the irrigation district are developing on Mancos Shale, suggesting that naturally saline soils and regolith can contribute to amplifying anthropogenic salt loads in the Colorado (Bureau of Reclamation, 2013).

More than half of the salinity generated in the upper Colorado River basin is attributable to landscapes dominated by Mancos Shale, a marine mudrock from the Upper Cretaceous (100 – 66 million years ago (MYA)). These formations are also the primary source of selenium throughout the basin (Spahr et al. 2000). There are soils in these two HUC 6 watersheds derived from Mancos Shale that have high salt content (Figure 5.2.3)(GJFO 2015).

Figure 5.2.3



There are 29,046 acres in the two HUC 6 watersheds. There are 18,433 acres of soils with high saline content that covers approximately 63% of the watersheds

The streams within the project area not currently impaired but previous versions of the Colorado Public Health and Environment's (CDPHE) integrated report have listed these streams as impaired for sediment. CDPHE's most recent integrated report has indicated there was a lack of data necessary to make a determination. If additional data were collected and a new determination was completed, then the existing management activities in the watershed would be identified as a source of additional sediment and salt that have the potential to result in a future impairment listing.

ENVIRONMENTAL EFFECTS

Alternative A – Proposed Action

The Proposed Action has the potential to increase salinity yield into the Colorado River due to the likelihood of increased erosion from new trails. Typically, salt is mobilized when moisture comes in contact with saline soils or when saline soil is eroded and delivered to drainage ways where the sediment comes into contact with water and is mobilized. Project specific elements that could cause these impacts are new trail development (building, closures, and re-routes) and trail use by mountain bikes and e-bikes, hikers, and other users. The activities surrounding the development phase of the project could lead to vegetation loss, compaction, and erosion. When the trails are in use, impacts include erosion, trail muddiness, degradation to areas adjacent to trails, and impacts to water quality. All these impacts may increase erosion of sediment with high saline content. IIRH attribute ratings indicate that hydrologic function as well as soil and site stability are the primary

ecosystem processes negatively impacted by road, trail, and pipeline development across all three ecological sites studied (Duniway, et. al., 2010).

The BLM calculated erosion and salt delivery rates for the area using erosion rate field data collected in the watersheds adjacent to this area. As described in Section 5.2.2 the BLM estimated erosion rates and salt yields using the RHEM and WEPP models.

There are 18,433 acres of saline soils in the two HUC 6 watersheds. The estimated watershed total dissolved solid (TDS) rate is 3.77 tons per acre for a total of 69,403 tons of annual salt leaving the watershed. This is the amount of salt that occurs from the watershed with all existing uses. Approximately 29 miles and 12.4 acres of the new routes are on saline soils. The BLM estimates that the new trails would produce 17.1 tons of sediment that yield 46.8 tons of salt annually from the watershed, which would be an 0.06% (46.8 tons/69,403 tons) increase of salt annually in the watershed. This is the increased watershed erosion caused by recreation and routes within the watershed. The annual tons of salt transported from the watershed is substantially larger than the tons of sediment transported because salts dissolve and are transported in solution, while larger particles that do not dissolve fall out of transport more quickly. If the BLM determines that trail maintenance is needed more frequently based upon monitoring or other indicators of impacts on trails further form public access, then installation of additional drainage features or reducing use may be necessary. The BLM expects that regular trail maintenance that includes reshaping tread surface or cleaning trail drainage features would be necessary every 1 to 5 years, or possibly less frequently on some sections of trails. Indicators of higher-than-expected use or greater impacts, which lead to higher-than-normal maintenance includes but is not limited to user complaints, tread loss, large rock exposure, root exposures, muddiness on sloped trails, and water channels in tread surface. If these indicators occur within 1 to 5 years following construction, then the BLM may implement adaptive management to reduce impacts.

The type of use on the trail would have similar impacts described in Section 5.2.2, and due to a lack of research, quantifiable measures on types of e-bikes are not understood at this time. The limited amount of research indicates that there are similar impacts between Class 1 e-bikes and traditional mountain bikes. The research also indicates that motorized equipment such as motorcycles do increase erosion, mainly due to increased power. With the assumption that Class 2 and 3 e-bikes would have additional power, impacts would be greater than those from traditional mountain bikes and Class 1 e-bikes. Adaptive management would allow the BLM to adjust management if the BLM determines that increased maintenance and drainage structures are needed, or if utilization is greater than desired. If the State of Colorado determines that the streams in the project area are impaired, then this area would benefit from developing projects that reduce sedimentation and erosion which would result in reducing salt loading to the Colorado River.

Alternative B – No Action

The environmental consequences of the No Action alternative would be continuation of watershed erosion rates, sedimentation rates, sediment yields, and salinity yields due to the existing uses. The existing uses do contribute sediment and salts in addition to natural background conditions. The streams within the project area not currently impaired but previous versions of Colorado's integrated report have listed these streams as impaired for sediment. The most recent integrated report has indicated there was a lack of data necessary to make a determination. If the state collects

the missing data, then the existing management activities in the watershed would be identified as a source of additional sediment and salt, which would contribute to and potentially result in a future impairment listing. Additionally, this area would benefit from developing projects that reduce sedimentation and erosion to reduce salt loading to the Colorado River due the high saline nature of the soils.

Alternative C – Trail System Modifications Only, No E-bikes

Alternative C would have similar impacts as the proposed action.

Alternative D – Class 1, 2, and 3 E-Bike Alternative

As previously described impacts due to e-bikes are largely unknown due to the limited amount of research. Numerous studies have been conducted on the different impacts between foot travel, horse travel, and traditional mountain bikes, but the research on e-bikes is very limited. There is limited research on Class 2 and 3 e-MTBs on their physical impacts to trails compared to Class 1 e-bikes. However, a component of the soil displacement study conducted by the International Mountain Bike Association included a 'mini test' to begin to understand the differences between pedal assist (Class 1 and 3) and throttle (Class 2) e-mountain bikes. This limited study suggests that soil displacement was noticeably greater, especially at the crest of a climb, when a throttle system was engaged (IMBA, 2015). E-bikes weigh more than traditional mountain bikes and have travel assisting mechanisms that could increase torque. These features may increase user numbers, allow users to travel greater distances or on more technical rides, and could cause more impacts. Due to the lack of research, adaptive manage should be utilized. If the BLM determines that trail maintenance is needed more frequently based upon monitoring or other indicators of impacts on trails further form public access points, then installation of additional drainage features or reducing e-bike use may be necessary. The BLM expects that regular trail maintenance that includes reshaping tread surface or cleaning trail drainage features would be necessary every 1 to 5 years, or possibly less frequently on some sections of the trails. Indicators of higher-than-expected use or greater impacts which lead to higher-than-normal maintenance include but are not limited to user complaints, tread loss, large rock exposure, root exposures, muddiness on sloped trails, and water channels in tread surface. If these indicators occur within 1 to 5 years following construction, then the BLM may implement adaptive management to reduce the impacts and use of e-bikes.

5.2.4 ISSUE 4: How would the proposed new trails affect livestock management and distribution?

AFFECTED ENVIRONMENT

The Little Salt Allotment is approximately 30,611 acres with 29,262 acres of public land and 1,349 acres of private land. The permitted season of use is December 1 through May 31 with 2,734 animal unit month (AUMs). The allotment is split into two distinct pastures, east and west with a permanent 4 wire pasture fence and associated cattle guards. The North Fruita Desert SRMA consists of approximately 11,600 acres, with 111 existing designated campsites and approximately 75 to 100 dispersed campsites, staging areas, and an event area within the west pasture of the Little Salt Allotment. There are approximately 62 miles of trail existing in the west pasture and 17 of

those miles are open to full sized vehicles. There are approximately 45 miles within the east pasture and 25 of those miles are open to full size vehicles. There are approximately 21 livestock water sites throughout the allotment, 8 within the east pasture and 13 within the west pasture however, not all are known to hold water. Depending on precipitation, the operators may haul water to sites to help with livestock distribution. In recent years, the livestock operators have used the western portion of the allotment first in the winter months (December through March) and then move east. The operators adopted this management to try to reduce conflicts with the heavy recreational use that occurs in the NFD SRMA in the spring.

Reasonably Foreseeable Environmental Trends

Over the last 20 years the North Fruita Desert, especially near 18 Road, has become a destination area for mountain bike enthusiasts and the trend is projected to increase into the future, potentially impacting permittee grazing use. Potential future actions within the allotment may include 8 miles of new routes, 2 miles of closed routes for a net increase in 6 miles of routes which would increase the routes in the allotment to 113 miles. In addition, a 0.5-acre skilled development area may be constructed to develop rider skill and ability. These potential foreseeable developments contribute to an increase in use within the allotment. This in combination with the proposed action and current level of route use may lead to cattle partially or completely avoiding grazing within the development area around 18 Road, as well as reduced use in areas where recreation trails are abundant. In addition, as seen within the small open OHV area in the southern portion of west pasture there is a possibility for additional unauthorized user created routes outside the designated area to be developed.

Planned Actions in the Area

Planned actions in the area are similar to those described under the other issues analyzed in this document. Additional facilities that are planned in the area that would benefit livestock include watering sites, fencing, and stock pond improvements (see DOI-BLM-CO-S080-2018-0037-EA section 2.2.2).

ENVIRONMENTAL EFFECTS

Alternative A – Proposed Action

The BLM is proposing to construct an additional 29 miles of mechanized (limited to Class 1 e-bikes) routes as part of the full buildout plan for the NFD SRMA that would support the new campground and event center the BLM approved in 2018 (DOI-BLM-CO-S080-2018-0037-EA).

The BLM anticipates that the Proposed Action would increase recreation use in the Little Salt Allotment, which has the potential to increase conflict with livestock grazing and affect livestock management and distribution. Specific impacts that could occur with increased recreation in grazing allotments include:

1. Gates left open.
2. Fences cut for unobstructed access to recreation area.
3. Erratic high-speed use of the area could spook livestock and cause potential injury to both recreationists and livestock.

4. Uncontrolled dogs may chase and harass livestock.
5. High use and high-speed recreation use areas may be avoided by livestock due to the amount of activity.

The design features that the BLM previously identified and analyzed in the NFD Campground and Event Center EA (DOI-BLM-CO-S080-2018-0037) would reduce the above impacts to grazing management. This EA tiers to the analysis of the impacts on livestock grazing from the previously authorized NFD Campground and event center project (pages 44 – 45). As described in DOI-BLM-CO-S080-2018-0037-EA these design features would minimize negative interactions between recreation activities and permitted livestock grazing. The design features analyzed included designating watering areas away from the NFD (18 Road) recreation development area to reduce conflict between user groups. Water developments include watering hauling areas and a small above ground pipeline to a tank. The BLM with the livestock operator and other partners would maintain the pasture boundary fence, including gates and cattleguards, to continue coordinated management of user groups and to reduce user conflict.

Alternative B - No Action Alternative

Under the No Action alternative, the BLM would not construct new trails or increase trail density. There would be no new impacts to livestock grazing beyond what is already occurring within the allotment under this alternative.

Alternative C - Trail System Modification Only, No E-bikes

Alternative C would result in an increase to the miles of trails within the allotment, which may affect the way livestock use the allotment, due to the aforementioned impacts. This alternative does not include e-bikes and may decrease the speed at which recreationists approach livestock, as a result this may decrease the possibility of interactions between livestock and recreationists. Impacts from domestic dogs harassing livestock, high use of the area during the grazing season, and damage to range improvements may still be an impact.

Alternative D – Class 1, 2, and 3 E-Bike Alternative

This alternative includes all classes of e-bikes defined in section 2.1.4. Since some mountain bike and singletrack trails accommodate speeds in excess of 20 miles an hour the impacts to grazing management are not characteristically different from class 1 or 2 e-bikes. The primary concern is the speed that recreationalists may be traveling, reducing the reaction time a recreationist has to avoid contact with livestock and for livestock to move away from the recreationist may increase collisions.

5.2.5 ISSUE 5: How would the proposed changes to the trail system affect recreation setting characteristics and recreation opportunities (activities, experiences, and outcomes) in the NFD SRMA and the GJFO?

AFFECTED ENVIRONMENT

The Proposed Action and alternatives are focused within the NFD SRMA, but the changes proposed for the NFD trail system would also affect recreation opportunities throughout the entire Grand Junction Field Office. See the Introduction and Background section above for more information about the NFD SRMA.

Outdoor recreation on public lands surrounding the Grand Valley is highly valued as a quality-of-life amenity for residents and as a destination for regional, national, and international tourists. Both individuals and communities benefit from public-lands recreation opportunities. Individual benefits include improved physical and mental health and stronger ties with family and friends. Community benefits include a more diversified economy and improving the attractiveness of the Grand Valley as a place to live, work, recreate, and retire. Along with the Grand Valley's Lunch Loops and Kokopelli Loops trail systems, the 18 Road Trails (within the NFD SRMA) recently ranked among the top five most popular trail systems in Colorado based on data from the Trail Forks mobile app (Pink Bike 2021). The NFD SRMA in particular, is a very popular destination for out-of-town visitors who come to camp and ride the NFD and Kokopelli trail systems.

The current trail system within the NFD SRMA includes approximately 33 miles of singletrack trails open to biking, hiking, and horseback riding. Within the larger GJFO (including McInnis Canyons NCA and Dominguez-Escalante NCA), there are a total of 2,088 miles of roads and trails open for recreational use, including 207 miles of singletrack mountain bike trails (most also open to foot and/or equestrian use).

Initial public scoping comments for this proposal, as well as commonly recognized recreation trends, indicate a high level of interest in the management of e-bikes on public lands. According to a 2021 report, the worldwide e-bike market (all classes and bicycle types) was worth about $41 billion in 2020 and is expected to expand nearly threefold over a decade, with a compound annual growth rate of 11.6%. The eMTB (electric mountain bike) category is expected to be the fastest-growing segment during the forecast period. The report also noted that when divided by class, Class 1 e-bikes are expected to be the largest market segment, in part because of legal restrictions of Class 2 and 3 e-bikes on roads and trails (Vision Research Reports 2021). Consequently, the BLM is adapting management strategies to account for this increasingly popular activity. As described in the Introduction and Background section above, the BLM GJFO is following agency-wide guidance by analyzing the potential authorization of e-bike use in the NFD SRMA.
The BLM uses an outcomes-focused recreation management strategy, which identifies and manages landscape and recreation settings to provide specific recreation opportunities and beneficial outcomes.

Recreation opportunities are defined as the ability to participate in recreation activities that facilitate experiences and benefits within a specific geographic area. Visitors to BLM-administered public lands seek a diverse range of setting-dependent outdoor recreation opportunities. They choose to recreate in different areas based on the qualities and conditions (i.e., recreation setting characteristics) of the area and because they desire to have distinctive recreation outcomes (i.e., experiences and benefits) (BLM 2014).

Recreation Outcomes. The BLM establishes outcomes-focused recreation objectives that address recreation outcomes (i.e., recreation activities, experiences, and benefits) for lands designated as SRMAs. Recreation outcomes consist of experiences and benefits and are defined in the 2015 GJFO Approved RMP. Desired outcomes for the NFD SRMA include:

1. Experiencing the closeness of family and friends while developing riding skills and abilities.
2. Realizing the personal benefits of easy access to the outdoors, improved fitness, and health maintenance (physical and mental), development of technical competence (i.e., mountain biking and camping skills), and development of stronger social bonds with friends and family.
3. Community benefits from improved quality of life with higher levels of public land stewardship, stronger community relationships and a healthier community.
4. The area economy is strengthened through recreation-related tourism revenue, and increased desirability of the community as a place to live.

Recreation Setting Characteristics. The visitors' achievement of recreational experiences and benefits is highly dependent on the recreation setting characteristics (RSCs) that support those outcomes. RSCs further describe the physical, social, and operational components of the recreation setting. Physical qualities of the landscape are defined by remoteness, naturalness, and facilities. Social qualities associated with use are defined by contacts with other groups, group size, and evidence of use. Operational conditions to manage recreation use are defined by type of access, visitor services and management controls (BLM 2014)

In the 2015 GJFO Approved RMP, the BLM identified desired physical, social, and operational RSCs for the NFD SRMA. Here is a summary of the prescribed RSCs for the NFD SRMA:

<u>Physical setting</u> (remoteness, naturalness, facilities)

- Easy access from trailheads and campsites
- More remote setting away from core trail system and facilities
- Largely natural-appearing landscape, but visible signs of human influence include roads, trails, campground facilities, fences, and livestock developments
- Topography and vegetation help screen human developments
- Extensive trailhead and campground facilities near 18 Road
- Designated and signed stacked loop singletrack trail system

<u>Social setting</u> (contacts with other groups, group size, evidence of use)

- Contacts with 15 or fewer groups on trails
- Most group sizes of 1-8, with occasional larger groups
- Visitors frequently encounter the sights, sounds and tracks of other cyclists and campers
- Use is highest during spring and fall seasons

<u>Operational setting</u> (access, visitor services and management controls)

- Singletrack trails provide easy access from trailheads off county roads

- A variety of communication tools and service providers provide information and services to visitors
- Portions of the area are designated for camping, festivals, and mountain bike events
- Maps, signs, and physical barriers (e.g., fences) delineate area boundaries
- Management presence is prominent at trailheads and camping areas, and less prominent away from trailheads.
- Campground host onsite at campground during peak seasons
- Visitor use fees charged to support camping and trail infrastructure and services

For this analysis, RSCs serve as a framework to describe the existing recreation setting and the changes in the recreation settings and recreation opportunities created by different alternatives or actions.

Reasonably Foreseeable Environmental Trends

Based on local and regional population growth, and ongoing BLM visitation monitoring, the BLM anticipates continued increases in visitor use within the NFD SRMA, and throughout the GJFO. Continued growth in the popularity of e-bikes will likely result in the need for the BLM to plan more actively and manage opportunities for e-bike use.

Planned Actions in the Area

Within the NFD SRMA, the BLM plans to continue developing camping and event area facilities. The new event area will likely increase the number of event organizers applying for Special Recreation Permits (SRPs) to conduct events using the event venue and adjoining trail system. The BLM plans to use the camping and SRP-generated fee revenue to fund not only campground maintenance, but also ongoing trail system maintenance and construction. Within the larger GJFO area, the BLM anticipates additional development of trails and camping facilities for both motorized and non-motorized recreation. Local trail organizations are currently engaged in various stages of trail planning in the Bangs SRMA, Gunnison Bluffs Extensive Recreation Management Area (ERMA), North Desert ERMA, McInnis Canyons National Conservation Area (NCA), and Dominguez-Escalante NCA.

ENVIRONMENTAL EFFECTS

Alternative A – Proposed Action

As stated above, recreation setting characteristics (RSCs) and their influence on recreation opportunities (activities, experiences, and benefits) will serve as a framework for this analysis.

Effects on Recreation Opportunities and Recreation Setting Characteristics

Recreation Opportunities

Activities

Under the Proposed Action the primary activities in the SRMA would remain mountain biking and camping, with the addition of authorized e-bike use. Perceptions expressed in public scoping comments, and the definition of Class 1 e-bikes indicate that Class 1 e-bikes more closely resemble traditional mountain bikes than gas-powered motorcycles or Class 2 and 3 e-bikes. As described

in the Introduction and Background section above, the BLM Final E-bike Rule issued in 2020 allows authorized officers to authorize the use of Class 1, 2, and 3 e-bikes on trails upon which mechanized, non-motorized use is allowed.

Some scoping comments stated that there are already plenty of designated motorized OHV areas and trails within the GJFO where e-bike riders can ride. Of the 2,088 total miles of designated routes within the GJFO, 1,591 miles are currently open to e-bike use on designated OHV routes. The GJFO also manages 10,200 acres of OHV open areas that are open to cross-country travel for all modes of transportation. Of the 1,591 miles of designated routes currently open to e-bikes, only 145 miles (9%) are singletrack. Many eMTB riders are looking for not simply a place to ride, but they are seeking similar singletrack trail experiences to those of traditional mountain bikers. In fact, many public scoping commenters noted that they also ride, or formerly rode, traditional mountain bikes. The Proposed Action would increase the total miles of singletrack open to e-bikes by up to 67 miles (46% of the 145 miles currently available) at full build-out of the proposed trail system.

Some scoping comments noted concerns that allowing e-bikes on the NFD trail system would set a precedent that obscures the lines between mechanized and motorized travel and threatens non-motorized trails on all BLM lands. The scope of the Proposed Action is limited to the boundaries of the NFD SRMA. It follows the policy guidance of DOI Secretarial Order 3376 and the Final BLM E-bike Rule which directs the BLM to consider allowing e-bikes on mountain bike trails. If the BLM authorizes e-bike use on the NFD trail system, the area could serve as a test case for e-bike management. By monitoring and assessing physical and social conditions, the BLM and others could gain objective data to inform future trail management decisions. The adaptive management actions described in the Proposed Action would also provide mechanisms to address unforeseen impacts to public safety, visitor experiences, wildlife, and soils.

Two public scoping comments advocated for managing e-bikes as a distinct mode of travel and developing trails elsewhere in the GJFO to meet e-bike riders' desired recreation experiences and outcomes (e.g., singletrack trails without other motorized vehicles). From a practical standpoint, it would be difficult for the BLM to create new e-bike-specific trails or trail systems extensive enough to accommodate the growing number of e-MTB users. The resource management plans for the GJFO, MCNCA, and DENCA allocated land uses, and prescribed specific management objectives for all of the lands administered by the GJFO. All of the areas designated as Special Recreation Management Areas or Extensive Recreation Management Areas (ERMAs) have specific recreation management objectives that allow for various combinations of motorized, non-motorized, and non-motorized/non-mechanized recreation activities. Creating an e-bike-optimized experience outside of areas currently managed for non-motorized recreation would require building trails in RMAs with motorized activity and experience objectives, or in areas not designated as SRMAs or ERMAs. In the motorized-focus RMAs, e-bike-specific trails would likely reduce new trail development opportunities for traditional OHV activities. In most areas not designated as SRMAs or ERMAs, management objectives are focused on managing natural or cultural resources, or other non-recreation resource uses (e.g., livestock grazing, oil and gas extraction) that would not be compatible with a custom recreation trail system. Planning separate e-bike trails would also require funding and personnel resources currently needed to address a backlog of other trail planning requests.

Three scoping comments requested that the trail system be designed/managed with equestrian use in mind. Since the planning guidance for the NFD SRMA focuses on providing bike-optimized trail opportunities, and cross-country equestrian use is allowed off designated routes, managing the trails, trailheads, and camping facilities primarily for bicycle use (traditional mountain bikes and Class 1 e-bikes) would help the BLM best meet the recreation objectives for the NFD SRMA. Equestrian use would continue to be allowed in the SRMA. The BLM manages other areas of the GJFO and NCAs for equestrian use (e.g., Rabbit Valley, Fruita Front Country, Little Book Cliffs, and Nine Mile Hill).

Experiences and Benefits

Under the Proposed Action, the BLM would continue to manage the area for the specific set of recreation experiences and benefits prescribed by the GJFO RMP for the NFD SRMA (described above).

Some scoping comments, recent research, and anecdotal observations suggest that the introduction of e-bike use onto traditional mountain bike trails creates the potential for negative social interactions between eMTB riders and traditional mountain bike riders, as well as other trail users. Conversely, many of the scoping comments stated that conflicts between Class 1 e-bike users and non-motorized trail users are rare. A 2019 qualitative analysis of eMTB threads in mountain biking forums concluded that inexperience with an eMTB appears central to the conflict surrounding eMTB use. This study found that most participants either became more accepting (61%) of eMTBs after riding one or reported no change (24%) in their level of acceptance (Hall et al 2019). An intercept study (a survey of trail users on site) in Fruita, Colorado found that increased familiarity with electric mountain bikes (e-MTBs) resulted in an increased positive perception about e-MTBs (People For Bikes, 2017). Therefore, the perceived social conflicts would likely abate over time if e-bikes are permitted on the proposed trail system. One scoping comment referenced an online blog that quoted trail managers from trail systems in Jefferson County, Colorado; Boulder County, Colorado; and Maricopa County, Arizona that have recently begun allowing some level of e-bike use on formerly non-motorized trails. In each case, the trail managers indicated that social conflicts directly attributable to e-bike use are rare (Horse Gulch Blog 2020).

Many of the public scoping comments from e-bike proponents said that e-bikes are about the same as a traditional bike because e-bikes look like traditional bikes and are still predominantly human-powered. E-bikes just have an extra boost of power that can help riders with physical limitations. Researchers from the Department of Technology and Engineering Studies at Brigham Young University reported all participants reached at least moderate levels of intensity and most reached vigorous levels while riding e-bikes. E-bike users in this study achieved a majority of the exercise response and exceeded established biometric thresholds for cardiovascular fitness. (Hall, et al 2019). So, it appears that traditional and e-bikes can result in similar levels of exercise and effort.

Several public scoping comments suggested allowing e-bikes on non-motorized trails would negatively impact the recreational experience of hikers, runners, equestrians, and traditional mountain bikers. These activities are often grouped under a broad heading of "Quiet Recreation or Quiet Outdoor Recreation". This includes a broad range of activities that are primarily muscle-powered (Outdoor Recreation Council of Alberta 2020) that take place in areas that exclude off-

highway vehicle use, motorcycling, all-terrain vehicles, snowmobiling, or driving for pleasure. Participants in these activities are typically seeking a non-motorized recreation setting without the sights, sounds, and smells of motors. E-bikes do not exhibit the same characteristics as gas engines. But allowing e-bikes (i.e., Alternatives A and D) in an otherwise non-motorized recreation setting would change the RSCs and the realization of desired recreation experiences of those participants who distinguish a difference between traditional mountain bikes and e-bikes.

A Boulder County Parks and Open Space e-bike pilot study in 2019 resulted in staff recommendation to allow Class 1 and Class 2 e-bikes on plains trails. The rationale included:

- E-bikes are here and though they are a small portion of trail visitors today, their use will likely continue to increase as price points become more competitive combined with demographic trends of aging baby boomers.
- Acceptance of e-bikes is fairly high and will likely continue to grow.
- As the technology evolves, it will become more difficult to distinguish some e-bikes from conventional bikes. (Boulder County Parks and Open Space 2019)

Physical Recreation Setting Characteristics. The physical qualities of a landscape can be defined by characteristics such as remoteness, naturalness, and visitor facilities.

Remoteness and Naturalness

Under the Proposed Action, there would be a net increase of approximately 26 to 34 miles of new purpose-built mountain bike trails within the NFD SRMA (initial 29 miles, minus 3 miles of closure, plus up to eight miles of additional future trail construction). That would represent an 88% to 101% increase in trail miles over the current 33 miles within the NFD SRMA, and a 13% to 16% increase to the 207 miles of singletrack mountain bike trails currently designated in the entire GJFO.

Since the existing trail system is not currently open to e-bikes, the number of miles of singletrack open to Class 1 e-bikes in the SRMA would increase by 100%, for a total of up to 67 trail miles. In the GJFO as a whole, this would also represent a 100% increase in the number of Class 1 e-bike-authorized trail miles on routes currently open only to non-motorized and mechanized (traditional mountain bikes) use.

The proposed seasonal closures would reduce the number of miles of trails currently open annually between December 1 and May 1 by 5.3 miles. This represents 16% of the current 33-mile trail system. If the trail system was fully built-out, 11 miles of trails (16% of the 67-mile trail system) would be closed seasonally. These closures would limit opportunities to experience some of the more remote portions of the trail system during winter and early spring months, but those closures would not substantially impact overall opportunities to achieve desired recreation outcomes in the SRMA. The loss of recreation opportunities would increase if the BLM implemented adaptive wildlife mitigation measures that reduced trail access.

Increasing overall trail miles and allowing Class 1 e-bike use on the trails would potentially decrease visitors' perception of the area's remoteness and naturalness since there would be more human-made trails on the landscape, and e-bikes would allow more people to travel further from trailheads and campsites, but these changes to physical RSCs would not substantially affect the

desired outcome objectives for the SRMA (listed above). In other words, to provide visitors with more opportunities to ride their bikes with family and friends, it is logical to build and maintain additional purpose-built mountain bike trails in an area that is already heavily used and managed primarily for mountain biking. A public scoping comment referenced a 2021 Utah State University study that examined ecological impacts from recreation, and strategies for managing those impacts. In part, the study found that the amount of use in relation to level of impact is a curvilinear, not linear, relationship. This suggests that the majority of disturbance is a consequence of the initial use in a given location, but subsequent use, even at high levels, results in little additional impact. (Monz 2021). While Alternative A proposes trails that would cause new disturbance and diminish naturalness in the NFD SRMA, on a broader GJFO-wide scale, it would focus high use mountain biking activities and impacts in an area that has already been analyzed, designated, and developed for mountain biking and camping.

Facilities and Trails

The Utah State University study (Monz 2021) also notes the impact-reducing role of designing, building, maintaining, and managing trails specifically for mountain biking. The purpose-built, bike-optimized trails proposed in Alternative A would balance user experiences and resource sustainability. Purpose-built trails are planned and constructed to meet the demand of trail users for quality, fun experiences. Since there are a wide variety of trail users looking for different experiences, the proposed trails cover a wide continuum of difficulty, flow, width, and other characteristics. Since the proposed trails are professionally designed, and would be built using current best management practices, they would mitigate impacts to natural and cultural resources and other resource uses (e.g., livestock grazing) while providing the high-quality recreation experiences that the BLM is managing for in the NFD SRMA.

The trails proposed in Alternative A would also complement the recently developed event staging facilities in support of the NFD SRMA objective of designing and constructing an event staging area and trail system to accommodate largescale mountain bike races and events. The BLM has made a large financial investment in developing event staging, parking, and camping facilities in the NFD SRMA. Building up to an additional 34 miles of trails (including event-optimized trails) in the SRMA would allow the BLM to better accommodate largescale events. It would reduce the impacts to the general public during events by reducing the percentage of the trail system affected by event activities. This would reduce the likelihood that users would be displaced to other trail systems outside of the NFD. Having a fully developed event venue with a large staging and parking area, as well as a a race-optimized stacked loop trail system would increase the area's appeal to event organizers, likely resulting in increased permit fee revenue that could be used to support upgrades and ongoing maintenance of the staging area and trails.

Social Recreation Setting Characteristics. The social qualities associated with use can be defined by characteristics such as contacts with others, group size and evidence of use.

Visitor Use Levels

In 2021, BLM estimated more than 1.4 million annual recreation-related visits to public lands administered by the GJFO (including McInnis Canyons NCA and Dominguez-Escalante NCA) Of that total, the BLM estimates that the NFD SRMA accounted for approximately 108,000 visits. This is a 35% increase in visitation since 2017, an average annual growth rate of 7%. The new

trails and the authorization of Class 1 e-bike use would likely be advertised through social media, websites, and by local communities. This exposure would likely increase visitation to the area.

The BLM also anticipates that the authorization of Class 1 e-bike use would contribute to increased visitation because e-bikes would facilitate use by people with age, fitness level, or disability limitations. Many of the scoping comments listed these factors as reasons for their use of e-bikes. However, many of those commentors also stated that they also still ride, or used to regularly ride, traditional mountain bikes. Consequently, some e-bike use would simply replace traditional bike use and not contribute to increases in visitation. As noted in a 2019 Boulder County Parks and Open Space e-bike pilot study, the percent of overall use by people riding e-bikes will likely continue to increase as e-bike costs go down and demographic aging trends favor increased e-bike sales (Boulder County Parks and Open Space 2019).

The trend of increasing visitor use in the NFD SRMA has increased crowding on the existing trail system, increasing the likelihood that visitors may encounter more than 15 other groups, thus exceeding the social RSC target prescribed in the GJFO RMP. By nearly doubling the trail mileage, the Proposed Action would allow users to disperse over a larger area to reduce crowding. Adding trails managed for directional travel would further reduce user encounters on the trails. Even considering the potential increases in visitor use resulting from the Proposed Action, the BLM anticipates that dispersing use onto more trails and separating uphill and downhill traffic would help visitors better achieve the desired experience and outcome objectives described in the GJFO RMP.

Higher visitation numbers would also increase use at trailheads, but the recent construction of the event staging area has significantly expanded the area's parking and staging capacity, and would lessen the impact of any increased visitation.

Social interactions

Managing trails for directional travel and spreading use across a larger trail network would also reduce the potential for negative social interactions (conflict) since there would be fewer contacts with other groups.

By adding trails to accommodate large-scale events, the Proposed Action would reduce social impacts to non-event participants during organized events by reducing the percentage of the trail system occupied by the event.

See the recreation opportunities section below for analysis of other social impacts from the potential introduction of Class 1 e-bike use onto the NFD SRMA trail system.

Speed and Safety Concerns

Several public scoping comments cited safety and user experience concerns related to the potentially higher speeds of e-bike riders. A 2019 white paper prepared for People for Bikes reviewed empirical studies from Europe and North America to examine e-bike safety. These studies were not specific to e-mountain bikes (they included studies of e-bikes in urban settings as well), but most evidence points to average speeds of about 3 kilometers per hour (km/hr) (1.9 mph) faster than conventional bicyclists measured in the same study. There is some evidence that the

speed differential is highest on uphill segments where e-bikes are able to sustain a more consistent higher running speed (Cherry and MacArthur 2019).

This finding is reinforced by the e-bike pilot study in Boulder County that showed uphill e-bike speeds were slightly faster than conventional bike speeds at 13.8 and 12.9 mph respectively. However, the average downhill speed of conventional bikes was faster at 15 mph compared to the average for e-bikes of 13.5 mph. (Boulder County 2019).

In August 2019, elite athletes competed on the same course in e-bike and traditional bike World Championship events. A field of 84 racers on traditional mountain bikes completed a 29.7 kilometer (km) race at an average speed of 20.5 kmh (12.7 mph). A field of 38 racers on eMTBs completed a 24.4 km race at an average speed of 22.6 kmh (14.0 mph) (UCI 2019). This is an imprecise comparison, but the slightly higher average speed of the eMTB racers (1.3 mph) corresponds with other recent findings.

To date, research on e-bike safety has not found definitive negative or positive safety impacts. E-bikes tend to be a little faster on average, but top speeds don't tend to be faster. Much of the speed advantage occurs on uphill sections (Cherry and MacArthur 2019).

Noise Issues

A few scoping comments mentioned the potential impacts from the noise produced by e-bike motors. Most e-bikes do have a slight whining sound made by gears, bearings, and the chain (ElectricBike.com 2019) but the sound is typically only audible when you are on or near the e-bike. The noise from e-bikes using the NFD trails would likely cause minimal changes to the area's social setting and targeted recreation opportunities.

Operational Recreation Setting Characteristics. The operational conditions to manage recreation use can be defined by characteristics such as public access, visitor services and management controls.

Public Access

Under the Proposed Action public access would continue to be centered around the trailheads, campgrounds and event staging areas along 18 Road. By expanding the trail system and authorizing Class 1 e-bikes, the Proposed Action would increase access within the NFD SRMA, supporting the SRMA recreation objectives of providing high quality opportunities for mountain biking, camping, and hosting events.

Visitor Services

Implementing the Proposed Action would require expanded multi-front public outreach and communication efforts (websites, social media, onsite signage, onsite patrols, etc.) to convey trail system changes, regulation changes (e.g., seasonal closures, e-bike rules), and event coordination. Camping fees and SRP fees would be available to help pay for these added visitor services.

Enforcement

Some scoping comments raised concerns that managing various levels of e-bike access would demand an extra allocation of already limited resources from the BLM and its managing partners (e.g., City of Fruita, Mesa County, COPMOBA). Expanding and managing the trail system would require additional staff and/or volunteers and operational funding from BLM and its partners. Currently, BLM staff (including BLM law enforcement rangers) are occasionally present (e.g., mostly weekends and busy periods) for visitor patrols and to provide onsite assistance. Because e-bikes and traditional bikes look and perform similarly, identifying them and enforcing bicycle-type restrictions would be time-consuming and costly. The simplest and most cost-effective management strategy would be to allow both traditional bikes and e-bikes on all mountain bike trails within the NFD SRMA. Scoping comments, along with recent precedents from other trail systems, indicate a preference for allowing Class 1 e-bikes, but not Class 2 and 3 e-bikes, on the NFD trails. In the past two years, the BLM has authorized Class 1 e-MTB use on some new or existing trails in Colorado that are closed to other motorized OHV use and open to traditional mountain bike use (BLM CRVFO 2020, BLM TRFO 2020, and BLM GFO 2020). To effectively implement the Proposed Action, the BLM and its partners would need to be prepared to provide resources (funding and personnel) to limit use to Class 1 e-bikes and traditional bikes. However, market data, as well as anecdotal observations by BLM recreation staff and partners, indicate that Class 1 e-MTBs are by far the most common type of e-MTBs using soft-surface trails on public lands (Vision Research Reports 2021), so the BLM would not need additional enforcement resources unless reports of Class 2 and 3 e-bike use became more prevalent.

Trail Maintenance

Some scoping comments expressed concern that allowing e-bikes on the NFD trail system would cause more damage to the trails and necessitate more trail maintenance. Since e-bikes are a relatively new use of public lands, research on their impacts is limited. A 2015 International Mountain Bicycling Association study in western Oregon compared the environmental impacts from mountain bikes, Class 1 e-bikes, and motorcycles. That study found that soil displacement and erosion effects from Class 1 e-bikes were similar to standard mountain bikes, and substantially less than the impacts associated with motorcycles (IMBA 2015). The small-scale field experiment showed some differences between the impacts of Class 1 e-bikes and mountain bikes, particularly at turns and grade changes. However, the soil displacement measured in the study was not significantly different (statistically) from that associated with mountain bikes and was much less than that associated with motorcycles. This study also suggests that trail design and construction (as opposed to type of use) is the primary factor driving impacts to soil, water, and vegetation. Thus, a carefully designed trail would be expected to exhibit fewer impacts related to trail use, than a user-created trail. The study also noted that more research is needed before more definitive conclusions can be drawn regarding the environmental impacts of Class 1 e-bikes as compared with traditional mountain bicycles.

Alternative B – No Action

Under Alternative B, the BLM expects changes to some recreation setting characteristics that would make it more difficult for the BLM to continue to provide the targeted recreation opportunities necessary to meet the recreation management objectives for the NFD SRMA

Effects on Recreation Opportunities and RSCs

Recreation Opportunities

Activities, Experiences, and Benefits

Under Alternative B the primary activities in the SRMA would remain mountain biking and camping. The BLM would continue to prohibit the use of all classes of e-bikes on trails currently open only to non-motorized uses (foot, horse, and traditional mountain bikes).

Nearly all of the public scoping comments expressed at least general support for expansion of the trail system. Under Alternative B, there would be no increase in the number of trail miles open to recreation activities, including e-bike use, in the NFD SRMA or in the larger GJFO, MCNCA, and DENCA. The BLM would not expand opportunities for visitors to experience the beneficial outcomes described in the analysis of Alternative A.

Conversely, Alternative B would help retain the non-motorized character of the area, thus supporting the activities, experiences and benefits desired by some visitors to the NFD SRMA. This alternative would best meet the stated objective of some commentors to minimize any further development of recreation opportunities.

Under Alternative B, mountain bike use would continue to be allowed year-round on the entire 33-mile NFD trail system. This would allow mountain bike use annually from December 1 until May 1 on 5.3 miles of the current trail system that would be closed during that time period in the other three alternatives.

By not expanding the capacity of the trail system, the BLM would not be able to fully achieve the RMP planning objective of providing an event venue to host largescale mountain bike events. The recently constructed event staging area has increased the staging and parking capacity for conducting large, organized events, but the trail system to support larger events would be limited to the current 33-mile trail system instead of the 67-mile trail system (including event-optimized trails) that would result from full build-out of the trails system proposed in the other three alternatives. Adding a large number of users to the existing trail system, which is 101% smaller than the proposed trail system, would substantially disrupt and displace use by the general public during large events. It would likely increase crowding on trails not being used by the event, including trails outside of the NFD SRMA. It would also likely reduce the revenue generated by permit fees paid to the BLM by event organizers. That would reduce funding that supports facility and trail upgrades and maintenance in the NFD SRMA.

Physical RSCs

Remoteness and Naturalness

Under Alternative B, the mileage and density of trails in the SRMA would remain the same which would partially preserve the perceived remoteness and naturalness of the area. However, expected increases in visitation and crowding, as well as continued use of existing unsustainable trails, would likely result in degradation of perceived remoteness and naturalness that is equal to or greater than what would be expected under the other three alternatives.

Social RSCs

Visitor Use Levels

Under Alternative B, the BLM expects that visitation to the NFD SRMA would continue to increase, at least over the next few years. Based on BLM visitor use monitoring, visitation to the SRMA has increased by an average of 7% annually since 2017. If visitation continues to grow, changes to some recreation setting characteristics would make it more difficult for the BLM to provide the targeted recreation opportunities necessary to meet the recreation management objectives for the SRMA. The BLM anticipates that the trend of increasing visitor use in the NFD SRMA would continue to increase crowding on the existing trail system, increasing the likelihood that visitors may encounter more than 15 other groups, thus exceeding the social RSCs target prescribed in the GJFO RMP. Consequently, diminished visitor experiences would cause some recreationists to seek alternative areas to recreate. So, at some threshold level of visitation, use levels would potentially plateau or decline. Since this alternative would not include the authorization of e-bike use on the trails, overall increases in visitation would likely be less than in the other three alternatives.

Social Interactions

Continuing increases in use on the existing trail system would increase the potential for negative social interactions (conflict) since there would be more contacts with other groups. One might assume that continuing to prohibit e-bikes on the NFD trails would reduce the potential for conflict between e-bike riders and other trail users that might occur under alternatives A, and D where e-bikes would be allowed on the trails. But, as documented in the analysis of Alternative A, conflicts between Class 1 e-bikes and other trail users are not common on trails that allow Class 1 e-bikes. Considering that evidence, along with the growing demand for e-bike opportunities and increasing reports of e-bikes already using the NFD trails, the BLM anticipates that agency personnel would not have the capacity to adequately enforce the e-bike closure. Consequently, there would be a higher potential for conflict resulting from self-policing by visitors participating in authorized trail uses confronting visitors riding e-bikes on trails closed to e-bikes.

Operational RSCs

Public Access

Under Alternative B, the BLM would not construct any new trails, so access would be limited to the existing trail system and no new recreation opportunities would be added to the SRMA.

Visitor Services

Under Alternative B, the BLM and its partners would continue to provide public outreach and communication efforts and would likely be able to expand those efforts with expected increases in fee revenue from the new campsites recently developed near the event staging area.

Enforcement

Some scoping comments raised concerns about the BLM's current capacity to adequately enforce current use restrictions like the prohibition of e-bikes on the NFD SRMA trail system. Under Alternative B, those enforcement challenges would remain and would likely worsen if illegal e-bike use continues to increase on the area's trails. As described under Alternative A, e-bikes and traditional bikes look and perform similarly and identifying them and enforcing bicycle-type

restrictions is time-consuming and costly. To more effectively enforce the e-bike restrictions would require a greater commitment of BLM law enforcement and recreation program staff and funding resources. The commitment of those resources would result in decreased law enforcement capacity for addressing illegal camping, illegal travel off of designated routes, damage to natural and cultural resources, and a host of other typical law enforcement needs. Any recreation program staff committed to e-bike enforcement activities would be diverted from other visitor support services including facility maintenance, trail maintenance, and planning and construction efforts for new trails in other parts of the field office.

Trail Maintenance

Under Alternative B, the BLM and its partners would continue to maintain the current trail system. Increased user fees from the newly constructed campsites would likely provide increased funding available for trail maintenance. In the long-term, the trail system expansion proposed in Alternative A would provide more additional funding than Alternative B due to the increased attractiveness of the area for large BLM-permitted events which generate permit fee revenue for the BLM. Similarly, there would be fewer volunteer resources available for trail maintenance projects since most e-bike riders would probably not volunteer on trails that they could not legally ride. Under Alternative B, poorly located unsustainable trail alignments would not be rerouted and would require more long-term maintenance than the rerouted alignments proposed in the other three alternatives.

Alternative C – Trail System Modifications Only, No E-bikes

Under Alternative C, the affects from expansion and modification of the trail system would be similar to those described for the Proposed Action (Alternative A). The affects relating to the authorization of Class 1 e-bikes would be similar to those described for the No Action alternative (Alternative B). Affects unique to Alternative C are described below.

Effects on Recreation Opportunities and RSCs

Recreation Opportunities

Activities, Experiences, and Benefits

Under Alternative C, the continued prohibition of e-bike use would help retain the non-motorized character of the area, and the expanded trail system would provide up to 34 miles of new trails available for non-motorized activities, experiences, and benefits desired by many visitors to the NFD SRMA and other non-motorized trail systems in the area. However, those new trails along with the existing trail system would not be available for the growing number of e-bikers seeking recreation opportunities similar to those sought by traditional mountain bikers.

Physical RSCs

Remoteness and Naturalness

The absence of legal e-bike use on the expanded trail system, and dispersal of trail users over more trails would likely result a slightly more remote and natural setting than under Alternatives A and D.

Social RSCs

Visitor Use Levels

Under Alternative C, the BLM expects that visitor use levels would continue to grow at a rate similar to that of Alternative A, but the overall use level would be lower than if e-bike use is authorized on the trail system.

Social interactions

The lower overall visitor use on the expanded trail system would reduce the number of visitor contacts with other groups, which would help to keep group contacts under the 15 contacts prescribed RSCs in the GJFO RMP. Compared to Alternative B, the lower number of contacts with other groups expected under Alternative C would slightly reduce the potential for social conflict resulting from the prohibition of e-bikes.

Operational RSCs

Public Access

Under Alternative C, public access for non-motorized uses would be the same as in Alternative A, and e-bike users would not have legal access to any of the trails in the NFD SRMA.

Trail Maintenance

The trail maintenance impacts resulting from the reduced pool of potential trail maintenance volunteers described in Alternative B (due to the loss of e-bike volunteers), would be more pronounced under Alternative C since trail maintenance needs would increase on a trail system up to twice as big as the current trail system.

Alternative D – Class 1, 2, and 3 E-Bike Alternative

Under Alternative D, the affects from expansion and modification of the trail system would be similar to those described for Alternative A. Many of the affects relating to the authorization of Class 1, 2, and 3 e-bikes would be similar to those described in Alternative A which would only authorize Class 1 e-bikes. The primary differences in the effects of Alternative D and Alternative A are driven by the varying characteristics of the three classes of e-bikes (described in the Introduction and Background section above). Affects unique to Alternative D are described below.

Effects on Recreation Opportunities and RSCs

Recreation Opportunities

Activities, Experiences, and Benefits

Alternative D would extend the same singletrack trail riding opportunities and outcomes for Class 2 and 3 e-bikers as those provided to Class 1 e-bikers in Alternative A. However, only one of the public scoping comment submissions advocated opening the trails in the NFD SRMA to Class 2 and 3 e-bikes, and several of the comments in support of allowing Class 1 e-bikes specifically advocated for limiting new e-bike authorizations to Class 1 e-bikes. Typical reasons for this preference relate to the similarity of Class 1 e-bike and traditional mountain bike specifications, experiences, and benefits as described under Alternative A. The higher speed capabilities of Class

3 e-bikes, and throttle actuation of Class 2 e-bikes, lead many recreationists and trail managers to view Class 2 and 3 bikes as more closely resembling motorcycles than traditional mountain bikes. Limiting e-bike use to Class 1 e-bikes (Alternative A) would more closely match the recreation opportunities and recreation setting characteristics prescribed for the NFD SRMA.

Physical RSCs

Remoteness and Naturalness

The BLM expects that the authorization of all three classes of e-bikes would increase the number of recreationists using the trail system, as well as the distance they could travel from trailheads and campsites. That would contribute to a decrease in perceived remoteness and naturalness in comparison to the other three alternatives.

Facilities and Trails

The expected increases in visitation under Alternative D would increase crowding and maintenance needs at trailhead and camping facilities, but the BLM does not expect those impacts to be substantially different than the impacts expected under Alternative A since Class 2 and 3 e-bikes are much less prevalent than Class 1 e-bikes.

There is limited research on Class 2 and 3 e-MTBs on their physical impacts to trails compared to Class 1 e-bikes. However, a component of the soil displacement study conducted by the International Mountain Bike Association included a 'mini test' to begin to understand the differences between pedal assist (Class 1 and 3) and throttle (Class 2) e-mountain bikes. This limited study suggests that soil displacement was noticeably greater, especially at the crest of a climb, when a throttle system was engaged (IMBA, 2015).

Social RSCs

Visitor Use Levels

Under Alternative D, the BLM expects that visitor use levels would be slightly higher than under Alternative A since the trails would be open for more types of use.

Social interactions – speed and safety concerns

The higher overall visitor use on the expanded trail system would increase the number of visitor contacts with other groups. The additional authorization of Class 2 and 3 e-bikes in Alternative D would increase the distance and speed users could travel. Several scoping comments expressed concerns about the increased potential for social conflict and collisions due to the speed differential between non-motorized users and e-bikes, particularly Class 3 e-bikes which provide motor assist up to 28 mph. While Class 2 e-bikes only provide motor assist up to 20 mph (same as Class1) the ability to actuate the motor without pedaling makes them more recognizable to other users, and more likely to be perceived as something other than a bicycle. These distinctions would alter the area's social RSCs, partially diminishing the SRMA's prescribed non-motorized characteristics.

While allowing all three classes of e-bikes in Alternative D would alter the area's social RSCs more than in Alternatives A and C, evidence cited under the Alternative A analysis indicates that

as a whole, conflicts between e-bike riders and other trail users are minimal, and the rates of injury are not substantially different between the different classes of e-bikes. Positive or negative social interactions are typically driven more by the user than their mode of travel.

The adaptive management actions common to all the alternatives would give the BLM direction to address documented safety and social interaction issues.

Operational RSCs

Public Access

Alternative D would provide the highest level of public access to the trails in the NFD SRMA. For Class 1, 2, and 3 e-bikes and non-motorized trail users, it would expand overall access to the designated routes managed by the GJFO by up to 3.2%.

Enforcement

Of the four alternatives, Alternative D would require the lowest level of enforcement since all three classes of e-bikes would be allowed on the trail system, eliminating the need for BLM law enforcement or recreation program staff to monitor and enforce e-bike restrictions on the trail system in the NFD SRMA. However, it could increase enforcement needs elsewhere in the field office if e-bike users attracted to the NFD trails expand their use to other non-motorized trail systems in the area.

Trail Maintenance

Under Alternative D, anticipated increases in trail use and types of trail users would likely result in more trail impacts and the need for more trail maintenance than in the other alternatives. As noted above under the physical RSCs for facilities and trails, some early research indicates that Class 2 e-bike use may result in higher soil displacement and impacts to trails. The increased user base would also expand the pool of trail maintenance volunteers.

5.2.7 ISSUE 6: How would the proposed changes to travel designations affect access to the NFD SRMA?

AFFECTED ENVIRONMENT

The analysis area includes the entire 11,600-acre NFD SRMA as well as an area of approximately 800 acres east from the SRMA boundary to Q.5 Road along Lippan Wash. The analysis area includes a total of 72 miles of designated routes (all travel types).

The 2015 GJFO Approved RMP includes a travel management plan which identifies the system of roads and trails that the BLM manages and assigns designations that define how those routes will be managed. Route designations specify which types of use are allowed on each road or trail. New routes can be added as needed to accommodate use and provide for recreation opportunities. The approved travel network will continue to evolve and change over time (BLM 2015 Appendix M).

The travel management plan includes broad land use planning decisions that classify the areas within the GJFO as either "Open" (to cross-country travel), "Limited" (to designated routes), or "Closed" to motorized OHVs. Within the areas designated as "Limited" the BLM manages roads and trails according to the individual route designations made during the comprehensive travel management planning process. For some routes the BLM identified final route designations that were contingent on implementing specific mitigation measures. In this EA, the BLM is proposing to implement the mitigated route designation identified in the 2015 travel management plan for route I40.

The NFD SRMA and the adjoining North Desert ERMA are designated "Limited" areas. Changes to route designations, like those proposed in Alternatives A, C, and D, require a NEPA planning process to analyze the proposed changes prior to a decision on whether to authorize the changes.

During the GJFO travel management planning process a BLM interdisciplinary team and several cooperating agencies comprehensively evaluated the roads and trails throughout the GJFO in a formal route designation process. Two SRMAs, including the NFD SRMA, had separate travel management plans prior to the field office-wide planning process. For those areas, the travel planning team reevaluated these routes but did not make designations within those SRMAs unless new information was available (since the original SRMA planning process) or public comments or BLM recreation staff requested changes to route designations within the two SRMAs (BLM 2015 Appendix M).

The prior travel plan for the NFD SRMA was based on an SRMA boundary and recreation management objectives different from those approved in the 2015 GJFO RMP. The route designation changes proposed in this EA are primarily intended to modify the route system within the SRMA to better match the revised recreation management objectives of the SRMA, while reducing seasonal impacts to deer and elk, and providing access to private property and livestock grazing facilities.

The proposed authorization of e-bike use in Alternatives A and D would result in new OHV route designations for all of the singletrack trails within the NFD SRMA. In Alternative A that new designation would be "OHV Limited: Limited to Class 1 e-bikes" and in Alternative D the designation would be "OHV Limited: Limited to Class 1, 2, and 3 e-bikes". See section 5.2.6 (Recreation) for detailed analysis of access impacts related to e-bikes. The analysis below is focused on the proposed route designation changes shown in Table 2.1 above.

Reasonably Foreseeable Environmental Trends

Based on local and regional population growth, and ongoing BLM visitation monitoring, the BLM anticipates continued increases in visitor use within the NFD SRMA. Continued growth in the popularity of e-bikes will likely result in the need for the BLM to more actively plan for, and manage, opportunities for e-bike use.

Planned Actions in the Area

The BLM plans to continue to implement the modifications to livestock grazing operations authorized in DOI-BLM-CO-S080-2018-0037-EA 18 Road Camping and Fee System. That requires retaining authorization of administrative access for the grazing permittee.

ENVIRONMENTAL EFFECTS

Alternative A – Proposed Action

As shown in Table 2.1, the Proposed Action would change the travel designation on four routes to include a seasonal closure on 5.4 miles of routes, allowing motorized and/or mechanized use only from May 1 until December 1 each year. This represents a loss of access for five months (42% of the year) on 16% of the current 33-mile trail system, and 8% of the potential full build-out of the 67-mile trail system.

Foot, horse, and bike use would be restored to 0.2 miles of singletrack trail (I722). Route I733 (0.8 miles, less than 1% of the trail system) would be closed, but new access on a more sustainable parallel route to the south would provide similar access to the area. This closure designation is distinguished from the other proposed closures since it will not include ground-disturbing reclamation work on the closed route.

The changed designation of route I42 (2.2 miles) would allow administrative access for motorized vehicles to support BLM-permitted organized events as well as access to range improvement projects for livestock management. There are currently 2.5 miles of routes in the SRMA designated for administrative access, so the proposed designation changes would be an 88% increase of administrative motorized access in the SRMA.

Implementing the mitigated designation of Route I40 would increase foot, horse, and bike use by one mile, 1.5% of the fully built out 67-mile trail system.

Opening the trail system to Class 1 e-bikes would increase access for e-bikes by 100% on trails currently open only to non-motorized vehicles within the GJFO.

Alternative B – No Action

Under Alternative B, none of the route designations would be changed. Year-round access would remain on 5.4 miles of the current route system (routes I816, I500, I735, and I220). There would be no legal motorized administrative access on the 2.2 miles (3% of the current 72-mile route system) of routes identified as important for event support and livestock management. Use on the heavily eroded sections of route I733 would continue and route I40 would remain closed. The current 72-mile designated route system in the NFD SRMA and east to Q.5 Road, would contain up to 68% fewer route miles than the 106-mile fully built-out designated route system proposed in Alternatives A and D (72-mile current system plus up to 34 miles of new routes for a total of 106 miles).

Alternative C – Trail System Modifications Only, No E-bikes

Under Alternative C, the effects from the route redesignations would be similar to Alternative A except that e-bikes would not have access to any of the trails currently designated only for non-motorized use in the NFD SRMA.

Alternative D – Class 1, 2 and 3 E-Bike Alternative

Under Alternative D, the effects from the route redesignations would be similar to Alternative A, except that Class 2 and 3 e-bikes would also have access to the entire trail system.

5.2.8 ISSUE 7: How would the proposed action affect the wilderness characteristics found in the Book Cliffs South unit?

The affected environment is the entirety of the Book Cliffs South wilderness characteristics unit. Inventory work completed in 2017 found this unit to possess necessary size, naturalness, outstanding opportunities for solitude and primitive and unconfined recreation, and supplemental values. The unit boundary includes approximately 70,000 acres of BLM public lands and extends from the southwestern edge of the Book Cliffs where they rise from the Grand Valley, west to 16 Road, north to Lapham Canyon, including the northern slopes of Garfield Mesa and western slopes of Corcoran Peak, and extending east to the western border of Little Book Cliffs Wilderness Study Area.

The Book Cliffs South Unit occupies a large area of land north and east of the communities of Fruita and Grand Junction, with a diverse range of activities occurring within. Recreation use within the unit includes hunting, camping, OHV/dirt bike use, and mountain biking. Many primitive routes intersect the unit with substantial oil and gas activity currently occurring throughout. BLM staff completed inventory work on the unit after decisions for management of lands with wilderness characteristics were made as part of the 2015 Grand Junction Field Office Resource Management Plan. The 2015 RMP identifies two types of management for lands with wilderness characteristics:

- Management emphasizes the protection of wilderness characteristics over resource uses, and
- Management emphasizes other multiple uses as a priority over wilderness characteristics.

Although the scope of this Environmental Assessment does not consider future management of the Book Cliffs South unit, impacts to wilderness characteristics are analyzed and documented.

Reasonably Foreseeable Environmental Trends

Recreational use is expected to continue throughout the Book Cliffs South unit, with accompanying OHV activity. As stated previously, the North Fruita Desert SRMA is experiencing increasing use, both from residents and visitors from throughout Colorado and beyond. Additional development of camping and trail development is expected to occur.

Planned Actions in the Area

Recreational activity, as well as livestock grazing, mineral extraction, and wildlife habitat improvements will continue.

ENVIRONMENTAL EFFECTS

Alternative A – Proposed Action

The construction of the proposed new trails and authorization of e-bikes would impact the wilderness characteristics found in the unit. Specifically, the wilderness characteristic of naturalness. In the context of wilderness characteristics inventory, naturalness is defined as "the degree to which an area generally appears to have been affected primarily by the forces of nature with the imprint of people's work substantially unnoticeable" (BLM 2012).

The construction of new trails introduces additional noticeable disturbance. The Proposed Action would authorize construction of approximately 6.4 miles of new trails within the Books Cliffs South Unit, with an additional 0.7 miles of new re-routed trails. Additionally, there would be 0.8 miles of trail that would be closed. In total, there would be a net gain of 6.3 miles of linear disturbance. There currently are a total of 170.3 miles of routes within the unit. This total includes routes open to all modes of transportation, routes open for administrative use, and closed routes. The construction of new trails and re-routed trails would increase the distance of linear disturbances within the unit by 3.7%, which does impact the naturalness of the unit. The 2017 wilderness characteristics inventory noted that numerous primitive routes intersect the unit, but the cumulative impact of these disturbances is mostly unseen. The addition of new linear disturbance would have localized impacts to naturalness, it would not affect the overall determination of naturalness within the unit.

Opportunities for solitude may be impacted any time a visitor encounters the sights and sounds of others. Under the Proposed Action, e-bikes may bring additional visitors that may not otherwise venture as far from the North Fruita Desert Trailhead. The 2017 wilderness characteristics inventory for the Book Cliffs Couth unit found outstanding opportunities present, but these opportunities were absent from areas outside of Hunter and Garvey Canyons. The report noted:

> "The North Desert area in the southern portion of the unit is characterized by rolling grasslands, and vast expanses of open country. The slopes rising from the desert floor are extremely exposed, and while their rugged nature does offer some topographic screening, there are limited opportunities for one to find true solitude."

The Proposed Action would introduce visitors to the Book Cliffs South unit but would not impact the determination of the presence of outstanding opportunities for solitude within the unit.

The inventory for the Book Cliffs South unit found the area to possess each of the wilderness characteristics of size, naturalness, outstanding opportunities for solitude and primitive and unconfined recreation, and supplemental values and it was identified as lands with wilderness characteristics. While the Proposed Action would affect the wilderness characteristics found, it would not affect the unit's determination as lands with wilderness characteristics.

Alternative B – No Action

Under the No Action Alternative, the proposed trail system would not be built, e-bikes would not be authorized, and no route designations would change. This alternative provides the greatest protection to wilderness characteristics as the size, naturalness, opportunities for solitude and primitive and unconfined recreation, and supplemental values in the unit would not be impacted.

Alternative C – Trail System Modifications Only, No E-bikes

Impacts under Alternative C would be similar to those described under the Proposed Action. E-bikes would not be authorized for use under this alternative, therefore the number of visitors to the Book Cliffs South unit may be less than under the Proposed Action. Wilderness characteristics would be negatively impacted as there would be an impact the overall naturalness, but this would not affect the overall determination of naturalness for the unit. Outstanding opportunities for solitude and primitive and unconfined recreation and supplemental values would be unaffected.

Alternative D – Class 1, 2 and 3 E-Bike Alternative

Impacts under Alternative D would be similar to those described under the Proposed Action. The inclusion of Class 2 and 3 e-bikes may introduce additional visitors, but this would not impact wilderness characteristics. There would be localized impacts to naturalness, but the unit's overall determination of naturalness would be unaffected. Impacts to outstanding opportunities for solitude would be the same as under the Proposed Action.

5.2.9 ISSUE 8: How would the proposed action impact wintering elk and mule deer during critical times of the year?

AFFECTED ENVIRONMENT

The majority of the NFD SRMA is located in mapped big game winter range with most of the habitat being salt desert that is utilized only in the harshest winters. The area north and east of the most developed portions of the SRMA provides quality winter habitat for both elk and mule deer. The SRMA intersects with 9,685 acres of CPW-mapped mule deer winter range, with 7,010 acres being severe winter range. The SRMA intersects with 5,404 acres of elk winter range with 2,020 acres being severe winter range. Most of the suitable winter range currently has few trails entering this habitat. In the 2015 GJFO RMP, the BLM designated 9,700 acres south of Coal Gulch Road and north of the main NFD trail system as critical winter wildlife habitat. That area is closed to motorized and mechanized use annually between December 1 and May 1. That closure area intersects with 4,569 acres within the NFD SRMA. The proposed seasonal route closures in Alternatives A, C, and D would effectively add 1,232 acres to that seasonal closure area.

Reasonably Foreseeable Environmental Trends

Recreation use of the NFD SRMA is increasing. The possibility of increased dispersed camping may result in disturbance to non-developed areas.

ENVIRONMENTAL EFFECTS

Alternative A – Proposed Action

Winter is a critical time for large ungulates such as elk and mule deer. Depending on the severity of the winter, these animals will move to habitats where conditions are more favorable to survival. Usually, these habitats are lower in elevation and in western Colorado may include foothills and sagebrush habitats at the base of the mountains. Disturbance in these areas can cause stress to these animals and decrease survival. Big game species, including deer and elk have been shown to avoid roads and trails utilized by humans by 200 to 2,700 meters depending on the intensity, duration, and type of disturbance (Hebbelwhite 2008). Further discussion and background information on

the impacts of routes on wildlife can be found in the Grand Junction RMP EIS section 4.3.5 (BLM 2015)

Under the Proposed Action, the trails in the northeast part of the SRMA that do cross or enter this area of winter habitat would have a seasonal closure from December 1 to May 1 annually. This closure would prohibit mechanized and motorized access to 3,756 acres of the most important winter habitat and would complement the existing winter closure on trails north of the SRMA, eliminating motorized and mechanized access into 4,569 acres of the most northern areas of the SRMA. The winter closure would alleviate pressure on wildlife during the most critical time of the year.

As the weather in the desert warms in the spring it would be critical for users to abide by the winter closures, even as trails start to clear of mud and snow. Early to late spring can be the most critical time for wintering wildlife because their energy reserves are depleted, and nutritious forage has not begun growing. Disturbance during this time of year could lead to mortality. As a result of the proposed winter closure, the Proposed Action would reduce or eliminate bicycle use on 5.3 miles of trails that are currently open year-round, potentially reducing stress and increasing survival of wintering mule deer and elk. As described in the adaptive management actions common to all alternatives, if winter conditions are severe, BLM would coordinate with CPW to temporarily expand the winter closure area if necessary to decrease pressure on wintering mule deer and elk decrease mortality.

The authorization of Class 1 e-bikes would likely lead to an increase in users, but the proposed seasonal closure would apply to both traditional bicycles and e-bikes, so there would be no additional impacts to wintering wildlife.

Alternative B – No Action

Under Alternative B, 5.3 miles of existing trails would remain open during the critical winter months, so this alternative would offer fewer protections for wintering deer and elk than the other three alternatives. However, there would be no new trail construction, which would reduce the potential for recreationists to illegally access the area during the critical winter period.

Alternative C – Trail System Modifications Only, No E-bikes

The effects of Alternative C on wintering deer and elk would be similar to those described in Alternative A. The continued prohibition of Class 1 e-bikes would have no impact on the seasonal trail closure.

Alternative D – Class 1, 2 and 3 E-Bike Alternative

The effects of Alternative D on wintering deer and elk would be similar to those described in Alternative A. The authorization of Class 1, 2, and 3 e-bikes would have no impact on the seasonal trail closure since the closure would apply to all bicycle types.

6. SUPPORTING INFORMATION

6.1 CONSULTATION AND COORDINATION

6.1.1 Cooperating Agency Involvement

CPW is a cooperating agency on this project. CPW has special expertise in identifying and managing the effects that trail construction and trail use would have on the wildlife in the area. To reduce impacts to wintering mule deer and elk, the BLM and CPW worked cooperatively to identify the areas of the NFD SRMA that provide the most important deer and elk winter range, and to define project design features (e.g., seasonal route closures) and adaptive management measures.

Mesa County is a cooperating agency on this project because they manage and maintain 18 Road, which is the primary access route into the NFD SRMA. Additionally, the Mesa County Health Department employs a trails coordinator who has collaborated with the BLM, City of Fruita, and COPMOBA to obtain grant funding for cultural and ecological resource surveys of the trails proposed in this document.

The City of Fruita is a cooperating agency on this project because they have special expertise related to recreation and the local socioeconomic conditions.

6.1.2 Tribal Consultation and Section 106 Consultation under the National Historic Preservation Act

Tribal consultation is guided by a variety of laws, Executive Orders, and Memoranda, as well as case law. The GJFO is committed to and has conducted tribal consultation and NEPA scoping during the North Fruita Desert trails project process. Consultation and scoping are carried out at the government-to-government level.

Tribal consultation is a separate process from public scoping, due to the unique relationship between the U.S. Government and federally recognized Tribes. The primary methods of Tribal consultation have included discussion of the project at a virtual consultation meeting between BLM Colorado offices and the Ute Indian Tribe of the Uintah and Ouray Reservation, Southern Ute Indian Tribe, and Ute Mountain Ute Indian Tribe on Dec. 1, 2021. No objections to the project were mentioned by Tribes at the meeting. The BLM sent letters to Tribal leaders on December 3, 2021.

The BLM is required to consult on the effect of undertakings to historic properties under Section 106 of the National Historic Preservation Act. The BLM GJFO completed its Section 106 compliance on December 3, 2021, through submission of an informational letter as stipulated under the State Protocol Agreement between the Colorado BLM and the Colorado State Historic Preservation Officer (2014).

6.2 LIST OF PREPARERS

INTERDISCIPLINARY REVIEW

NAME	TITLE	AREA OF RESPONSIBILITY
Matt Heinritz	Archaeologist	Cultural Resources, Native American Religious Concerns
Dan Ben-Horin	National Conservation Land Specialist	Wilderness, Wild & Scenic Rivers, WSA, NHT, VRM, Wilderness Characteristics
Chris Pipkin	Outdoor Recreation Planner	Project lead, Access, Transportation, Recreation
Lynae Rogers	Range Management Specialist	Range Management Wild Horse & Burro
Erin Kowalski	Range Management Specialist	Forestry, Range
Marlin Deras	Natural Resource Specialist	Invasive, Non-Native Species
Brittany Cocina	Geologist	Geology and Paleontology
Scott Hall	Realty Specialist	Land Tenure/Status, Realty Authorizations
Russell Knight	Wildlife Biologist	Special Status Species, Migratory Bird Treaty Act, Terrestrial & Aquatic Wildlife
Anna Lincoln	Ecologist	Land Health Assessment, Special Status Plants, Riparian and Wetlands
Kevin Hyatt	Hydrologist	Soils, Air Quality, Water Quality, Hydrology, Water Rights
Christina Stark	Assistant Field Manager (Resources Programs / Planning & Environmental Coordination)	Environmental Justice, Socioeconomics, ACECs, Prime & Unique Farmlands, P&EC, Renewable Resources Supervisor
Wayne Werkmeister	Associate Field Manager	Non-Renewable Resource Program Supervisor

6.3 REFERENCES

Boulder County Parks and Open Space. 2019. E-bike Pilot Study Results and Policy Recommendation. Retrieved from https://assets.bouldercounty.org/wp-content/uploads/2019/11/e-bikes-recommendation-bocc-11-13-2019.pdf. Accessed 11/03/2021.

Bureau of Land Management. 2020. Colorado River Valley Field Office. EA for the Grand Hogback trail system (DOI-BLM-CO-N040-2020-0031-EA)

Bureau of Land Management. 2020. Gunnison Field Office. EA for the Silverton Travel Management Plan (DOI-BLM-CO-F070-2019-0008-EA)

Bureau of Land Management. 2020. Tres Rios Field Office. EA for Transportation and Access Plan, Travel Area 1 (DOI-BLM-CO-S010-2018-0013-EA)

Bureau of Land Management. August 2015. Approved Resource Management Plan and Record of Decision. BLM/CO/PL-15/016. Grand Junction, Colorado.

Bureau of Land Management. March 2015. Proposed Resource Management Plan and Final Environmental Impact Statement. BLM/CO/GI-15/008. Grand Junction, Colorado.

Bureau of Land Management. 2014. H-8320-1 – Planning for Recreation and Visitor Services. Retrieved from https://www.blm.gov/sites/blm.gov/files/uploads/Media_Library_BLM_Policy_H-8320-1.pdf. Accessed on 11/30/2021.

Bureau of Land Management. 2008. H-1790-1 National Environmental Policy Handbook. Washington, D.C.

Bureau of Land Management. 2004. Grand Junction Field Office Trail Design Criteria. Internal document. Available upon request.

BLM/IMBA. 2017. Guidelines for a Quality Trail Experience

Chaney, R.A., Hall, P.C., Crowder, A.R. et al. 2019. Mountain biker attitudes and perceptions of eMTBs (electric-mountain bikes). Sport Sci Health 15, 577–583 https://doi.org/10.1007/s11332-019-00555-z

Cherry & MacArthur. 2019. E-bike safety. A review of Empirical European and North American Studies A white paper prepared for PeopleForBikes. Retrieved from https://prismic-io.s3.amazonaws.com/peopleforbikes/8239fc9e-506e-47af-9540-4ff2bcf3b47f_EbikeSafety-VFinal.pdf. Accessed 12/06/2021

Colorado State University (CSU). 2021. Colorado Climate Center. Retrieved from https://climate.colostate.edu/. Accessed on 12/01/2021.

Colorado Water Quality Control Commission (CWQCC), 2020. Regulation NO. 31 – The Basic Standards and Methodologies for Surface Water 5 CCR 1002-31. Department of Public Health and Environment. June 30, 2020.

Colorado Water Quality Control Commission (CWQCC), 2014. Guidance for Implementation of Colorado's Narrative Sediment Standard Regulation #31, Section 31.11(1)(a)(i). Department of Public Health and Environment. November 10, 2014.

Duniway, Michael C., Jeffery E. Herrick, David A. Pyke, and David P. Toledo. 2010. Assessing Transportation Infrastructure Impacts on Rangelands: Test of a Standard of Rangeland Assessment Protocol. Rangeland Ecology and Management, 63:524-536, September, 2010

eBike Generation. 2021. Retrieved from: https://ebikegeneration.com/blogs/news/how-much-do-e-bikes-weigh-know-the-facts. Accessed on 12/10/2021.

Electric Bike. 2019. Quit your whining: How much ebike motor noise is too much? Retrieved from https://www.electricbike.com/quit-your-whining-how-much-ebike-motor-noise-is-too-much/. Accessed on 12/10/2021.

Hall, Cougar & Hoj, Taylor & Julian, Clark & Wright, Geoff & Chaney, Robert & Crookston, Benjamin & West, Joshua. (2019). Pedal-assist Mountain Bikes: A Pilot Study Comparison of the Health Benefits, Perceptions, and Beliefs of Experienced Mountain Bikers. Retrieved from https://prismic-io.s3.amazonaws.com/peopleforbikes/48b8b96b-e423-4f71-bc36-68494d7e1719_Hall-2019-eMTB-perceptions.pdf Accessed 12/03/2021.

Horse Gulch Blog. 2020. Conflicts between e-bikers & others nonexistent on dirt trails in counties where allowed. Retrieved from https://horsegulchblog.com/2020/04/conflicts-with-e-bikes-nonexistent-on-dirt-trails-in-counties-where-allowed/ Accessed on 12/06/2021.

International Mountain Bicycling Association (IMBA). 2015. A Comparison of Environmental Impacts from Mountain Bicycles, Class 1 Electric Mountain Bicycles, and Motorcycles: Soil Displacement and Erosion on Bike-Optimized Trails in a Western Oregon Forest. Retrieved from https://b.3cdn.net/bikes/c3fe8a28f1a0f32317_g3m6bdt7g.pdf. Accessed on 12/2/2021

IMBA. 2017. Managing Mountain Biking: IMBA's Guide to Providing Great Riding

IMBA. 2004. Trail Solutions: IMBA's Guide to Building Sweet Singletrack

Marion, Jeff, and Wimpey W. 2021. Environmental Impacts of Mountain Biking: Science Review and Best Practices. Annex D To SEMBCO Submission, MTB Environmental Impact Study.

Marion, Jeffrey L. 2006. Assessing and Understanding Trail Degradation: Results from Big South For National River and Recreational Area. USGS Patuxent Wildlife Research Center Cooperative Park Studies Unit. Virginia Tech, Dept. of Forestry. Blacksburg, VA.

Monz, Christopher. 2021. Outdoor Recreation and Ecological Disturbance, A Review of Research and Implications for Management of the Colorado Plateau Province. Recreation Ecology Lab at Utah State University

Morford, Scott. 2021. Salinity in the Colorado River Basin. UC Davis. Retrieved from https://watershed.ucdavis.edu/education/classes/files/content/page/6%20Morford-Colorado_Basin_Salinity.pdf. 2021.

Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Retrieved from https://websoilsurvey.nrcs.usda.gov/. Accessed 11/14/2021.

National Integrated Drought Information System. 2021. Retrieved from https://www.drought.gov/historical-information?state=colorado&countyFips=08077&dataset=0&selectedDateUSDM=20201124&dateRangeUSDM=2018-2022

Outdoor Recreation Council of Alberta (ORCA). 2020. Quiet and Non-Quiet Recreation. Retrieved from https://www.outdoorcouncil.ca/resources/Pictures/Quiet%20List.docx.pdf. Accessed on 12/03/2021.

People for Bikes. 2017. EMTB Intercept Study – Fruita, Colorado. Retrieved from https://wsd-pfb-sparkinfluence.s3.amazonaws.com/uploads/2018/03/Fruita_Survey.pdf. Accessed on 12/06/2021.

Pink Bike. 2021. Colorado's 5 most Popular Trail Networks According to Trailforks Data. Retrieved from https://www.pinkbike.com/news/colorados-top-5-trail-networks-according-to-trailforks-data.html. Accessed on 12/06/2021

Rails to Trails Conservancy. 2019. E-bikes. Retrieved from https://www.railstotrails.org/build-trails/trail-building-toolbox/management-and-maintenance/e-bikes/. Accessed on 12/07/2021.

Rosgen, Dave. 2009. Watershed Assessment of River Stability and Sediment Supply (WARSSS). Wildland Hydrology. Fort Collins, CO. Second Edition 2009.

Seney, Joseph P. 1991. Erosional Impact of Hikers, Horses, Off-Road Bicycles, and Motorcycle on Mountain Trails. A Master Thesis, master of Science in Earth Sciences. Montana State University, Bozeman, Montana. May 1991.

Southwest Watershed Research Center-Agricultural Research Service-U.S. Department of Agriculture (SWRC-ARS-USDA), 2021. Rangeland Hydrology and Erosion Model Web Tool. V2.3 update 5.

Spahr, N. E., Apodaca, L. E., Deacon, J. R., Bails, J. B., Bauch, N. J., Smith, M., Driver, N. E. 2000. Water Qualityin the Upper Colorado River Basin, Colorado, 1996–98. U.S. Geological Survey Circular 1214. Denver,CO.

Union Cycliste Internationale (UCI). 2019. XCO eMTB results – Retrieved from https://www.pinkbike.com/news/results-emtb-msa-world-championships-2019.html XCO standard results – Retrieved from https://www.pinkbike.com/news/final-results-mont-sainte-anne-xc-world-champs-2019.html Accessed 12/06/2021

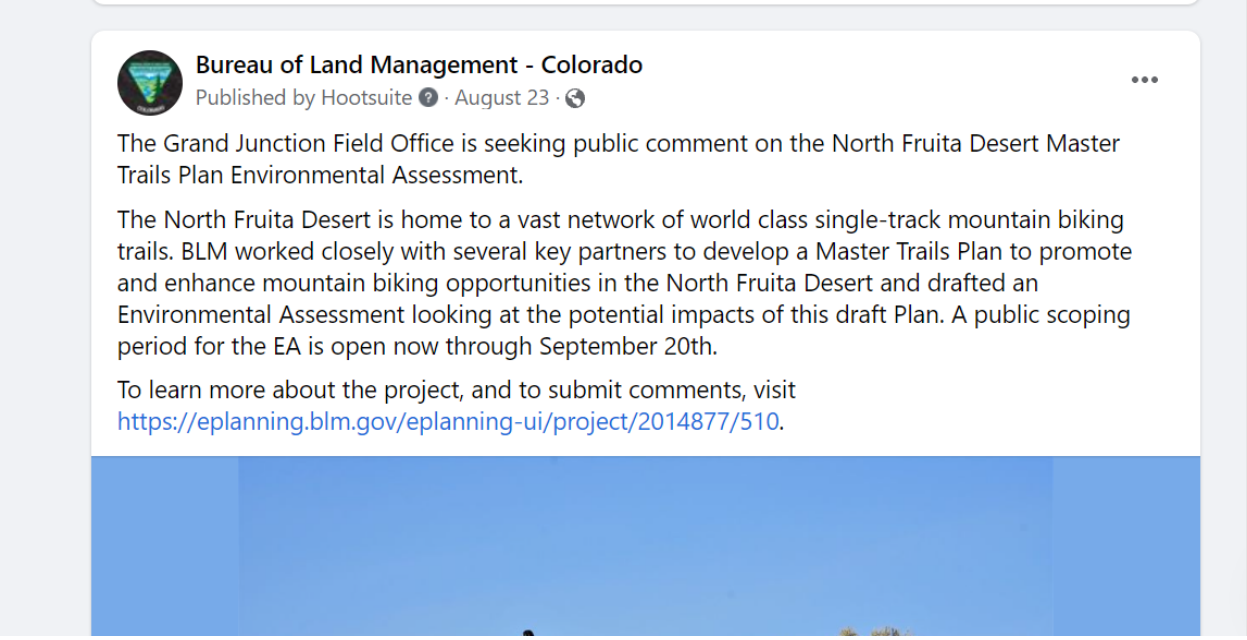
U.S. Department of Agriculture-Forest Service (USDA-FS), 2021. Watershed Erosion Prediction Project online Tool.

Vision Resource Reports. 2021. E-bike Market Size 2021-2030. Retrieved from https://www.visionresearchreports.com/e-bike-market/38655 Accessed 12/06/2021.

Yeager, Selene. 2019. 13 Reasons to Get Stoked About E-Bikes. Online at Bicycling.com. Retrieved from https://www.bicycling.com/skills-tips/a20044021/13-things-about-e-bikes/. Accessed on 12/06/2021

APPENDIX A. Public Outreach for 2021 Public Scoping Period

Facebook post (Facebook.com/ BLM Colorado) announcing public scoping period



Bureau of Land Management - Colorado
Published by Hootsuite · August 23 ·

The Grand Junction Field Office is seeking public comment on the North Fruita Desert Master Trails Plan Environmental Assessment.

The North Fruita Desert is home to a vast network of world class single-track mountain biking trails. BLM worked closely with several key partners to develop a Master Trails Plan to promote and enhance mountain biking opportunities in the North Fruita Desert and drafted an Environmental Assessment looking at the potential impacts of this draft Plan. A public scoping period for the EA is open now through September 20th.

To learn more about the project, and to submit comments, visit https://eplanning.blm.gov/eplanning-ui/project/2014877/510.

Article in Grand Junction Daily Sentinel (9/01/2021) announcing public scoping period

https://www.gjsentinel.com/news/western_colorado/blm-looking-for-public-input-on-north-fruita-desert-trail-plan-e-bikes/article_8dd1f6c4-09e3-11ec-b906-93dfd0c7a8c9.html

BLM looking for public input on North Fruita Desert trail plan, e-bikes | Western Colorado | gjsentinel.com

The Bureau of Land Management is seeking public input on its North Fruita Desert Trails Master Plan prior to an environmental assessment.

www.gjsentinel.com

APPENDIX B. Trail Management Objective form for North Fruita Desert Trail System

BLM Grand Junction - Trail Management Objectives

Road/Trail Name: North Fruita Desert/18 Road trail syste **Road/Trail Number:** N/A

Managing Unit: Grand Junction Field Office **TMO Updated:** 06/24/2021
Area Name: North Fruita Desert SRMA *(Date)*

Trail Description/Overview: *(scroll down for full description, or for hard copy print full description on page 4)*

The North Fruita Desert Special Recreation Management Area (SRMA), commonly referred to as the "18 Road trails", contains a singletrack trail system used primarily by mountain bikers. The current trail system (June 2021) includes approximately 33 miles of routes, with up to 40 miles of additional routes proposed for future development.

The trail system lies along the base of the Book Cliffs approximately 10 miles north of the City of Fruita. The trails weave along and through the ridges and drainages that radiate downward toward the Colorado River from the base of the cliffs and steep slopes of the Book Cliffs mountain range that forms the northern boundary of the Grand Valley. Juniper trees dot the higher elevation areas closer to the base of the Book Cliffs. As the landscape slopes gently downward to the south the topography becomes less abrupt and more sparsely-vegetated.

Trail Specifications

Route Type: | **Route Category:** 3 **Route Length (miles):** 70 **Elevation Range:** 4,900 - 5,600

Targeted Uses: Mountain Biking **Elevation Gain/Loss:** N/A

Allowable Uses: Foot, Equestrian **Surface Type:** Variable

Tread Width Range: 24-60 inches **Corridor Width:** 60-120 inches

Exposure Level: See dropdown **Corridor Height:** 10 feet

Average Grade: _5_% **Maximum Grade:** _60_%

Maximum Obstacle Height: 18 inches **Structural Features:**

Recreation Setting: Frontcountry (Primitive, Backcountry, Middle Country, Frontcountry, Rural, Urban)

Trail User Experience: Exercise, Flow, Fun, Play, Socializing, Variety

Challenge, Connectivity, Efficiency, Escape, Exercise, Flow, Fun, Nature, Play, Risk, Safety/Security, Socializing, Solitude, Variety

Seasonal Restrictions: December 1 to April 30 annually on some routes in the northeast portion of

Maintenance

Monitoring Frequency (minimum): 4 times per year

Maintenance actions are based on needs identified during monitoring, user reports, and TMO specifications.

Maintenance Techniques/Tools:

Notes:

Year Constructed: started in late 1980s with user-created routes, active BLM management starting in mid-1990s
Constructed by: BLM, volunteers, professional trail builders
Origin of Trail Name:
Add photos on page 5 - important features, trail conditions, etc.
Add links to other resources - maps, route descriptions, etc.

Type Pick list	Smooth Beginner	Smooth-Uneven Beginner-Intermediate	Uneven Intermediate	Uneven-Rough Intermediate-Advanced	Rough Advanced	Extreme/Special
Category Classification	**Category 1**	**Category 2**	**Category 3**	**Category 4**	**Category 5**	**Category 6**
Representative Trails	Dinosaur Hill	Kessel Run Prime Cut Rustlers	Joe's Ridge Mary's Loop	Sarlacc	Holy Cross RV Trail 8 Rough Canyon Butterknife	Free Lunch Billings Jeep Trail
Trail Specifications						
Route Width	36" - 72"	24" - 36"	24" - 50"	24" - 36"	18" - 24"	18" - 72"
Corridor Width (minimum)	60"	60"	50"	42"	42"	42"
Corridor Height (minimum)	N/A	12'+	8'	8'	7'	7'
Tread Surface	Hardened or surfaced	Firm and stable	Mostly Stable with some variability	Widely variable	Widely variable and unpredictable	Sculpted, firm, dirt, rock, or wood
Average Tread Grade	3%-5%	5%-10%	5%-10%	5%-10%	5%-15%	Varying widely, but designed to be sustainable
Maximum Tread Grade	10%	20%	25%	25%	35%	Overhangs and steep grades may be present
Exposure Level	Very Low	Very Low	Low Edge of Tread is within 2' from downhill cross slope of 35% or more	Medium Edge of Tread within 2' or less of a downhill cross slope of 45% or more	High Mandatory moves on cross slope of 45% or more	Jumps, Narrow ledges and mandatory high exposure sections may be part of the trail design.
Natural Obstacles and Technical Trail Features	N/A	Unavoidable obstacles 4" tall or less Avoidable obstacles may be present	Unavoidable obstacles 8" tall or less Avoidable obstacles may be present Short Sections may exceed criteria	Unavoidable obstacles 15" tall or less Avoidable obstacles may be present May include loose rocks Short sections may exceed criteria	Unavoidable obstacles 24" tall or less. Avoidable obstacles may be present May include loose rocks Many sections may exceed criteria	Natural or Man Made obstacles used to facilitate "play"

Recreation Settings
Primitive
Backcountry
Middle country
Frontcountry
Rural
Urban

Trail User Objectives	Description
Nature	Connection to nature. This can be anything from being among a few trees in the middle of the city to remote backcountry. Nature is an important factor for many riders
Escape	Something that takes you away from your daily grind, allows you to get lost in the experience of riding. Often means getting away from the urban environment, but a bike park, even indoors, can provide this as well.
Solitude	Getting away from the urban environment and people; being active, alone, and quiet in the outdoors.
Challenge	Seeking to improve technical abilities, to solve a difficult problem, "clean" a trail feature or segment; sense of accomplishment
Risk	Exposure to danger, harm, or loss; intentional interaction with uncertainty. The perception of risk creates thrill for many trail users. It can be a positive or negative part of the trail experience, depending on user expectations and risk tolerance.
Fun	Amusing or enjoyable experience. When you are trying to build fitness and/or skill, you may do many rides without "fun" being a primary objective. Ideally, one doesn't have to sacrifice fun for challenge or exercise.
Play/Playfulness	Engaging in the activity purely for the enjoyment
Exercise	Health and fitness are part of the sport. For some this is a primary goal, for others a bonus, for some an obstacle. Defining the physical fitness needed for a particular ride is important in setting user expectations appropriately. Recognition that some riders have high skill and low fitness (and vice versa) plays a role in trail planning.
Variety	Multiple trail options, diversity of experience within a trail or trail system. Variety should be in several forms, where possible; skill, features, it can still have variety within those constraints. Also possible at the regional level to provide variety of experiences if limited opportunities exist within a particular system.
Connectivity	Series of loops and/or trail segments linked by other trails or transportation routes. Allows for a customized experience, change of plans, adding on to a ride. Also allows for riders of different fitness or skill level to begin rides together
Socializing	Provides a shared experience and enhances safety for riders. Mountain biking is often a social activity.
Safety/Security	This could range from trailhead security for parking to personal safety unrelated to recreational use.
Efficiency	Getting to a destination or accomplishing a task with the least amount of time or effort expended. Road climbs are very efficient, as are trails that ascend directly to a destination. Efficiency sometimes means compromising sustainability and fun/play. Hiking trails tend to be much more efficient than biking trails.
Flow	Contains features like banked turns, rolling terrain, various types of berms and predictable surfaces. Movement that is designed to heighten senses and well--being.

Trail Description/Overview North Fruita Desert/18 Road trail syst

The North Fruita Desert Special Recreation Management Area (SRMA), commonly referred to as the "18 Road trails", contains a singletrack trail system used primarily by mountain bikers. The current trail system (June 2021) includes approximately 33 miles of routes, with up to 40 miles of additional routes proposed for future development.

The trail system lies along the base of the Book Cliffs approximately 10 miles north of the City of Fruita. The trails weave along and through the ridges and drainages that radiate downward toward the Colorado River from the base of the cliffs and steep slopes of the Book Cliffs mountain range that forms the northern boundary of the Grand Valley. Juniper trees dot the higher elevation areas closer to the base of the Book Cliffs. As the landscape slopes gently downward to the south the topography becomes less abrupt and more sparsely-vegetated.

The system contains a broad spectrum of trail types, from smooth downhill flow trails with constructed or natural berms and jumps, to steep-sided ridge line trails with multiple steep descents, to technically-challenging sections through rocky drainages. In general the 18 Road trails are less technically challenging than the other primary trail systems in the area (e.g. Kokopelli and Lunch Loops). This suite of trail types and opportunities supports the SRMA management objective to "produce a diversity of quality mountain bicycling opportunities that add (to) visitors' quality of life while contributing to the local economy and fostering stewardship of natural and cultural resources."

The SRMA is managed to provide family-friendly mountain biking and camping opportunities. A developed campground with 83 sites as of June 2021 and more currently in planning and development lies at the heart of the trail system, allowing visitors to ride directly from their campsites onto the trail system. The SRMA also contains facilities and trails for hosting large-scale non-motorized events (races, festivals, etc.). The stacked loop trail system provides multiple loop options for event organizers to utilize. Full build-out of the trail system will include trail loops optimized for race activities primarily to the east of the event staging/parking area to the east of the main 18 Road trailhead. Those trails will include a variety of difficulty levels as well as wider segments (up to 60 inches) to allow for passing.

ATTACHMENTS

Attachment A – Responses to Substantive Public Comments on the Preliminary EA
Attachment B – Public Comments in Response to Preliminary EA
Attachment C – Public Comment Letter from Mesa County
Attachment D – Public Comment Letter from People for Bikes
Attachment E – Public Comment Letter from Colorado Wildlands Project
Attachment F – Public Comment Letter from Blue Ribbon Coalition
Attachment G – Public Comment Letter from Western Colorado University
Attachment H – Attachment to Comment NFD2-1-500204015