

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

**Environmental Assessment
DOI-BLM-NV-L030-2015-0021-EA
July, 2015**

**Lincoln County Partners Non-Motorized, Multipurpose Trails
2015**

Applicant: Bureau of Land Management

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Prepared by
U.S. Department of the Interior
Bureau of Land Management
Location
Ely District Office

Lincoln County Partners Non-Motorized, Multipurpose Trails 2015

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Chapter 1. Chapter 1 Introduction

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This Environmental Assessment (EA) analyzes the Bureau of Land Management (BLM) Ely District Caliente Field Office's (CFO) proposal to develop a non-motorized, hiking and mountain biking trail system near the City of Caliente in Lincoln County, Nevada. The project would include the construction of a maximum of 40 miles of non-motorized singletrack trails and two trailheads. The trailheads would provide ancillary facilities including: vault toilets, shade structures, grills, picnic tables, and informational kiosks. One trailhead would be constructed on Barnes Canyon Road and the second would be roughly two miles south of Caliente on Ella Mountain Lookout Road. Both trailheads would be constructed on public lands.

Because this trail network would be open to certain non-motorized use only, e-bikes would not be permitted in accordance with Information Bulletin No. 2015-060.

While this document analyzes the construction of up to 40 miles of trails, the BLM is only proposing to construct approximately 27 miles of trail and both trailheads on public lands. The 27 miles of trail on public lands would be open to hiking and mountain bike use only. Approximately 13 miles of trail development is being proposed on Nevada Division of State Parks (State Parks) land. The 13 miles of trail on State Parks land may be open to equestrian use per park regulations, however, it is the decision of Kershaw-Ryan State Park (Kershaw-Ryan) administrators whether to allow equestrian use on the trails proposed in this EA. Kershaw-Ryan would be responsible for the construction, maintenance, and operation of all trails on state lands. These trails are being analyzed in this document as a connected action.

Based on the amount of available public land, the project area has potential for additional non-motorized trail development, and equestrian use trails could be considered in future phases of development on public lands. Any future trail development would be dependent on partner commitment, funding, and additional environmental analysis.

This document is tiered to, and incorporates by reference, the *Ely District Record of Decision and Approved Resource Management Plan* (RMP; Bureau of Land Management 2008). Should a determination be made that implementation of the proposed or alternative actions would not result in "significant environmental impacts" or "significant environmental impacts beyond those already disclosed" in the existing National Environmental Policy Act documents, a Finding of No Significant Impact will be prepared to document that determination, as well as a Decision Record issued providing the rationale for approving the chosen alternative (H-1790-1).

1.1. Section 1.1 Background:

Planning for this project began in 2012 as a collaborative effort between the BLM CFO, City of Caliente (City), Lincoln County Commission (County), State Parks, and the International Mountain Bicycling Association (IMBA) in order to improve recreational opportunities in Lincoln County. A public open house was held in July 2012 and an extended comment period was opened through August 2012 to solicit public comments and opinions regarding the development of these trails. Based on the comments received during that time, BLM began planning to develop hiking and mountain biking singletrack trails that would augment the many other available recreation opportunities in Lincoln County.

In Fall 2014, the BLM, City, Parks, Lincoln County Board of Commissioners, and IMBA pooled \$90,000 to assess the landscape and flag potential environmentally sustainable trail routes that would connect the nearby public lands with trails in Caliente and Kershaw-Ryan. The IMBA crew flagged a total of 40 miles of potential trails within the project area. Approximately 27 miles

of these trails would be on BLM administered public lands, and approximately 13 miles are on current State Parks administered lands or lands designated for conveyance to State Parks.

1.2. Section 1.2 Purpose of the Proposed Action

The BLM's purpose in considering approval to construct approximately 27 miles of non-motorized hiking and mountain biking trails and two trailheads is to provide an additional recreational use of the public lands near Caliente in response to public desires for more access to these kinds of recreation opportunities. This project would broaden the range of available user experiences, reduce environmental impacts from unauthorized use, and enhance tourism in Caliente while helping to promote awareness of the natural and cultural resources in Lincoln County through interpretation and education. The proposed action would also enhance stewardship of the public lands in accordance with BLM Recreation Strategy 2014-2019 and BLM Washington Office Information Memorandum 2014-110 while fostering mutually beneficial collaborative relationships between the communities in Lincoln County, recreationists, Nevada State Parks, and local proprietors.

The need for the proposed action is to respond to the public's desire for more non-motorized recreational opportunities and economic growth in Lincoln County and the City of Caliente. There are currently no mountain bike trails on the public lands in Lincoln County, and this project is being implemented in direct response to the public's desire for these types of trails and recreation opportunities. Construction of these trails would broaden the range of available user experiences within Lincoln County and potentially bring an economic benefit to the area in the form of non-motorized, recreational tourism.

1.3. Section 1.3 Decision to be Made:

The BLM will determine whether or not to authorize the construction of approximately 27 miles of non-motorized singletrack trails and two trailheads near Caliente, Nevada.

1.4. Section 1.4 Preliminary Issues:

Internal scoping was conducted by an interdisciplinary team on June 16, 2015 that analyzed the potential consequences of the proposed action. Preliminary Issues are identified in Scoping Form B (Table 1). Those issues relevant to the proposed action are: Soil Resources, Riparian/Wetlands, Vegetation Resources, Noxious and Invasive Weeds, Range and Livestock Grazing, Wildlife/Special Status Species/Migratory Birds/Areas of Critical Environmental Concern, Native American Concerns, Transportation/Access, and Environmental Justice/Socioeconomics.

1.5. Section 1.5 Summary of Public Involvement

The preliminary EA was open for public comment for 30 days from February 1, 2016 through March 1, 2016. The comment period was advertised on the Lincoln County Non-motorized, Multipurpose Trails NEPA website, via mailed post-card notification, press release in the Lincoln County Recorder, and via flyers in various establishments in Caliente, Panaca, and Pioche.

A total of 27 written submissions, including two duplicates, were received during that time from 25 different contributors. Comment contributors include: Back County Horsemen of Nevada,

Nevada Outfitters & Guides Association, N-4 Grazing Board, Southern Nevada Mountain Biking Association, International Mountain Biking Association, Lincoln County Action Team, Lincoln County Commissioners, Nevada Division of State Lands, State Historic Preservation Office, Nevada State Parks, US Fish and Wildlife Service, and private citizens in Nevada, Utah, Idaho and California.

The comment letters fit into three general topics:

- 5—offering suggestions for further analysis and clarifying regulations
- 7—requesting equestrian use on trails
- 13—supporting Alternative A as it currently stands

Summary of Comments

Seven letters were submitted advocating for equestrian access on the proposed trail system. These letters were received from private citizens (3), Back Country Horsemen of Nevada (2), Nevada Outfitters & Guides Association (1), and the N-4 State Grazing Board (1). The comments received in this category outline the cultural significance of equestrian use in Nevada's history, the potential for tourism in Lincoln County that could come from visiting equestrian riders, the use of equestrians in hunting and cattle ranching within the project area, and the desire for more equestrian trails in Lincoln County. The N-4 State Grazing Board also indicated a concern for the possible co-mingling of livestock from neighboring permit holders as a result of the trails, and encouraged close collaboration with the permit holders to design fencing or cattle guards as preventative measures against this.

Two letters requested that the increase of motorized and non-motorized traffic along Clover Creek Road and Ella Mountain Lookout Road be analyzed in more detail. One letter from the State Historic Preservation Office (SHPO) clarified the proper citation of the National Historic Preservation Act and SHPO procedures, while letters from the Nevada State Clearinghouse clarified the regulations that guide the use of water during construction. The US Fish and Wildlife Service submitted a letter requesting further analysis regarding potential impacts to burrowing owls within the project area. This letter also requested that BLM identify the types of trail equipment that could be used during construction, as well as the potential for unplanned, user-generated trails to develop.

Letters of support for Alternative A were received from the International Mountain Biking Association, Southern Nevada Mountain Biking Association, Lincoln County Action Team, Nevada State Parks, Nevada Division of State Lands, and unaffiliated citizens.

A summary of BLM's responses to these comments as incorporated in the EA is included in Appendix F.

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Chapter 2. Chapter 2 Description of Alternatives, Including Proposed Action

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2.1. Section 2.1 Introduction:

The previous chapter presented the purpose and need for the proposed project, as well as the relevant issues (i.e., those elements that could be affected by the implementation of the proposed project). In order to meet the purpose and need of the proposed project in a way that analyzes all issues, the BLM has developed a proposed action as well as a no action alternative. These alternatives are presented below. The potential environmental impacts or consequences resulting from the implementation of each alternative are then analyzed in Chapter 3 for each of the identified issues.

2.2. Section 2.2 Alternative A – Proposed Action:

The BLM is proposing to construct, operate, and maintain approximately 27 miles of non-motorized, hiking and mountain bike specific trails, two trailheads, and improve three shallow water crossings on public lands near Caliente, Nevada. The trails proposed for construction on public lands are a stand alone project and they are not dependent upon the completion of trails developed by the City or State Parks in order to be successful.

The CFO implemented an assistance agreement with the IMBA for initial trail layout which occurred in October 2014. The trail layout is meant to 1) ensure sustainability, 2) conserve the quality of the outdoor environment, and 3) mitigate or avoid potential negative impacts to natural and cultural resources as identified by BLM staff. Approximately 16 miles of trail would consist of a network of loops located five miles east of Caliente near Barnes Canyon. A connector trail leading from Barnes Canyon to Kershaw-Ryan would make up another nine miles. Approximately two miles have been flagged on the northern border of Kershaw-Ryan.

One trailhead would be built approximately five miles east of downtown Caliente in Barnes Canyon, which is accessible from Clover Creek Road. There are three shallow water crossings along Clover Creek Road which would be improved and armored by installing either concrete crossings or gabion baskets in order to accommodate travel for lower-clearance vehicles (Map 2.1). See Section 3.3.12 for further discussion on Transportation and Access. A second trailhead would be located two miles south of Caliente on Ella Mountain Lookout Road (Map 2.1). Both trailheads would include one double-vault toilet, shade structures, grills, picnic tables, and informational kiosks. Solar lighting would be installed in the vault toilets at both trailheads. These locations were chosen to provide direct and easy access to the trail loops in Barnes Canyon and Kershaw-Ryan respectively. Each trailhead would provide parking for approximately 20 cars while also offering convenient access to the amenities in Caliente.

Where possible, all facilities would be constructed using recycled, durable materials. The kiosks would provide public education with regard to trail etiquette, the natural and cultural history of the area, as well as the multiple use management practices of the surrounding public lands. Camping would not be a specific design feature of the trailheads, however, dispersed camping opportunities are available on the public lands within the project area. Construction of the trailheads would create approximately 6–acres of disturbance at each location.

In Summer and Fall of 2015, the BLM evaluated the entire 40 mile trail network for the presence of cultural resources. Trails have been rerouted where necessary to “reduce imminent threats and resolve potential conflicts from natural or human-caused deterioration: to those resources” (Ely RMP, p.49; FLPMA, Section 103 (c); NHPA, Section 106, (54 U.S.C. § 306108)).

Trail Design and Construction

Trail construction would be guided by the document *Trail Solutions: IMBA's Guide to Building Sweet Singletrack* and it would follow the *Principles of Sustainable Trails* by implementing “The Five Essential Elements of Sustainable Trails” (Trail Solutions 2004). Trail design is explained in detail in Section 3.2, however, all trails are anticipated to be a maximum of 36” wide, thus creating 9.8 acres of permanent linear ground disturbance on public land (Table 2). An additional 12 acres of total ground disturbance is anticipated for construction of the trailheads. Trail construction is expected to cause minimal soil disturbance and the removal of some vegetation. Any soil or vegetation disturbed outside of the 36” trail corridor as a result of construction will be restored after construction is complete. Impacts to specific resources are analyzed in detail in Section 3.3.

Construction would be completed using a combination of hand crews and mechanized trail building equipment depending on the proposed difficulty of each trail section and the terrain through which the trails traverse. Mechanized trail building equipment may include the use of mini dozers such as the Sweco 480 or Sutter 300, or mini excavators such as the Single Track ST 240 or Takeuchi 210R. The use of mechanized equipment would be limited to machines specifically made for singletrack trail construction to minimize soil and vegetation disturbance outside of the designated 36” trail corridor. Construction crews would consist of a combination of volunteers and contractors, however, any machines would be driven by skilled operators experienced in the construction of singletrack trails. Mitigation actions for soil or vegetation disturbance outside of the planned for 36" disturbance corridor include replacing removed soil, extracting excess soil via bucket or wheelbarrow outside of sensitive areas, and reseeding disturbed areas with native plants.

Of the 40 miles of singletrack trail analyzed in this EA, 27 miles are on BLM administered public lands (Table 1). A right-of-way (ROW) will be issued to the BLM, Ely District, Caliente Field for a term of 40 years for the construction, operations, and maintenance of the 27 miles of trails and both trailheads on public land. The ROW boundary would extend 50 feet to either side of center, creating a 100 foot corridor which would provide access for construction, operations, and maintenance.

This project is expected to take 3–5 years to complete. The speed that construction can be completed is largely dependent on weather and the seasonal wildlife restrictions described in Chapter 3.

Equestrian Use

The 27 miles of trails on BLM managed public lands considered in this project would not be open to equestrian use. According to the federal Equestrian Design Guidebook for Trails, Trailheads, and Campgrounds, equestrian trails require longer lines of site, wider corridors, more durable tread, and higher clearance through brush than would be provided by this project. More information on equestrian trail specifications can be found here: https://www.fhwa.dot.gov/environment/recreational_trails/publications/fs_publications/07232816/toc.cfm

It is important to note that equestrian use would still be unrestricted throughout the field office and in the back country within the project area on public lands. Additional equestrian use trails, trailheads, and other needs would be considered and may occur in the future at other locations within the project area. Equestrian trailheads would need to be of sufficient size to accommodate horse trailers, and any additional trail development would be dependent on interest from user groups, funding, public involvement, and further environmental analysis. The BLM encourages

suggestions for future equestrian use trails and welcomes proposals for trail and trailhead locations, length of routes, and other equestrian needs.

Equestrian use is allowed on certain State Parks trails throughout Nevada. The 13 miles of trail proposed within Kershaw-Ryan may be available to equestrian use per park regulations, however, it is the decision of Kershaw-Ryan park administrators whether to allow equestrian use on the trails proposed in this EA. Additional options for use may increase maintenance requirements for these trails, and would be addressed by State Parks.

Table 2.1. Miles of potential trail by type and jurisdiction.

Trail Type	BLM Administered Public Lands	Kershaw-Ryan State Park
Green—Beginner	3.1	8.7
Blue—Intermediate	13.4	3.9
Black—Advanced	6.3	.3
Red—Directional Bike Only	2.5	.3
Orange—Hiking only	1.3	0
Total	26.6	13.2

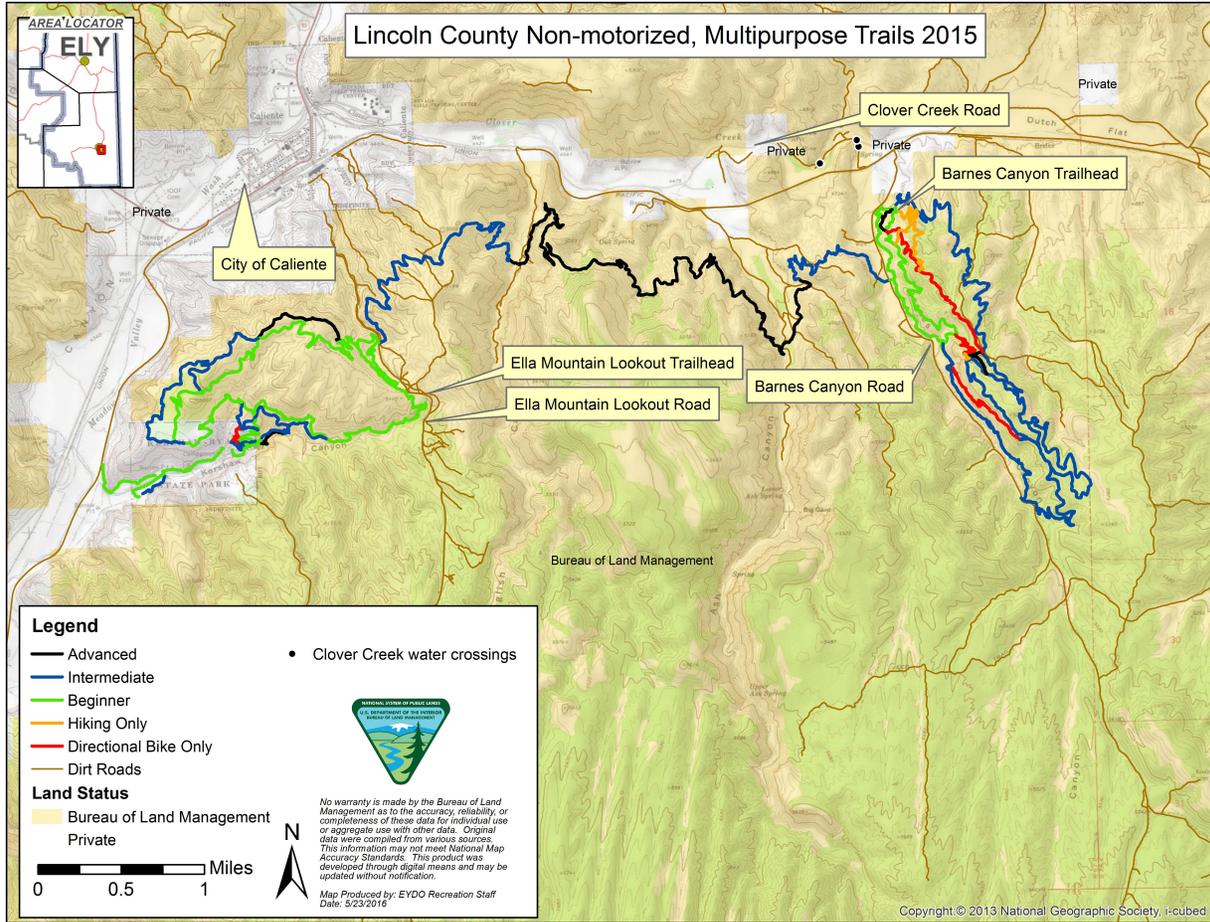
Table 2.2. Disturbance calculations^a

	BLM Administered Public Lands (27 miles)	Total 40 mile network
Linear acres of disturbance	9.8 ^b	14.5 ^c
Disturbance including two 6-acre trailheads	21.8 acres	26.5 acres

^a Disturbance calculations assume a maximum width of three feet for all trails. Figures for total mileage and for trails on BLM administered public lands were rounded up to the nearest significant digit to account for maximum amount of anticipated disturbance.

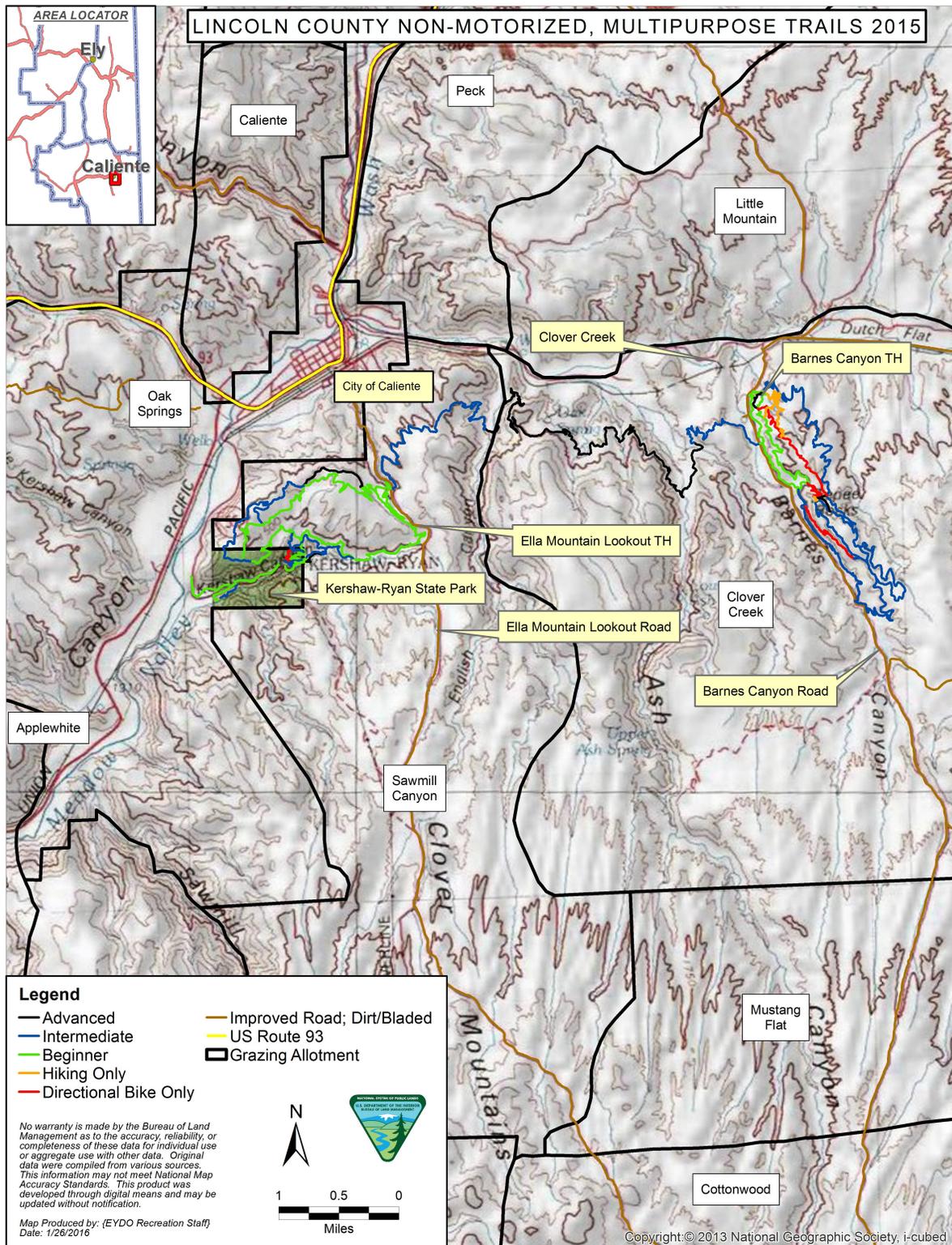
^b Mileage on BLM administered public land was rounded up to 27: 27 miles x 5,280 ft./mile x 36 in. wide / 43,560 sq. ft./acre = 9.8 acres

^c Total mileage was rounded up to 40: 40 miles x 5,280 ft./mile x 3 in. wide / 43,560 sq. ft./acre = 14.5 acres



Lincoln County Non-motorized, Multipurpose Trails map.

Map 2.1. Lincoln County Non-Motorized, Multipurpose Trails



Lincoln County Non-Motorized, Multipurpose Trails and Grazing Allotments map.

Map 2.2. Lincoln County Non-Motorized, Multipurpose Trails and Grazing Allotments

Lincoln County Partners Non-Motorized, Multipurpose Trails 2015

*Chapter 2 Chapter 2 Description of Alternatives, Including Proposed Action
Section 2.2 Alternative A – Proposed Action:*

2.3. Section 2.3 Alternative B– No Action:

Under the No Action Alternative, the BLM would not construct new trails or a trailhead. Management of the project area would continue as usual.

2.4. Section 2.4 Alternatives Considered, but Eliminated from Further Analysis

No other alternatives were considered.

2.5. Section 2.5 Relationship to Planning

2.5.1. Section 2.5.1 Conformance with BLM Land Use Plans:

The project would occur on public lands administered by the Caliente Field Office of the Bureau of Land Management and on state lands managed by Kershaw-Ryan State Park of the Nevada Division of State Parks. Land use decisions for the project area on BLM administered public lands are contained in the Ely District Record of Decision and Approved Resource Management Plan, 2008 (ROD/RMP). The proposed action is in conformance with the ROD/RMP.

The proposed action is also in conformance with the following program-specific management decisions:

- Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment

2.5.2. Section 2.5.2 Relationship to Statutes, Regulations, or other Plans:

This proposed action is also in conformance with the following Acts and land use plans:

- Endangered Species Act of 1973
 - The Endangered Species Act (ESA), P.L. 93-205, provides for the conservation of ecosystems upon which threatened and endangered species of fish, wildlife, and plants depend.
- Federal Land Policy and Management Act of 1976
 - The Federal Land Policy and Management Act (FLPMA) was enacted in 1976 for the purposes of establishing a unified, comprehensive, and systematic approach to managing and preserving public lands in a way that protects "the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." (Federal Land Policy and Management Act of 1976)
- Lincoln County Conservation, Recreation, and Development Act of 2004
 - The Lincoln County Conservation, Recreation, and Development Act (LCCRDA), P.L. 108-424, was passed by Congress and signed into law in November 2004. According to the

LCCRDA the purpose is “to establish wilderness areas, promote conservation, improve public land, and provide for the high quality development in Lincoln County, Nevada...”

- Title V SEC. 502 Open Space park Conveyance to the State of Nevada.
- Lincoln County Open Space and Community Lands Plan 2011
 - The Lincoln County Open Space and Community Lands Plan of 2011 identifies “...a broad range of lands, and strategies, to meet a variety of community needs such as improving or protecting recreational opportunities, enhancing the form and character of the various historic communities, supporting and expanding tourism efforts and preserving lands for infrastructure.” (Lincoln County Open Space and Community Lands Plan 2011)
 - Chapter III: Expanding Tourism in Lincoln County
 - Chapter III: Trails and Passive Recreation standards
- Lincoln County Public Lands Policy Plan 2010
 - “The [Lincoln County Public Lands Policy Plan] enables the Federal land management agencies to better understand and respond to the operations, concerns and needs of Lincoln County. Planning, effective communication and coordination by Nevada’s governments, in concert with its citizens, can establish a set of policies for the proper use of these lands and to take advantage of the “consistency” language in Section 202(c)(9) of the Federal Land Policy and Management Act (FLPMA).” (Lincoln County Public Lands Policy Plan 2010)
 - Policy 13-1: Bike riding listed as popular recreational activity in Lincoln County.
 - Policy 13-7: Recognizing that because most Nevadans reside in towns, investments in open space, parks, and recreation facilities should be concentrated as close to resident populations as feasible and appropriate. Locations identified in the County Open Space and Community Lands Plan highlighted 40 minutes as the maximum time most people will travel to a recreational site from their community.
- Migratory Bird Treaty Act of 1918
 - The Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) establishes treaties to be followed by agreeing nations for the protection of migratory birds.
- National Environmental Policy Act of 1969
 - The National Environmental Policy Act (NEPA), P.L. 91–190, assures that all branches of government give proper consideration to the environment prior to undertaking any major federal action that significantly affects the human environment.
- National Historic Preservation Act (54 U.S.C. § 300101 et seq.)
 - Consultation for undertakings as required by the National Historic Preservation Act.
 - Rules and regulations under Section 106 (54 U.S.C. § 306108).
- State Protocol Agreement between The Bureau of Land Management, Nevada and The Nevada State Historic Preservation Officer for Implementing the National Historic Preservation Act

- As put forth in the Protocol Agreement (Part 1, Section III.A.3) the State Historic Preservation Office was notified of this under-threshold project through Cultural Resources Inventory Needs Assessment (CRINA 8111 NANV040FYI5-072) sent Dec 9, 2015. Informal consultation was carried out through email until Dec 17.

Chapter 3. Chapter 3 Affected Environment/Environmental Impacts

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3.1. Section 3.1 Introduction:

This chapter presents the existing environment (i.e., the physical, biological, social, and economic values and resources) of the impact area, the issues analyzed, the impacts to the analyzed resources, and mitigation that could be applied that would reduce those impacts. Mitigation proposed in this section could be included in the Finding Of No Significant Impact to prevent potentially significant impacts. Application of the mitigation measures to the proposed action would then be carried forward into the Decision Record as a condition of approval of the proposal.

While many potential issues may arise during scoping, not all of them warrant analysis. Issues raised through scoping are analyzed if:

- Analysis of the issue is necessary to make a reasoned choice between alternatives.
- The issue is significant (an issue associated with a significant impact, such as a potential violation of a law imposed to protect the environment).
- Analysis of the issue is necessary to determine if the direct or indirect impacts are themselves significant, or if it would add a measurable incremental impact to past, present and reasonably foreseeable actions that could have a cumulatively significant impact.

Potential impacts to the following resources/concerns were evaluated in accordance with criteria listed above to determine if detailed analysis was required. Consideration of some of these items is to ensure compliance with laws, statutes or Executive Orders that impose certain requirements upon all Federal actions. Other items are relevant to the management of public lands in general, and to the Ely District BLM in particular.

Many times a project will have some degree of effect upon a resource or concern, but that effect doesn't approach any threshold of significance, nor does it increase cumulative impacts by a measurable increment. Such effects are described as "negligible" in the rationale for dismissal from analysis.

The following table documents the issues evaluation or rationale for dismissal from analysis:

Table 3. Issues Dismissed From Analysis

Resource/ Concern	Issue(s) Analyzed? (Y/N)	Rationale for Dismissal from Detailed Analysis or Issue(s) Requiring Detailed Analysis (Grouped in accordance with the format of the Ely RMP)
Air Quality	N	The proposed action would include short term dust and emissions. These would be primarily during construction and maintenance activities. None of these are expected to exceed the EPA thresholds for analysis.
Water Quality, Drinking/Ground	N	The proposed action would have no anticipated effects on drinking water quality.
Water Resources (Water Rights)	N	The proposed action would not affect current water rights.
Farmlands, Prime and Unique	N	Not Present
Soils/Watershed	Y	Analyzed in Detail
Forest Health	N	Due to the limited amount of pinyon and juniper woodlands present within the project area, the proposed action would not effect forest health.

Vegetation, Forest/Woodland and other vegetative products (Native seeds, yucca and cactus plants)	Y	Analyzed in Detail — trail construction
Wetlands/Riparian Zones	Y	Analyzed in Detail
Fish and Wildlife	Y	Analyzed in Detail — Elk and Deer Habitat
Migratory Birds	Y	Analyzed in Detail
FWS Listed (or proposed for listing) Threatened or Endangered Species or critical habitat.	Y	Analyzed in Detail — Southwestern Willow Flycatcher
Special Status Animal Species, other than those listed or proposed by the FWS as Threatened or Endangered.	Y	Analyzed in Detail
Special Status Plant Species, other than those listed or proposed by the FWS as Threatened or Endangered.	Y	Analyzed in Detail — Needle Mountains Milkvetch
Wild Horses	N	The proposed action is located within a Herd Area and wild horses may be encountered. Although horses are present, the BLM does not manage for wild horses in this area. The project will not adversely affect wild horses in the area.
Cultural Resources	N	The Caliente Field Office Archaeologist worked with project designers to ensure that the trails avoid cultural resources located in the area.
Areas of Critical Environmental Concern designated for Cultural Resources	N	Not Present
Heritage Special Designations (Historic Trails, Archaeological Districts and Areas)	N	Not Present
Paleontological Resources	N	Not Present
Visual Resources	Y	Analyzed in Detail
Land Uses	Y	Analyzed in Detail — Partially located on lands identified for disposal in the RMP
Transportation/Access	Y	Analyzed in Detail — Improvements to Clover Creek Road for access to Barnes Canyon Trailhead; increased traffic on Ella Mountain Lookout Road.
Recreation Uses including Back country Byways, Caves, Rockhounding Areas	Y	Analyzed in Detail
Grazing Uses/Forage	Y	Analyzed in Detail — Sawmill Canyon and Clover Creek Allotments
Mineral Resources	N	Not Present. The proposed action would not interfere with any mining claims or permitted actions.
Floodplains	N	The proposed action is partially within Federal Emergency Management Agency Flood Zone X. The proposed action would not alter or affect floodplains due to limited expected surface disturbance.
Fuels	N	Due to the limited amount of pinyon and juniper woodlands present within the project area, the proposed action would not significantly effect fuels.

Emergency Stabilization & Rehabilitation	N	Not Present
Non-Native Invasive and Noxious Species	Y	Analyzed in Detail — See Weed Risk Assessment in Appendix C
Wilderness/ Wilderness Study Areas	N	Not Present
Lands with wilderness characteristics	N	Not Present
Wild and Scenic Rivers	N	Not Present
Human Health and Safety	N	Not Applicable
Native American Religious and other Concerns	N	The BLM has solicited information from the Tribes to provide ethnographic data or identify any sites of importance to Native American Tribes to ensure avoidance of those areas.
Wastes, Hazardous or Solid	N	No hazardous or solid wastes exist in the project area, nor would any be introduced by the proposed action or alternatives.
Public Safety	N	The proposed action would facilitate an increase in visitation to Caliente. Clearly identified trail difficulty, signage, and design of trail access and infrastructure would minimize risk to public safety.
Socioeconomics/ Environmental Justice	Y	Analyzed in Detail

3.2. Section 3.2 General Setting

The project would be located just south and east of Caliente. There would be three distinct elements to the trail network that, when complete, would provide the user with several loops and route options. These elements are the Barnes Canyon loops, the connector trail, and the Kershaw–Ryan loops (Map 2.1). The general landscape in the project area is composed of low to mid-elevation (4,000-5,000 feet) vegetation typical of the Basin and Range region including juniper (*Juniperus* sp.), blackbrush (*Coleogyne* sp.), sagebrush (*Artemisa* sp.), and patches of salt desert scrub. Precipitation is low, averaging 9.04 inches annually, with an average minimum/maximum temperature reported as 46.2° F and 95.4° F, respectively (Lincoln County Lands Policy Plan 2010). The area is geologically diverse and varies from sculpted tuff formations and limestone in Barnes Canyon, to sandy washes, sandstone, and basalt deposits along the connector to the border of Kershaw-Ryan.

Barnes Canyon Loops

Barnes Canyon is a north/south canyon approximately five miles east of downtown Caliente off of Clover Spring Road. The trails in Barnes Canyon are organized in a series of loops that increase in difficulty further from the trailhead known as a stacked-loop configuration (Trail Solutions, 2004). The trails in this network would range from hiking only, beginner to advanced hiking and biking, and bike-only directional routes. Barnes Canyon offers excellent scenery and spectacular views of the surrounding area. Terrain in this area varies from loose tuff and sandy washes to Pinyon/Juniper stands, sage flats, and rocky sidehills.

The IMBA design standards recommend that an average trail grade of 10% or less is most sustainable. Therefore, the trails have been designed to contour hillsides at an average grade of less than 10% with a maximum grade of 15%. The trails would be outsloped at 3-5%, and rolling grade dips and knicks would allow water to sheet across rather than channel down the trails, thus minimizing impacts to soil erosion. The trails would be a full bench-cut design with a maximum

trail width of 36 inches for beginner sections, and a minimum trail width of 18 inches for advanced sections. These construction features are defined and further explained in Appendix D.

All trails would be multi-directional with the exception of 2.5 miles in Barnes Canyon and 0.3 miles in Kershaw-Ryan which would be open to downhill bike traffic only (Table 1). These design features add to the desired trail experience of providing challenge through natural surface and trail width variation. Signs and kiosks at the trailhead will indicate the challenge and experiences that users should expect to encounter on the proposed trail system.

Connector Trail

The connector trail would act as a multi-directional, east-west link between the trails near Barnes Canyon and Kershaw-Ryan. This trail's eastern terminus would be located one-half mile south of the trailhead in Barnes Canyon, and the western terminus would intersect a beginner trail at Ella Mountain Lookout Road. The connector trail ultimately leads users to the network of loops within Kershaw-Ryan via the two-miles of BLM on the canyon rim above the Park. This nine mile trail would cross mostly rocky terrain through some Pinyon/Juniper stands, washes, and across ridge lines. Due to the distance and technical terrain that this trail covers, it would be designated as an intermediate/advanced mountain bike ride or hike. However, the trail offers excellent views of Caliente, Chief Mountain and Highland Peak to the north, and Ella Mountain to the south.

Kershaw-Ryan State Park Loops

This environmental assessment includes analysis for the construction of approximately 13 miles of trails within State Parks jurisdiction as a connected action. These trails would be constructed, operated, and maintained by Kershaw-Ryan.

Kershaw-Ryan is situated in a multi-colored sandstone canyon at the northern end of Rainbow Canyon just two miles south of Caliente via State Route 317. The park is equipped with a 15-unit RV/tent campground, picnic area, children's wading pool, playground, and group-use area. The trails proposed within Kershaw-Ryan were designed using the same IMBA guidelines as those on BLM public lands, and the trail loops are configured in a series of stacked loops that increase in difficulty further from the existing trailhead within the park.

3.3. Section 3.3 Resources/Concerns Analyzed

The following resources were analyzed for potential impacts resulting from the proposed action. Protection, mitigation, and minimization measures are included for resources where appropriate, and compiled together in Appendix B.

3.3.1. Section 3.3.1 Resource 1: Fish and Wildlife

3.3.1.1. Section 3.3.1.1 Affected Environment

The proposed trail system lies within a transitional ecotone between the Great Basin and Mojave Desert biomes and contains vegetation components characteristic of both shrub-steppe ecosystems, predominantly Great Basin Xeric Mixed Sagebrush Shrubland, Inter-Mountain Basins Big Sagebrush Shrubland, and Mojave Mid-Elevation Mixed Desert Scrub (Beatley 1975, U.S. Geological Survey National Gap Analysis Program 2004) (Fig. 1, Appendix A). Likewise, wildlife habitat in the area supports species found in both biomes, such as elk (*Cervus elaphus*),

desert bighorn sheep (*Ovis canadensis nelsoni*), greater roadrunner (*Geococcyx californianus*), and mountain chickadee (*Poecile gambeli*).

The proposed trail system is bordered to the west by Meadow Valley Wash through Rainbow Canyon, and to the north by Clover Creek, a tributary of Meadow Valley Wash. Two BLM sensitive fish species inhabit both stream systems, Meadow Valley Wash desert sucker (*Catostomus clarkii* ssp. 2) and Meadow Valley speckled dace (*Rhinichthys osculus* ssp. 11), as well as introduced rainbow trout (*Oncorhynchus mykiss*). There are no BLM sensitive aquatic invertebrates in either system. The riparian zones provide habitat for bats, birds, amphibians, and numerous other wildlife species. The proposed trail system would not cross Meadow Valley Wash or Clover Creek.

Meadow Valley Wash and Clover Creek are within the Lower Meadow Valley Wash Area of Critical Environmental Concern (ACEC), excluding private lands around the city of Caliente. The ACEC borders the proposed trail system on the north and to the south. The Lower Meadow Valley Wash ACEC was established to protect the unique aquatic and riparian habitats and communities of Meadow Valley Wash and Clover Creek, which provide habitat for special status bats, birds, and fish, as well as many other plant and wildlife species. Portions of the proposed trail system are within the Meadow Valley Wash North, Clover Creek North, and Clover Creek South watersheds (Fig. 3, Appendix A).

The proposed trail system would be entirely within Nevada Department of Wildlife Hunting Unit 242. The entire trail system would also be within general mule deer (*Odocoileus hemionus*) habitat. Most of the proposed trail system, except some of the eastern segments, would be within unoccupied desert bighorn habitat, while the eastern one-third of the trail system would be in general elk habitat (Fig. 4, Appendix A).

Non-avian wildlife species documented in the project area or in similar local habitats (i.e., within approximately 5-6 miles) are listed in Table 4. Avian wildlife is discussed in Section 3.3.2, and special status wildlife species are discussed separately in Sections 3.3.6 and 3.3.7.

Table 4. Non-avian wildlife species documented in the project area or in similar habitats within approximately 5-6 miles of the proposed non-motorized, multipurpose trail system.

Common Name	Scientific Name
Mammals	
American badger	<i>Taxidea taxus</i>
Big free-tailed bat	<i>Nyctinomops macrotis</i>
Bobcat	<i>Lynx rufus</i>
Cliff chipmunk	<i>Tamias dorsalis</i>
Coyote	<i>Canis latrans</i>
Desert woodrat	<i>Neotoma lepida</i>
Elk	<i>Cervus elaphus</i>
Montane vole	<i>Microtus montanus</i>
Mule deer	<i>Odocoileus hemionus</i>
North American deer mouse	<i>Peromyscus maniculatus</i>
Piñon deer mouse	<i>Peromyscus truei</i>
Reptiles	
Gopher snake	<i>Pituophis catenifer</i>
Western fence lizard	<i>Sceloporus occidentalis</i>
Amphibians	
American bullfrog	<i>Lithobates catesbeianus</i> ^a

Great Basin spadefoot	<i>Spea intermontana</i>
<i>Fish</i>	
No records. ^b	
<i>Invertebrates</i>	
No records.	

^aA non-native, invasive species.

^b Although there are fish in the vicinity of the proposed non-motorized, multipurpose trail system, there are no records of fish occurring or suitable habitat within the proposed project area.

3.3.1.2. Section 3.3.1.2 Impact Analysis

Alternative A

Under Alternative A, there would be a total of 14.5 acres of linear ground and vegetation disturbance from the proposed non-motorized, multipurpose trail system, and an additional 12.0 acres of ground and vegetation disturbance from construction of the trailheads and associated facilities. The trails would cross only dry washes and would be designed to be sustainable with minimal erosion from runoff. The trails would not cross either Meadow Valley Wash or Clover Creek. A short segment of trail would cross into the Meadow Valley Wash ACEC bordering the proposed trail system on the north, but it is anticipated that this incursion would have a negligible impact to wildlife resources the ACEC was established to protect (Fig. 3, Appendix A).

The ground and vegetation disturbance associated with the trailheads, as well as human activity at the trailheads, would result in a 6.0-acre loss of wildlife habitat at both trailhead locations resulting in permanent displacement of species utilizing these areas. However, no population-level effects are anticipated as no wildlife travel corridors would be blocked. Low-impact, night-sky-friendly solar lighting would be installed above vault toilet doors. Signage and an informational kiosks would advise trail users to practice minimal impact hiking and biking and to pack out all trash. It is not anticipated that the proposed trail system would have any population-level impacts to wildlife resources given that the ground and vegetation disturbance is limited to a maximum three-foot wide tread over a maximum 40 miles of trails. It is anticipated that wildlife would use and cross these trails and that trail hikers and bikers would periodically encounter wildlife while on the trail system, which would cause dispersed, temporary disturbance to wildlife, however, small mammals, reptiles, and amphibians could be inadvertently harmed or killed during trail construction.

General Wildlife Protection Measures

- Vault toilet vent pipes would be screened to prevent entrapment of reptiles, small mammals, and birds.
- Low-impact, night-sky-friendly solar lighting would be installed above vault toilet doors.
- Signage and an informational kiosk would advise trail users to practice minimal impact hiking and biking and to pack out all trash.
- The informational kiosks would advise trail users of hunting seasons and precautions to take to minimize and avoid conflicts with hunters and wildlife.
- The informational kiosks would provide an opportunity to educate trail users about avian resources in the area.

- The informational kiosks would provide an opportunity to educate trail users about sensitive wildlife resources in the area.

No Action Alternative

Under the no action alternative, no trails or trailheads would be developed and wildlife habitat would not be disturbed.

3.3.2. Section 3.3.2 Resource 2: Migratory Birds

3.3.2.1. Section 3.3.2.1 Affected Environment

The proposed non-motorized, multipurpose trail system is bordered to the west by Meadow Valley Wash through Rainbow Canyon, and to the north by Clover Creek, a tributary of Meadow Valley Wash. Meadow Valley Wash and Clover Creek are within the Lower Meadow Valley Wash Area of Critical Environmental Concern, excluding private lands around the city of Caliente. The ACEC borders the proposed trail system on the north and to the south. The Lower Meadow Valley Wash ACEC was established to protect the unique aquatic and riparian habitats and communities of Meadow Valley Wash and Clover Creek, which provide habitat for special status bats, birds, and fish, as well as many other plant and wildlife species. Meadow Valley Wash through Rainbow Canyon is also designated as the Lower Muddy River Bird Habitat Conservation Area. Portions of the proposed trail system are within the Meadow Valley Wash North, Clover Creek North, and Clover Creek South watersheds (Fig. 3, Appendix A).

Meadow Valley Wash and Clover Creek provide important riparian and aquatic habitat, especially breeding habitat, for many species of birds, including two species listed under the Endangered Species Act, which are discussed separately in Section 3.3.6. Bureau of Land Management sensitive birds are discussed in Section 3.3.7. Meadow Valley Wash also functions as an important migration corridor for migratory birds.

Riparian habitat along both stream systems includes a discontinuous overstory of Fremont's cottonwood (*Populus fremontii*), ash (*Fraxinus* sp.), and willow, and invasive saltcedar (*Tamarix ramosissima*) and Russian olive (*Elaeagnus angustifolia*). Emergent and wetland vegetation consists of cattail (*Typha* sp.), horsetail (*Equisetum* sp.), sedge, and rush.

The proposed trail system lies within a transitional ecotone between the Great Basin and Mojave Desert biomes and contains vegetation components characteristic of both shrub-steppe ecosystems, predominantly Great Basin Xeric Mixed Sagebrush Shrubland, Inter-Mountain Basins Big Sagebrush Shrubland, and Mojave Mid-Elevation Mixed Desert Scrub (Beatley 1975, U.S. Geological Survey National Gap Analysis Program 2004) (Fig. 1, Appendix A). The proposed trail system traverses habitat inhabited by upland shrub-steppe bird species. Avian wildlife species documented in the project area or in similar local habitats (i.e., within approximately 5-6 miles) are listed in Table 5.

Table 5. Avian wildlife species documented in the project area or in similar habitats within approximately 5-6 miles of the proposed non-motorized, multipurpose trail system (Floyd et al. 2007).

Common Name	Scientific Name
<i>Waterbirds</i>	

Great blue heron O ^a	<i>Ardea herodias</i>
Landbirds	
American kestrel O	<i>Falco sparverius</i>
American robin C	<i>Turdus migratorius</i>
Ash-throated flycatcher X	<i>Myiarchus cinerascens</i>
Bell's vireo X	<i>Vireo bellii</i>
Bewick's wren C	<i>Thryomanes bewickii</i>
Black-chinned sparrow X	<i>Spizella atrogularis</i>
Black-headed grosbeak X	<i>Pheucticus melanocephalus</i>
Black phoebe O	<i>Sayornis nigricans</i>
Black-tailed gnatcatcher X	<i>Poliophtila melanura</i>
Black-throated gray warbler X	<i>Setophaga nigrescens</i>
Black-throated sparrow X	<i>Amphispiza bilineata</i>
Blue-gray gnatcatcher C	<i>Poliophtila caerulea</i>
Blue grosbeak X	<i>Passerina caerulea</i>
Broad-tailed hummingbird X	<i>Selasphorus platycercus</i>
Brown-headed cowbird P	<i>Molothrus ater</i>
Bullock's oriole X	<i>Icterus bullockii</i>
Bushtit P	<i>Psaltiriparus minimus</i>
Canyon wren C	<i>Catherpes mexicanus</i>
Chipping sparrow C	<i>Spizella passerina</i>
Common poorwill X	<i>Phalaenoptilus nuttallii</i>
Common raven C	<i>Corvus corax</i>
Cooper's hawk O	<i>Accipiter cooperii</i>
Flammulated owl O	<i>Otus flammeolus</i>
Gambel's quail X	<i>Callipepla gambelii</i>
Gray flycatcher P	<i>Empidonax wrightii</i>
Gray-headed junco X	<i>Junco hyemalis caniceps</i>
Gray vireo C	<i>Vireo vicinior</i>
Greater roadrunner O	<i>Geococcyx californianus</i>
Great horned owl O	<i>Bubo virginianus</i>
Hairy woodpecker X	<i>Picoides villosus</i>
House finch P	<i>Haemorhous mexicanus</i>
House wren X	<i>Troglodytes aedon</i>
Juniper titmouse X	<i>Baeolophus ridgwayi</i>
Lark sparrow X	<i>Chondestes grammacus</i>
Lazuli bunting P	<i>Passerina amoena</i>
Long-eared owl O	<i>Asio otus</i>
Merlin O	<i>Falco columbarius</i>
Mountain chickadee X	<i>Poecile gambeli</i>
Mourning dove C	<i>Zenaida macroura</i>
Northern flicker X	<i>Colaptes auratus</i>
Northern harrier O	<i>Circus cyaneus</i>
Northern rough-winged swallow O	<i>Stelgidopteryx serripennis</i>
Northern saw-whet owl O	<i>Aegolius acadicus</i>
Plumbeous vireo X	<i>Vireo plumbeus</i>
Red-tailed hawk O	<i>Buteo jamaicensis</i>
Rock wren X	<i>Salpinctes obsoletus</i>
Sharp-shinned hawk O	<i>Accipiter striatus</i>
Song sparrow C	<i>Melospiza melodia</i>
Spotted towhee P	<i>Pipilo maculatus</i>
Steller's jay X	<i>Cyanocitta stelleri</i>
Turkey vulture X	<i>Cathartes aura</i>
Violet-green swallow X	<i>Tachycineta thalassina</i>

Warbling vireo X	<i>Vireo gilvus</i>
Western bluebird C	<i>Sialia mexicana</i>
Western kingbird P	<i>Tyrannus verticalis</i>
Western scrub-jay C	<i>Aphelocoma californica</i>
Western wood-pewee O	<i>Contopus sordidulus</i>
Wilson's warbler X	<i>Cardellina pusilla</i>
Yellow-breasted chat X	<i>Icteria virens</i>
Yellow-rumped warbler X	<i>Setophaga coronata</i>
Yellow warbler O	<i>Setophaga petechia</i>

^a Breeding bird criteria codes: O = observed, X = possible breeder, P = probable breeder, and C = confirmed breeder.

3.3.2.2. Section 3.3.2.2 Impact Analysis

Alternative A

Approximately one-sixth of the western portion of the proposed trail system is within the designated corridor for the Lower Muddy River Bird Habitat Conservation Area, but outside of all but a small area of riparian habitat (Fig. 3, Appendix A). The ground disturbance associated with the trail and the dispersed activity along the trail would be anticipated to have a negligible effect within the corridor (see following discussion).

Just north of the entrance to Kershaw-Ryan State Park is a small patch (<0.2 acres) of willows that is disjunct from riparian habitat along Meadow Valley Wash and separated from it by State Highway 317. The trail system would skirt the edge of this patch of willows along an existing berm and overhanging branches might need to be periodically trimmed back. It is not anticipated that breeding birds occupying this patch of willows would be displaced by the dispersed activity occurring along the trail, as birds occupying this habitat patch are likely habituated to/tolerant of noise and disturbance associated with the highway and the entrance to the park. Riparian habitat along Meadow Valley Wash and Clover Creek would not otherwise be impacted by the proposed trail system.

It is not anticipated that the proposed trail system would have any population-level impacts to avian resources given that the ground and vegetation disturbance is limited to a maximum three-foot wide tread over a maximum 40 miles of trails. Activity along the trail system could result in disturbance to breeding birds and nest abandonment depending on the individual tolerance of a bird. Terrestrial predators would likely use the trails as travel corridors and birds nesting in close proximity could be more vulnerable to predation. It is not anticipated that the development of the trails would result in an edge effect in the shrub-steppe habitat types traversed by the system, which brown-headed cowbirds (*Molothrus ater*) could then exploit. It is expected that trail hikers and bikers would encounter birds while on the trail system, which would, in most cases, cause only dispersed, temporary disturbance to avian wildlife.

Entrapment of birds, small mammals, and reptiles within manmade openings created by such things as vault toilet vent pipes, uncapped metal fence posts, and signs affixed to T-posts is a recognized problem. The BLM Ely District has already implemented measures to prevent migratory birds from becoming entrapped in vault toilet vent pipes and other manmade cavities. All vault toilets vent pipes on the district are currently screened. There are no other openings on vault toilets that could entrap animals.

The ground and vegetation disturbance associated with the trailheads, as well as human activity at the trailheads, would result in a 6.0-acre loss of avian habitat at both trailhead locations resulting

in permanent displacement of species utilizing these areas. However, no population-level effects are anticipated as migration corridors would not be blocked. Low-impact, night-sky-friendly solar lighting would be installed above vault toilet doors. Signage and an informational kiosks would advise trail users to practice minimal impact hiking and biking and to pack out all trash. The informational kiosks would also provide an opportunity to educate trail users about avian resources in the area.

Avian Protection Measures

Trail and trailhead construction would either occur outside the breeding season for migratory birds or require nest clearance surveys by a BLM or BLM-approved wildlife biologist prior to any ground-disturbing activity during the breeding season. The breeding season is defined as March 1 through August 31 annually. Clearance surveys conducted during the breeding season would be valid for seven days. If active nests are located, or if other evidence of nesting (i.e., carrying nesting material, carrying fecal sac, carrying food, distraction displays, occupied nest indicated by adult entering or leaving nest site in circumstances where the nest cannot be directly observed [e.g., cavities], nest with young seen or heard, or recently fledged dependent young or downy young) is observed, a protective buffer would be delineated as identified in the *BLM Ely District recommended bird nest buffer sizes* protocol, incorporated by reference, for most avian species, and 0.5 mile for raptors (Bureau of Land Management 2008, 2012). The buffer area would then be avoided to prevent destruction or disturbance to nests or birds until young are fledged, capable of sustained flight, and have moved out of the natal area, or the nest is abandoned (i.e., fails).

Should any occupied burrowing owl (*Athene cunicularia*) burrows be encountered, the trail will be rerouted to the extent practicable to avoid disturbing burrowing owls and their burrows, and at a minimum a 200-foot buffer zone would be established around active burrows during the breeding season as recommended in the *Nevada comprehensive bird conservation plan* (Great Basin Bird Observatory 2010).

If an active nest is found, the trail would be marked with flagging delineating the buffer avoidance area and construction personnel would be advised accordingly. Nests would not be marked in any way as to draw the attention of predators, and care would be taken to avoid creating a trail to the nest site.

Vault toilet vent pipes would be screened to prevent birds from entering and becoming entrapped. During construction of trailhead facilities, all openings in construction materials as small as 0.75 inches in diameter would be temporarily sealed or capped to prevent birds and other wildlife from entering and becoming entrapped. Signs along the trail system would be affixed to flat fiberglass posts that would not create artificial openings for wildlife to become entrapped.

No Action Alternative

Under the no action alternative, no trails or trailheads would be developed and wildlife habitat would not be disturbed.

3.3.3. Section 3.3.3 Resource 3: Soils/Watershed

3.3.3.1. Section 3.3.3.1 Affected Environment

Soils are classified by the Natural Resource Conservation Service into four Hydrologic Soil Groups based on the soil's runoff potential. The four Hydrologic Soils Groups (HSG) are A, B, C and D. Where soil group A generally has the smallest runoff potential and soil group D the greatest.

Group A is sand, loamy sand or sandy loam types of soils. It has low runoff potential and high infiltration rates even when thoroughly wetted. They consist chiefly of deep, well to excessively drained sands or gravels and have a high rate of water transmission.

Group B is silt loam or loam. It has a moderate infiltration rate when thoroughly wetted and consists chiefly or moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures.

Group C soils are sandy clay loam. They have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine to fine structure.

Group D soils are clay loam, silty clay loam, sandy clay, silty clay or clay. This HSG has the highest runoff potential. They have very low infiltration rates when thoroughly wetted and consist chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface and shallow soils over nearly impervious material.

3.3.3.2. Section 3.3.3.2 Impact Analysis

Alternative A

Approximately 4 miles of the trail system occurs in soils categorized in Hydrologic Soils Group B (Fig. 2, Appendix A). Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded. Group B soils typically have between 10 percent and 20 percent clay and 50 percent to 90 percent sand and have loamy sand or sandy loam textures. Trail sections located in this soil group will be the least prone to runoff and erosion.

Approximately 5 miles of the trail system is proposed in soils categorized as Hydrologic Soils Group C (Fig. 2, Appendix A). Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted. Group C soils typically have between 20 percent and 40 percent clay and less than 50 percent sand and have loam, silt loam, sandy clay loam, clay loam, and silty clay loam textures. Trail sections located in this soil group are moderately prone to runoff and erosion.

Approximately 31 miles of the trail system is proposed in soils categorized as Hydrologic Soils Group D (Fig. 2, Appendix A). Soils in this group have high runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted. Group D soils typically have greater than 40 percent clay, less than 50 percent sand, and have clayey textures. Trail sections in this group are at the greatest risk of runoff and erosion.

As a result of construction and other disturbances, the soil profile can be altered from its natural state and the listed group assignments generally no longer apply, nor can any supposition based on the natural soil be made that will accurately describe the hydrologic properties of the disturbed soil. In these circumstances, an on-site investigation should be made to determine the hydrologic soil group. A general set of guidelines for estimating saturated hydraulic conductivity from field observable characteristics is presented in the Soil Survey Manual (NEH 2015). Based on the design features of the trails increases to runoff and soil erosion are anticipated to be insignificant. See Appendix D for details of construction design features.

No Action Alternative

Under the no action alternative, no trails or trailheads would be developed and there would be no impacts to soils or watershed.

3.3.4. Section 3.3.4 Resource 4: Vegetation, Forest/Woodland and Other Vegetative Products

3.3.4.1. Section 3.3.4.1 Affected Environment

Trails located in the northeast portion of the project area are mostly located in Great Basin xeric mixed sagebrush shrubland. Much of this shrubland is in the later stages of pinyon-juniper encroachment due to a lack of fire. This is resulting in a decrease in understory forb and grass species as well as a decrease in shrub species as the overstory of trees increases. Over time, this area will become more prone to catastrophic fire, which is likely to be followed by erosion events.

Trails located in the southwest portion of the project area are primarily located in a mix of Mojave Mid-Elevation Mixed Desert Scrub and Inter-Mountain Basins Big Sagebrush Shrubland with smaller components of Mojave Mid-Elevation Mixed Desert Scrub and Inter-Mountain Basins Semi-Desert Shrub Steppe (Fig. 1, Appendix A). There is also a very small component of Great Basin Pinyon-Juniper Woodland. Some of these may also be in a historically departed condition due to changes in fire regime, increases in woody biomass, and the introduction of invasive annual grasses. The threat of erosion events following wildfire is still present, but to a lesser degree of the sagebrush shrubland (see Soils section). The trailheads discussed in Alternative A involve the disturbance of approximately six acres of land each. These areas are located in Great Basin xeric mixed sagebrush shrubland.

There would be a total of 14.5 acres of linear ground and vegetation disturbance from the proposed non-motorized, multipurpose trail system, and an additional 12.0 acres of ground and vegetation disturbance from construction of the trailhead facilities resulting in a permanent loss of 26.5 acres of native vegetation habitat. There could be additional disturbance to vegetation from users deviating off the trail system. The trail system would be monitored for unauthorized habitat disturbance and social trails. Such disturbance would be mitigated and habitat restored if necessary.

3.3.4.2. Section 3.3.4.2 Impact Analysis

Alternative A

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*Section 3.3.4 Resource 4: Vegetation,
Forest/Woodland and Other Vegetative Products*

*Lincoln County Partners Non-Motorized,
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The trails, being a narrow linear disturbance, are not likely to result in significant direct impacts to vegetation. The vegetation communities in the project area typically have space between plants. There will be some loss of grass and forb species that typically occupy the interspaces, but at the same time disturbances can increase the establishment of plants due to the creation of safe sites and microclimates which favor seed germination and plant establishment. This could likely occur along the fringes of the trail, but is not expected to be a significant change in the plant community.

Another effect of trail construction on the plant community would be the focusing of overland water flows. This could result in a concentration of water that favors some plant species while being disadvantageous to others. However, this effect is not expected to be significant and will be mediated by proper trail design (see design features in Appendix D).

The trailheads described in Alternative A would result in the complete removal of vegetation. This would leave the area prone to invasive weed establishment. The Weed Risk Assessment in Appendix C and the weed specific design elements of the project address invasive weed management; such as regular monitoring and treatment, and interpretive signage.

Significant effects to forest and vegetative products is not expected.

No Action Alternative

Under the no action alternative, no trails or trailheads would be developed and vegetation resources would not be disturbed.

3.3.5. Section 3.3.5 Resource 5: Wetlands/Riparian Zones

3.3.5.1. Section 3.3.5.1 Affected Environment

The proposed trail system has one water crossing that is located within lands designated to be transferred from BLM to the State of Nevada's Kershaw-Ryan State Park. This riparian area is fed by intermittent spring flows, which are above ground during the wetter times of the year such as spring time and during the monsoon season. This system is subject to regular scouring events from upland overland flows that develop during storm events and spring snow melt.

Wetland plant species found at the site are willow, cattails and cottonwood. The only wetland obligate found during field visits is cattail *Typha* spp. The lack of more riparian obligate plant species is likely due to a hydroperiod that may not be maintained or stable. The presence of wetland facultative species and some upland species can be found within the community, which lacks an obvious green-line, also suggest a highly fluctuating hydroperiod. The lack of a green-line is also due to the geomorphology and lack of a flood plain with a deeply entrenched channel and steep, moderately stable walls. The course textured soils may also play a role in a highly fluctuating hydroperiod with high infiltration rates and low capillary water holding ability.

3.3.5.2. Section 3.3.5.2 Impact Analysis

Alternative A

Effects to this riparian system from the construction and use of the proposed trail system could include soil compaction, trampling of vegetation, and the spread of noxious weeds.

Soil compaction may be of limited impact because of the coarse textured soils. Because this area is within State Park jurisdiction, BLM is not proposing to construct any mitigating features here. However, a bridge could be constructed as a design feature that would eliminate the possibility of soil compaction and vegetation trampling.

Common negative impacts from bridge construction are increased disturbance during construction, anchoring of the stream channel, and alteration of the flood plain. For this project, the anchoring of the stream channel is not a concern because of the geomorphology. The stream channel is deeply entrenched in an armored and low to moderately erodible substrate and does not meander in response to high flow events. Also, there is no flood plain present due to the geomorphology and entrenchment of the system.

The possibility of noxious weed introduction due to trail use would be reduced through a weed education and prevention program (Weed Risk Assessment, Appendix C).

No Action Alternative

Under the no action alternative, trails would not be developed and there would be no bridges constructed through riparian areas.

3.3.6. Section 3.3.6 Resource 6: Federally Threatened and Endangered Species and Critical Habitat (including species proposed or candidates for listing under the Endangered Species Act).

3.3.6.1. Section 3.3.6.1 Affected Environment

The proposed non-motorized, multipurpose trail system is bordered to the west by Meadow Valley Wash through Rainbow Canyon, and to the north by Clover Creek, a tributary of Meadow Valley Wash. Meadow Valley Wash and Clover Creek are within the Lower Meadow Valley Wash Area of Critical Environmental Concern, excluding private lands around the city of Caliente. The ACEC borders the proposed trail system on the north and to the south. The Lower Meadow Valley Wash ACEC was established to protect the unique aquatic and riparian habitats and communities of Meadow Valley Wash and Clover Creek, which provide habitat for special status bats, birds, and fish, as well as many other plant and wildlife species. Meadow Valley Wash through Rainbow Canyon is also designated as the Lower Muddy River Bird Habitat Conservation Area. Portions of the proposed trail system are within the Meadow Valley Wash North, Clover Creek North, and Clover Creek South watersheds (Fig. 3, Appendix A).

Meadow Valley Wash and Clover Creek provide important riparian and aquatic habitat, especially breeding habitat, for many species of birds, including the federally endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and potential habitat for the federally threatened yellow-billed cuckoo (*Coccyzus americanus*) western distinct population segment. Meadow Valley Wash also functions as an important migration corridor for migratory birds. There is no designated critical habitat for either the southwestern willow flycatcher or the yellow-billed cuckoo within the analysis area for the proposed trail system.

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Section 3.3.6 Resource 6: Federally Threatened and Endangered Species and Critical Habitat (including species proposed or candidates for listing under the Endangered Species Act).

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Riparian habitat along both stream systems includes a discontinuous overstory of Fremont's cottonwood, ash, and willow, and invasive saltcedar and Russian olive. Emergent and wetland vegetation consists of cattail, horsetail, sedge, and rush.

On January 11, 2005, a major rain event in southeastern Nevada resulted in catastrophic flooding of Meadow Valley Wash and Clover Creek resulting in the degradation and loss of 36% of previously delineated habitat (mostly suitable breeding habitat) for the southwestern willow flycatcher along lower Meadow Valley Wash between Caliente, Nevada and its confluence with the Muddy River (Bio-West 2005). The remaining habitat was remapped and suitable and potential habitat again delineated by Bio-West. During breeding bird surveys conducted by the Nevada Department of Wildlife and SWCA Environmental Consultants in 2014, breeding southwestern willow flycatchers were documented in suitable riparian habitat along lower Meadow Valley Wash (C. Klinger, Nevada Department of Wildlife, personal communication). Southwestern willow flycatchers were again documented as breeding along lower Meadow Valley Wash in 2015.

The yellow-billed cuckoo was listed as a federally threatened species in 2014. Habitat has not been assessed for yellow-billed cuckoo along lower Meadow Valley Wash and Clover Creek, although presumed potential habitat exists. Recent surveys by the Nevada Department of Wildlife have not documented yellow-billed cuckoo along either Meadow Valley Wash or Clover Creek (C. Klinger, Nevada Department of Wildlife, personal communication).

There are no other federally threatened, endangered, candidate, or proposed species or their critical habitat occurring within the analysis area for the proposed trail system.

3.3.6.2. Section 3.3.6.2 Impact Analysis

Alternative A

Approximately one-sixth of the western portion of the proposed trail system is within the designated corridor for the Lower Muddy River Bird Habitat Conservation Area, but outside of all but a small area of riparian habitat (Fig. 3, Appendix A). The ground disturbance associated with the trail and the dispersed activity along the trail would be anticipated to have a negligible effect within the corridor.

Just north of the entrance to Kershaw-Ryan State Park is a small patch (<0.2 acres) of willows that is disjunct from riparian habitat along Meadow Valley Wash and separated from it by State Highway 317. The trail system would skirt the edge of this patch of willows along an existing berm and overhanging branches might need to be periodically trimmed back. This patch of willows was delineated by Bio-West (2005) as potential southwestern willow flycatcher habitat.

On August 19, 2015, BLM Caliente Field Office wildlife biologists conducted a site visit of this patch of willows (A. Styles, Bureau of Land Management, personal communication). The site lacked certain habitat characteristics preferred by southwestern willow flycatchers, including patch size and complexity (Sogge et al. 2010). The willow patch does not provide suitable habitat for yellow-billed cuckoo, which require a much larger patch size and a multi-level overstory (Halterman et al. 2015).

On March 4, 2016 the BLM submitted a request for informal consultation with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act on potential impacts from the proposed trail system on southwestern willow flycatchers. The U.S. Fish and Wildlife Service concurred with BLM's initial determination that the proposed action *may affect, but is not likely to*

adversely affect the southwestern willow flycatcher or its critical habitat on March 17, 2016. See Section 3.3.2.2 for avian protection measures under the proposed action that would be employed to protect birds during the breeding season.

Riparian habitat along Meadow Valley Wash and Clover Creek would not otherwise be impacted by the proposed trail system. There are no other federally threatened, endangered, candidate, or proposed species or their critical habitat that would be affected by the proposed trail system.

Southwestern Willow Flycatcher Protection Measures

Trail construction in the vicinity of southwestern willow flycatcher habitat near the entrance to Kershaw-Ryan State Park would occur outside the breeding season for southwestern willow flycatcher defined as 15 April to 31 August (Sogge et al. 2010).

No Action Alternative

Under the no action alternative, no trails or trailheads would be developed and potential southwestern willow flycatcher habitat would not be disturbed.

3.3.7. Section 3.3.7 Resource 7: Special Status Animal Species (other than those listed, proposed, or candidates for listing under the Endangered Species Act).

3.3.7.1. Section 3.3.7.1 Affected Environment

The proposed non-motorized, multipurpose trail system is bordered to the west by Meadow Valley Wash through Rainbow Canyon, and to the north by Clover Creek, a tributary of Meadow Valley Wash. Meadow Valley Wash and Clover Creek are within the Lower Meadow Valley Wash Area of Critical Environmental Concern, excluding private lands around the city of Caliente. The ACEC borders the proposed trail system on the north and to the south. The Lower Meadow Valley Wash ACEC was established to protect the unique aquatic and riparian habitats and communities of Meadow Valley Wash and Clover Creek, which provide habitat for special status bats, birds, and fish, as well as many other plant and wildlife species. Meadow Valley Wash through Rainbow Canyon is also designated as the Lower Muddy River Bird Habitat Conservation Area. Portions of the proposed trail system are within the Meadow Valley Wash North, Clover Creek North, and Clover Creek South watersheds (Fig. 3, Appendix A).

Meadow Valley Wash and Clover Creek provide important riparian and aquatic habitat, especially breeding habitat, for BLM sensitive birds, including two species listed under the Endangered Species Act, which are discussed separately in Section 3.3.6. Meadow Valley Wash also functions as an important migration corridor for migratory birds. In addition, the two waterways provide habitat and an important source of water for BLM sensitive bats and other wildlife.

Riparian habitat along both stream systems includes a discontinuous overstory of Fremont's cottonwood, ash, and willow, and invasive saltcedar and Russian olive. Emergent and wetland vegetation consists of cattail, horsetail, sedge, and rush.

The proposed trail system lies within a transitional ecotone between the Great Basin and Mojave Desert biomes and contains vegetation components characteristic of both shrub-steppe ecosystems, predominantly Great Basin Xeric Mixed Sagebrush Shrubland, Inter-Mountain

Basins Big Sagebrush Shrubland, and Mojave Mid-Elevation Mixed Desert Scrub (Beatley 1975, U.S. Geological Survey National Gap Analysis Program 2004) (Fig. 1, Appendix A). The proposed trail system traverses habitat inhabited by BLM sensitive upland shrub-steppe bird species. Bureau of Land Management sensitive wildlife species documented in the project area or in similar local habitats (i.e., within approximately 5-6 miles) are listed in Table 6.

Greater Sage-grouse

Until recently, the greater sage-grouse (*Centrocercus urophasianus*) was a candidate for protection under the Endangered Species Act. On September 22, 2015, BLM Nevada issued a record of decision and approved resource management plan amendment for its Nevada and northeastern California sub-regional greater sage-grouse planning strategy (Bureau of Land Management 2015). That same day, the U.S. Fish and Wildlife Service announced its conclusion that the greater sage-grouse did not warrant protection under the Endangered Species Act. The BLM’s decision requires compensatory mitigation for all BLM actions that result in disturbance to soil and vegetation in greater sage-grouse priority and general habitat, such that there is a net conservation gain to sage-grouse habitat and/or application of *Required Design Features* (RDFs)..

The proposed trail system would traverse greater sage-grouse habitat in two management categories known as *General Habitat Management Area* (GHMA) and *Other Habitat Management Area* (OHMA) (Fig. 5, Appendix A). Portions of the trail would also be in non-habitat. There are currently no greater sage-grouse inhabiting the project area.

Table 6. Bureau of Land Management sensitive animal species documented in the project area or in similar habitats within approximately 5-6 miles of the proposed non-motorized, multipurpose trail system.

Common Name	Scientific Name
Mammals	
Big brown bat	<i>Eptesicus fuscus</i>
Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>
California myotis	<i>Myotis californicus</i>
Desert bighorn sheep	<i>Ovis canadensis nelsoni</i>
Fringed Myotis	<i>Myotis thysanodes</i>
Pallid bat	<i>Antrozous pallidus</i>
Western pipistrelle	<i>Parastrellus hesperus</i>
Western small-footed Myotis	<i>Myotis ciliolabrum</i>
Birds	
Bald eagle O ^a	<i>Haliaeetus leucocephalus</i>
Brewer's sparrow C	<i>Spizella breweri</i>
Burrowing Owl X	<i>Athene cunicularia</i>
Golden eagle O	<i>Aquila chrysaetos</i>
Greater sage-grouse (not present)	<i>Centrocercus urophasianus</i> ^b
Northern goshawk C	<i>Accipiter gentilis</i>
Peregrine falcon C	<i>Falco peregrinus</i>
Reptiles	
No records.	
Amphibians	
Arizona toad	<i>Anaxyrus microscaphus</i> ^c
Fish	
No records. ^d	

<i>Invertebrates</i>	
No records.	

^a Breeding bird criteria codes: O = observed, X = possible breeder, P = probable breeder, and C = confirmed breeder

^b Although there are no records of greater sage-grouse occurring in the project area, the proposed non-motorized, multipurpose trail system contains mapped habitat (Bureau of Land Management 2015).

^c The Arizona toad is not currently listed as a BLM sensitive species; however, the Nevada Department of Wildlife included the species in its 2012 Wildlife Action Plan because of declining trend and hybridization of this highly fragmented species, and a lack of information on the species in Nevada (Wildlife Action Plan Team 2013).

^d Although there are fish in the vicinity of the proposed non-motorized, multipurpose trail system, there are no records of fish occurring or suitable habitat within the proposed project area.

3.3.7.2. Section 3.3.7.2 Impact Analysis

Alternative A

It is not anticipated that the proposed trail system would have any population-level impacts to BLM sensitive wildlife species given that the ground and vegetation disturbance is limited to a maximum 36" wide tread over a maximum 40 miles of trails. Activity along the trail system could result in disturbance to breeding birds, including Brewer's sparrow (*Spizella breweri*), and nest abandonment depending on the individual tolerance of a bird. Terrestrial predators would likely use the trails as travel corridors and birds nesting in close proximity could be more vulnerable to predation. It is not anticipated that the development of the trails would result in an edge effect in the shrub-steppe habitat types traversed by the system, which brown-headed cowbirds could then exploit. It is expected that trail hikers and bikers would encounter BLM sensitive wildlife species while on the trail system, which would, in most cases, cause only dispersed, temporary disturbance to these species.

The proposed trail system is within unoccupied desert bighorn (*Ovis canadensis nelsoni*) habitat (Fig. 4, Appendix A). There are no current plans to reintroduce desert bighorn to the area in the foreseeable future. The nearest occupied habitat is more than 15 miles from the project area. Present landscape considerations, including habitat conditions (e.g., expansive and dense pinyon-juniper stands), land uses (e.g., agricultural interests and livestock kept on private inholdings), and presence of bacterial pneumonia in Nevada bighorn populations, do not favor expansion of regional populations. The proposed project area already has a high human presence and it would not be expected that the dispersed, non-motorized recreational use of the proposed trail system, while cumulative in effect, would significantly alter the status quo, or present an additional barrier to movement should desert bighorn be reintroduced to the area in the future. Should desert bighorn be reintroduced or re-inhabit the area in the future, signage would be placed at trailheads to educate trail users on how to minimize impacts to desert bighorn.

The ground and vegetation disturbance associated with the trailheads, as well as human activity at the trailheads, would result in a 6.0-acre loss of avian and potential bat habitat at both trailhead locations resulting in permanent displacement of species utilizing these areas. However, no population-level effects are anticipated as migration corridors for birds would not be blocked. Low-impact, night-sky-friendly solar lighting would be installed above vault toilet doors that would not attract insects from long distances or create forage habitat voids for bats. Signage and informational kiosks would advise trail users to practice minimal impact hiking and biking and to pack out all trash. The informational kiosks would also provide an opportunity to educate trail users about sensitive wildlife resources in the area.

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Species (other than those listed, proposed, or
candidates for listing under the Endangered Species
Act).*

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There is only one historic raptor (i.e., a bird of prey) nest within one-half mile of the proposed trail system. The nest was observed in 1978 and based on its size was most likely an *Accipiter* or *Buteo* (i.e., hawk) nest. Golden eagles (*Aquila chrysaetos*), Peregrine falcons (*Falco peregrinus*), and northern goshawks (*Accipiter gentilis*) may occur in the project area, however there are no records of these species nesting there. Bald eagles (*Haliaeetus leucocephalus*) are rare in the project area, but may occur during migration along Meadow Valley Wash and Clover Creek.

Burrowing owls (*Athene cunicularia*) have the potential to occur within the proposed project area in suitable habitat. The project area is located north of the year-round range for burrowing owls, but is within spring/summer range. Trail and trailhead construction would either occur outside the breeding season for migratory birds or require nest clearance surveys by a BLM or BLM-approved wildlife biologist prior to any ground-disturbing activity during the breeding season as described under *Avian Protection Measures* in Section 3.3.2.2. Migratory bird nest clearance surveys would be conducted prior to any trail construction occurring during the breeding season, defined as March 1 through August 31 annually. The breeding season for burrowing owls is mid-April to early August (Great Basin Bird Observatory 2010). Should any occupied burrowing owl burrows be encountered, the trail will be rerouted to the extent practicable to avoid disturbing burrowing owls and their burrows, and at a minimum a 200-foot buffer zone would be established around active burrows during the breeding season as recommended in the *Nevada comprehensive bird conservation plan* (Great Basin Bird Observatory 2010). See Section 3.3.2.2 for avian protection measures under the proposed action that would be employed to protect birds during the breeding season.

There are seven species of BLM sensitive bats documented in the project area. Potential bat roosting habitat could be impacted by construction of the trailhead facilities displacing them, however the impacts are expected to be negligible. Low-impact, night-sky-friendly solar lighting would be installed above vault toilet doors. No lights would be installed along the trails. Access to water would not be affected by the proposed trail system.

The Arizona toad (*Anaxyrus microscaphus*) occurs along Meadow Valley Wash and may occur in Kershaw-Ryan State Park in riparian and aquatic habitats and adjacent areas. The Arizona toad is not a BLM sensitive species, but is of concern to the Nevada Department of Wildlife and is mentioned in their Nevada Wildlife Action Plan (Wildlife Action Plan Team 2013). Arizona toads could be accidentally harmed during trail construction in the vicinity of Kershaw-Ryan State Park, but it is expected that this would be a very rare event. It is anticipated that impacts to the Arizona toad would be negligible.

Greater Sage-Grouse

A site visit to the GHMA mapped habitat that would be crossed by the proposed trail system was conducted on January 13, 2016 by BLM and Nevada Department of Wildlife (NDOW) wildlife biologists. In consultation with the NDOW and the BLM Nevada State Office, it was determined that the GHMA mapped habitat lacked important components of seasonal habitat and did not provide functional habitat for greater sage-grouse. As there is currently no known greater sage-grouse occupancy of the project area at any time of year, greater sage-grouse would not be directly impacted by the proposed action. The nearest Priority Habitat Management Area habitat is 27.3 miles north and the nearest known lek is 30.3 miles north of the proposed project area.

Mapped Greater sage-grouse habitat would be disturbed by the proposed trail system and trailhead facilities as described previously. Application of RDFs as described in Appendix C of the approved resource management plan amendment would be required in both GHMA

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and OHMA (Appendix A Fig. 5) (Bureau of Land Management 2015). The BLM would also provide educational materials on greater sage-grouse and sage-grouse habitat conservation at the trailhead kiosk.

Greater Sage-Grouse Protection Measures

The following RDFs would be applied to the proposed action:

General RDFs

The following RDFs would apply to development in all programs within *Priority Habitat Management Area* (PHMA), GHMA and OHMA consistent with applicable law.

- RDF Gen 1: Locate new roads outside of greater sage-grouse (GRSG) habitat to the extent practical. **No new roads would be constructed; however, trailheads and facilities would be constructed on a total of 12.0 acres.**
- RDF Gen 2: Avoid constructing roads within riparian areas and ephemeral drainages. Construct low-water crossings at right angles to ephemeral drainages and stream crossings (note that such construction may require permitting under Sections 401 and 404 of the Clean Water Act). **Not applicable, as new no roads would be constructed.**
- RDF Gen 3: Limit construction of new roads where roads are already in existence and could be used or upgraded to meet the needs of the project or operation. Design roads to an appropriate standard, no higher than necessary, to accommodate intended purpose and level of use. **Not applicable, as new no roads would be constructed.**
- RDF Gen 4: Coordinate road construction and use with ROW holders to minimize disturbance to the extent possible. **Not applicable, as new no roads would be constructed.**
- RDF Gen 5: During project construction and operation, establish and post speed limits in GRSG habitat to reduce vehicle/wildlife collisions or design roads to be driven at slower speeds. **Not applicable, as there are no greater sage-grouse in the project area.**
- RDF Gen 6: Newly constructed project roads that access valid existing rights would not be managed as public access roads. Proponents will restrict access by employing traffic control devices such as signage, gates, and fencing. **Not applicable, as new no roads would be constructed.**
- RDF Gen 7: Require dust abatement practices when authorizing use on roads. **Not applicable, as there are no greater sage-grouse in the project area.**
- RDF Gen 9: Upon project completion, reclaim roads developed for project access on public lands unless, based on site-specific analysis, the route provides specific benefits for public access and does not contribute to resource conflicts. **Not applicable, as new no roads would be constructed.**
- RDF Gen 10: Design or site permanent structures that create movement (e.g., pump jack/windmill) to minimize impacts on GRSG habitat.
- RDF Gen 11: Equip temporary and permanent above-ground facilities with structures or devices that discourage nesting and perching of raptors, corvids, and other predators.

- RDF Gen 12: Control the spread and effects of nonnative, invasive plant species (e.g., by washing vehicles and equipment, minimize unnecessary surface disturbance; Evangelista et al. 2011). All projects would be required to have a noxious weed management plan in place prior to construction and operations.
- RDF Gen 13: Implement project site-cleaning practices to preclude the accumulation of debris, solid waste, putrescible wastes, and other potential anthropogenic subsidies for predators of GRSG.
- RDF Gen 14: Locate project related temporary housing sites outside of GRSG habitat. Not applicable, as there would be no temporary housing.
- RDF Gen 15: When interim reclamation is required, irrigate site to establish seedlings more quickly if the site requires it. **Not applicable, as there would be no interim reclamation required.**
- RDF Gen 16: Utilize mulching techniques to expedite reclamation and to protect soils if the site requires it.
- RDF Gen 17: Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.
- RDF GEN 18: When authorizing ground-disturbing activities, require the use of vegetation and soil reclamation standards suitable for the site type prior to construction.
- RDF GEN 19: Instruct all construction employees to avoid harassment and disturbance of wildlife, especially during the GRSG breeding (e.g., courtship and nesting) season. In addition, pets shall not be permitted on site during construction (BLM 2005b).
- RDF GEN 20: To reduce predator perching in GRSG habitat, limit the construction of vertical facilities and fences to the minimum number and amount needed and install anti-perch devices where applicable.
- RDF GEN 21: Outfit all reservoirs, pits, tanks, troughs or similar features with appropriate type and number of wildlife escape ramps (BLM 1990; Taylor and Tuttle 2007). **Not applicable, as there would be no water reservoirs used.**
- RDF GEN 22: Load and unload all equipment on existing roads to minimize disturbance to vegetation and soil.

No Action Alternative

Under the no action alternative, no trails or trailheads would be developed and BLM sensitive wildlife species habitat would not be disturbed.

3.3.8. Section 3.3.8 Special Status Plant Species (other than those listed, proposed, or candidates for listing under the Endangered Species Act).

3.3.8.1. Section 3.3.8.1 Affected Environment

The proposed trail system lies within a transitional ecotone between the Great Basin and Mojave Desert biomes and contains vegetation components characteristic of both shrub-steppe ecosystems, predominantly Great Basin Xeric Mixed Sagebrush Shrubland, Inter-Mountain Basins Big Sagebrush Shrubland, and Mojave Mid-Elevation Mixed Desert Scrub (Beatley 1975, U.S. Geological Survey National Gap Analysis Program 2004) (Fig. 1, Appendix A).

There is one BLM sensitive plant species that may occur in the eastern two-thirds of the project area, Needle Mountains milkvetch (*Astragalus eurylobus*). Several cactus and yucca species also occur within the project area and are protected under Nevada state law (NRS 527.060-527110).

3.3.8.2. Section 3.3.8.2 Impact Analysis

Alternative A

Prior to construction of trails and trailhead facilities, surveys would be conducted by a qualified BLM approved botanist in habitat that Needle Mountains milkvetch is likely to occur along the eastern two-thirds of the trail system. Surveys would be conducted during the appropriate season (*i.e.*, May-June) when plants can be identified. Any Needle Mountains milkvetch plants found would be avoided to the extent practicable as determined by a BLM biologist.

The project area would also be surveyed for cacti and yucca during construction. Cacti and yucca would be salvaged in accordance with protocols identified in BLM Ely District Instruction Memorandum No. NVL0000-2011-010, entitled *Cacti and yucca salvage stipulations for external projects*, hereby incorporated by reference. Per Instruction Memorandum No. NVL0000-2011-010, designated cacti and yucca will be transplanted to adjacent areas off trail as encountered during construction under the direction of a BLM authorized biologist.

No Action Alternative

Under the no action alternative, no trails or trailheads would be developed and BLM sensitive plant species habitat would not be disturbed.

3.3.9. Section 3.3.9 Resource 9: Visual Resources

3.3.9.1. Section 3.3.9.1 Affected Environment

The project is located within Visual Resource Management (VRM) Classes II and IV (Fig. 6, Appendix A).

3.3.9.2. Section 3.3.9.2 Impact Analysis

Alternative A

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Temporary impacts to visual resources in Class II would be associated with construction of the trails and Ella Mountain Lookout Trailhead. Temporary impacts to visual resource IV view-shed may also occur as a result of the construction of the Barnes Canyon Trailhead. The trails are designed to contour the natural topography and blend with the landscape, while the trailheads would be constructed using neutral colors and natural materials that would make the infrastructure less noticeable. Therefore, no long-term impacts to Visual Resources would occur as a result of the Proposed Action.

No Action Alternative

Under the no action alternative, no trails or trailheads would be developed and there would be no infrastructure added to the Visual Resource landscape.

3.3.10. Section 3.3.10 Resource 10: Land Uses

3.3.10.1. Section 3.3.10.1 Affected Environment

Land Use Authorizations

There are eight existing land use authorizations (leases and rights-of-way (ROW)) in the general vicinity of the proposed action, as follows:

- Caliente Communication Site leases: N-011780 Lincoln County Telephone System, N-062749 AT&T, N-078053 City of Caliente, and N-080387 Arizona Nevada Tower Corporation.
- Aerial power line ROW N-063101 Lincoln County Power District #1.
- Buried fiber optic cable ROW N-092994 Lincoln County Telephone System.
- Soil & water monitoring sites ROW N-086157 Lincoln County Water District.
- Caliente Tower Road ROW N-090879 Lincoln County Road Department.
- Ella Mountain Fire Lookout and access road, N-077714 Bureau of Land Management.

Lands and Realty Management

Lands and Realty Management Action LR-8

In accordance with the Lincoln County Conservation, Recreation, and Development Act of 2004 (LCCRDA), the Ely District Office will dispose of not more than 90,000 acres of public land in Lincoln County identified for disposal by the Ely District Office through the Ely Resource Management Plan or a subsequent amendment to the land use plan. The Ely District Office and the County jointly will select the parcels of land to offer for sale. Of the 27 miles of single track trail, 18.3 miles are on lands available for disposal under LCCRDA.

Lands and Realty Management Action LR-10

In accordance with the Lincoln County Conservation, Recreation, and Development Act of 2004, approximately 4,780 acres of public land in Lincoln County could be conveyed to the State of Nevada for State Park expansion. Approximately 1,400 acres of public land near Caliente would

be conveyed to Kershaw-Ryan as a result. Approximately 13 miles of trail would be constructed within the lands that are being conveyed to the State of Nevada for state park expansion.

3.3.10.2. Section 3.3.10.2 Impact Analysis

This EA analyzes the potential construction of 40 miles of singletrack trails and two trailheads. Of the 40 miles analyzed, the BLM is proposing to construct approximately 27 miles and both trailheads on BLM administered public lands.

Alternative A

Land Use Authorizations

There are no anticipated impacts to existing ROWs that would result from the proposed action. Further, the existing ROWs are not anticipated to have a significant impact on the proposed action.

Lincoln County Water District has one stage recorder and one soil boring point within 300 feet of the proposed trails. Construction, maintenance, operation, and use of the trails would not interfere with these monitoring points. Lincoln County maintains a ROW for Caliente Tower Road, which is an extension of Ella Mountain Fire Lookout Road. The Connector trail crosses Caliente Tower Road once, however, there would be no impact to road maintenance or access. The BLM maintains a ROW for Ella Mountain Fire Lookout Road which would provide access to the Ella Mountain Lookout trailhead. An increased amount of vehicle and pedestrian traffic can be expected to occur on portions of Ella Mountain Lookout Road, however, this increase in use would not affect the ROW.

Lands and Realty Management

The proposed action is in conformance with the following program-specific management decisions:

Lands and Realty Management Action LR-8

Of the 27 miles of single track trail on BLM administered public lands, 18.3 miles are on lands designated for disposal through the Lincoln County Conservation, Recreation, and Development Act (LCCRDA) and the Resource Management Plan (RMP). A ROW will be issued to the BLM, Ely District, Caliente Field office, for a term of 40 years that will include the construction, operations, and maintenance of the trail on these parcels.

Lands and Realty Management Action LR-10

The BLM is not proposing to construct, operate, or maintain trails on lands being conveyed to Kershaw-Ryan State Park, and therefore will not issue a ROW on these lands.

No Action Alternative

Under the no action alternative, no trails or trailheads would be developed and there would be no change to land uses within the project area. The BLM would not issue a ROW for trail construction and maintenance.

3.3.11. Section 3.3.11 Resource 11: Recreation Uses

3.3.11.1. Section 3.3.11.1 Affected Environment

The Proposed Action would provide hiking and mountain biking recreation opportunities on the public land south of Caliente and US 93 between Kershaw-Ryan and Barnes Canyon (Map 2.2). This area includes varying terrain from rolling hills near Kershaw-Ryan to exposed bench-cut terrain in English, Ash and Barnes Canyon. Trail routes would provide designated connections between the City of Caliente and trails in Kershaw-Ryan with multiple loop opportunities of varying length and difficulty. Two trailheads are being considered: one located approximately five miles east of Caliente on Barnes Canyon Road, and a second location approximately two miles south of Caliente on Ella Mountain Fire Lookout Road (Map 2.1). The trailheads would provide a host of attractive amenities and they would provide areas for parking, unloading gear, gathering, and obtaining information about the trails and multiple-use management philosophy of the project area.

3.3.11.2. Section 3.3.11.1 Impact Analysis

Alternative A

There are currently no non-motorized singletrack trails within the project area, therefore public access to these lands would increase as some areas would become available to new user groups. Informational kiosks installed at the proposed trailheads would reduce impacts to present uses by encouraging low impact recreation practices and increasing knowledge of the multiple use management within the area.

Off-highway vehicle (OHV) recreation is a popular use within the project area and several OHV two-track routes follow the ridges and washes between Barnes Canyon and Kershaw-Ryan (Map 2.1). The proposed non-motorized trails are designed to avoid these routes where possible. Signage would be installed where non-motorized trails intersect motorized trails to increase public safety. Truck and buggy and motorcycle races occur within the project area on existing roads, however, there would be no changes to current race course routes. Non-motorized trail use within the project area may be restricted during races to ensure public and racer safety. Impacts to OHV users is expected to be minimal or nonexistent.

Hunting also occurs within the project area. The presence of non-motorized trail users may have a minor impact on hunting by way of spooking wildlife targeted by sportsmen. On the other hand, the trails may benefit sportsmen by creating easier access to certain hunting areas. Construction would be limited to seasons and times that would not interfere with hunting or other special events within the project area. Any potential conflict between hunters and non-motorized trail users would be addressed through public awareness efforts and signage.

Equestrian use is allowed within the project area. As there are currently no designated trails in the project area, equestrian use is off-trail and backcountry in nature. The project area will remain open to off-trail, backcountry equestrian use, and no impacts to current equestrian use or access within the project area are expected as a result of this project.

No Action Alternative

Under the no action alternative, no trails or trailheads would be developed and there would be no changes to recreational uses in the project area.

3.3.12. Section 3.3.12 Resource 12: Transportation/Access

3.3.12.1. Section 3.3.12.1 Affected Environment

Access to the trails and trailheads would be concentrated on Ella Mountain Lookout Road, Clover Creek Road, and Barnes Canyon Road (Map 2.1).

The BLM and the Lincoln County Board of County Commissioners (County) signed a Road Maintenance Agreement (Maintenance Agreement) on February 21, 2012 which includes Clover Creek Road and Ella Mountain Lookout Road as roads covered by the agreement. These roads are categorized as Type III, Natural Surface Graded roads that are maintained on an “as needed” basis.

Ella Mountain Lookout Road is a graded natural surface road jointly maintained by the BLM and the County. The road currently sees steady traffic from passenger vehicles, four-wheel drive vehicles, and OHVs.

Access to the proposed Barnes Canyon Trailhead is possible via Clover Creek Road (Maps 2.1 and 2.2), which is jointly maintained by the BLM and Lincoln County. Clover Creek Road is a graded dirt road that sees steady traffic from local ranchers and Union Pacific Railroad maintenance vehicles. The road is also occasionally used by OHVs and other four-wheel drive vehicles accessing Barnes Canyon for recreation, fire wood cutting, and hunting. Clover Creek Road crosses Clover Creek at three shallow crossings before intersecting with Barnes Canyon Road (Map 2.1). These crossings are currently unimproved and each would be armored and upgraded as needed to accommodate access to Barnes Canyon for lower clearance vehicles. There is one railroad crossing at the intersection of Clover Creek Road and Barnes Canyon Road that is maintained by Union Pacific Railroad.

Barnes Canyon Road is a graded dirt road maintained by the BLM. This road sees steady local traffic from ranchers, and occasional OHV traffic for recreation, firewood collecting, and hunting.

3.3.12.2. Section 3.3.12.2 Impact Analysis

Alternative A

Depending on the popularity of the proposed trail network, increased traffic on Clover Creek, Ella Mountain Lookout, and Barnes Canyon Road may call for a more frequent maintenance schedule. Increased traffic on these roads may lead to more dust during dry seasons and popular weekends, and additional signage alerting drivers of bike traffic, pedestrian traffic, and speed limits may also be necessary. As outlined in the 2012 Road Maintenance Agreement, the BLM will continue to work with the County to maintain and improve access along Clover Creek Road and Ella Mountain Lookout Road.

The three water crossings along Clover Creek Road may present a barrier for lower clearance passenger vehicles, although water levels fluctuate based on season and weather. Clover Creek is home to the Meadow Valley Wash desert sucker (*Catostomus clarkii* ssp. 2) and Meadow Valley speckled dace (*Rhinichthys osculus* ssp. 11), both BLM sensitive species. Improving these crossings would require coordination with the NDOW prior to any construction activity

to ensure fish are not harmed during construction. Permits from the United States Army Corps of Engineers would also be required. Armoring these crossings could involve installing either concrete crossings or gabion baskets. Each of the improvements would be approximately 12–14 feet wide and constructed in a way that would allow water to pass through or over the armored stream bed, while allowing traffic to cross. Clover Creek Road currently receives steady local traffic from recreationists, hunters, and Union Pacific Railroad employees. Improving these crossings would increase public safety, while decreasing the amount of downstream sedimentation caused by vehicles driving through Clover Creek. While a small area of stream bed habitat at each crossing would be lost, the reduced downstream sedimentation from vehicles driving through Clover Creek would benefit the two BLM sensitive fish species overall. The stream crossings are already constantly disturbed and do not currently provide functional fish habitat.

Alternative B

Under the no action alternative no trails or trailheads would be developed, and road maintenance would continue as usual within the project area.

3.3.13. Section 3.3.13 Resource 13: Grazing Uses/Forage

3.3.13.1. Section 3.3.13.1 Affected Environment

The trails would occur within the Clover Creek and Sawmill Canyon grazing allotments. The current permits authorize cattle grazing from September 1st to December 31st each year on the Clover Creek allotment and yearlong on the Sawmill Canyon allotment (Map 2.2).

3.3.13.2. Section 3.3.13.2 Impact Analysis

Alternative A

No impacts to cattle grazing are anticipated. Trail users would be educated about the open range nature of the area and advised on proper trail etiquette through signage and information displayed at the trailheads. If needed, trails could be modified to further avoid water sources and other places where cattle congregate, or temporarily closed in areas where cattle are being driven or calving.

1. The trail system is anticipated to construct about 40 miles of single track trail within the Clover Creek and Sawmill Canyon allotments. This will remove about 26.5 acres of land from forage production, within the two allotments which are 32,000 combined acres in size. Therefore, the 14.5 acres of trail and about 12 acres for the trailheads would have a negligible impact to the grazing allotment.
2. The construction of the trail system could temporarily displace grazing animals in the vicinity of the one well and trough presently authorized on the Clover Creek allotment. This is in the lower portions of Barnes Canyon, however, the trails in this area are at least 300 feet from the watering location, therefore grazing animals are not expected to experience significant disturbance.
3. The construction of the connector trail between Barnes Canyon and Kershaw-Ryan could be used by cattle to traverse the canyons which at present provide a barrier to livestock and prevent egress from one allotment to the other. If this occurs, a short fence with a

bike-friendly cattle guard could be installed at some point to prevent cattle from continuing along the trail.

No Action Alternative

Under the no action alternative, no trails or trailheads would be developed and grazing use would continue as usual in the project area.

3.3.14. Section 3.3.14 Resource 14: Non-Native Invasive and Noxious Species

3.3.14.1. Section 3.3.14.1 Affected Environment

See Weed Risk Assessment (Appendix C).

3.3.14.2. Section 3.3.14.2 Impact Analysis

Alternative A

On October 1, 2015 a Noxious and Invasive Weed Risk Assessment was completed for the 2015 Lincoln County Non-Motorized multipurpose Trails project in Lincoln County, NV (Appendix C). The trails would be constructed using a combination of mechanized and hand-built techniques depending on the proposed difficulty of each trail and the terrain through which the trails traverse.

No field weed surveys were completed for this project. Instead, the Ely District weed inventory was consulted. This area was last inventoried and treated in 2014. There are currently no mapped weed infestations along the proposed trail routes or at the proposed trailheads.

No Action Alternative

Under the no action alternative, no trails or trailheads would be developed and non-native invasive and noxious weed species management would continue as usual.

3.3.15. Section 3.3.15 Resource 15: Socioeconomics and Environmental Justice

3.3.15.1. Section 3.3.15.1 Affected Environment

The City of Caliente is in Lincoln County, Nevada. From 2000 to 2013, the population of Caliente grew by 4.1%. In contrast, Lincoln County grew by 27.2%, Nevada grew by 28.9%, and the U.S. as a whole grew by 10.7% during the same period. Travel and tourism play a much larger role in Lincoln County's economy than in the U.S. economy, comprising more than 36% of total private employment in the County in 2013, when compared with the U.S. as a whole at 15.5%. Non-labor income such as Social Security payments, retirement benefits, and investment income plays a somewhat larger role in the Lincoln County economy than in the U.S. In 2013 in Lincoln County, non-labor income made up more than 48% of all income compared with 35.6% for the U.S. Median household income in Caliente was \$24,821 in 2013, which was lower than median household income in Lincoln County, at \$40,143, and less than half of Nevada median household

income, which was \$52,800 for the same year. Median income for all three was lower than for the U.S., which was \$53,046 in 2013. Per capita income in Caliente was \$16,266 in 2013. In comparison, per capita income in Lincoln County in 2013 was \$22,879, \$26,589 in Nevada, and \$28,155 in the U.S. overall. Agriculture is a bigger part of the County economy than of the Nevada or U.S. economy, making up an estimated 10.3% of all employment in the County in 2013 compared with 1.7% in Nevada and 1.9% of U.S. employment in the same year.

Caliente is an economically disadvantaged population, as defined by having a lower level of income in comparison with one or more reference geographies. In the case of Caliente, income is markedly lower than in Lincoln County, the State of Nevada, and the U.S. In addition, population growth in Caliente has lagged far behind all three reference geographies during the past decade and a half.

Table 7. Socioeconomic Profile of Caliente

Socioeconomic Measures ^a	City of Caliente	Lincoln County	State of Nevada	United States
Median household income	\$24,821	\$40,143	\$52,800	\$53,046
Per capita income	\$16,266	\$22,879	\$26,589	\$28,155
Individuals below poverty level (percent of population)	29.6%	17.3%	15.0%	15.4%
Population growth (percent, 2000 to 2013 or 2014)	4.1%	27.2%	28.9%	10.7%

^a Sources: Headwaters Economics Economic Profile System, <http://headwaterseconomics.org/tools/economic-profile-system>, reports generated in December 2015; City-Data.com profile for Caliente, Nevada, <http://www.city-data.com/city/Caliente-Nevada.html>, report generated in December 2015.

In 2013 the estimated median age of Caliente residents was 33.2 in comparison with a median age of 37.1 for Nevada, which is an indication of a relatively younger population living within the project area.

3.3.15.2. Section 3.3.15.2 Impact Analysis

Alternative A

The proposed action is expected to generate recreation benefits for the local population. It is also expected to bring in recreational visitors from outside of Caliente, Lincoln County, and, possibly, even from outside of Nevada.

According to Rosenberg's database of the monetary value of recreational activities, on average, in Colorado, Montana, New Mexico, and Utah, mountain biking per user day generates an estimated \$196 of economic activity. This amount includes both purchases of local services and purchases of equipment, including bicycles and related supplies. The degree to which this spending activity can be captured by the local economy will depend over time on what percentage of the needs of visitors can be met by local business establishments. The presence or lack of businesses that cater to mountain bikers and other recreational travelers who might use the proposed trail system will determine the amount of revenue that could flow into the community from outside as a result of the establishment of the trail system. In a location as remote as Caliente, visitors are more likely to stay overnight than in places adjacent to large population centers where day use is likely to be more prevalent. According to Travel Oregon, overnight cycling visitors spend as much as eight times more money than do day-use visitors (Harry Dalgaard, Regional Program Manager, Travel Oregon).

It has been estimated that cycling brings between \$8.4 and \$8.8 million annually into the economy of Moab, Utah.¹ It is not possible to estimate at the present time whether Caliente might develop into a prime mountain biking destination, or, if so, how long that might take to occur, but the establishment of a local trail system that could be a target destination for mountain bikers will serve to increase visitation that could spur economic activity, the development of new business ventures, and local capture of visitor expenditures.

The known economic benefits from the bicycling industry and related tourism are extensive. Many studies on the subject have been completed, most indicating that an increase in local and/or regional support for cycling as a recreational activity or competitive sport results in an increase in economic inflows to the area studied.²

In addition to direct increases in spending in the local and regional area, the establishment of recreation trails has been found to increase property values, based on access to recreation amenities, in areas adjacent to the new trails. Studies have established specific dollar values of trails, including one study showing that for every 400 meters closer a home is to an off-street bicycle facility, the value of the property increased by \$510. Another study found that homes within a half mile of one specific trail sold for an average of 11 percent more than comparable homes that were farther away.³

The establishment of the proposed trail system is expected to generate additional benefits in terms of quality of life for current residents of the project area. Although some injuries are likely to occur due to use of the new trail system, the physical and mental health benefits of having access to and using an off-street cycling venue will be beneficial to the population of Caliente. It is expected that residents would also use the proposed new trail system for walking or running, adding to the total health benefits that could be generated by the new trails. Some of the proposed trails are designed to accommodate beginner mountain bikers and so are not likely to be intimidating to new riders and, instead, could serve to encourage local residents to take up the sport of mountain biking.

The project area comprises an environmental justice population, due to its economic status, which means that the proposed project would serve the needs of a disadvantaged population.

No Action Alternative

Should the No Action alternative be chosen, the benefits listed under the Proposed Action would not be realized, and the potential beneficial changes in the local and regional economies would not be captured. Neither would the prospective benefits to the economically-disadvantaged environmental justice population in Caliente be realized.

¹ Fix, P., and J. Loomis, 1996 - The economic benefits of mountain biking at one of its meccas: An application of the travel cost method to mountain biking in Moab, Utah

² See "Economic Benefits of Trail Tourism" at <http://www.americantrails.org/resources/economics>, accessed December 2015.

³ Chapin, Scott, "Economic Impact of Mountain Bicycling & Trails," <http://www.slideshare.net/nrdski/economic-impact-of-mountain-bicycling-trails>, accessed December 2015.

Chapter 4. Chapter 4 Cumulative Impacts

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4.1. Section 4.1 Introduction:

As required under NEPA and the regulations implementing NEPA, this section analyzes potential cumulative impacts from past, present, and reasonably foreseeable future actions combined with the Proposed Action within the area analyzed for impacts in Chapter 3 specific to the resources for which cumulative impacts may be anticipated. A cumulative impact is defined as “the impact which results from the incremental impact of the action, decision, or project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 Code of Federal Regulations 1508.7).

4.2. Section 4.2 Past, Present, and Reasonably Foreseeable Future Actions

Past, present, and reasonably foreseeable future actions occurring within the Meadow Valley Wash North, Clover Creek North, and Clover Creek South watersheds (Fig. 3, Appendix A) include truck and buggy races, off-highway vehicle races and trail rides, outfitter and guide services, land disposals, land conveyances, ranching, and hiking. Cattle grazing occurs throughout these watersheds. These watersheds are in wild horse herd areas not managed by the BLM, but contain horses.

The BLM Ely District Resource Management Plan allows for a maximum of two competitive truck and buggy events annually throughout the district with rotating routes (Bureau of Land Management 2008). Competitive motorcycle and off-highway vehicle events are managed by special recreation permits on a case by case basis. Guide outfitters are managed by special recreation permit as well. Other dispersed recreational activities include hunting, hiking, horseback riding, and Christmas tree cutting.

The Ely RMP also allows for the sale of up to 90,000 acres of Bureau of Land Management managed public land in Lincoln County, mostly around the communities of Alamo, Caliente, Panaca, and Pioche, to the public domain. In addition, BLM administered lands totaling approximately 1,400 acres are in the process of being conveyed to Kershaw-Ryan State Park.

4.3. Section 4.3 Cumulative Impact Analysis

For purposes of this analysis the project area includes the Meadow Valley Wash North, Clover Creek North, and Clover Creek South watersheds. This project area is meant to encompass an area associated with the potential expansion of the trail network on public lands around Caliente.

4.3.1. Section 4.3.1 Fish and Wildlife

See Section 4.2 for the list of relevant past, present, and reasonably foreseeable future actions. In addition, the following impacts are specific to Fish and Wildlife:

Conveyed lands were evaluated for special status wildlife, and lands designated for disposal are evaluated and surveyed for the presence of special status wildlife. The Caliente Field Office works through the term permit renewal process to reduce impacts to non-avian wildlife from

cattle grazing. Big game hunting for mule deer and elk, predator hunting and trapping for coyote bobcat, and fox are popular recreational activities in these watersheds and are managed by the Nevada Department of Wildlife.

4.3.2. Section 4.3.2 Federally Threatened and Endangered Species and Critical Habitat (including species proposed or candidates for listing under the Endangered Species Act).

See Section 4.2 for the list of relevant past, present, and reasonably foreseeable future actions. In addition, the following impacts are specific to Federally Threatened and Endangered Species and Critical Habitat:

The sale of up to 90,000 acres of Bureau of Land Management managed public land in Lincoln County, mostly around the communities of Alamo, Caliente, Panaca, and Pioche, to the public domain, could result in a further loss of habitat connectivity for these two species. In addition, BLM administered lands totaling approximately 1,400 acres are in the process of being conveyed to Kershaw-Ryan State Park, which could increase recreational use of the park. Conveyed lands were evaluated for effects to threatened and endangered species, and lands designated for disposal are evaluated and surveyed for the presence of threatened and endangered species and potential habitat. The Caliente Field Office works through the term permit renewal process to reduce and eliminate impacts to southwestern willow flycatcher and potential yellow-billed cuckoo habitat from cattle grazing.

In addition to potential land disposals along Meadow Valley Wash and Clover Creek, which could affect habitat connectivity, and cattle and horse grazing, approved ground water withdrawals and activities associated with the Union Pacific Railroad pose the most significant potential threats to southwestern willow flycatcher and potential yellow-billed cuckoo breeding habitat beyond catastrophic flood events (see Section 3.3.6.2). The effects of permitted (*i.e.*, by the Nevada State Engineer) ground water withdrawals in the Clover Valley Hydrographic Area for the Lincoln County Land Act Groundwater Development and Utility Right-of-Way Project on surface flows in the Meadow Valley Wash and Clover Creek drainages is unknown (Bureau of Land Management 2009). Derailments and emergency actions, such as removal of unstable slopes, by Union Pacific Railroad could affect habitat for these species. Lincoln County, the City of Caliente, and Union Pacific Railroad are all included in the Southeastern Lincoln County Habitat Conservation Plan, which was developed as part of the application package for three incidental take permits under Section 10(a)(1)(B) of the Endangered Species Act (Board of Lincoln County Commissioners 2010).

4.3.3. Section 4.3.3 Special Status Animal Species (other than those listed, proposed, or candidates for listing under the Endangered Species Act).

See Section 4.2 for the list of relevant past, present, and reasonably foreseeable future actions. In addition, the following impacts are specific to Special Status Animal Species:

Greater Sage-Grouse

*Chapter 4 Chapter 4 Cumulative Impacts
Section 4.3.2 Federally Threatened and Endangered
Species and Critical Habitat (including species
proposed or candidates for listing under the
Endangered Species Act).*

*Lincoln County Partners Non-Motorized,
Multipurpose Trails 2015*

The *Nevada and Northeastern California Greater Sage-Grouse Approved Resource Management Plan Amendment*, signed in September 2015, lays out the framework to manage greater sage-grouse and sage-grouse habitat on BLM managed lands (Bureau of Land Management 2015). It requires that any federal action resulting in disturbance to sage-grouse or its designated habitat must be mitigated, such that there is a net conservation gain to greater sage-grouse going forward. Non-federal lands adjacent to the project area are not subject to this framework.

4.3.4. Section 4.3.4 Recreation Uses

See Section 4.2 for the list of relevant past, present, and reasonably foreseeable future actions. In addition, the following impacts are specific to Recreation Uses:

The proposed action is not expected to have any significant negative impacts to any of these activities. Project design features would mitigate potential encounters with OHV events and recreational users, and the project area will remain open to backcountry, off-trail equestrian use.

The City of Caliente is also planning to construct non-motorized, singletrack trails, a pump track, and dirt jumps. Adding non-motorized trails to the landscape on public lands surrounding Caliente could lead to an increase in visitation to the project area greater than what might be seen from the City's actions independently. Visitors may be drawn to Caliente for the trails and amenities within Caliente, Kershaw-Ryan, on public lands, or all three. Cathedral Gorge State Park also recently constructed mountain bike trails fifteen miles north of Caliente which may also help attract visitors to the community.

In FY 2014, approximately 14,000 visitors patronized recreational areas administered by the Caliente Field Office (CFO). The increased traffic anticipated as a result from the Proposed Action, the projects in Caliente, and the trails in Cathedral Gorge could lead to an increased use where multiple groups converge. Designated uses for recreational trails will help reduce over-crowding and create a more enjoyable user experience. Interpretive signage will help inform the public of other popular recreational activities in the area, and educate the public of proper trail etiquette when other users are encountered. The Proposed Action is anticipated to have a synergistic impact associated with mountain bike tourism in the nearby cities of Las Vegas; and St. George, Cedar City, and Kanab, UT.

4.3.5. Section 4.3.5 Cumulative Impacts Summary

As mentioned in the analysis for each wildlife resource, no population level impacts are expected to occur as a result of the proposed action and other projects within the project area. Recreational opportunities would be expanded to include non-motorized uses such as hiking and mountain biking, which may attract more tourism to Caliente and the nearby communities. The increased tourist traffic could lead to economic benefits to Caliente, and, combined with the traffic from OHV events and races, could lead to an increase in municipal infrastructure such as hotels, restaurants, and other services.

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Chapter 5. Chapter 5 Consultation and Coordination:

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5.1. Section 5.1 Introduction

The issue identification section of Chapter 3 provides the rationale for issues that were considered but not analyzed further and identifies those issues analyzed in detail in Chapter 3. The issues were identified through the public and agency involvement process described in sections 5.2 and 5.3 below.

5.2. Section 5.2 Persons, Groups, and Agencies Consulted

Table 5.1. Persons, Groups, and Agencies Consulted

Name	Purpose & Authority for Consultation or Coordination	Findings and Conclusions
Nevada State Historic Preservation Office (SHPO)	Consultation for undertakings as required by the National Historic Preservation Act (54 U.S.C. § 300101 et seq.)	Cultural Resources Inventory Needs Assessment sent to SHPO indicating the project is below threshold.
Cedar Band of Paiutes; Duckwater Shoshone Tribe; Ely Shoshone Tribe of Nevada; Confederated Tribes of the Goshute Reservation; Las Vegas Paiute Tribe; Paiute Indian Tribe of Utah; Shivwits Band of Paiutes; Indian Peaks Band; Moapa Band of Paiute Indians	National Historic Preservation Act of 1966: Section 106; Executive Order 13175 Consultation and Coordination with Indian Tribal Governments	A field review of the project area was conducted on March 7, 2016 with the Duckwater-Shoshone Tribe. The tribe expressed concerns over the cumulative impacts to cultural areas as a result of trail use, as well as impacts to hunting and trapping within the project area. These concerns have been addressed in the EA.

5.3. Section 5.3 Summary of Public Participation

Notice of the Proposed Action and EA was posted on the Ely District Office Website on July 9, 2015 and by sending letters to members of the public who had expressed interest in being informed of this and similar actions. A 30 day public comment period was offered between July 21, 2015 and August 20, 2015, during which time 27 individual letters were received either by written submission, Email, or electronically through the NEPA project website. Fifty-two distinct comments contained in the letters include support for the project, recommendations for analysis from partner agencies, and several providing input on whether or not the system should or should not be authorized for equestrian use. The Proposed Action, Background, and relevant resource sections have been amended to include these comments, and a matrix outlining the BLM's responses to these comments is attached as Appendix F.

5.4. Section 5.4 List of Preparers

5.4.1. Section 5.4.1 BLM

Table 5.2. List of BLM Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Cameron Boyce	Natural Resource Specialist	Soils Watershed; Vegetation Resources; Wetlands and Riparian Zones; Non-native Noxious and Invasive Species
Daniel Condie	Range Management Specialist	Grazing Uses/Forage
Elizabeth Domina	Recreation Planner	Recreation; Visual Resources
Julie A. Suhr Pierce	Great Basin Socioeconomic Specialist	Socioeconomics and Environmental Justice
Jon Prescott	Research Associate	Author
Todd Trapp	Wildlife Biologist	Fish and Wildlife; Migratory Birds; FWS Listed Species; Special Status Animals; Sage Grouse; Special Status Plants

5.5. Section 5.5 References

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Appendix A. Appendix A. Figures

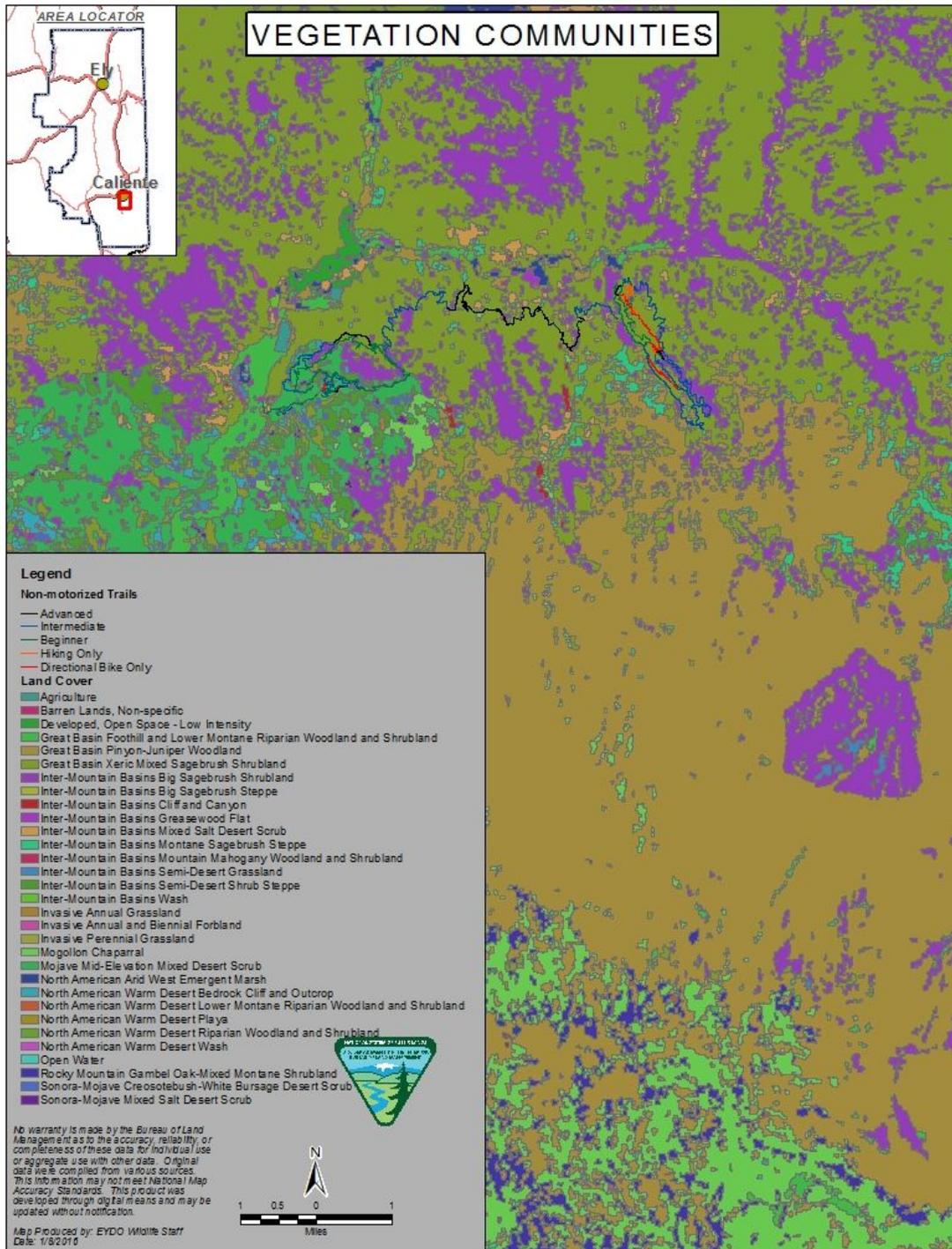


Figure 1. Proposed non-motorized, multipurpose trail system vegetation communities (U.S. Geological Survey National Gap Analysis Program 2004).

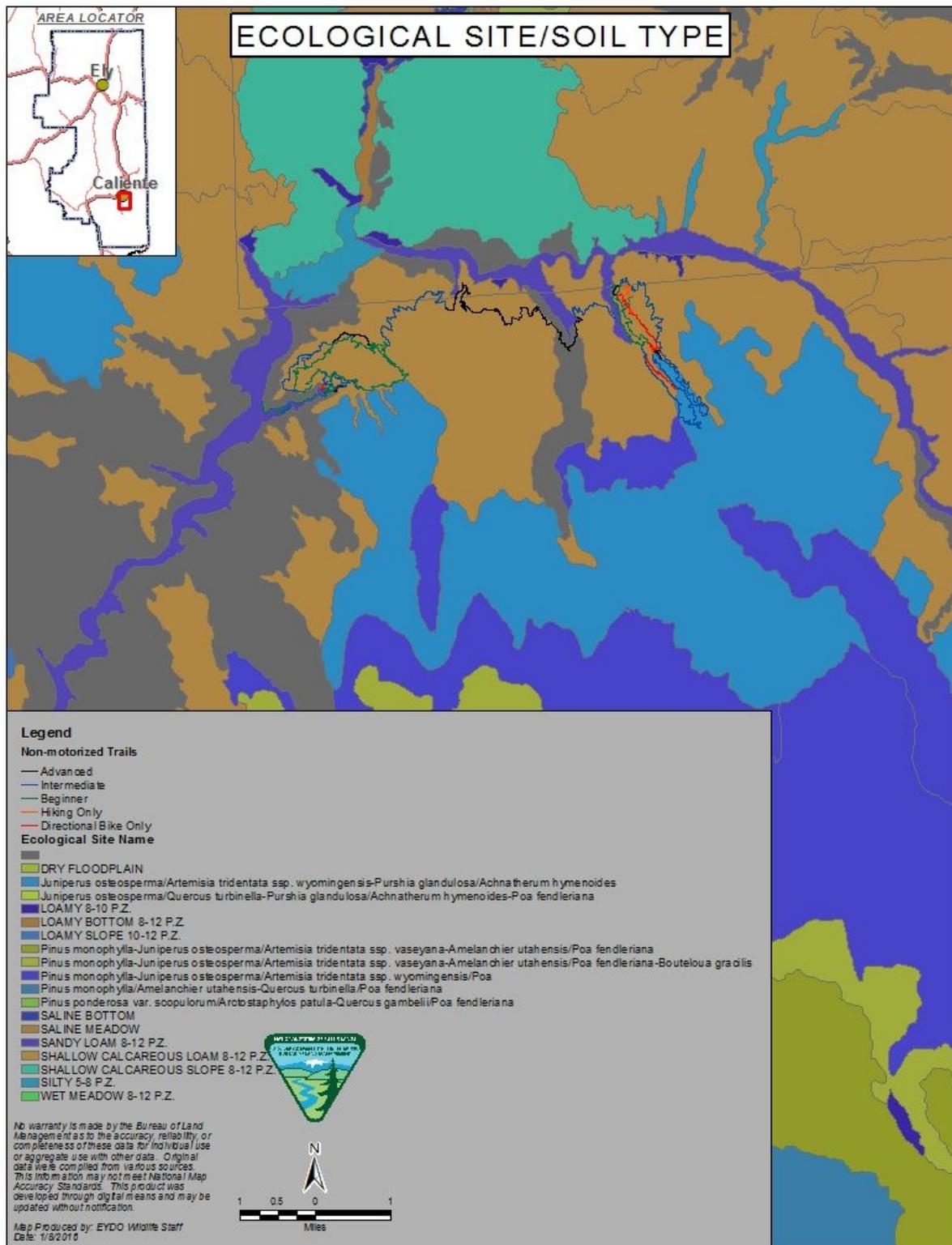


Figure 2. Proposed non-motorized, multipurpose trail system ecological sites and soil types.

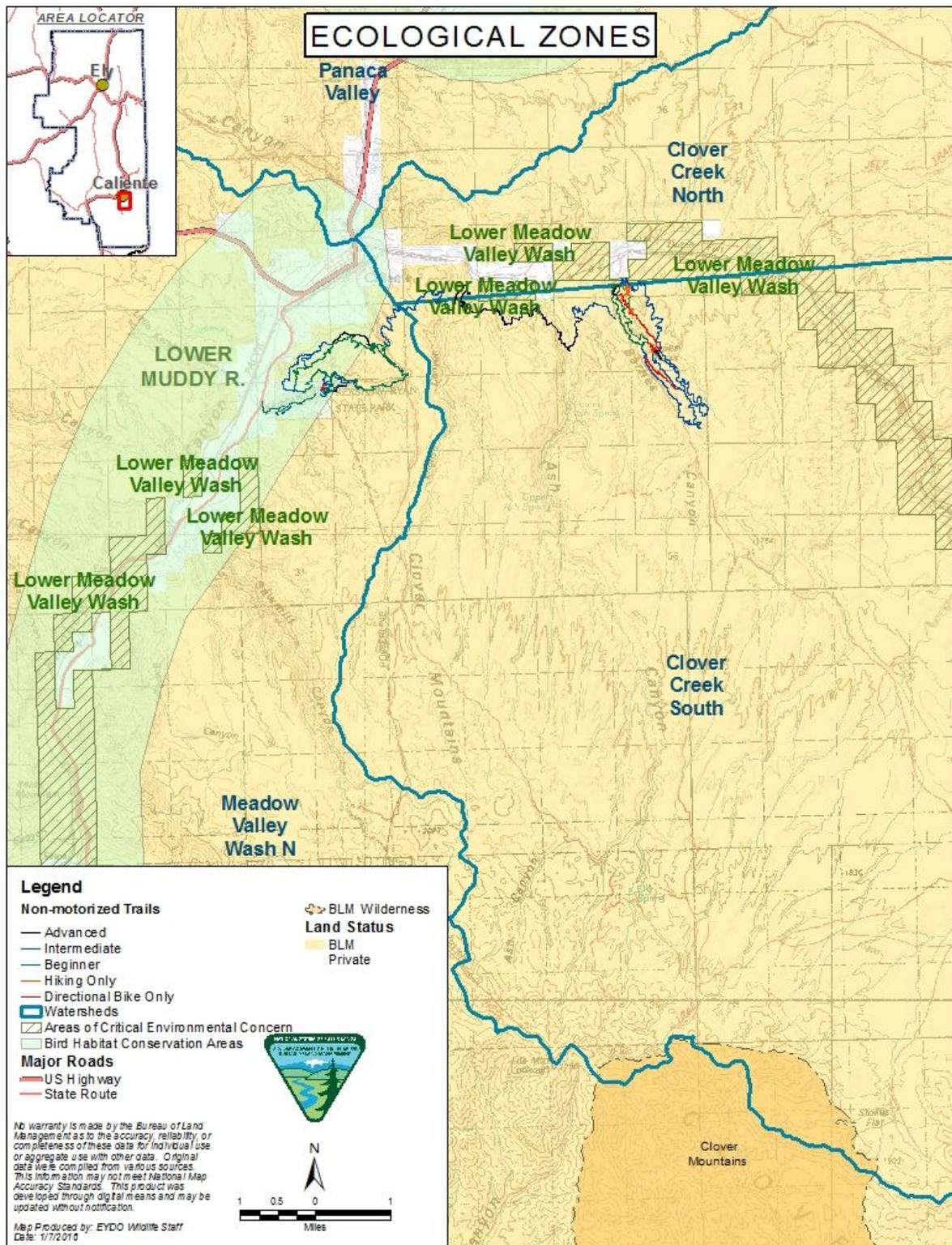
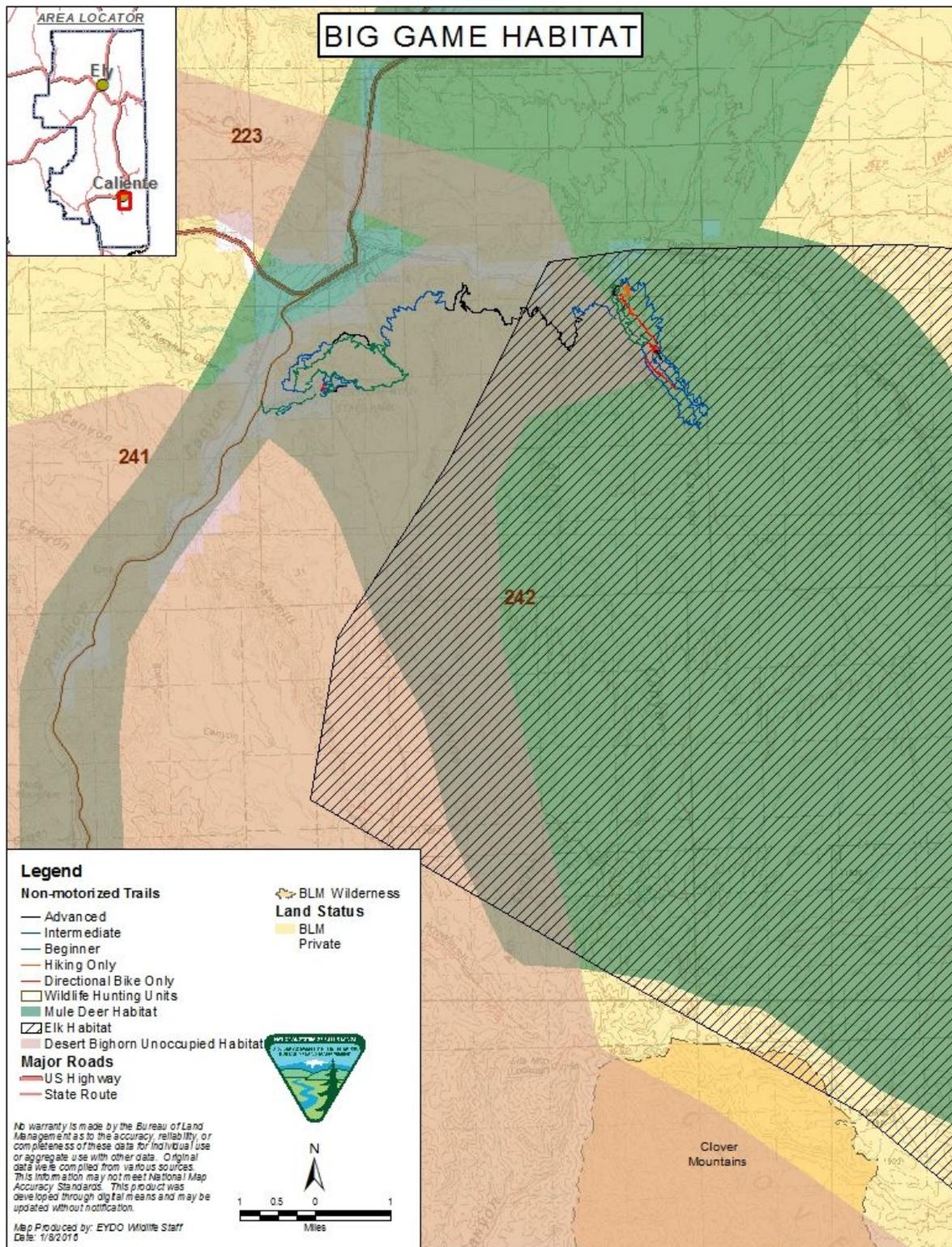


Figure 3. Proposed non-motorized, multipurpose trail system ecological zones.



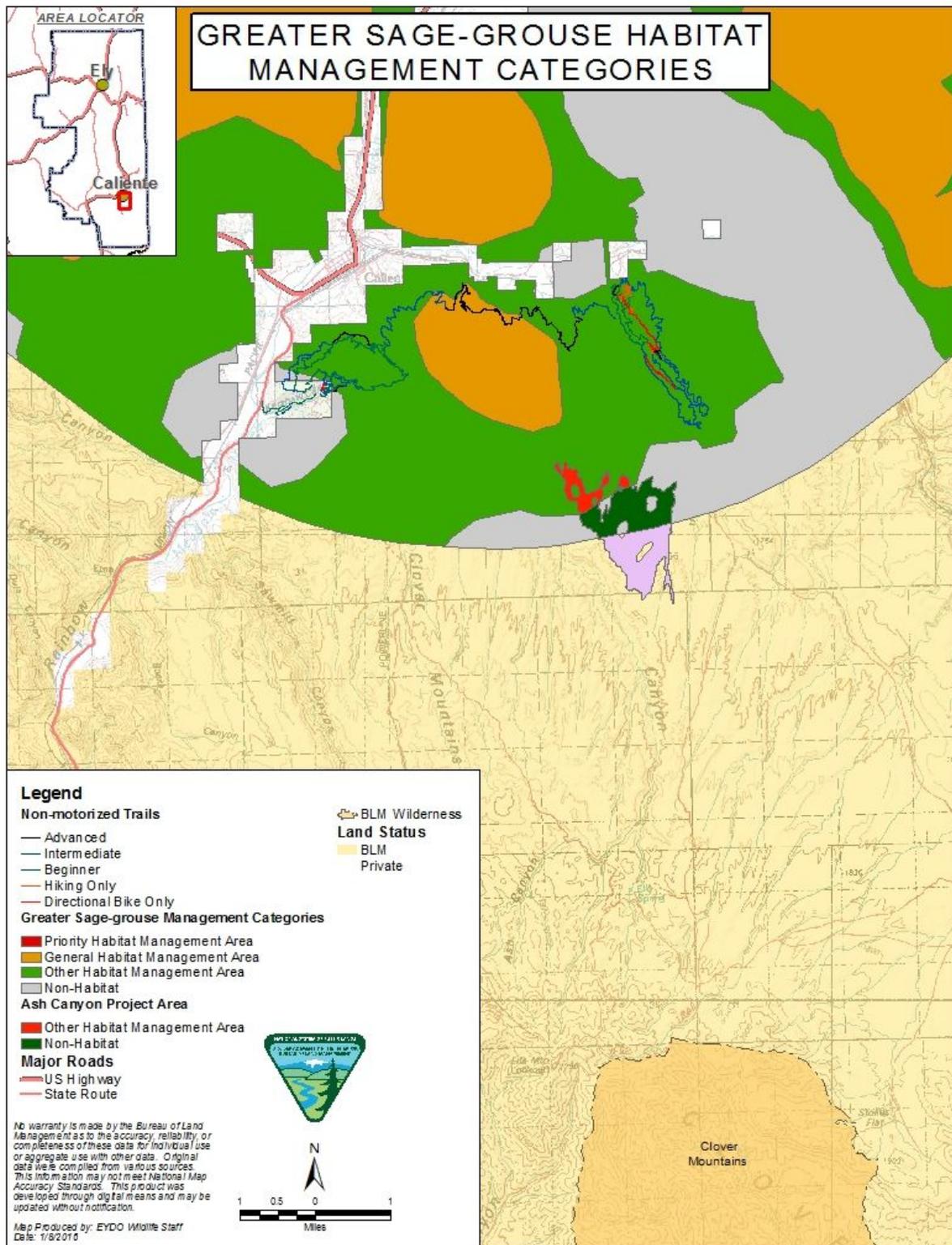


Figure 5. Proposed non-motorized, multipurpose trail system greater sage-grouse (*Centrocercus urophasianus*) habitat management categories.

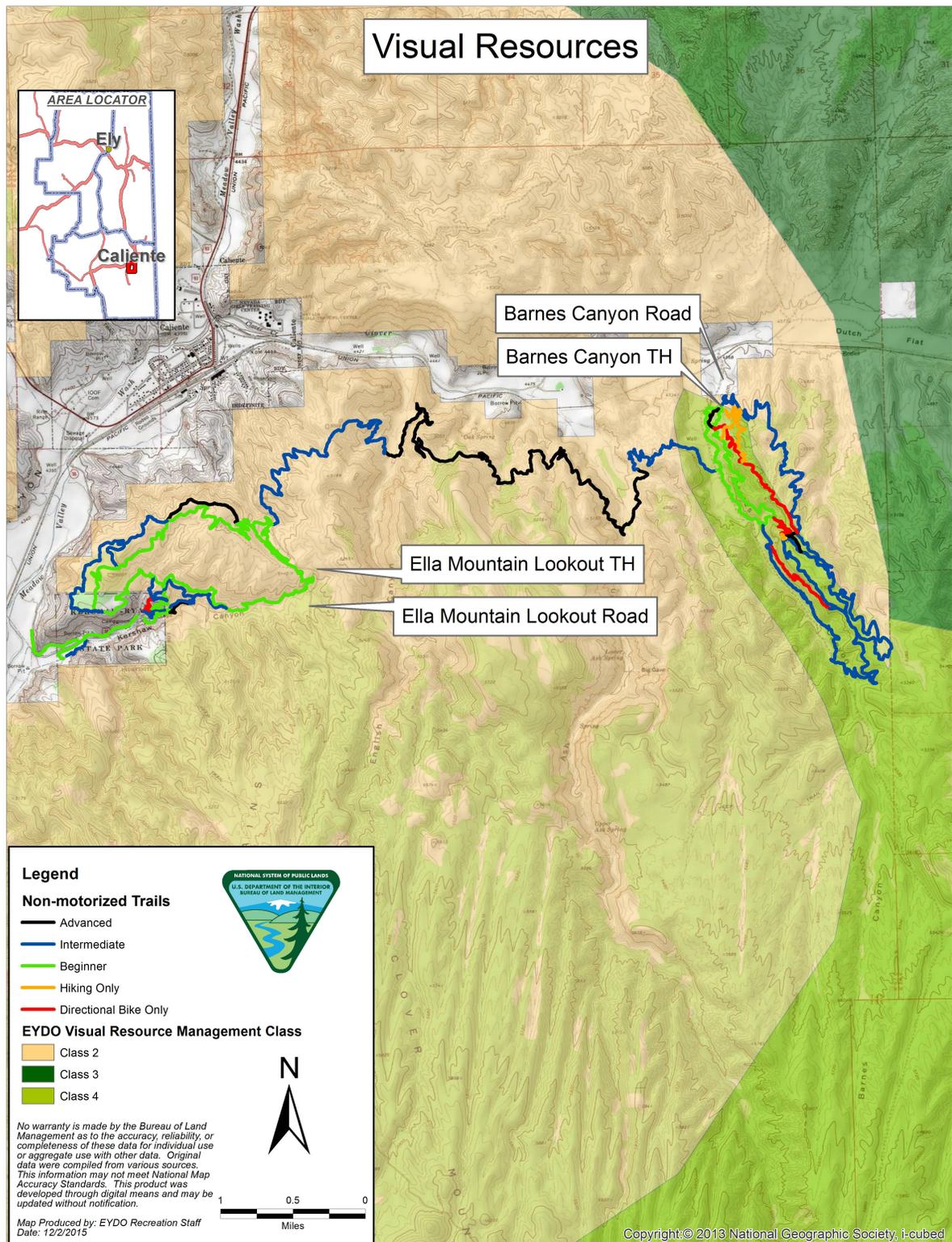


Figure 6. Proposed non-motorized, multipurpose trails Visual Resources Management area classifications.

Appendix B. Appendix B. Biological Resource Protection, Minimization, and Mitigation Measures

General Wildlife Measures

- Low-impact, night-sky-friendly solar lighting would be installed above vault toilet doors.
- Signage and an informational kiosk would advise trail users to practice minimal impact hiking and biking and to pack out all trash.
- The informational kiosk would advise trail users of hunting seasons and precautions to take to minimize and avoid conflicts with hunters and wildlife.
- The informational kiosk would provide an opportunity to educate trail users about avian resources in the area.
- The informational kiosk would provide an opportunity to educate trail users about sensitive wildlife resources in the area.

Avian Measures

- Trail and trailhead construction would either occur outside the breeding season for migratory birds or require nest clearance surveys by a BLM or BLM-approved wildlife biologist prior to any ground-disturbing activity during the breeding season. The breeding season is defined as March 1 through August 31 annually. Clearance surveys conducted during the breeding season would be valid for seven days. If active nests are located, or if other evidence of nesting (i.e., carrying nesting material, carrying fecal sac, carrying food, distraction displays, occupied nest indicated by adult entering or leaving nest site in circumstances where the nest cannot be directly observed [e.g., cavities], nest with young seen or heard, or recently fledged dependent young or downy young) is observed, a protective buffer would be delineated as identified in the BLM Ely District recommended bird nest buffer sizes protocol, incorporated by reference, for most avian species, and 0.5 mile for raptors (Bureau of Land Management 2008, 2012). The buffer area would then be avoided to prevent destruction or disturbance to nests or birds until young are fledged, capable of sustained flight, and have moved out of the natal area, or the nest is abandoned (i.e., fails).
- If an active nest is found, the trail would be marked with flagging delineating the buffer avoidance area and construction personnel would be advised accordingly. Nests would not be marked in any way as to draw the attention of predators, and care would be taken to avoid creating a trail to the nest site.
- Should any occupied burrowing owl (*Athene cunicularia*) burrows be encountered, the trail will be rerouted to the extent practicable to avoid disturbing burrowing owls and their burrows, and at a minimum a 200-foot buffer zone would be established around active burrows during the breeding season as recommended in the *Nevada comprehensive bird conservation plan* (Great Basin Bird Observatory 2010).

- Vault toilet vent pipes would be screened to prevent birds from entering and becoming entrapped. During construction of trailhead facilities, all openings in construction materials as small as 0.75 inches in diameter would be temporarily sealed or capped to prevent birds and other wildlife from entering and becoming entrapped. Signs along the trail system would be affixed to flat fiberglass posts that would not create artificial openings for wildlife to become entrapped.

Southwestern Willow Flycatcher Measures

- Trail construction in the vicinity of southwestern willow flycatcher habitat near the entrance to Kershaw-Ryan State Park would occur outside the breeding season for southwestern willow flycatcher defined as 15 April to 31 August (Sogge et al. 2010).

Greater Sage-grouse Measures

- Mapped Greater sage-grouse habitat would be disturbed by the proposed trail system and trailhead facilities as described previously. Application of Required Designed Features as described in Appendix C of the approved resource management plan amendment would be required in both GHMA and OHMA (Fig. 5) (Bureau of Land Management 2015). The BLM would also provide educational materials on greater sage-grouse and sage-grouse habitat conservation at the trailhead kiosk.

The following RDFs would be applied to the proposed action:

General RDFs

The following RDFs would apply to development in all programs within *Priority Habitat Management Area* (PHMA), GHMA and OHMA consistent with applicable law.

RDF Gen 1: Locate new roads outside of greater sage-grouse (GRSG) habitat to the extent practical. **No new roads would be constructed; however, trailheads and facilities would be constructed on 12.0 acres.**

RDF Gen 10: Design or site permanent structures that create movement (e.g., pump jack/windmill) to minimize impacts on GRSG habitat.

RDF Gen 11: Equip temporary and permanent above-ground facilities with structures or devices that discourage nesting and perching of raptors, corvids, and other predators.

RDF Gen 12: Control the spread and effects of nonnative, invasive plant species (e.g., by washing vehicles and equipment, minimize unnecessary surface disturbance; Evangelista et al. 2011). All projects would be required to have a noxious weed management plan in place prior to construction and operations.

RDF Gen 13: Implement project site-cleaning practices to preclude the accumulation of debris, solid waste, putrescible wastes, and other potential anthropogenic subsidies for predators of GRSG.

RDF Gen 16: Utilize mulching techniques to expedite reclamation and to protect soils if the site requires it.

RDF Gen 17: Restore disturbed areas at final reclamation to the pre-disturbance landforms and desired plant community.

RDF GEN 18: When authorizing ground-disturbing activities, require the use of vegetation and soil reclamation standards suitable for the site type prior to construction.

RDF GEN 19: Instruct all construction employees to avoid harassment and disturbance of wildlife, especially during the GRSB breeding (e.g., courtship and nesting) season. In addition, pets shall not be permitted on site during construction (BLM 2005b).

RDF GEN 20: To reduce predator perching in GRSB habitat, limit the construction of vertical facilities and fences to the minimum number and amount needed and install anti-perch devices where applicable.

RDF GEN 22: Load and unload all equipment on existing roads to minimize disturbance to vegetation and soil.

- The BLM would also provide educational materials on greater sage-grouse and sage-grouse habitat conservation at the trailhead kiosk.

Sensitive Plant Measures

- Prior to construction of trails and trailhead facilities, surveys would be conducted by a qualified BLM approved botanist in habitat that Needle Mountains milkvetch (*Astragalus eurylobus*) is likely to occur along the eastern two-thirds of the trail system. Surveys would be conducted during the appropriate season (i.e., May-June) when plants can be identified. Any Needle Mountains milkvetch plants found would be avoided to the extent practicable as determined by a BLM biologist.
- The project area would also be surveyed for cacti and yucca during construction. Cacti and yucca would be salvaged in accordance with protocols identified in BLM Ely District Instruction Memorandum No. NVL0000-2011-010 , entitled *Cacti and yucca salvage stipulations for external projects*, hereby incorporated by reference. Per Instruction Memorandum No. NVL0000-2011-010, designated cacti and yucca will be transplanted to adjacent areas off trail as encountered during construction under the direction of a BLM authorized biologist.

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Appendix C. Appendix C. Weed Risk Assessment

RISK ASSESSMENT FOR NOXIOUS & INVASIVE Weeds

2015 Lincoln County Partners Non-Motorized Multiuse Trails

Lincoln County, Nevada

On October 1, 2015 a Noxious & Invasive Weed Risk Assessment was completed for the 2015 Lincoln County Partners Non-Motorized Multiuse Trails project in Lincoln County, NV. The BLM is proposing to construct, operate, and maintain 25-30 miles of non-motorized, multipurpose singletrack trail and a trailhead on public lands near Caliente, NV. This would be Phase 1 of a 3 year plan intended to connect users to the same kind of singletrack trails in Kershaw Ryan State Park, the City of Caliente lands, and possibly beyond to the neighboring communities of Panaca and Pioch. Construction of the trailhead and associated facilities in Barnes Canyon would be completed on a seasonal timeline to mitigate potential impacts on nesting birds, grazing, and other wildlife. Construction of the trails would be completed using a combination of mechanized and hand-built techniques depending on the proposed difficulty of each trail and terrain through which the trails traverse. Trail construction would be guided by the Trail Solutions: IMBA's Guide to Building Sweet Singletrack document and follow the Principles of Sustainable Trails by implementing "The Five Essential Elements of Sustainable Trails" (Trail Solutions, 2004). The single-track sections of the trail have been designed to contour hillsides at an average grade of less than 10%, and the grade never exceeds 15%. International Mountain Biking Association (IMBA) design standards recommend the average trail grade of 10% or less is most sustainable. Constructed single-track trail would be a full bench design with a tread width of 18-24 inches. The trails would be outsloped at 3-5% and have constant rolling grade dips and knicks that allow water to sheet across rather than channel down the trails.

No field weed surveys were completed for this project. Instead, the Ely District weed inventory data was consulted. This area was last inventoried and treated in 2014. There are currently no mapped weed infestations along the proposed trail routes. The following noxious and non-native, invasive species are documented within the project area:

Acroptilon repens Russian knapweed

Ailanthus altissima Tree of heaven

Centaurea stoebe Spotted knapweed

Cicuta maculata Water hemlock

Cirsium vulgare Bull thistle

Conium maculatum Poison hemlock

Lepidium draba Hoary cress

Lepidium latifolium Tall whitetop

Linaria dalmatica Dalmatian toadflax

Onopordum acanthium Scotch thistle

Robinia pseudoacacia *Tamarix* spp. Black locust Salt cedar

Tribulus terrestris Puncturevine

The following non-native invasive weeds probably occur along or near portions of the proposed trail routes: red brome (*Bromus rubens*), cheatgrass (*Bromus tectorum*), Russian olive (*Elaeagnus angustifolia*), Russian thistle (*Salsola kali*), halogeton (*Halogeton glomeratus*), and tumble mustard (*Sisymbrium altissimum*). The different areas surrounding the project area were last inventoried in 2007, 2008, and 2014.

Factor 1 assesses the likelihood of noxious/invasive weed species spreading to the project area.

None (0)	Noxious/invasive weed species are not located within or adjacent to the project area. Project activity is not likely to result in the establishment of noxious/invasive weed species in the project area.
Low (1-3)	Noxious/invasive weed species are present in the areas adjacent to but not within the project area. Project activities can be implemented and prevent the spread of noxious/invasive weeds into the project area.
Moderate (4-7)	Noxious/invasive weed species located immediately adjacent to or within the project area. Project activities are likely to result in some areas becoming infested with noxious/invasive weed species even when preventative management actions are followed. Control measures are essential to prevent the spread of noxious/invasive weeds within the project area.
High (8-10)	Heavy infestations of noxious/invasive weeds are located within or immediately adjacent to the project area. Project activities, even with preventative management actions, are likely to result in the establishment and spread of noxious/invasive weeds on disturbed sites throughout much of the project area.

For this project, the factor rates as High (8) at the present time. The trails will be constructed using a combination of mechanized and hand building techniques. Construction will result in the disturbance of an 18-36 inch wide linear stretch of ground, however the use of machines to construct the trailhead and easier grade trails will increase the chances of spreading noxious/invasive weeds. It is anticipated that the trails will attract a certain amount of tourism use which could also increase the chances of spreading noxious/invasive seeds from hiking boots and bicycle tires. Outreach and interpretation at the trailheads will be implemented as a measure to mitigate against the spread of weeds.

Factor 2 assesses the consequences of noxious/invasive weed establishment in the project area.

Low to Nonexistent (1-3)	None. No cumulative effects expected.
Moderate (4-7)	Possible adverse effects on site and possible expansion of infestation within the project area. Cumulative effects on native plant communities are likely but limited.
High (8-10)	Obvious adverse effects within the project area and probable expansion of noxious/invasive weed infestations to areas outside the project area. Adverse cumulative effects on native plant communities are probable.

This project rates as Moderate (6) at the present time. While there are no inventoried noxious/invasive weeds along the designated trail corridors, it is likely that there are some current areas of infestation. However, there is limited cattle grazing in the project area and little disturbance is expected after the trails are constructed. Though there is the potential that

weeds may spread during trail maintenance and monitoring, much of the Weeds that occur in the surrounding area are generally more mesic species and become limited outside of riparian area. While this greatly reduces the likelihood of these weeds becoming established along the trail system, there is still potential for some species to become established. Dalmatian toadflax, bull thistle, scotch thistle, and knapweeds all have the potential to become established in the proposed use areas.

The Risk Rating is obtained by multiplying Factor 1 by Factor 2.

None (0)	Proceed as planned.
Low (1-10)	Proceed as planned. Initiate control treatment on noxious/invasive weed populations that get established in the area.
Moderate (11-49)	Develop preventative management measures for the proposed project to reduce the risk of introduction of spread of noxious/invasive weeds into the area. Preventative management measures should include modifying the project to include seeding the area to occupy disturbed sites with desirable species. Monitor the area for at least 3 consecutive years and provide for control of newly established populations of noxious/invasive weeds and follow-up treatment for previously treated infestations.
High (50-100)	Project must be modified to reduce risk level through preventative management measures, including seeding with desirable species to occupy disturbed site and controlling existing infestations of noxious/invasive weeds prior to project activity. Project must provide at least 5 consecutive years of monitoring. Projects must also provide for control of newly established populations of noxious/invasive weeds and follow-up treatment for previously treated infestations.

For this project, the Risk Rating is Moderate (48). This indicates that the project can proceed as planned as long as the following measures are followed:

- Develop a weeds education program to be integrated in to the project. This may include interpretive signage, educational brochures, and other weed related materials that may be located at trailheads and at key points along the trail.
- Continue to use integrated weed management to treat weed infestations and use principles of integrated pest management to meet management objectives and to reestablish resistant and resilient native vegetation communities.
- Develop weed management plans that address weed vectors, minimize the movement of weeds within public lands, consider disturbance regimes, and address existing weed infestations.
- When manual weed control is conducted, remove the cut weeds and weed parts and dispose of them in a manner designed to kill seeds and weed parts.
- All straw, hay, straw/hay, or other organic products used for reclamation or stabilization activities, must be certified that all materials are free of plant species listed on the Nevada noxious weed list or specifically identified by the Ely District Office.
- Where appropriate, inspect source sites such as borrow pits, fill sources, or gravel pits used to supply inorganic materials used for construction, maintenance, or reclamation to ensure they are free of plant species listed on the Nevada noxious weed list or specifically identified by the Ely District Office. Inspections will be conducted by a weed scientist or qualified biologist.
- Where appropriate, vehicles and heavy equipment used for the completion, maintenance, inspection, or monitoring of ground disturbing activities; for emergency fire suppression; or

for authorized off-road driving will be free of soil and debris capable of transporting weed propagules. Vehicles and equipment will be cleaned with power or high pressure equipment prior to entering or leaving the work site or project area. Vehicles used for emergency fire suppression will be cleaned as a part of check-in and demobilization procedures. Cleaning efforts will concentrate on tracks, feet and tires, and on the undercarriage. Special emphasis will be applied to axels, frames, cross members, motor mounts, on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. Cleaning sites will be recorded using global positioning systems or other mutually acceptable equipment and provided to the Ely District Office Weed Coordinator or designated contact person.

- To minimize the transport of soil-borne noxious weed seeds, roots, or rhizomes, infested soils or materials will not be moved and redistributed on weed-free or relatively weed-free areas. In areas where infestations are identified or noted and infested soils, rock, or overburden must be moved, these materials will be salvaged and stockpiled adjacent to the area from which they were stripped. Appropriate measures will be taken to minimize wind and water erosion of these stockpiles. During reclamation, the materials will be returned to the area from which they were stripped.
- Prior to project approval a site-specific weed survey will occur and a weed risk assessment will be completed. Monitoring will be conducted for a period no shorter than the life of the permit or until bond release and monitoring reports will be provided to the Ely District Office. If the presence and/or spread of noxious weeds is noted, appropriated weed control procedures will be determined in consultation with Ely District Office personnel and will be in compliance with the appropriate BLM Handbook sections and applicable laws and regulations. All weed control efforts on BLM-administered lands will be in compliance with BLM Handbook H-9011, H-9011- 1 Chemical Pest Control, H-9014 Use of Biological Control Agents of Pests on Public Lands, and H-9015 Integrated Pest Management. Submission of Pesticide Use Proposals and Pesticide Application Records will be required.
- Determine seed mixes on a site specific basis dependant on the probability of successful establishment. Use native and adapted species that compete with annual invasive species or meet other objectives.
- For soil disturbing actions which will require reclamation, salvage and stockpile all available growth medium prior to surface disturbances. Seed stockpiles if they are to be left for more than one growing season. Re-contour all disturbance areas to blend as nearly as possible with the natural topography prior to re-vegetation. Rip all compacted portions of the disturbance to an appropriate depth based on site characteristics. Establish an adequate seed bed to provide good seed-to-soil contact.
- Conduct mixing of herbicides and rinsing of herbicide containers and spray equipment only in areas that are a safe distance from environmentally sensitive areas and points of entry to bodies of water (storm drains, irrigation ditches, streams, lakes, or wells).
- Keep removal and disturbance of vegetation would be kept to a minimum through construction site management (e.g. using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.)

- Generally, conduct reclamation with native seeds that are representative of the indigenous species present in the adjacent habitat. Document rationale for potential seeding with selected nonnative species. Possible exceptions would include use of nonnative species for a temporary cover crop to out-compete weeds. In all cases, ensure seed mixes are approved by the BLM Authorized Officer prior to planting.
- Certify that all interim and final seed mixes, hay, straw, and hay/straw products are free of plant species listed on the Nevada noxious weed list.
- Respread weed-free vegetation removed from the right-of-way to provide protection, nutrient recycling, and seed source.
- When managing in areas of special status species, carefully consider the impacts of the treatment on such species. Wherever possible, hand spraying of herbicides is preferred over other methods.
- Do not conduct noxious and invasive weed control within 0.5 mile of nesting and brood rearing areas for special status species during the nesting and brood rearing season.
- All applications of approved pesticides will be conducted only by certified pesticide applicators or by personnel under the direct supervision of a certified applicator.
- Do not apply pesticides within 440 yards (0.25 mile) of residences without prior notification of the resident.
- Prior to entering public lands, the contractor, operator, or permit holder will provide information and training regarding noxious weed management and identification to all personnel who will be affiliated with the implementation of the project. The importance of preventing the spread of weeds to uninfested areas and importance of controlling existing populations of weeds will be explained.
- Whenever possible, hand spraying of herbicides is preferred over other methods at heavily used recreation sites (i.e. campgrounds, trailheads, etc.).

Appendix D. Appendix D. Construction Design Features

Full Bench Trail

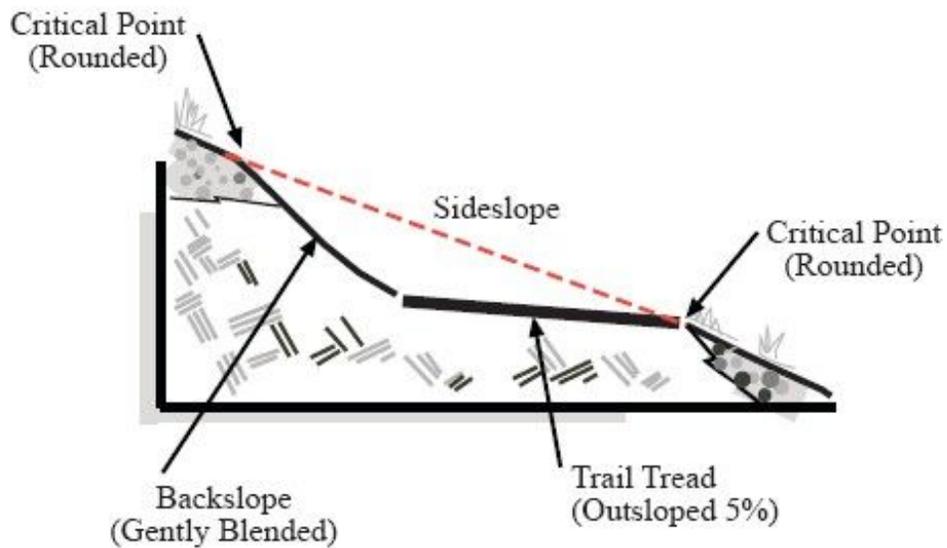
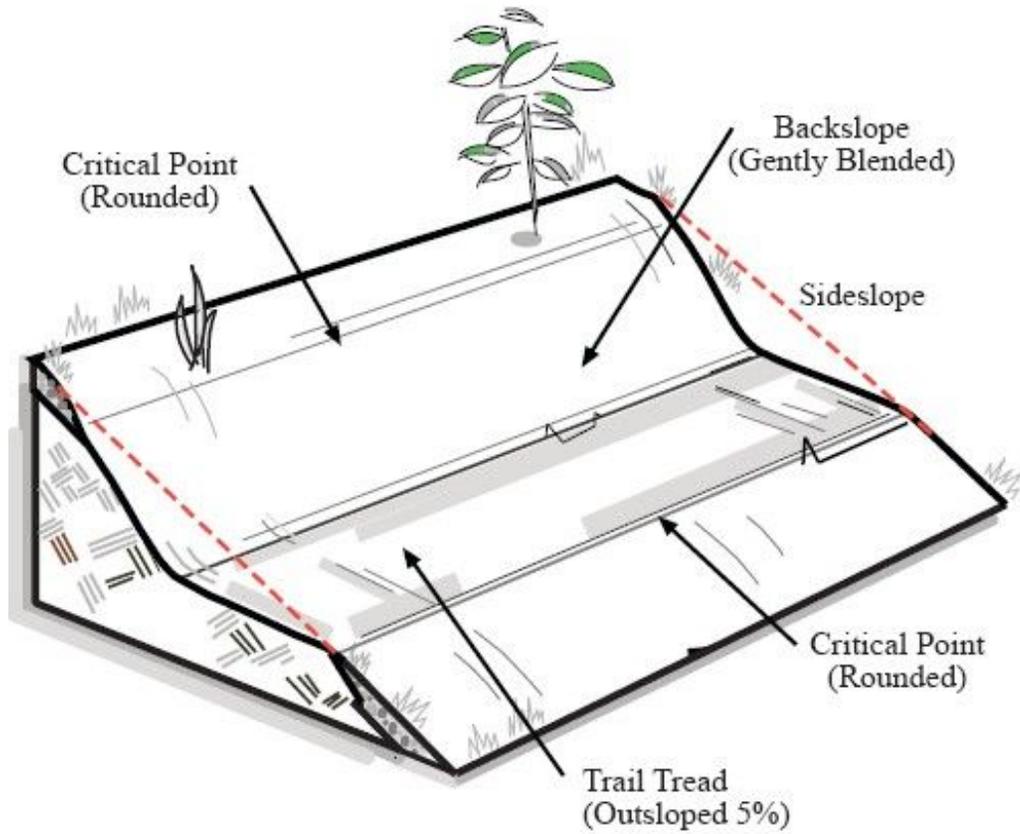


Figure 1: Bench cut design (Used with permission of the International Mountain Biking Association)

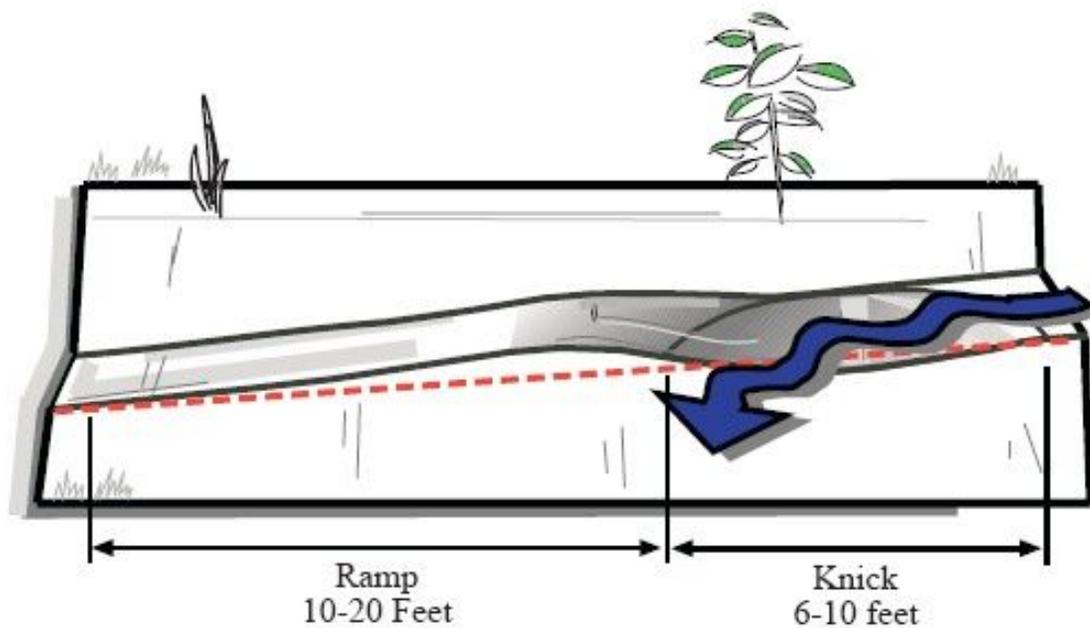
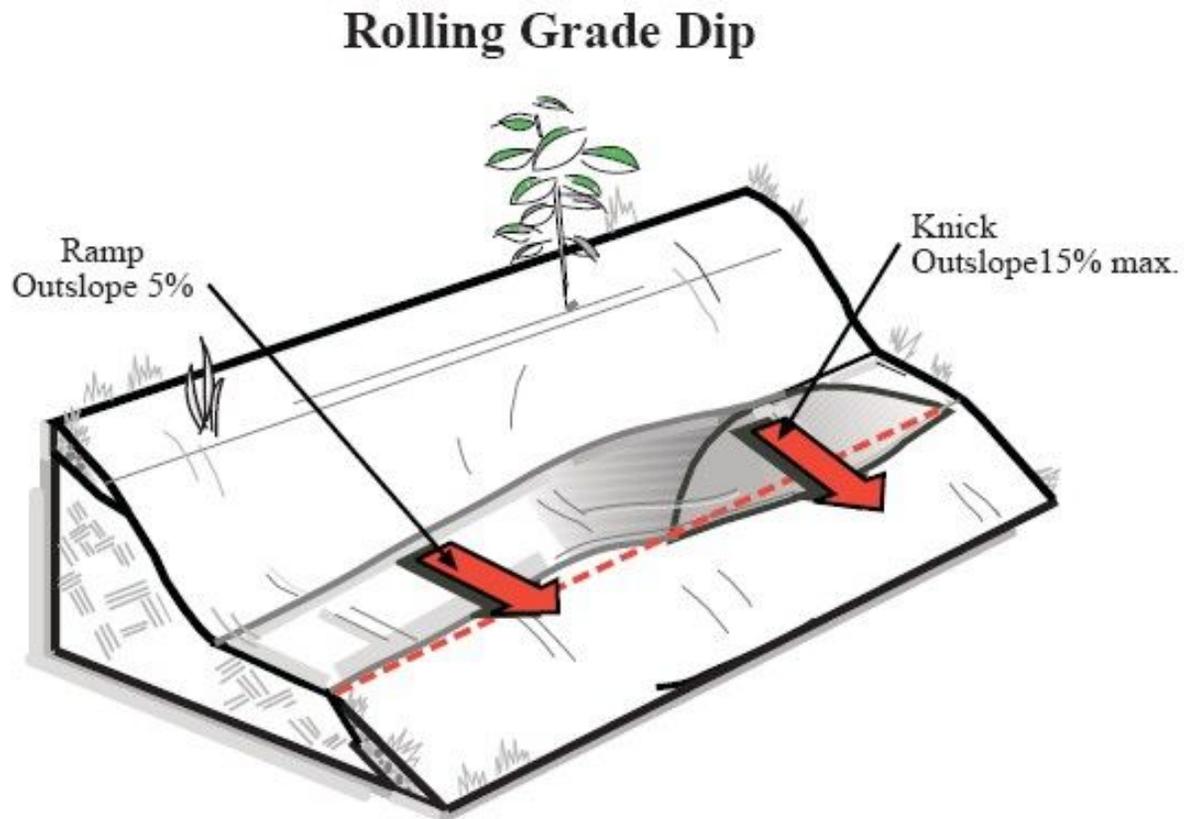


Figure 2: Rolling grade dip design (Used with permission of the International Mountain Biking Association)

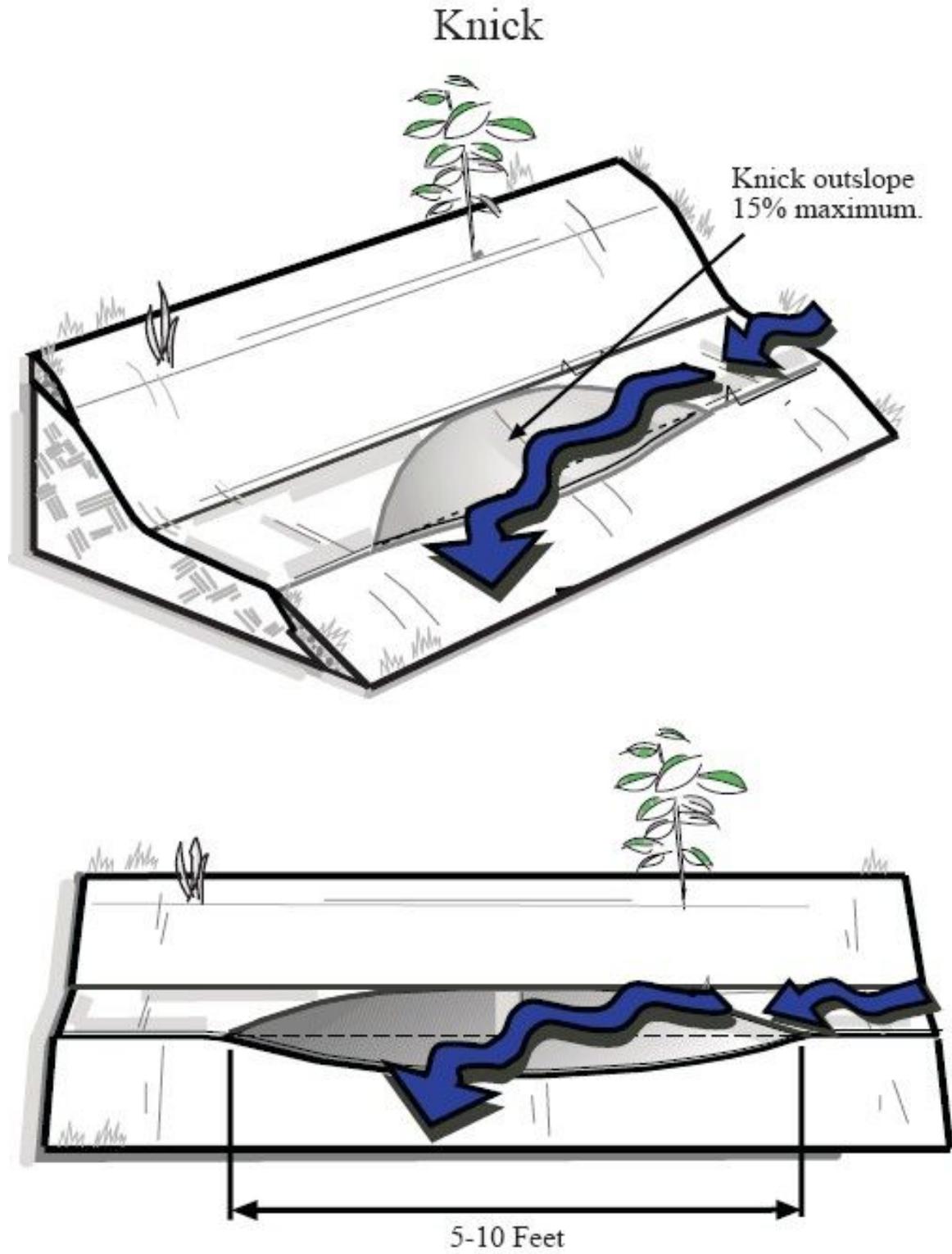


Figure 3: Knick design features (Used with permission of the International Mountain Biking Association)

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Appendix E. Appendix E. Maintenance Plan

Regular trail maintenance work days would be scheduled twice per year, once before and once after the highest use period, i.e., April-October. Other trail repair work days would be organized on an as-needed basis after severe weather events, special events, or any other occurrence that would lead to trail damage. As-needed maintenance would be dictated by regularly inspecting the trails for wear, damage, and vandalism. Trail inspections would occur monthly during the high-use period. Regular maintenance helps ensure the safety of trail users and retain the trail qualities and features intended to foster an enjoyable experience.

Most maintenance would be carried out by volunteer crews using hand tools. Machinery may be implemented for trail repair in the event that damage is too severe for hand crews alone. Maintenance and repair days would coincide with favorable weather and periods of lightest trail use, and signs and public notifications would alert potential trail users of maintenance activities.

Trail Maintenance and Assessment Plan

1. Assessing the Trail

Step 1- Print out Trail Assessment and Repair Sheet. Trail assessment sheets give you a means of identifying maintenance projects, their locations, the nature of the problems, and a strategy for resolving each situation. List tools needed and the amount of people needed for the repair. The sheet needs to be filled out well enough that you could give it to a volunteer group to complete the work in the proper area.

Step 2- Walk or ride the trail. Whenever you find a spot that needs repair, pull out the trail assessment sheet, record how far the site is from the trailhead or major intersection (use cyclocomputer or UTM), the nature of the problem, and its severity.

Step 3- Save your copies of the assessment so that there is a working log and track record for each trail.

Step 4- Assign work lead and work crew, know the UTM of the site, and answer these questions:

- What tools would we need?
- What is the problem?
- How should we go about repairing the problem?

2. What to Look For During Trail Assessment

- **Major Problems:** Such as trail braiding, trail creep, washboards, and drainage issues –see IMBA Trail Solutions chapter 7 for solutions.
- **Technical Trail Features:** Use the same maintenance practices you would use on an exterior deck, staircase, or pedestrian bridge.
- **Unintended Obstacles:** Downed trees can be hazardous especially after a wet winter. Best time to look at removing downed trees is during the spring before heavy use. Remove loose rocks and hazards from the tread. Some rocks that are in more technical areas can be left for the added challenge, but on the normal intermediate trails they should be cleared

off. If bigger rocks are loosened out of the tread and a hole that presents a tripping hazard should be filled and compacted with moist dirt.

3. Placement of Signs

- Major trail junctions, road crossings, or every .25 mile with no junctions or crossings.
- Consistency: Use the same type of signs and markings. If the trail is a blue, then be sure to be consistent with the signs color and difficulty.
- Trail Rating Signs: For initial rating have someone experienced with all levels of trails ride the trail and determine the rating. Sign the trailheads and major trail intersections so users stay on their intended route.

4. Social Trails

- GPS the trail.
- Figure out the purpose of the trail.
- Analyze it and decide if it should be closed. If the problem of pioneering trails becomes substantial in the area then take a zero tolerance approach and close all pioneered trails.

Appendix F. Appendix F. Errata

Chapter 1: Introduction

The introduction has been modified to reference possible future equestrian trail development within project area as well as restricting the use of e-bikes on the trail network.

Section 1.1: Background

The background section has been modified to include more details regarding the original public scoping and planning process that lead to the BLM pursuing this project.

Section 1.2: Purpose of the Proposed Action

The purpose and need section has been modified to specify that the construction of mountain bike optimized trails is in response to the public's desire for more access to this kind of recreational trail.

Section 2.2: Proposed Action

The proposed action has been modified to include the specifics of trail design and construction, including the types of possible machinery that could be used during construction and mitigation plans for remediating disturbed soil and vegetation.

This section has also been modified to include consideration of future equestrian trails and trailheads, trail design features specific to different user groups, and clarification of equestrian access within the project area. A link has been provided to show the trail specification guidelines that would be used in the possible construction of future equestrian trails.

Section 2.5.2: Relationship to Statutes, Regulations, or other Plans

This section has been modified to show conformance with the Migratory Bird Act, NEPA, and National Historic Preservation Act.

Section 3.1: Affected Environment/Environmental Impacts

Table 3 in this section has been modified to include Transportation/Access analysis.

Section 3.3.1.2: Fish and Wildlife—Impact Analysis

This section has been modified to include measures protecting small mammals, reptiles, and birds from entrapment in vault toilet vents. This section also now recognizes the potential mortality of small mammals and reptiles as a result of trail construction.

Section 3.3.2.2: Migratory Birds—Impact Analysis *Avian Protection Measures*

The *Avian Protection Measures* have been modified to include burrowing owl (*Athene cunicularia*) protection measures. This section has also been modified to include construction and design stipulations to prevent the entrapment of birds in small openings in vault toilets and signage.

Section 3.3.7.2: Special Status Animal Species—Impact Analysis

This section has been modified to include management stipulations and disturbance mitigation practices for burrowing owl and burrowing owl burrows. This section now also addresses how BLM would manage the unlikely reintroduction of bighorn sheep within the project area.

The table in section 3.3.7.2 has also been modified to include burrowing owl.

Section 3.3.8.2: Special Status Plants—Impact Analysis

This section has been modified to recognize the potential for disturbance to occur as a result of bikes and hikers going off trail intentionally and unintentionally.

Section 3.3.11.2: Recreation Use—Impact Analysis

This section has been modified to explain the current equestrian access within the project area and to also clarify that backcountry travel will remain unrestricted.

Sections 3.3.12.1, 3.3.12.2: Transportation/Access

These sections have been added to the final EA and describe the current condition of Ella Mountain Lookout Road and Clover Creek Road, as well as the Road Maintenance Agreement between BLM and Lincoln County that outlines the maintenance schedule of those roads. The Impact Analysis in this section describes the potential increase in vehicle traffic on those roads and some options for addressing future maintenance and access needs.

Section 5.2: Persons, Groups, and Agencies Consulted

Table 1 in this section has been modified to include the proper National Historic Preservation Act citation, and a “below threshold” conclusion as indicated in the Cultural Resources Inventory Needs Assessment.

Table 1 in this section has also been modified to include a list of all the tribes consulted while drafting the EA.

Section 5.3: Summary of Public Participation

This section has been added to include a history of public participation during the drafting of this EA.

Acronyms

ACEC:

Area of Critical Environmental Concern

ATV:

All Terrain Vehicle

BLM:

Bureau of Land Management

CFO:

Caliente Field Office

CFR:

Code of Federal Regulations

City:

City of Caliente

County:

Lincoln County Commission

DR:

Decision Record

EA:

Environmental Assessment

EIS:

Environmental Impact Statement

FLPMA:

Federal Land Policy and Management Act of 1976

FONSI:

Finding of No Significant Impact

GHMA:

General Habitat Management Area

GRSG:

Greater Sage-Grouse

HSG:

Hydrologic Soils Group

IM:

Instructional Memorandum

IMBA:

International Mountain Biking Association

Kershaw-Ryan:

Kershaw-Ryan State Park

NDOW:

Nevada Department of Wildlife

NEPA:

National Environmental Policy Act

OHMA:

Other Habitat Management Area

OHV:

Off-Highway Vehicle

PHMA:

Priority Habitat Management Area

RDFs:

Required Design Features

RFFS:

Reasonably Foreseeable Future Action

RMP:

Resource Management Plan

ROW:

Right of Way

State Parks:

Nevada Division of State Parks