BLM

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

Preliminary 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 multipurpose 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. These trails would be open to mountain biking and hiking use only. The trailheads would provide ancillary facilities including: vault toilets, shade structures, grills, picnic tables, and informational kiosks. One trailhead would be constructed in Barnes Canyon and the second would be roughly two miles south of Caliente on Ella Mountain Lookout Road. Both trailheads would be constructed on public lands.

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. Approximately 13 miles of trail development is being proposed on Nevada Division of State Parks (State Parks) land. Kershaw-Ryan State Park (Kershaw-Ryan) would be responsible for the construction, maintenance, and operation of those trails, and they are being analyzed in this document as a connected action.

This project would broaden the range of available user experiences, reduce environmental impacts from unauthorized use, enhance tourism in Caliente, and help promote awareness of the natural and cultural resources in Lincoln County through interpretation and education.

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. Born of a public desire for more non-motorized recreational opportunities, the trails system would provide a healthy non-motorized recreational opportunity in addition to the many other available recreation options 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 public lands with existing and planned-for trails in Caliente and the Kershaw-Ryan area. 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. The IMBA also flagged five miles of trails on City property. While the proposed trail construction on BLM lands is a stand alone project, the long-term plan would be to connect to the trails in Kershaw-Ryan, thus providing the user with access to BLM and State Parks lands.

In Summer and Fall of 2015 the trail network was evaluated for the presence of cultural resources, and 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, 110[a][2]).

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, multipurpose singletrack trails and trailheads is to provide an additional use of the public lands near Caliente. Providing a recreational outlet for non-motorized recreationists would help promote sustainability on public lands while protecting the cultural and natural resources in Lincoln County. This project would also support national and state youth initiatives by providing opportunities to engage, encourage, and employ youths during and after implementation through partnerships with organized youth crews, non-profit organizations, and groups of volunteers.

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. 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-based tourism. 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 with the communities in Lincoln County, recreationists, Nevada State Parks, and local proprietors.

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, and Environmental Justice/Socioeconomics.

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, multipurpose singletrack trail and two trailheads on public lands near Caliente, Nevada. The trails network proposed for construction on public lands is a stand alone project and is not dependent upon the completion of trails developed by the City or State Parks in order to be successful.

Out of concerns for public safety, these trails would be open to bike and pedestrian use only. Equestrian use would not be allowed on these trails because equestrian trails require different safety and sustainability features than those used by bikers and pedestrians. Trail safety features are meant to foster a unique and enjoyable experience for the individual user, and equestrian trails require longer lines of site, wider corridors, more durable tread, and higher clearance through brush (Trail Solutions 2004) than would be provided by this project. Keeping non-motorized uses separate also reduces overcrowding and excess trail damage, which may discourage the public from using the trail system.

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 (See Map 2.1).

One trailhead would be built approximately five miles east of downtown Caliente in Barnes Canyon. 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. Both locations also provide convenient access to the amenities in Caliente, and each trailhead would provide parking for approximately 20 cars. When 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 each trailhead would create approximately 6–acres of disturbance.

In Summer and Fall of 2015, the BLM conducted a cultural clearance of the entire 40 mile trail network for 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, 110[a][2]).

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). Construction 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 design is explained in detail in Section 3.2, however, all trails are anticipated to be a maximum of three feet wide, thus creating 9.8 acres of linear ground disturbance on public land (Table 2). An additional 12 acres of ground disturbance is anticipated for construction of the trailheads which would also occur on public lands. Construction is expected to cause minimal soil disturbance and the removal of some vegetation. Impacts to specific resources are analyzed in detail in Section 3.3.

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 for a term of 50 years for the construction, operations, and maintenance of the 27 miles of trails and both trailheads on public land. The ROW boundary would extend 90 feet to either side of center, creating a 180 foot corridor which would provide access for construction, maintenance, and, if needed, future trail reroutes.

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

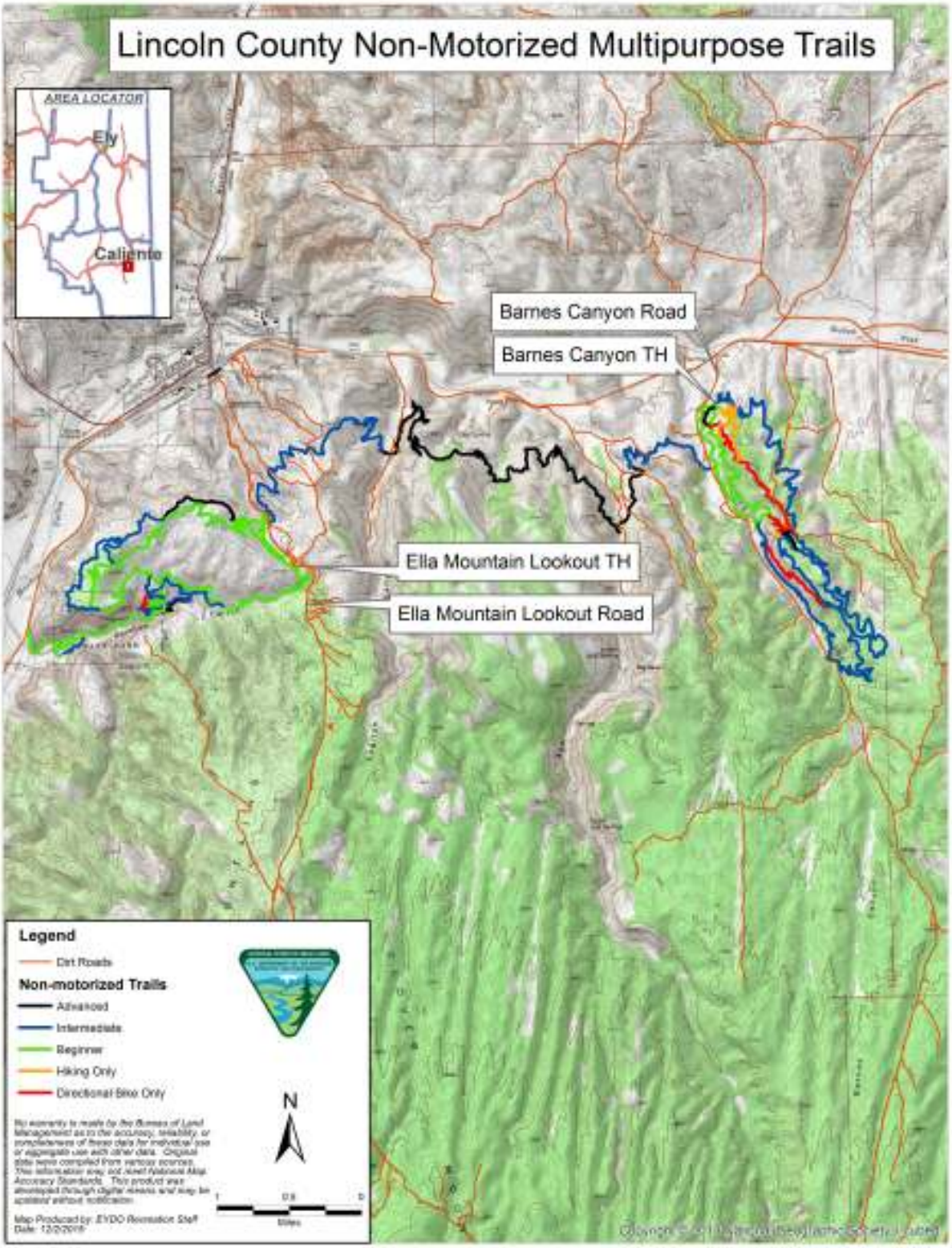
Table 2.2. Disturbance calculations[a]

	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 3 ft. 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 ft. 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

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:

- 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, P.L. 108-424 (LCCRDA), 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 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.

- 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

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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. Insignificant impact to a riparian not used for drinking water are analyzed.
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	N	N
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. Moderate flood hazard areas are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. 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 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 will solicit information from the Tribes to provide ethnographic data or identify any sites of importance to Native American Tribes to ensure avoidance of those areas. Summarize consultation efforts.
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. 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	*Taxidea taxus*
Big free-tailed bat	*Nyctinomops macrotis*
Bobcat	*Lynx rufus*
Cliff chipmunk	*Tamias dorsalis*
Coyote	*Canis latrans*
Desert woodrat	*Neotoma lepida*
Elk	*Cervus elaphus*
Montane vole	*Microtus montanus*
Mule deer	*Odocoileus hemionus*
North American deermouse	*Peromyscus maniculatus*
Piñon deermouse	*Peromyscus truei*
Reptiles	
Gopher snake	*Pituophis catenifer*
Western fence lizard	*Sceloporus occidentalis*
Amphibians	
American bullfrog	Lithobates catesbeianus[a]

Great Basin spadefoot	*Spea intermontana*
Fish	
No records.[b]	
Invertebrates	
No records.	

[a]A 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.

General Wildlife Protection 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.
- 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.

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
Waterbirds	
Great blue heron O[a]	*Ardea herodias*
Landbirds	
American kestrel O	*Falco sparverius*
American robin C	*Turdus migratorius*
Ash-throated flycatcher X	*Myiarchus cinerascens*

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

Wilson's warbler X	*Cardellina pusilla*
Yellow-breasted chat X	*Icteria virens*
Yellow-rumped warbler X	*Setophaga coronata*
Yellow warbler O	*Setophaga petechia*

[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.

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).

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.

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).

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 (Native seeds, yucca and cactus plants)

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. These areas are located in Great Basin xeric mixed sagebrush shrubland. All of the vegetation within the foot print of the trail head will be eliminated in perpetuity.

3.3.4.2. Section 3.3.4.2 Impact Analysis

Alternative A

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 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.

Vegetation, Yucca, and Cactus Plants Protection Measures

The entire project footprint, prior to any ground disturbance and construction commencing, would also be surveyed for cacti, yucca, and other BLM sensitive plant species during the appropriate season (i.e., May-June) when most plants can be identified. All BLM sensitive plants, cacti, and yucca found would be flagged. If individual plants or populations of BLM sensitive plants, with the exception of most cacti and yucca, are found, a BLM biologist would be consulted. A determination would then be made on the course of action, which could include avoidance, transplanting to adjacent habitat, or seed collection. 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.

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 course textured soils. 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.

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). For this Environmental Assessment, the BLM will conduct 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, with an initial BLM determination that the proposed action *may affect, but is not likely to adversely affect* the southwestern willow flycatcher or its critical habitat. This consultation will occur prior to final approval of this Environmental Assessment. 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.

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	*Eptesicus fuscus*
Brazilian free-tailed bat	*Tadarida brasiliensis*
California myotis	*Myotis californicus*
Desert bighorn sheep	*Ovis canadensis nelsoni*
Fringed Myotis	*Myotis thysanodes*
Pallid bat	*Antrozous pallidus*
Western pipistrelle	*Parastrellus hesperus*
Western small-footed Myotis	*Myotis ciliolabrum*
Birds	
Bald eagle O[a]	*Haliaeetus leucocephalus*
Brewer's sparrow C	*Spizella breweri*
Golden eagle O	*Aquila chrysaetos*
Greater sage-grouse (not present)	*Centrocercus urophasianus*[b]
Northern goshawk C	*Accipiter gentilis*
Peregrine falcon C	*Falco peregrinus*
Reptiles	
No records.	
Amphibians	
Arizona toad	*Anaxyrus microscaphus*[c]
Fish	
No records.[d]	
Invertebrates	
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 three-foot 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 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.

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. 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.

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. The nearest occupied habitat is more the 15 miles from the project area.

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 accidently 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

As there are currently no greater sage-grouse occurring in the project area, greater sage-grouse would not be directly impacted by the proposed action. Greater sage-grouse habitat would be disturbed by the proposed trail system and trailhead facilities as described previously and may require compensatory mitigation for GHMA habitat loss as a net conservation gain. Application of *Required Designed Features* (RDFs) as described in Appendix C of the approved resource management plan amendment would be required in both GHMA and OHMA (Bureau of Land

Management 2015). What compensatory mitigation may be required would be determined by the BLM Nevada State Office and through consultation with the Nevada Department of Wildlife on the functionality of the habitat. 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 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 entire project footprint, prior to any ground disturbance and construction commencing, would also be surveyed for cacti, yucca, and other BLM sensitive plant species during the appropriate season (*i.e.*, May-June) when most plants can be identified. All BLM sensitive plants, cacti, and yucca found would be flagged. If individual plants or populations of BLM sensitive plants, with the exception of most cacti and yucca, are found, a BLM biologist would be consulted. A determination would then be made on the course of action, which could include avoidance, transplanting to adjacent habitat, or seed collection. 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.

No Action Alternative

Under the no action alternative, no trails or trailheads would be developed and surveys for special status plants would not be carried out.

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

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, 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.

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.

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, 18.3 miles are on lands designated for disposal, of which a ROW will be issued for a term of 50 years for the construction, operations, and maintenance of trail.

Lands and Realty Management Action LR-10

Approximately 13 miles of trail would be constructed within the lands that are being conveyed to the State of Nevada for state park expansion (*i.e.*, Kershaw-Ryan State Park). The BLM is not proposing to construct, operate, or maintain these trails and therefore would 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 non-motorized recreation opportunities and experiences in the project area surrounding Caliente. 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). Trail routes would provide designated connections between the city of Caliente and State Parks trails for hikers and mountain bikers. Trail users would be provided with a host of attractive amenities at the trailheads where they would be able to park, unload gear, gather, and obtain information about the trails and multiple-use management in the project area. The trailhead locations would provide an inviting experience for large groups, who could be guaranteed needed space for staging events.

3.3.11.2. Section 3.3.11.1 Impact Analysis

Alternative A

Public access to lands in the project area would increase. Amenities for recreation offered by the Proposed Action would cause increased gathering at the proposed trailheads and use along the proposed trails. The informational kiosks would improve visitor satisfaction by increasing knowledge of the multipurpose uses within the area.

Off-highway vehicle (OHV) recreation is a popular use within the project area, and several OHV specific trails follow the ridges and washes between Barnes Canyon and Kershaw-Ryan. 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, however, there would be no impacts to current race course routes. Non-motorized trail use within the project area may be restricted during races to ensure public and racer safety. Potentially unsafe conditions relative to on-trail conflict between non-motorized trail users and ATV/OHV users would therefore be low to nonexistent.

Hunting is also a popular activity 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. Seasonal trail closures may be implemented to eliminate conflict if necessary.

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: Grazing Uses/Forage

3.3.12.1. Section 3.3.12.1 Affected Environment

The trails would occur within the Clover Creek and Sawmill Canyon grazing allotments, however no foreseen impact to viable forage within the grazing allotments is expected. 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.

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 (combined) are some 32,000 acres in size. Therefore, the 14.5 acres of trail and about 12 acres for the trailheads would have negligible loss to the grazing allotment.

2. The construction of the trail system could have impacts to the grazing animals in the vicinity of the one watering location presently authorized on the Clover Creek allotment, a well and trough near the trail head in the lower portions of Barnes Canyon, however the trail itself is located some 300 feet from the watering location.

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 indeed becomes the case, a short fence with a cattle guard may need to be installed at some point to prevent cattle from continuing along the trail.

3.3.12.2. Section 3.3.12.2 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.

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.

3.3.13. Section 3.3.13 Resource 13: Non-Native Invasive and Noxious Species

3.3.13.1. Section 3.3.13.1 Affected Environment

See Weed Risk Assessment (Appendix C).

3.3.13.2. Section 3.3.13.2 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.

3.3.14. Section 3.3.14 Resource 14: Socioeconomics and Environmental Justice

3.3.14.1. Section 3.3.14.1 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.

3.3.14.2. Section 3.3.14.2 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 destination 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

[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

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. 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

[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, wild horse use, 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 events and non-competitive 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

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 address and mitigate potential conflicts OHV events and recreational use. No significant impacts to grazing or forage are expected due to the proposed action, and user conflict with cattle on public lands will be mitigated through signage and trail design features where appropriate.

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 minimize or eliminate on-trail user conflict. Interpretive signage will help inform the public of other popular recreational activities in the area, and educate the public of proper etiquette when other user groups are encountered. The Proposed Action is anticipated to have a synergistic impact associated with mountain bike tourism in the nearby cities of Las Vegas, St. George, Cedar City, and Kanab.

4.3.5. Section 4.3.5 Cumulative Impacts Summary

Project Area

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 (16 USC 1531)	The cultural survey report was sent to SHPO with a determination of no adverse effect.
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	Notification has been sent and is under tribal review.

5.3. Section 5.3 Summary of Public Participation

During preparation of the EA, the public was notified of the proposed action by posting the project 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/or similar actions. A public comment period was offered between July 21, 2015 and August 20, 2015.

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
Todd Trapp	Wildlife Biologist	Fish and Wildlife; Migratory Birds; FWS Listed Species; Special Status Animals; Sage Grouse; Special Status Plants
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	

5.5. Section 5.5 References

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Appendix A. Appendix A. Figures

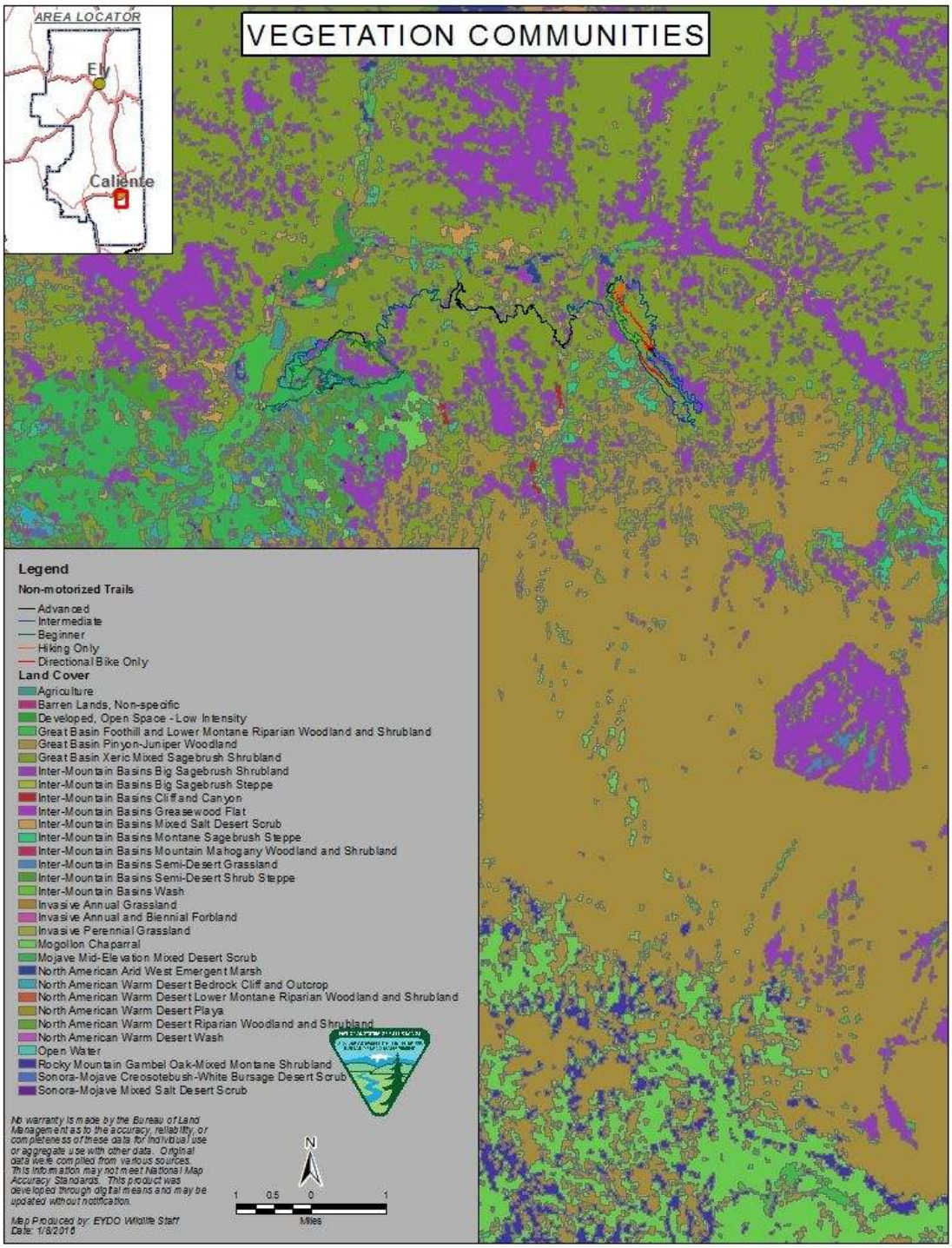

Figure 1. Proposed non-motorized, multipurpose trail system vegetation communities (U.S. Geological Survey National Gap Analysis Program 2004).

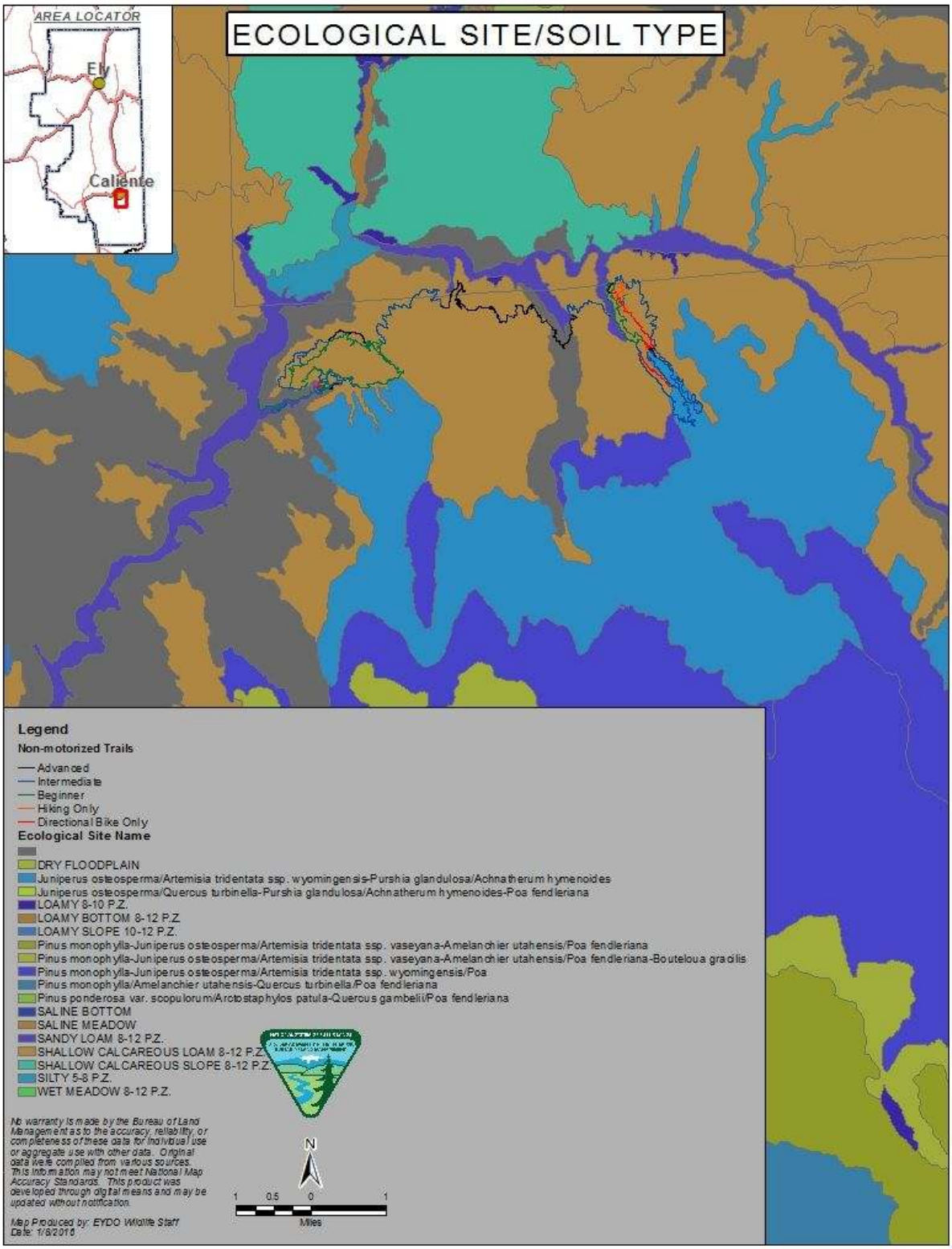

Figure 2. Proposed non-motorized, multipurpose trail system ecological sites and soil types.

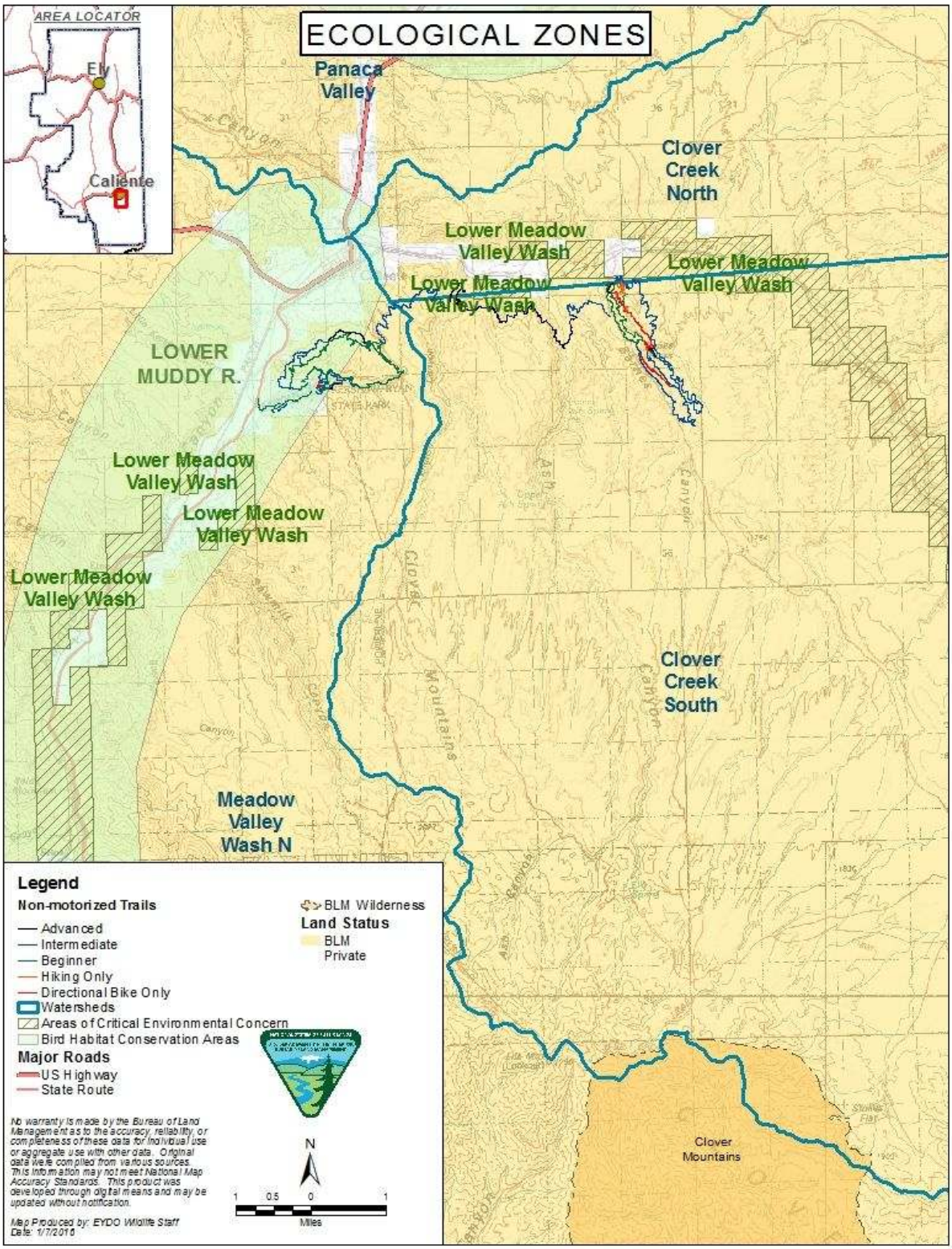

Figure 3. Proposed non-motorized, multipurpose trail system ecological zones.

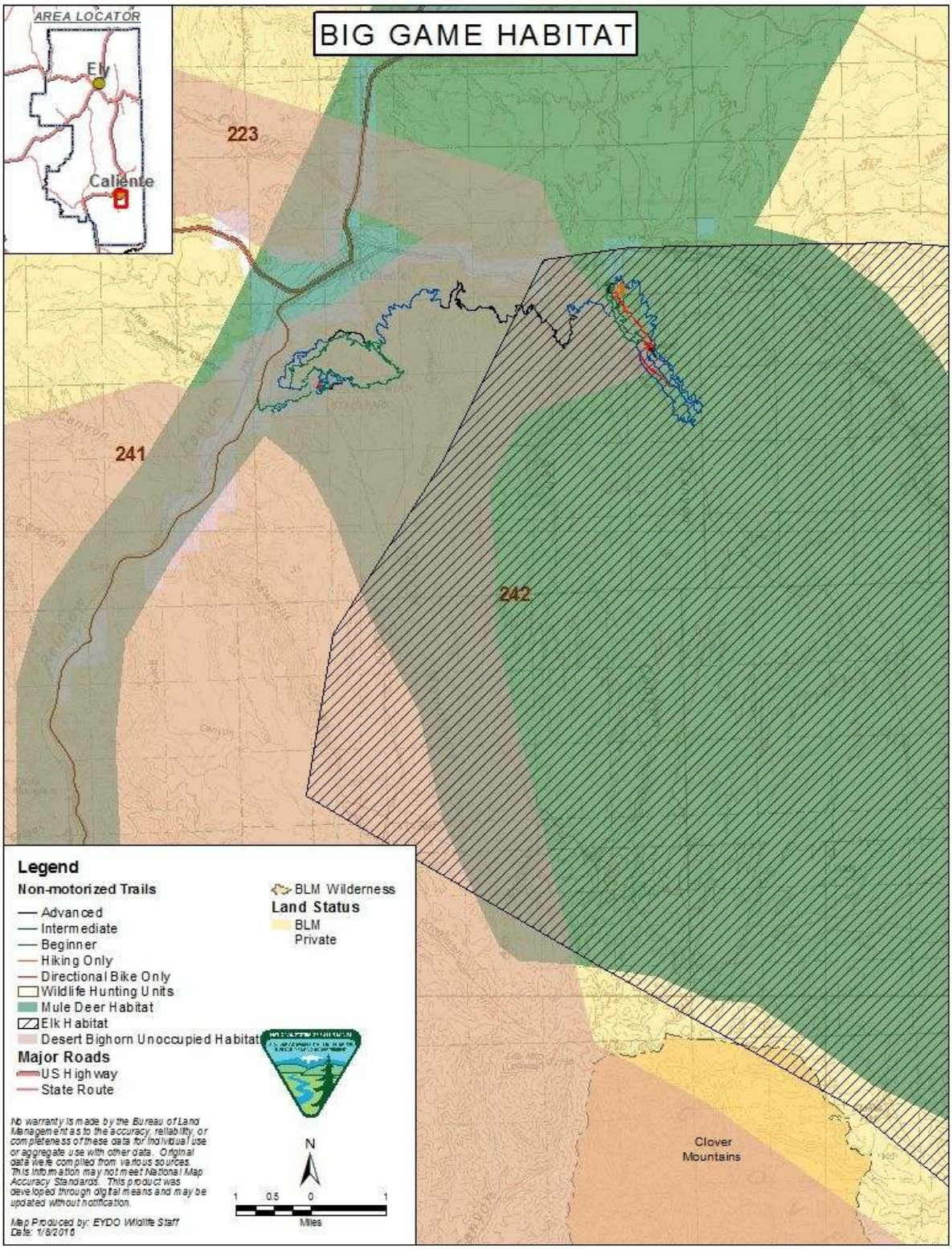

Figure 4. Proposed non-motorized, multipurpose trail system big game habitat (Bureau of Land Management 2008).

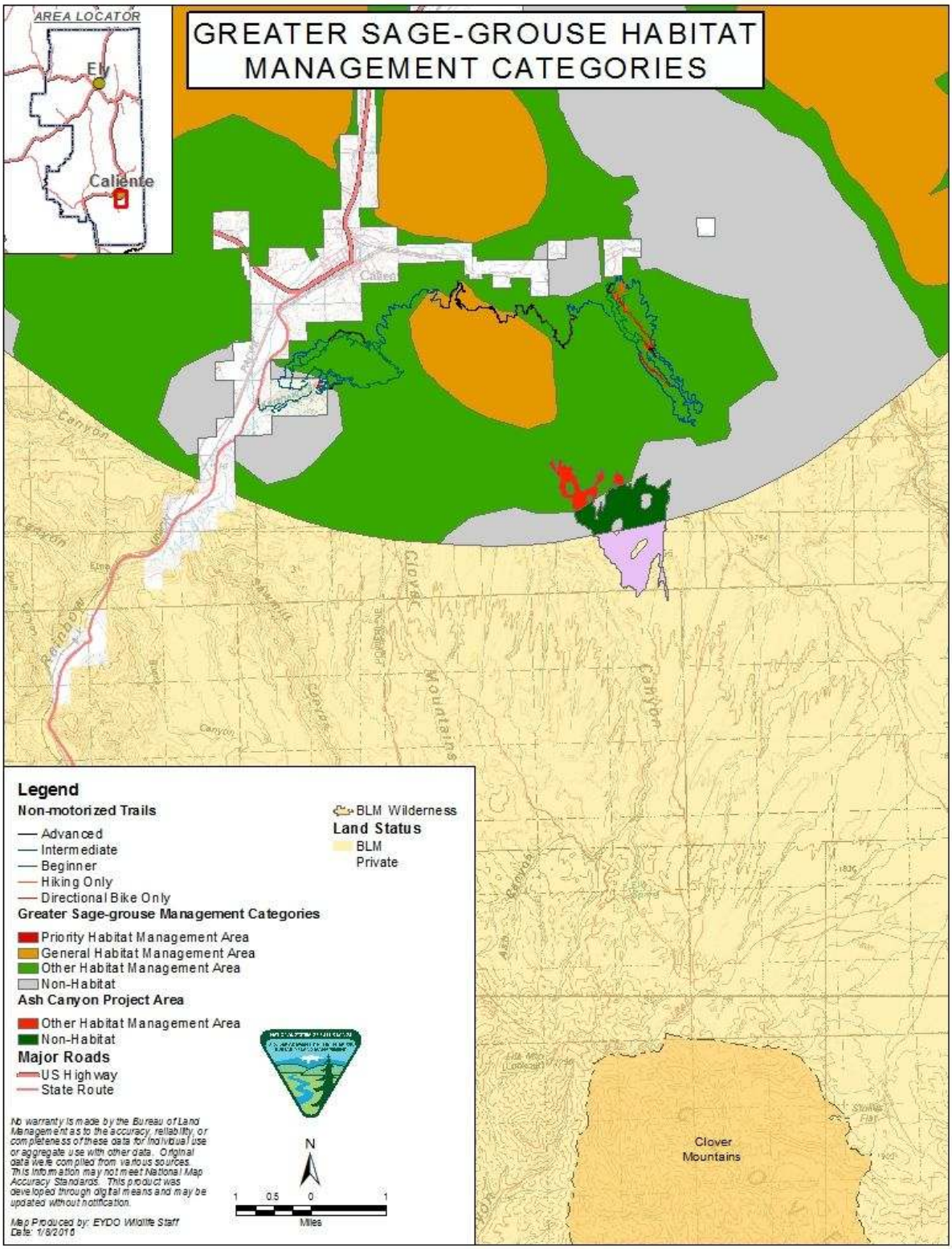

Figure 5. Proposed non-motorized, multipurpose trail system greater sage-grouse (*Centrocercus urophasianus*) habitat management categories.

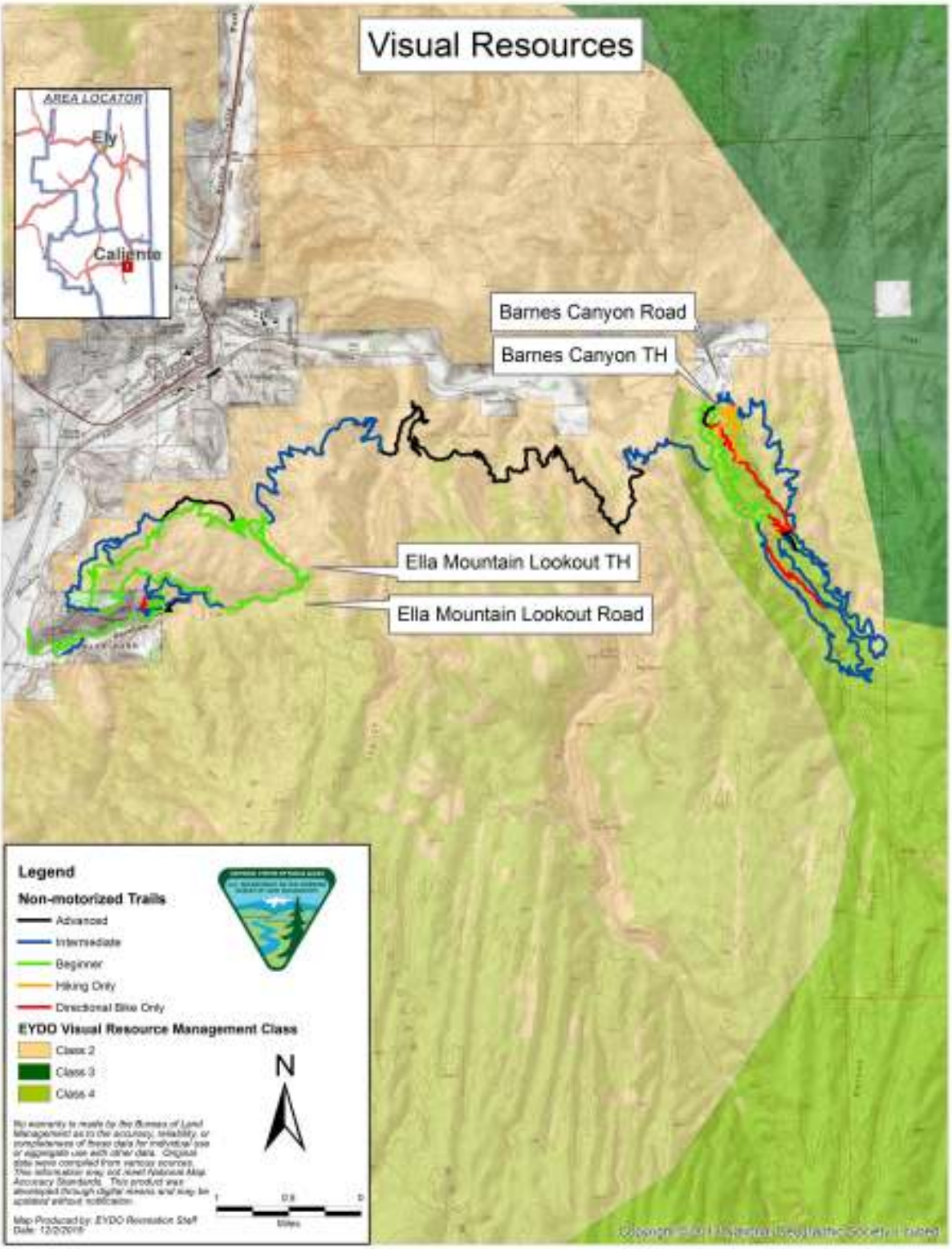

Figure 6. Proposed non-motorized, multipurpose trails Visual Resources Management area classifications.

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.
- 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.

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

- Greater sage-grouse habitat would be disturbed by the proposed trail system and trailhead facilities as described previously and may require compensatory mitigation for *General Habitat Management Area* (GHMA) habitat loss as a net conservation gain. Application of *Required Designed Features* (RDFs) as described in Appendix C of the *Nevada and northeastern California greater sage-grouse approved resource management plan amendment* would be required in both GHMA and *Other Habitat Management Area* (OHMA) (Fig. 5) (Bureau of Land Management 2015). What compensatory mitigation may be required would be determined by the BLM Nevada State Office and through consultation with the Nevada Department of Wildlife on the functionality of the habitat.

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 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 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 entire project footprint, prior to any ground disturbance and construction commencing, would also be surveyed for cacti, yucca, and other BLM sensitive plant species during the appropriate season (i.e., May-June) when most plants can be identified. All BLM sensitive plants, cacti, and yucca found would be flagged. If individual plants or populations of BLM sensitive plants, with the exception of most cacti and yucca, are found, a BLM biologist would be consulted. A determination would then be made on the course of action, which could include avoidance, transplanting to adjacent habitat, or seed collection. 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.

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Appendix C. Appendix C. Weed Risk Assessment

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Appendix D. Appendix D. Construction Design Features

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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.

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

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