

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

**Environmental Assessment  
DOI-BLM-NV-L030-2017-0014-EA**

**June 2018**

**Ash Springs Recreation Site**

**Location:  
Lincoln County, Nevada**

**Applicant:  
BLM**

**PREPARING OFFICE**

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# 1 INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze alternatives for managing the Ash Springs Recreation Site. The EA is a site-specific analysis of potential impacts that could result with the implementation of the presented alternatives. This EA will assist the Bureau of Land Management (BLM) in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any “significant” impacts could result from the analyzed actions. “Significance” is determined by the consideration of context and intensity of the impacts. 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 NEPA documents,” a Finding of No Significant Impact (FONSI) will be prepared to document that determination, and a Decision Record issued providing the rationale for approving the chosen alternative.

This document is tiered to, and incorporates by reference, the *Ely District Record of Decision and Approved Resource Management Plan (RMP; 2008)*, *Final Environmental Impact Statement (EIS)* released November 2007.

## 1.1 Background

Historical recreational use of the Ash Spring area was known as the “swimming hole” for the local population. The original “swimming hole” was located on private property. The adjacent private property was open to the public for recreation that included: swimming, water slides, and RV infrastructure (known today as “Big Ash”). The BLM’s 1.18-acre area (known today as “Little Ash”) had little use (see Appendix C Photo 1). The BLM began in early 1990s to develop the Little Ash area due to public demand as the private property owners closed and fenced off the Big Ash area. By 2000 the BLM constructed the soaker-pool, and installed a double vault toilet, trash cans, picnic tables, a fire ring, cooking grills, sitting benches, and an informational kiosk. In 2006 the BLM constructed a wrought iron fence along the BLM boundary and the private property to alleviate public trespass on to the private property (see Appendix C Photo 2). Increases in visitation since 2003 have resulted in dramatic changes in use patterns and dynamics at the Ash Springs Recreation Site. In 2013 at the time the BLM closed the Ash Springs Recreation Site, visitation at peak periods on weekends often exceeded one hundred people within the water at one time (see Appendix C Photo 3a and 3b).

Ash Springs Recreation Site is under a temporary closure, via Federal Register Notice effective July 7, 2014, as authorized under the provisions of the Federal Land Policy and Management Act of 1976 and pursuant to BLM regulations for the protection of persons, property, public lands and resources (79 FR 32748). An extension request of the closure period was published in the Federal Register on April 13, 2016, to allow for the completion of this environmental assessment and development of a management plan.

Temporary closure of the Ash Springs Recreation Site was necessary due to extensive unauthorized modification by public users to the BLM constructed soaking pool (79 FR 32748). The block wall forming the constructed soaking pool is deteriorating, and large sections have separated from the rest of the wall causing a threat to human safety (see Appendix C photo 4a and 4b). Under current conditions, a child or adult swimmer could potentially become injured or trapped under water and debris if or when it collapses further. Bank trampling, destruction of vegetation, and damming (using tarps) of the water to deepen the soaker-pool and the riparian pond are among some of the impacts to the natural environment caused by excessive public use prior to the temporary closure. Large amounts of improperly disposed garbage and human waste, such as bottles, cans, and diapers, was a continual problem at the recreation site, damaging the quality of the recreation experience, and posing a human safety risk (see Appendix C Photo 5a, 5b, 5c, and 5d).

A management plan is needed to ensure management of Ash Springs protects public safety and does not jeopardize the federally endangered population of White River springfish or adversely modify its critical habitat; the unique Ash Springs aquatic ecological system and riparian forest are protected and restored to provide habitat for BLM sensitive species; to improve the quality of the recreational experience by reducing crowding and trash; to determine the type and level of public use; develop supplemental rules to protect public safety, improve the recreational experience, and protect natural resources; develop a system for fees and reservations; enable pool repairs; describe infrastructure needed (e.g. parking, fences and trails, picnic facilities, update restroom); and develop management actions for the restoration of natural resources.

## **1.2 Purpose and Need for the Proposed Action**

The purpose of developing a new management plan for the Ash Springs Recreation Site is to identify opportunities to protect public safety and respond to demands the recreational experience while protecting the springs' water quality, vegetation, and aquatic communities. A management plan is needed because the Ash Springs Recreation site is currently unsafe for public use and resource degradation to the banks and water quality pose threats to BLM Sensitive species and the only known population of White River springfish (*Crenichthys baileyi baileyi*), listed as endangered under the Endangered Species Act of 1973, as amended (50 FR 39123).

## **1.3 Decision to be Made**

The BLM will decide appropriate uses for the Ash Springs Recreation Site including levels of use; new or revised supplemental rules for the site; repair, removal or construction of additional infrastructure; habitat protection, and restoration projects to protect and maintain natural resources at Ash Springs.

## **1.4 Conformance with BLM Land Use Plan**

The Proposed Action and Alternative 2, Alternative 4, and Alternative 5 are in conformance with the Goals and Objectives of the Ely District Record of Decision and Approved Resource

Management Plan (Ely RMP, BLM 2008). The project conforms specifically to following relevant goals, objectives, and management actions:

### **Riparian/Wetlands**

**VEG-23:** Promote vegetation structure and diversity that is appropriate and effective in controlling erosion, stabilizing stream banks, healing channel incisions, shading water, filtering sediment, and dissipating energy, in order to provide for stable water flow and bank stability.

**VEG-24:** Focus management actions on uses and activities that allow for the protection, maintenance, and restoration of riparian habitat.

### **Special Status Species**

**SS-1:** Prioritize conservation, maintenance, and restoration actions for special status species based on the following order of importance: 1) federally listed endangered species, 2) federally listed threatened species, 3) federal proposed species, 4) federal candidate species, and 5) BLM sensitive species.

**SS-9:** Perform springsnail surveys prior to the development of any spring source.

### **Mojave Desert Riparian Habitat**

**SS-21:** Manage White River springfish habitat at Ash Spring by implementing those actions and strategies identified in the Recovery Plan for the Aquatic and Riparian Species of Pahranaagat Valley and the Ash Springs Coordinated Management Plan that the Ely District Office has the authority to implement.

### **General Cultural Resources Management**

**CR-5:** Continue to educate the public on Cultural Heritage resources, their importance as a non-renewable resource, and the laws that provide for their preservation. Work with local groups and volunteers to enhance interpretive capabilities and provide educational opportunities.

### **Visual Resources**

**VR-3:** Manage visual resources in accordance with the following visual resource management classes. Class I: 1,138,730 acres Class II: 1,966,212 acres Class III: 5,205,134 acres Class IV: 3,146,526 acres.

### **Recreation**

**REC-3:** Develop recreation sites, as appropriate, to proactively manage for tourism and recreation experiences.

**REC-6:** Manage for recreation facilities and services such as trails, trailheads, staging areas, and associated structures in extensive recreation management areas following activity-level plans and

NEPA analysis for the management of designated wilderness, ACECs, the Silver State Off-highway Vehicle Trail, backcountry byways, and where appropriate, for management of recreational impacts to natural and cultural resources.

**REC-9:** Continue to provide visitor orientation information, interpretive activities, signage, safety programs, and other visitor outreach activities. Familiarize the public with recreational opportunities throughout the planning area and encourage minimum impact or “Leave No Trace” behavior for recreational activities.

### 1.4.1 Relationship to Statutes, Regulations, or Other Plans

The proposed action is consistent with the Lincoln County Public Land and Natural Resource Management Plan (2007), which states, “public lands will be managed for the benefit [of] its own citizenry while welcoming the constructive development of recreational activities and beneficial use of other natural resources” (page 12, paragraph 9).

#### Related Environmental Documents

The documents listed below provided supporting information for the development of this EA:

- Environmental Assessment for the temporary closure of the Ash Springs Recreation Site (DOI-BLM-NV-L030-2013-0032-EA).
- Recovery Plan for the Aquatic and Riparian Species of Pahrnagat Valley (USFWS 1998).
- Biological Opinion for proposed Clark, Lincoln, and White Pine counties groundwater development project (USFWS 2012b).

#### Related Laws and Regulations

**Table 1.1. Laws and regulations.**

LAWS AND REGULATIONS	REFERENCE
BLM planning regulations	43 CFR 1600 et seq.
Department of the Interior’s (DOI) implementing procedures and proposed revisions	65 FR 52211-52241
Endangered Species Act (ESA)	16 USC 1531 et seq.
Federal Land Policy and Management Act of 1976 (FLPMA)	USC 1701 et seq.
Lincoln County Land Act	P.L. 106-298
Lincoln County Conservation, Recreation, and Development Act	Public Law 108-424
National Environmental Policy Act	42 USC 4371 et seq.



<b>LAWS AND REGULATIONS</b>	<b>REFERENCE</b>
National Historic Preservation Act (NHPA) and regulations implementing NHPA	16 USC 470 et seq.
Nevada Water Quality Standards	NAC 445A.121 and NAC 445A.122
Protection of Historic and Cultural Properties	36 CFR 800 et seq.
Protection of Wetlands	Executive Order 11990
Safe Drinking Water Act of 1974 (SDWA)	42 USC s/s 300f et seq.

## **1.5 Summary of Public Participation**

### **Scoping for Ash Springs Recreation Area Management Assessment (RAMA) and Environmental Assessment**

Previous scoping work by the BLM to understand stakeholder concerns was held for a 30-day period for the Ash Spring RAMA and EA from November 12 through December 11, 2008. Below is a list of issues that were recorded as being of concern at that time:

- Heavy visitor use
- Trash, broken glass
- Local vs. non-local use
- Large group use
- Drug and alcohol use
- Safety of users – diving, drowning risk, water-borne disease
- Impacts of recreational use on endangered species
- Bank erosion
- Appropriateness of focusing planning on recreation rather than habitat/endangered species protection/conservation
- Use of shampoos, detergents, other chemicals/products in spring waters
- Dumping toxins in the water
- Vandalism
- Damage to the natural environment from heavy use
- Appropriateness of time limits
- Introduction of exotic species

### **Synthesis of Desired Outcomes from Public Meetings Held February and March, 2016**

The following is a synthesis of outcomes from more recent public scoping meetings held February 4, 2016 and March 10, 2016 outlining the public's concerns:

- Need for site amenity improvements, rehabilitation or in some cases replacement
- Providing a greater availability of access to local residents who have been taking their families to the Ash Springs for decades

- There is a strong need for increased law enforcement
- More involvement from the federal managing agency in the site management of Ash Springs
- Provision of more security to protect facilities on site
- A strong desire by local residents to be more intricately involved in the planning, management and daily operation of Ash Springs Recreation Site
- Overcrowding of visitors
- The concept of social carrying capacity
- How large a group can be within this 1.18 acre site without destroying its essential qualities both social and ecological
- How much use could occur before the very qualities sought by visitors were lost

## **2 DESCRIPTION OF ALTERNATIVES INCLUDING THE PROPOSED ACTION**

### **2.1 Introduction**

The previous chapter presented the purpose and need for the proposed project. In order to meet the purpose and need the BLM has developed a range of alternatives presented below. Common to all action alternatives:

- Subject to acquiring easements from adjacent landowners to cross their private lands, the site would be accessed from the existing entry. In absence of an easement, up to a 40' wide access road to the site with two 14' cattle-guards at the fence line entry exiting Highway 93, would be developed to the north of the Ash Springs Recreation Site. The road would be approximately 1 mile long. This would require approximately 5 acres of new ground disturbance for the road. BLM would issue itself a right of way for the access road.
- BLM would install a new fence around the 1.18-acre recreation area or expanded recreation area as described in Alternatives 2 and 3.
- In addition to the current supplemental rules, BLM would manage the site under supplemental rules for public safety and recreation uses at the site (see Appendix B).
- BLM would manage access to the site through use limitations applied to the natural aquatic, riparian, and terrestrial habitat as described in the alternatives below. Use would be managed for public safety, occupancy (number of people allowed), duration (timing limits), and compliance with state and federal laws.
- BLM would monitor use of the site and impacts to sensitive resources, and if deemed necessary, employ adaptive management based on impacts.
- Compliance with applicable Nevada water quality standards as defined in Nevada Administrative Code NAC 445A.121 and NAC 445A.122 (see Appendix D).

The potential environmental effects resulting from the implementation of each alternative are then analyzed in Chapter 3 Description of the Proposed Action and Alternatives.

### **Alternative 1: Friend's Group Proposal**

Under this alternative, BLM would develop the Ash Springs Recreation Site consistent with the proposal received from the Friends of Pahranaagat Valley (see Appendix A). The proposal would be for a site that maintains a natural setting, while adding artificial pools for recreational soaking, restrooms, lighting, parking areas, pavilion and picnic area, playground, walkways, revegetation and a native plant garden, changing area, fencing, site access fees, with onsite personnel to

manage public visitation. BLM would implement a water quality monitoring program to ensure compliance with Nevada water quality standards.

## **Alternative 2: Land-Based Recreation and Habitat Conservation**

BLM would manage the site for recreation of land resources and conservation of aquatic and riparian resources. This alternative would conserve the aquatic and riparian habitats for threatened, endangered, and sensitive species which may include installing a fence around the aquatic and riparian area. Proposed management of the site includes removal of the man-made soaker pool, non-water based recreation, site rehabilitation with minimal disturbance to native habitat, and a 4-acre expansion to public lands north of the established recreation site. North expansion would include, parking, day use area, restrooms, picnic areas, shade structures, walkways, and informational kiosks. The existing, damaged recreation facilities may either be repaired or re-developed for public safety.

## **Alternative 3: Proposed Action: Land and Water-based Recreation and Habitat Conservation**

The proposed action would offer land and water-based recreation uses. Land-based recreation uses includes a 4-acre expansion to public lands north of the established recreation site for parking, day use area, restrooms, picnic areas, shade structures, walkways, and informational kiosks. Water-based recreation would include repairs to, or reconstruction of, the damaged man-made soaker pool. Soaking in the man-made structure would be allowed subject to supplemental rules as needed to protect public safety, water quality, and sensitive resources. The natural riparian area would be fenced to protect sensitive aquatic habitat (see Appendix B). BLM would implement a water quality monitoring program to ensure compliance with Nevada water quality standards.

## **Alternative 4: Habitat Conservation**

BLM would manage for the conservation and study of the natural resources at the Ash Spring site. The site would not be managed for public recreation. Under this alternative, BLM would remove the existing recreation facilities and return the site to a more natural state through natural rehabilitation and/or site restoration. BLM would issue authorization for scientific studies on a case by case basis.

## **Alternative 5: No Action**

The recreation site would remain closed for public safety. No facilities would be repaired, no access road would be developed, and the BLM would not pursue legal access to the site.

# 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

## 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 potential impacts based on the proposed action and alternatives, and mitigation that could be applied that would reduce those impacts. Mitigation proposed in this section could be included in the FONSI to prevent potentially significant impacts. Application of the project design features and adaptive management to the proposed action or alternative(s) would then be carried forward into the Decision Record as a condition of approval of the selected action.

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 direct, indirect or cumulative impact, or where analysis is necessary to determine the significance of impacts).

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, and other items that are relevant to the management of public lands in the Ely District.

In response to the preliminary issues identified, further surveys/studies were conducted and reports prepared. Many times a project could have some degree of effect upon a resource or concern, but that effect does not approach any threshold of significance, nor does it increase cumulative impacts by a measurable increment. Such effects are described as “present/not affected” (as indicated in Table 3.1 below) in the rationale for dismissal from analysis.

## 3.2 Identification of Issues

### Recreation Use Issues of Concern at Ash Springs

The purpose of the Ash Springs EA is to achieve a sustainable balance of recreational uses with the conservation and protection of the natural environment. The EA provides a comprehensive framework within which the BLM may guide the improvements, development, and uses of the Ash Spring Recreation Site with respect to management issues. The analysis of recreation opportunities and facilities identifies the following constraints to achieving a sustainable balance of recreation uses with protection of the natural environment of Ash Springs. They are as

follows:

- Overcrowding;
- Severe Environmental and vegetation degradation;
- Vandalism and public safety;
- Lack of Structured Parking;
- Replacing site amenities;
- Access via easement through private land;
- Lack of ADA compliant amenities; and
- Residual refuse, grime, and human pathogens transported downstream and to adjacent private properties.

**Table 3.1 Identification of Issues for Detailed Analysis**

Resource/ Concern	Not Present	Present/ Not Affected	Present/ May Be Affected	Rationale
Air Quality*		x		The project area is outside of non-attainment areas and actions under all considered alternatives would not exceed thresholds for suspended particulates or other criteria pollutants defined by Nevada air quality standards. No actions would take place under any alternatives which would affect air quality.
Farmlands (Prime or Unique)*	x			No Prime or Unique Farmlands were found to occur within the project/analysis area according to NRCS 1997
Forests and Rangelands (HFRA projects only)*	x			This is not a HFRA project related to forest management.
Native American Religious and other Concerns*		x		On January 25, 2016, the BLM sent letters to the Tribes to request participation and consultation to help the BLM develop the EA and management plan by identifying any traditional religious sites or cultural sites of importance to the tribes. A site visit was conducted and no concerns were raised.
Wastes, Hazardous or Solid*	x			None of the alternatives including the proposed action would result in creation of hazardous wastes.
ACECs *	x			There are no ACECs in the project/analysis area.
Heritage Special Designations	x			There are no Heritage Special Designations in the project/analysis area.

Resource/ Concern	Not Present	Present/ Not Affected	Present/ May Be Affected	Rationale
Cultural Resources*		x		Although Little Ash springs has likely been under more or less constant utilization since the earliest human presence, because of modern disturbance, there is no evidence of historic or prehistoric use.
Paleontological Resources	x			There are no known Paleontological resources in the analysis area.
Visual Resources		x		The Ash Springs Recreation Site is located within an area that is assigned Visual Resource Management Classification 2 (USDI BLM Ely District 2008). The objective of this classification is to partially retain the existing character of the landscape. All alternatives, except Alternative 4, will minimally impact the visual resources of the area within the context of whether the adjacent private property is developed for recreation.
Grazing Uses/Forage		x		Grazing takes place outside the current 1.18 acre fenced recreation area. The total disturbance of approximately 9-acres, if implemented, would have no effect on the grazing allotment as those areas do not contain substantial forage for cattle.
Mineral Resources	x			There would be no impact to mineral resources. There are no active mine claims within the project/analysis area.
Floodplains*	x			The project/analysis area is not in a floodplain.
Wilderness/ WSA*	x			The project/analysis area is not in a wilderness study area.
Wild and Scenic Rivers*	x			There are no Wild and Scenic Rivers in the project/analysis area.
Lands with Wilderness Characteristics	x			There are no lands with wilderness characteristics in the project/analysis area.
Human Health and Safety (Herbicide projects only)*	x			Use of herbicides is not proposed in this EA
Public Safety			x	See analysis below
Recreation Uses			x	See analysis below
Water Resources (Water Rights)			x	See analysis below

Resource/ Concern	Not Present	Present/ Not Affected	Present/ May Be Affected	Rationale
Water Quality, Drinking/Ground*			x	See analysis below
Wetlands/Riparian Zones*			x	See analysis below
Soils/Watershed			x	See analysis below
Fish and Wildlife, Including Migratory Birds			x	See analysis below
Threatened or Endangered Species and critical habitat*			x	See analysis below
Special Status Animal Species, other than those listed or proposed by the FWS as Threatened or Endangered			x	See analysis below
Vegetation			x	See analysis below
Special Status Plant Species, other than those listed or proposed by the FWS as Threatened or Endangered			x	See analysis below
Transportation/ Access			x	See analysis below
Socioeconomics			x	See analysis below
Environmental Justice			x	See analysis below

\*Supplemental Authority

### 3.3 General Setting

The project area lies within the Mojave Desert region of the greater Basin and Range physiographic province characterized by numerous long, narrow, and parallel mountain ranges with a north to south orientation separated by deep valleys. Many Great Basin rivers do not reach the sea, but instead find base-level in large lakes and dry-lake playas when evaporation rates are high. The arid conditions characterizing the region are created by east and west-flanking mountain ranges. The Sierra Nevada to the west captures moisture from Pacific storms and the Rocky Mountains to the east intercept storms from the Gulf of Mexico.

Ash Springs occurs within Pahrangat Valley in Lincoln County, Nevada; a fertile narrow river valley running north and south. Pahrangat Valley is principally watered by three large natural springs (Hiko Springs, Crystal Springs and Ash Springs) and contains four lakes, two near the north end of the valley (Nesbitt Lake and Frenchie Lake) and two towards the south end (Upper Pahrangat Lake and Lower Pahrangat Lake at Pahrangat Valley National Wildlife Refuge). Non-contiguous riparian areas occur the length of Pahrangat Valley, approximately 40 miles, concentrating near the natural spring sources. Pahrangat Valley is bordered to the west by the



Mount Irish and Pahranaagat ranges and to the east by the Hiko range. Inhabited areas in Pahranaagat Valley include Hiko, Ash Springs, Richardville, and Alamo; Alamo the largest town contains all of the schools for the valley. Caliente, Nevada is the closest town to Pahranaagat Valley and is over 50 miles (80 km) to the east. Pahranaagat Valley is primarily an agricultural and ranching community.

Ash Springs Recreation Site, historically, has produced a continuous common outflow stream that now forms a large pond within the riparian area as the result of impoundment by construction of U.S. Highway 93 (Figures 1 and 2). The current surface water system at Ash Springs consists of several groundwater discharge locations within the riparian area, and a stream running offsite. Two 3-inch metal pipes discharge to the BLM constructed soaking pool, which spills over into the natural pond, while a third pipe discharges into the riparian area itself. Five more natural spring sources discharge directly to the natural riparian area north of the piped discharge. Below the highway, the outflow stream flows southwest to join the outflow stream from Crystal Springs; this confluence marks the beginning of what is referred to as the Pahranaagat Ditch. The riparian area from the beginning of Ash Springs to the end of Pahranaagat Ditch is approximately 2 miles, with approximately 0.02 mile (132 feet) occurring within the BLM managed Ash Springs Recreation Site.

The 1.18 acre Ash Springs Recreation Site is immediately adjacent to U.S. Highway 93 off the east shoulder (see Figure 2) and is directly across the highway from a popular gas station and truck stop.

**Figure 1. Ash Springs region**

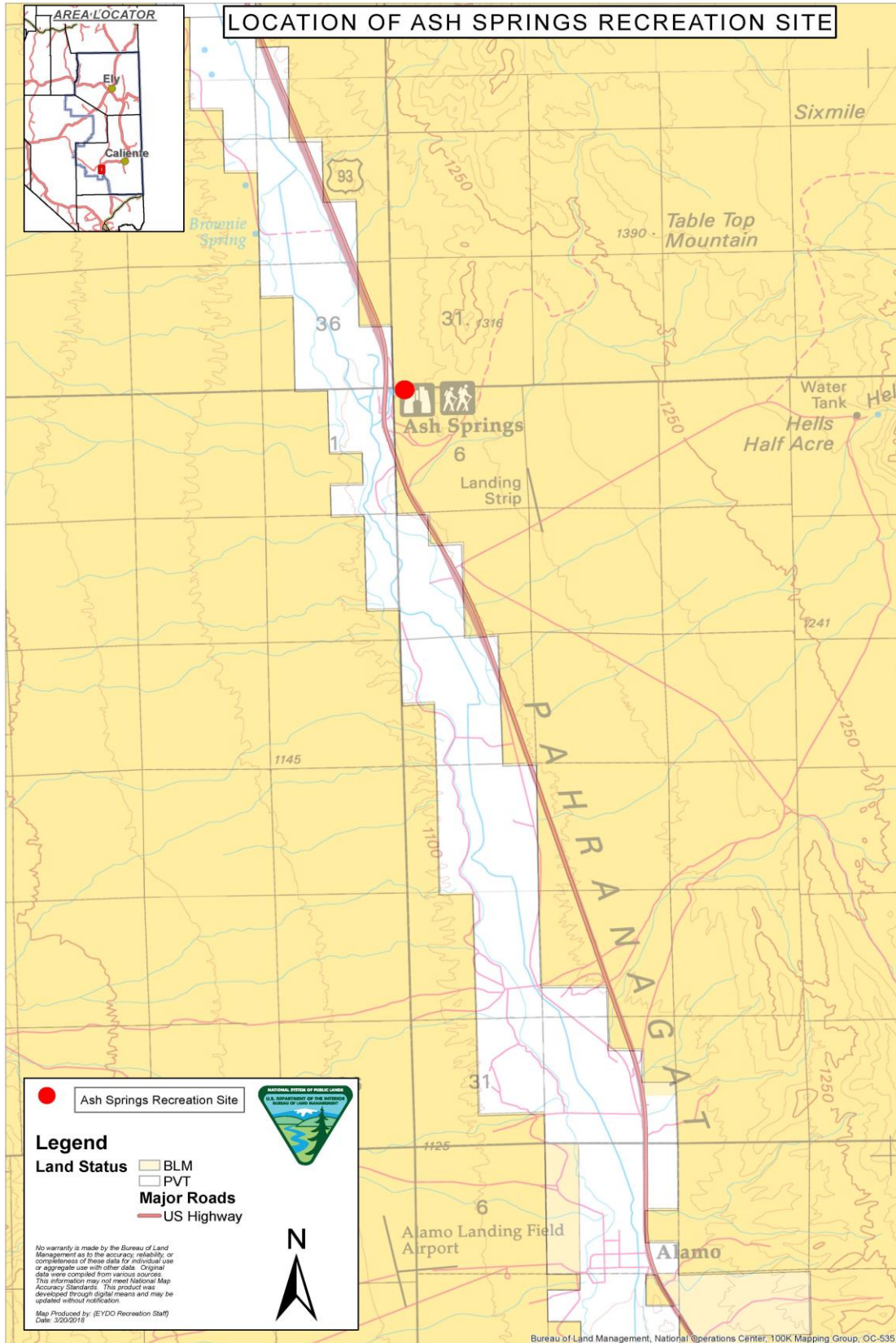


Figure 2. Location of Ash Springs Recreation Area



## **3.4 Resources/Concerns Analyzed**

### **3.4.1 Public Safety**

#### **3.4.1.1 Affected Environment**

The BLM-constructed block wall forming the soaking pool has been modified by recreationists and has been deteriorating with large sections separating from the rest of the wall (see Appendix C Photo 4a and 4b). The temporary closure was implemented due to this extensive unauthorized modification of the soaking pool by public users. Under those conditions, a child or adult swimmer could potentially become injured or trapped under water and debris if or when it collapses further. Large amounts of improperly disposed garbage and human waste, such as bottles, cans, and diapers, was a continual problem at the recreation site further leading to the environmental degradation of the spring system and posing an additional threat to human health and safety (see Appendix C Photo 5a, 5b, 5c, and 5d).

#### **3.4.1.2 Environmental Effects**

##### **Alternative 1: Friend's Group Proposal**

Alternative 1 would make the most recreation-oriented improvements to the site and likely provide the safest setting for public users. New restrooms, trash receptacles, and other infrastructure would increase the sanitation of the site. Substantial improvements and expansion to the developed soaking pool would also increase the capacity, integrity, and safety of soaking areas for public users. These improvements would likely increase public use; a host would remain on-site to enforce the rules and regulations in order to enhance a safe environment. The increase in visitation may increase the occurrence of accidents.

##### **Alternative 2: Land-Based Recreation and Habitat Conservation**

Alternative 2 would permit non-swimming recreation. Improvements to existing recreation infrastructure, such as a designated restroom and trash receptacles would increase the sanitation of the site. These improvements would also likely increase public use and the risk to public safety; however, under this alternative, public use would be limited and subject to supplemental rules for recreation at the site.

##### **Alternative 3: Proposed Action: Land and Water-based Recreation and Habitat Conservation**

Alternative 3 would make many recreation-oriented improvements to existing infrastructure at the site and provide a relatively safe setting for public users. Designated restrooms, trash receptacles, and other infrastructure would increase the sanitation of the site. Improvement to the developed soaking pool would increase the integrity and safety of the soaking area for public users. These improvements would also likely increase public use; this increase in visitation would likely increase the occurrence of accidents during the recreation experience. Under this alternative, public use would be subject to supplemental rules for recreation at the site for both

terrestrial and aquatic recreation.

#### **Alternative 4: Habitat Conservation**

Under Alternative 4 the site would be permanently closed to public use, public safety would be considered low because only authorized personnel would be permitted access; however, trespass recreation may still occur.

#### **Alternative 5: No Action**

Under the No Action Alternative, the recreation site would remain closed. Existing hazards to public safety would not be addressed and public access would remain restricted.

### **3.4.2 Recreation**

#### **3.4.2.1 Affected Environment**

Ash Springs Recreation Site was a high-use hot springs day use recreation area, and undoubtedly one of the most visited recreation sites in Lincoln County. It was primarily visited by Clark County residents, local residents from Lincoln County, and motorists traveling along U.S. Highway 93 with most use occurring from March through November. Visitor levels during this period are consistent from year to year. The BLM traffic counters recorded 356 vehicles entering the site in one 24-hour period over the Memorial Day weekend in 2010. The BLM counted 279 visitors at the 1.18 acre site within a three-hour period on the same weekend. If the site was open in 2015, it seems likely that those numbers would have risen. An overview of the monthly vehicle counts show use from well over 4,000 vehicles during the peak months of April through September.

This site was used intensely throughout the day. A summary of hourly arrival patterns captured on TRAFx road counters by the BLM from 3/19/2010 thru 10/8/2010 reveals peak periods of use from 12:00pm through 3:00pm with steady but declining use through the evening hours. An assessment of counter data summarized for July 5 through August 15, 2013 has revealed similar patterns and demonstrated that the heavy visitor use to the site has continued.

Overcrowding at the site has caused severe degradation to the site and led to safety concerns. The riparian pond at the spring source was utilized by the recreating public for swimming/soaking. High and concentrated use by visitors occurs not only in the water, but on the banks and in the riparian area as well. At present, the block wall, built to provide a small, deep soaking pool, is crumbling with large sections falling into the pool and is a safety concern. The enhanced embankment surrounding the developed soaking pool is deteriorating from human activity causing undercutting and bank erosion, thereby posing a risk to the public. Although the site provided two eight-yard trash dumpsters, improperly disposed trash and human waste near and within the water (e.g., food products, glass, and used diapers) also pose an imminent threat to human health and safety.

Due to vandalism, many of the site amenities including picnic tables, sitting benches, barbecue grills, and the fire ring have been taken. The vault toilet near the existing parking area is in need of repairs or replacing. Currently, the road used to access the site is on private land. There is no legal easement for the public to use this road, although the land owner has been tolerating the use. Recreation activities include swimming/soaking, picnicking, and rock hounding. Ash Springs also serves as a staging area for hiking on nearby trails.

### **3.4.2.2 Environmental Effects**

#### **Alternative 1: Friend's Group Proposal**

Alternative 1 would affect the recreation setting at Ash Springs by changing the degree of naturalness of the current site to a more formal, hardscaped facility. These changes would come about by improving vehicular and pedestrian access to the site; improving or upgrading site amenities, rehabilitation of impacted areas and replacing unsafe and aging facilities; providing a host to manage public visitation could improve management presence on site; control overcrowding and congestion; improving ADA compliance with the improvements to amenities; minimizing safety risks with enhanced embankment improvements surrounding the developed soaking pool; fencing surrounding the site would reduce potential vandalism and increase public safety; hard surfaces would reduce impacts from site users; and, lighting would improve public safety during night hours of operation. The BLM would maintain management over the site.

#### **Alternative 2: Land-Based Recreation and Habitat Conservation**

Alternative 2 would affect the recreation setting at Ash Springs by: improving access to the site; improving or upgrading site amenities, rehabilitating impacted areas and replacing aging facilities; improving and formalizing vehicle access to the site; improving ADA compliance with the improvement to amenities; minimizing safety risks by enhancing embankment improvements surrounding the natural riparian pond; adding fencing to reduce potential vandalism and increase public safety; site management would be retained by BLM thus increasing management presence to control for overcrowding and congestion. These changes to the site may result in a more enjoyable setting for some users as one of the major concerns regarding Ash Springs is that the site was being overused and degraded.

While visitor use limitations would reduce potential social and biophysical impacts to the site, potentially providing a safer and more enjoyable recreation setting, eliminating the recreation opportunity of water-based recreation could lead to a less enjoyable recreation setting for some users. This is because many visitors have historically enjoyed soaking in the pool at Ash Springs, and some have frequented the site for years prior to its closure.

#### **Alternative 3: Land and Water-based Recreation and Habitat Conservation**

The direct impacts of Alternative 3 on the recreation setting at Ash Springs include: improving or upgrading site amenities, rehabilitating impacted areas and replacing aging facilities; improving and formalizing vehicle access to the site; improving ADA compliance with the

improvement to amenities; reducing safety risks with enhanced embankment improvements; reconstruction to the developed soaking pool; fencing surrounding the site would reduce potential vandalism and increase public safety; site management would be retained by BLM thus increasing management presence to control for overcrowding and congestion; no fees could allow a certain portion of the population that might not be able to afford such fees to use the site; visitor use limitations would reduce potential social and biophysical impacts to the site; allowing visitors to enter the developed soaking pool would improve water safety and bank erosion; reinstate the recreation opportunity of water-based recreation in the pool that visitors have come to enjoy for years; visitor use limitations would provide a safer more enjoyable recreation setting.

The indirect impacts of Alternative 3 on the recreation setting at Ash Springs include: not having a fence surround the site does not eliminate potential vandalism or public safety; lack of on-site presence of BLM staff or camp host to manage public visitation does not eliminate the problem of overcrowding and congestion; financial investment to build and maintain; no fees could increase site operating costs; it is not clear how the visitation issue of local vs. non-local use is to be resolved; it is not clear how BLM would maintain public access to the site with use and how visitation would be managed for quantity and/or duration to minimize impacts to habitat; no lighting would reduce public safety during night hours of operation and increase the potential for partying during nighttime hours; visitor use limitations would reduce the availability of obtaining a high quality recreation setting.

#### **Alternative 4: Habitat Conservation**

The direct impacts of Alternative 4 on the recreation setting at Ash Springs include: eliminating the problem of visitor management and severe crowding; eliminate the problem of finding a solution of local vs. non-local recreation use; cost of restoration would be much less than other more formal alternatives requiring visitor management; enhance the ability of the Ash Spring and surrounding landscape to return to its natural state which creates an existence value for recreationists that may view the site from the boundary (e.g., birdwatching). Restricting all visitors from using the site would eliminate the availability of obtaining a high quality recreation experience and enjoying public lands in Nevada. This would be in contrast to the BLM's Vision for Nevada which is to enhance the quality of life for all citizens through the balanced stewardship of America's public lands and resources.

This alternative does not eliminate potential vandalism, and illegal use of the site may continue unless there is a BLM presence or fence installed to surround the site.

#### **Alternative 5: No Action**

Under the No Action Alternative the site would be closed to recreation. The impacts to recreation would be the same as those under Alternative 4.

### **3.4.3 Water Resources**

#### **3.4.3.1 Affected Environment**

The hydrologic system of Ash Springs consists of several groundwater discharge locations, a freshwater pond, and an outflow stream running offsite towards the White River, which is the primary drainage for all runoff in the basin. Ash Springs consists of at least seven groundwater springs which originate from a contact between alluvium and bedrock (Garside and Shilling 1979). A portion of the water from Ash Springs serves the town of Ash Springs via a pipe that crosses underneath Highway 93. Ash Springs historically produced a continuous common outflow stream, but now form a large convoluted pond, 0.4 kilometer (0.2 mile) long and 0.5 -2.0 meters (1.6- 6.6 feet) deep as the result of impoundment by construction of U.S. Highway 93 (Tuttle et al., 1990).

Water flowing from Ash Springs leaves BLM lands and moves onto private lands, continuing offsite to the southwest through a single outflow stream channel to join the outflow stream from Crystal Springs. This confluence marks the beginning of a southward-flowing channel called the Pahranaagat Ditch. The State of Nevada has granted many water rights to private landowners on the waters of Ash Spring and the Ash Spring stream channel. Water permitted under these rights is mostly used for irrigation in Pahranaagat Valley.

The United States Fish and Wildlife Service's National Wetlands Inventory Mapper depicts Ash Springs as a freshwater pond discharging to a small riverine system, surrounded by a freshwater forested/shrub wetland. As this system is used recreationally and has a perennial surface water connection to the White River, Upper Pahranaagat Lake and beyond to the Colorado River, it would likely be considered jurisdictional under Section 404 of the Clean Water Act by the United States Army Corp of Engineers (USACE). According to the Federal Emergency Management Agency's Mapping Information Platform, there are no special flood hazard areas present within the immediate area.

#### **3.4.3.2 Environmental Effects**

##### **Alternative 1: Recreation Development Proposal**

Alternative 1 proposes the most extensive recreation-oriented improvements to the site. BLM pays the Nevada Division of Water Resources annually for a surface water share at the site. The Friends Group Proposal describes swimming options in multiple pools. Substantial improvements and expansion of constructed swimming pools would contain or slow the contribution of the natural spring to the Ash Springs system (as spring water would be held longer within pools). This proposal would require a point of diversion for the additional pools, but the diversion would have to maintain a flow volume that would satisfy downstream water rights.

##### **Alternative 2: Land-Based Recreation and Habitat Conservation**

The proposal to manage for land-based recreation would not affect water availability or existing



water rights as water is neither consumed nor diverted for recreation use.

### **Alternative 3: Land and Water-based Recreation and Habitat Conservation**

The proposal would not affect water availability or existing water rights. BLM would repair or reconstruct the soaker pool for public safety and water would continuously flow through the pool into the natural pond.

### **Alternative 4: Habitat Conservation**

The proposal would not affect water availability or existing water rights. BLM would remove the constructed soaker pool and restore the site to more natural conditions.

### **Alternative 5: No Action**

Under the No Action Alternative, there would be no impact to the ground water or water rights as the site would be closed to recreation development.

## **3.4.4 Water Quality**

### **3.4.4.1 Affected Environment**

The BLM collected water quality data on a monthly basis for a period of one year from March 2017 through February 2018. These data were collected to observe water quality conditions at Ash Springs prior to any potential return of the springs to public recreational use. The data collection took place at six points of groundwater discharge in the Little Ash area, which were colloquially named after objects located near each monitoring site. From north to south these sites are: Picnic Table Outlet, Tree-Root Outlet, Springbox Outlet, Pool North Outlet, Pool South Outlet, and the Fenceline site.

Water quality parameters included temperature, pH, dissolved oxygen (DO), and conductivity, and were measured using a YSI-brand Professional Plus digital multi-meter. The pH indicates the water state of water acidity ( $\text{pH} < 7$ ) or alkalinity ( $\text{pH} > 7$ ), DO indicates the percent saturation of oxygen in the water, and conductivity measures the content of electrically conductive ions, which are derived from dissolved salts and inorganic materials such as carbonate compounds (Fondriest Environmental, 2016).

Conductivity and pH readings are useful indicators of water salinity, in which an increase in conductivity and pH values can point to an increase in water salinity. Delivery of dissolved solutes into freshwater bodies via surface runoff is an important mechanism that can increase water salinity. DO is an essential constituent for the support of biologic organisms such as fish and aquatic invertebrates. Concentrations of DO run inversely proportional to temperature, so in a warm water system like Ash Springs where DO levels can naturally run lower, the presence of aquatic vegetation is important for added oxygen supply (Fondriest Environmental, 2016).

The Nevada Department of Environmental Protection (NDEP) has established Nevada Water Quality Standards (WQS) and makes them available in Nevada Administrative Code (445A.121 and 445A.122). These Standards apply to all surface waters.

## **Water Quality Data**

For the one-year collection period in 2017-2018, the average water temperature for the six sites ranged from 33 °C to 36 °C (91 °F to 97 °F), average pH ranged from 7.3 to 7.5, average DO from 35% to 58%, and average conductivity from 550 to 562 micro Siemens per centimeter ( $\mu\text{S}/\text{cm}$ ). These data compare favorably to the temperature, pH, and conductivity data collected at Ash Springs by ecological researchers (researchers) in June of the years 1992, 2008, and 2016 (“earlier values”) (Sada, 2016). The researcher’s data collection recorded a temperature range of approximately 34 °C to 36 °C, a pH range of approximately 7.3 to 7.5, and a conductivity range of approximately 514 to 619  $\mu\text{S}/\text{cm}$ . For the purposes of DO, the BLM measured DO values in 2017-2018 that compare favorably to the researcher’s earlier values as well. The difference lies in how the BLM reported the DO concentrations in percent saturation in contrast to the researcher’s earlier DO values which were reported in milligrams per liter (mg/L).

As examples for translating values of DO in percent saturation to DO values in mg/L, the BLM reported a DO value of 45% at the Tree-Root Outlet on May 12, 2017. This value had a corresponding reading on the meter of 2.7 mg/L. Similarly, at the Fenceline site on May 12, 2017, the reading of 61% DO had a corresponding meter reading 3.7 mg/L. For comparison, the researchers had reported a range for all of their earlier DO measurements of 2.4 mg/L to 7.8 mg/L. The BLM 2017-2018 values for the range of average DO for all sites translates to approximately 2.2 mg/L to 3.6 mg/L. DO values that the researchers reported from earlier that lie toward higher the end of 7.8 mg/L may indicate a reading taken in close proximity to robust emergent vegetation or within rapid flowing water. The BLM took measurements away from locations with these conditions, which may account for values that more closely matched the lower range of researcher’s earlier DO readings.

### **3.4.4.2 Environmental Effects**

#### **Alternative 1: Friend’s Group Proposal**

New infrastructure would increase the amount of hard or impermeable surfaces that could potentially increase the amount of surface runoff into the aquatic environment during heavy precipitation events. Runoff could contain substances due to public use at the site.

Substantial improvements and expansion of the developed soaking pools would also increase public use and potentially decrease the water quality of Ash Springs. Some changes in water quality could render the water unsuitable for human use (e.g., E. coli above state standards) or undesirable for human use (e.g., excessive siltation). Management measures that favor avoidance while complying with the existing laws and project design features identified in this EA would help minimize impacts on water quality.

## **Alternative 2: Land-Based Recreation and Habitat Conservation**

The proposal focuses on land-based recreation. The chance for runoff into the aquatic environment would not change as the surface permeability would not change. Vehicles would be parked off site, which would increase the distance to water and decrease the opportunity for vehicle contaminants to reach the water resource. The water quality would improve under this alternative through reduced opportunities for the introduction of impurities, waste, and sediment to the system relative to the water-based recreation emphasized in Alternative 1.

## **Alternative 3: Proposed Action: Land and Water-based Recreation and Habitat Conservation**

The proposal includes recreation in a constructed soaker pool. The chance for runoff into the aquatic environment would not change as the surface permeability would not change. Vehicles would be parked off site, which would increase the distance to water and decrease the opportunity for vehicle contaminants to reach the water resource. The amount of recreation use in the water would be less than Alternative 1 because there is less opportunity for water use.

Improvement of the developed soaking pool would cause minimal impacts during the construction process but would not likely cause long-term impacts. Management measures that favor avoidance while complying with the existing laws and project design features identified in this EA would help minimize impacts on water quality.

## **Alternative 4: Habitat Conservation**

The site would be closed to public use. Water quality would continue to improve without the impacts of public recreation and as the natural riparian system of Ash Springs continues to recover. Authorized personnel would be allowed to enter the site for monitoring, studies, etc. Vegetation would likely increase over time, thereby increasing filtration and capturing some sediments from runoff.

## **Alternative 5: No Action**

Under the No Action Alternative the closure would improve the water resources of Ash Springs due to a substantial reduction of recreation activity. This prevents trash from accumulating within the spring, toxins from entering the system, and reduces the turbidity caused from recreational swimming. If the site were to reopen without improvements, the same threats to water quality would exist that were present prior to the temporary closure.

### **3.4.5 Wetlands / Riparian Zones**

#### **3.4.5.1 Affected Environment**

Gust (2016) surveyed the Ash Springs riparian area at the interface of the spring and the surrounding terrestrial land and documented species ranging from obligate wetland hydrophytes (occurring at the edge of the spring) to facultative upland species at the margins of the riparian zone. The perimeter of the spring is dominated by beaked spikerush, Baltic bulrush (*Juncus balticus*), velvet ash, Fremont's cottonwood, and American bulrush (*Schoenoplectus americanus*).

The bottom of the pool at Ash Springs consists of sand and silt and contains dense submergent vegetation and algal mats. The banks are lined with a mixed canopy of velvet ash (*Fraxinus velutina*) and Fremont's cottonwood (*Populus fremontii*), and a variety of grasses and forbs (Gust 2016). An aquatic plant survey conducted throughout Ash Springs for both submersed and emergent aquatic plants documented three vascular plant species (Gust 2016). These species included emergent vegetation dominated by creeping primrose-willow (*Ludwigia repens*), as well as cattail (*Typha* sp.), and beaked spikerush (*Eleocharis rostellata*). Submersed vegetation is characterized by green, filamentous (*Cladophora* and *Pithophora* spp.) algae. Fremont's cottonwood (*Populus fremontii*) and velvet ash (*Fraxinus velutina*) co-dominate to form moderate to dense canopies (>50% cover), while undergrowth is moderately diverse producing a low understory cover (NatureServe 2016).

### **3.4.5.2 Environmental Effects**

#### **Alternative 1: Friend's Group Proposal**

The proposal represents the highest development of the site and the highest visitation which would lead to the permanent loss of some riparian habitat at the site. Designated restrooms, trash receptacles, and other infrastructure to support recreation would increase the amount of compacted and impermeable surfaces. This could increase the amount of surface runoff into Ash Spring during heavy precipitation events and introduce contaminants into the undeveloped pools.

Increased public use could increase the likelihood of indirect impacts to the riparian system through the introduction of invasive species.

#### **Alternative 2: Land-Based Recreation and Habitat Conservation**

This proposal includes a fence around the riparian that would protect the banks and surrounding vegetated areas. Some surface runoff would still occur due to the topography of the site.

#### **Alternative 3: Proposed Action: Land and Water-based Recreation and Habitat Conservation**

This proposal includes a fence around the riparian that would protect the banks and surrounding vegetated areas. Some surface runoff would still occur due to the topography of the site. This alternative also includes improvements to and the use of a constructed soaker pool. These improvements could also likely increase public use, which could lead to changes in water quality that may have implications for the riparian system quality and quantity.

## **Alternative 4: Habitat Conservation**

As the site would be permanently closed to public use under Alternative 4, wetland and riparian zone would continue to improve and only authorized personnel would be permitted access.

## **Alternative 5: No Action**

Impacts under the No Action alternative would be the same as those in the Water Quality section, Alternative 5.

### **3.4.6 Soils / Watershed**

#### **3.4.6.1 Affected Environment**

Ash Springs is a lowland riparian forest association usually within elevations ranging from 1200-1550 m and include sites with rocky or sandy banks of low gradient along stream systems that are frequently flooded (NatureServe 2016). Soils in these environments are typically coarse-loamy over fragmental Typic Torrfluvents, and can include cobbly riverwash (NatureServe 2016). Soils within the watershed include three soil map units: Adaven loam; Alko loamy coarse sand, 0-8% slopes; and the Boxspring-Theriot-Rock outcrop association (NRCS 2016). The uplands surrounding Ash Springs are mostly comprised of saline and alkaline soils (Gust 2016).

#### **3.4.6.2 Environmental Effects**

### **Alternative 1: Friend's Group Proposal**

Designated restrooms, trash receptacles, and other infrastructure would increase the amount of paved surfaces and therefore increase the amount of surface runoff into Ash Spring during heavy precipitation events. Substantial improvements and expansion at the site would likely cause minimal impacts at the watershed-scale. Soils would be permanently impacted at the local-scale within the 6.18 project construction footprint. Throughout the long-term, any remaining undeveloped, natural surfaces within the 1.18 acre Ash Springs Recreation Site would continue to be exposed to impacts caused by increased public use (e.g., erosion, trampling, and compacting).

### **Alternative 2: Land-Based Recreation and Habitat Conservation**

Designated restrooms, trash receptacles, and other infrastructure would increase the amount of compacted surfaces and potentially increase the amount of surface runoff into Ash Spring during heavy precipitation events. These improvements could increase public use, however, fencing around the riparian and aquatic area would help deter erosion to the spring bank and sedimentation caused by trampling.

These actions would likely cause minimal impacts at the watershed-scale. Soils would be permanently impacted minimally at the local-scale within the project construction footprints. Throughout the long-term, soils around the Ash Springs Recreation Site would continue to be

exposed to impacts caused by increased public use (e.g., erosion, trampling, and compacting).

### **Alternative 3: Proposed Action: Land and Water-based Recreation and Habitat Conservation**

Improvement of the developed soaking pool would cause minimal impacts during the construction process but would not likely cause long-term impacts. These improvements could increase public use. Public users would still be able to use the perimeter of the spring; the erosion of the spring bank would still remain a threat.

These actions could cause minimal impacts at the watershed-scale. Soils would be permanently impacted minimally at the local-scale within the project construction footprint. Throughout the long-term, soils around the Ash Springs Recreation Site would continue to be exposed to impacts caused by increased public use (e.g., erosion, trampling, and compacting).

### **Alternative 4: Habitat Conservation**

As the site would be permanently closed to public use and only authorized personnel would be permitted access under Alternative 4, soil and watershed conditions would continue to improve.

### **Alternative 5: No Action**

Under the No Action Alternative, the closure would protect the soil of Ash Springs and the watershed due to a substantial reduction of recreation activity. However, if the site were to reopen without improvements, the same threats would exist that were present prior to the closure.

## **3.4.7 Fish and Wildlife, Including Migratory Birds**

### **3.4.7.1 Affected Environment**

Wildlife common to the area includes small and meso-scale mammals, amphibians, reptiles, and bird species. Common mammal and reptile species include black-tailed jackrabbit (*Lepus californicus*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), mule deer (*Odocoileus hemionus*), desert horned lizard (*Phrynosoma platyrhinos*), western rattlesnake (*Crotalus viridus*), and zebra-tailed lizard (*Callisaurus draconoides*) (BLM 2007). Riparian vegetation associated with Pahranaagat Creek and the Ash Springs site itself provides additional high value wildlife habitat, particularly for birds. Common bird species include: hooded oriole (*Icterus cucullatus*), Lincoln's sparrow (*Melospiza lincolnii*), blue grosbeak (*Passerina caerulea*), common yellowthroat (*Geothlypis trichas*), yellow-breasted chat (*Icteria virens*), yellow warbler (*Setophaga petechia*), and summer tanager (*Piranga rubra*).

### **3.4.7.2 Environmental Effects**

### **Alternative 1: Friend's Group Proposal**

Designated restrooms, trash receptacles, and other infrastructure would increase the amount of artificial surfaces and therefore permanently decrease the amount of habitat directly available to wildlife species. Temporary displacement of wildlife species would be expected during construction activities. Perimeter fencing would prevent access to the riparian habitat from terrestrial animal species.

Substantial improvements and expansion to the developed soaking pools would also increase public use and potentially decrease the habitat quality of Ash Springs. Providing additional amenities and recreational opportunities within the site would result in increased human/wildlife interactions. Increased recreational use may disrupt wildlife behaviors associated with breeding, nesting, feeding, or raising of young. It would be expected that some wildlife may be more sensitive to disruption than others and may avoid the area altogether while other wildlife may be more adaptable to the disturbance, which may cause shifts in associated species in the area over time. It would be expected that migratory birds would be the most sensitive to increased human recreational activities at the site. Artificial light may alter migration or foraging patterns of nocturnal animal species, such as bats.

### **Alternative 2: Land-Based Recreation and Habitat Conservation**

Impacts to wildlife species from increased recreation use would be less than those impacts analyzed for Alternative 1 with fewer human/wildlife interactions. Temporary displacement of wildlife species would be expected during construction activities. Perimeter fencing would prevent access to the riparian habitat from terrestrial animal species.

Designated restrooms, trash receptacles, and other infrastructure would increase the amount of compacted surfaces and potentially increase the amount of surface runoff into Ash Springs during heavy precipitation events.

### **Alternative 3: Proposed Action: Land and Water-based Recreation and Habitat Conservation**

Impacts from the development of infrastructure and human/wildlife interactions would be similar to those analyzed in Alternative 2. The improvement of the developed soaking pool would temporarily increase water turbidity and cause displacement of aquatic species during construction activities. It is expected that aquatic wildlife would resume normal use of the habitat once construction activities were completed. Limiting recreational swimming to the soaker pool would minimize impacts to aquatic habitat.

### **Alternative 4: Habitat Conservation**

Temporary displacement of wildlife would be anticipated during permitted scientific study events. There would be no anticipated change in habitat use or selection by species sensitive to disruption since human activity at the site would be sporadic and short in duration. Perimeter fencing would prevent access to the riparian habitat from terrestrial animal species.

## **Alternative 5: No Action**

Under the No Action Alternative, the site would remain closed in the current state of disrepair. It is anticipated the soaker pool would continue to deteriorate, potentially impacting the quality of the habitat for aquatic species. The septic system associated with the restroom facility may fail without proper maintenance and could cause sewage to leak into the water system, impacting habitat quality for aquatic species. No wildlife would be displaced and terrestrial wildlife species would have access to the riparian habitat with the continued closure of the site.

### **3.4.8 Threatened or Endangered Species and their Critical Habitat**

#### **3.4.8.1 Affected Environment**

##### **White River Springfish (*Crenichthys baileyi baileyi*)**

Ash Springs contains the only known population of the White River springfish (*Crenichthys baileyi baileyi*). The White River springfish was listed as *Endangered* along with critical habitat designation under the Endangered Species Act on September 27, 1985 (50 FR 39123; U.S. Fish and Wildlife Service 1998, 2012a). This species is included in the *Recovery plan for the aquatic and riparian species of Pahrnagat Valley* (USFWS 1998). White River springfish are typically divided into three age classes: 1) adult greater than 35 millimeters (1.4 inches) total length, 2) juvenile 10 to 35 millimeters (0.4 to 1.4 inches) total length, and 3) larvae less than 10 millimeters (0.4 inch) total length (USFWS 1998, 2012a).

Historically, springfish were considered common in Ash Springs and its outflow stream. Alterations to the historic spring flow system have reduced habitat available of the springfish, and the introductions of exotic species such as the mosquitofish (*Gambusia affinis*) in 1963, and convict cichlid (*Archocentrus nigrofasciatus*), shortfin molly (*Poecilia mexicana*), and sailfin molly (*Poecilia latipinna*) in 1964, have contributed to springfish population decline to the present distribution restricted to the main body of Ash Springs with infrequent occurrences in the outflow stream (Tuttle et al. 1990). From 1986 through 1989, Ash Springs was drained annually and algal growth removed, keeping springfish numbers low. Springfish have since established a stable to increasing population since the cessation of habitat manipulations and despite ongoing recreational swimming primarily in the northern and southern ends of the spring pool. However, non-natives continue to impact the White River springfish population in the spring.

Snorkel survey data shows an increase of approximately 287 individuals (131% increase) in springfish on the BLM portion of the spring since the closure of Ash Springs (NDOW 2014). High recreational use of the Ash Springs recreation site likely pushed springfish to other less disturbed areas of the spring, thus reducing important available springhead habitat. This is probably most likely a redistribution of springfish moving into newly available habitat and may potentially facilitate an increase in population numbers over the long-term. Although springfish have persisted with recreational swimming, high-use reduces available habitat and is likely a limiting factor through disturbance of substrate, increased turbidity, aquatic vegetation destruction, and direct mortality.



## Recovery Objectives and Criteria

The objective of the Pahranaagat Valley recovery plan is to recover and maintain the aquatic and riparian habitats of the Pahranaagat Valley so that the White River springfish may be removed from Federal listing (USFWS 1998, 2012a).

The recovery plan outlined that the White River springfish may be considered for delisting when:

1. *A self-sustaining White River springfish population (comprising three or more age-classes, a stable or increasing population size, and documented reproduction and recruitment) is present in the spring pools of Ash Spring for three complete generations (or a minimum of 6 consecutive years); and*
2. *Impacts to the species and its habitat have been reduced or modified to a point where they no longer represent a threat of extinction or irreversible population decline.*

## Mojave Desert Tortoise (*Gopherus agassizii*)

The upland habitat is dominated by a creosote (*Larrea tridentata*) bush scrub community and contains characteristics important to the Mojave desert tortoise (*Gopherus agassizii*). The desert tortoise was emergency listed as *Endangered* in August of 1989. It was reclassified as *Threatened* in April of 1990. A revised Recovery Plan for the species was published in August of 2011. The desert tortoise generally spends 95% of time below ground in burrows. The most active seasons for the desert tortoise are spring and early fall. The tortoise forages primarily on annual forbs such as desert trumpet (*Erigonum inflatum*), a plant species present in the upland habitat surrounding Ash Springs.

### 3.4.8.2 Environmental Effects

#### Alternative 1: Friend's Group Proposal

Designated restrooms, trash receptacles, and other infrastructure would increase the amount of artificial surfaces and therefore increase the amount of surface runoff into Ash Springs during heavy precipitation events, which could contain foreign substances due to public use. Additionally, lighting at night may impact the springfish by exposing this species to artificial light potentially disturbing the life history strategies of this species.

Approximately 9-acres of desert tortoise habitat would be disturbed from the development of an alternate access road. Additional permanent structures and amenities would increase the loss of desert tortoise habitat beyond the existing footprint.

#### Alternative 2: Land-Based Recreation and Habitat Conservation

Designated restrooms, trash receptacles, and other infrastructure would increase the amount of compacted surfaces and potentially increase the amount of surface runoff into Ash Springs during heavy precipitation events. No direct impacts to springfish would be anticipated from recreational activities due to the absence of swimming. Approximately 9-acres of desert tortoise

habitat would be disturbed from the development of an alternate access road and additional recreation facilities. Given the average home range of a desert tortoise is 1.5 square miles, the new disturbance would contribute to approximately 11% of habitat loss within a home range of available habitat. This disturbance would not occur in critical habitat for desert tortoise.

### **Alternative 3: Proposed Action: Land and Water-based Recreation and Habitat Conservation**

Impacts from infrastructure development and soaking pool construction would be the same as analyzed in the Fish and Wildlife section, Alternative 3. Impacts from new disturbance would be the same as that analyzed in the Threatened and Endangered Species and their Critical Habitat section, Alternative 2.

### **Alternative 4: Habitat Conservation**

As the site would be permanently closed to public use under Alternative 4, the springfish population would continue to persist and likely increase because the existing infrastructure would be removed and only authorized personnel would be permitted access. Approximately 5-acres of desert tortoise habitat would be disturbed if an alternate access road were to be developed. Given the average home range of a desert tortoise is 1.5 square miles, the new disturbance would contribute to approximately 6% of habitat loss within a home range of available habitat. This disturbance would not occur in critical habitat for desert tortoise.

### **Alternative 5: No Action**

Impacts from the No Action alternative would be the same as those Fish and Wildlife section, Alternative 5.

## **3.4.9 Special Status Animal Species**

### **3.4.9.1 Affected Environment**

#### **Ash Springs Riffle Beetle (*Stenelmis lariversi*)**

An undescribed species of riffle beetle (*Stenelmis sp.*) was collected in Pahrangat Valley in 1991 from the spring heads of Ash Springs, but was not found in the outflow stream despite extensive sampling (Schmude and Brown 1991). Schmude (1999) described this riffle beetle as a new species and likely endemic to the type locality (Ash Springs). Thus, this species may be endemic to warm springs in southern Nevada, if not restricted to Ash Springs. The habitat of this riffle beetle in Ash Springs would likely be preserved secondarily with maintenance of Ash Springs White River springfish habitat. Limited data exists regarding the current population status. The Ash Springs Riffle beetle has a global rank of G1, which means the species is critically imperiled on a global scale (TNC 2011; NatureServe 2015b).

#### **Pahrangat Naucorid (*Pelocoris shoshone shoshone*)**

Naucorids (*Pelocoris* spp.) eat various aquatic organisms including: dragonfly, midge, and mosquito larvae; water boatmen; and mollusks. They carry a small air bubble under water with them to maximize diving time. Limited information is available on the Pahrnagat naucorid (*Pelocoris shoshone shoshone*); however, in the Pahrnagat area, Amargosa naucorids (*Pelocoris shoshone amargosus*) typically live among aquatic plants in pools and lower velocity stream reaches, often under overhanging banks associated with marshy habitats. Limited data exists regarding the current population status of the Pahrnagat naucorid. The subspecies is globally ranked as G1, meaning the subspecies is critically imperiled (TNC 2011; NatureServe 2015c).

### **Springsnails**

The springs in Pahrnagat Valley also provide habitat for two mollusk species, grated tryonia (*Tryonia clathrata*) and Pahrnagat pebblesnail (*Pyrgulopsis merriami*), endemic to portions of the White River drainage, including Ash Springs and spring systems in Moapa Valley (Hershler 1999). The Pahrnagat pebblesnail type locality is Ash Springs (Hershler 1994). Sada (2009) determined that springsnails are most abundant near spring sources where water temperature, discharge, and water chemistry are relatively stable. Springsnails are an increasing conservation concern due to documented extirpation of several springsnail populations in Nevada as a result of spring diversion, impoundment, groundwater pumping, and establishment of non-native species, and indications are that springsnails are susceptible to habitat disturbance (Hershler and Sada 1987, Sada and Nachlinger 1996, Hershler 1998, Sada and Vinyard 2002). Preliminary data show that the abundance of springsnails has increased in years without recreation in the spring compared to years with direct recreational access on the portion of the BLM-administered habitat (NDOW 2015b). Sada (2008) conducted a springsnail study in the Warm Springs, Muddy River and found evidence that springsnail abundance may be impacted by any factor affecting water temperature (e.g., spring brook diversion, integrity of riparian vegetation), quality, and heterogeneity of spring habitats. Human activities that reduce environmental heterogeneity (e.g., reduce discharge, channelize, or alter spring brook bank morphology and vegetation) are likely to reduce springsnail abundance or extirpate populations (NDOW 2015b).

### **Grated tryonia (*Tryonia clathrata*)**

The grated tryonia snail was proposed for listing as *Threatened* but the proposal was withdrawn because it was not finalized within 2 years, as required by the Endangered Species Act. This species is also classified as G2, or globally imperiled (NatureServe 2015d). Declines have been associated with the introduction of red-rim melania; habitat modification may also be a threat (Sada 2008).

In 1973, this species was considered rare to common in spring systems in the Pahrnagat Valley (Landye 1973). Current population size and status is unknown; however, recent surveys were conducted in Ash Springs at the recreation site by the Nevada Department of Wildlife, USFWS, and BLM. On 14 August 2014, 14 total grated tryonia were encountered in 7 of 10 (70%) sampled quadrants; and on 1 July 2015, 241 grated tryonia were captured in 10 of 10 (100%) of the sampled quadrants (NDOW 2015b). These data indicate an increase in numbers on the BLM-administered site since the temporary closure in 2014.

### **Pahrnagat pebblesnail (*Pyrgulopsis merriami*)**

In 1973, these snails were collected from Ash, Crystal, and Hiko Springs and reported to be abundant (Landeye 1973). However, Hershler (1994) reported that the species was only known from one warm spring in the Pahrnagat Valley, presumably Ash Springs. This species was found primarily on rocks and submergent vegetation in the upper 60-70 meters (197-230 feet) of the spring sources. Sada (2008) described two species of *Pyrgulopsis* as generally occurring on gravel and cobble substrate, and preferring habitat where water movement is active (e.g., > 30 cm/sec).

In a more recent survey, this snail was documented in Ash Springs, Hot Creek, Mormon, and Moon River; however, it was not found in Crystal or Hiko Springs (Hershler, 1998). The Nevada Department of Wildlife conducted springsnail surveys at the Ash Springs Recreation Site in 2014 and 2015. On August 14, 2014, 177 Pahrnagat Pebblesnails were encountered in 6 of 10 (60%) of sampled quadrants and on July 1, 2015, 682 Pahrnagat Pebblesnails were encountered in 10 of 10 (100%) of sampled quadrants (NDOW 2015b). These data indicate an increase in numbers on the BLM-administered site since the temporary closure in 2014. *Pyrgulopsis merriami* is classified as G1, or critically imperiled on a global scale (NatureServe 2015e).

### **3.4.9.2. Environmental Effects**

#### **Alternative 1: Friend's Group Proposal**

Impacts to aquatic special status species would be the same as those analyzed for the aquatic Threatened or Endangered Species and their Critical Habitat section, Alternative 1.

#### **Alternative 2: Land-Based Recreation and Habitat Conservation**

Impacts to aquatic special status species would be the same as those analyzed for the aquatic Threatened or Endangered Species and their Critical Habitat section, Alternative 2.

#### **Alternative 3: Proposed Action: Land and Water-based Recreation and Habitat Conservation**

Impacts to aquatic special status species would be the same as those analyzed for the aquatic Threatened or Endangered Species and their Critical Habitat section, Alternative 3.

#### **Alternative 4: Habitat Conservation**

Impacts to aquatic special status species would be the same as those analyzed for the aquatic Threatened or Endangered Species and their Critical Habitat section, Alternative 4.

#### **Alternative 5: No Action**

Impacts to aquatic special status species would be the same as those analyzed in the Fish and Wildlife section, Alternative 5.

## **3.4.10 Vegetation**

### **3.4.10.1 Affected Environment**

Ash Springs is located in the northeastern Mojave Desert and is dominated by low growing vegetation adapted to harsh environments. The riparian area is classified as the Interior Warm & Cool Desert Riparian Forest Macrogroup by the National Vegetation Classification System (i.e., Warm Southwest Riparian Forest). This macrogroup includes warm and cold climate riparian and wetland forested vegetation of the western interior U.S., including the southwestern deserts and the Tamaulipan area of southern Texas (USGS 2016).

Immediately surrounding Ash Springs is a mixed canopy of Fremont's cottonwood (*Populus fremontii*), velvet ash (*Fraxinus velutina*) and a dense groundcover of yerba mansa (*Anemopsis californica*) encircles the existing surface water and extends out to the edge of the canopy cover. Additionally, inland saltgrass (*Distichlis spicata*), three-square bulrush (*Scirpus americanus*), and soft rush (*Juncus effusus*) occur sporadically throughout the area. These vegetation species are hydrophytic and are usually indicative of wetlands; however, the soil and hydrological conditions surrounding the spring pond indicate that the actual wetland area is limited to the pond itself, terminating at the top of the existing banks.

Gust (2016) characterized the vegetation transition moving away from the spring as a mix of yerba mansa (*Anemopsis californica*), Baltic bulrush (*Juncus balticus*), St. George blue eyed grass (*Sisyrinchium radicum*), Mojave thistle (*Cirsium mohavense*), Nevada goldenrod (*Solidago spectabilis*), alkali sacaton, salt grass, and shrub species (e.g., Torrey's saltbush [*Atriplex confertifolia*] and greasewood [*Sarcobatus vermiculatus*]). The soils in the northeast corner of the riparian zone are seasonally wet and dominated by salt tolerant grasses such as sand dropseed (*Sporobolus cryptandrus*), alkali sacaton (*Sporobolus airoides*), and spectacle fruit (*Wislizenia refracta*) (Gust 2016).

### **3.4.10.2 Environmental Effects**

#### **Alternative 1: Friend's Group Proposal**

Public use could increase the potential impact of off-trail use, and therefore increase the potential of vegetation trampling. This includes any native riparian vegetation (e.g., cottonwood and ash) regeneration or recruitment.

#### **Alternative 2: Land-Based Recreation and Habitat Conservation**

Public users would still be able to use the site for picnicking, however, the perimeter of the riparian area may be fenced in this alternative therefore reducing the risk of erosion at the spring bank. Similar to Alternatives 1, 3, and 5, increased public use could increase the potential impact of vegetation trampling. This includes any native riparian vegetation (e.g., cottonwood and ash) regeneration or recruitment.

### **Alternative 3: Land and Water-based Recreation and Habitat Conservation**

Public users would be able to use the site for picnicking and soaking, however, the perimeter of the riparian area may be fenced in this alternative therefore reducing the risk of erosion at the spring bank. Improvement of the developed soaking pool would cause minimal impacts during the construction process but would not likely cause long-term impacts. Similar to Alternatives 1, 2, and 5, increased public use could increase the potential impact of vegetation trampling. This includes any native riparian vegetation (e.g., cottonwood and ash) regeneration or recruitment.

### **Alternative 4: Habitat Conservation**

As the site would be permanently closed to public use under Alternative 4, the native vegetation of Ash Springs would continue to improve because only authorized personnel would be permitted access.

### **Alternative 5: No Action**

Under the No Action Alternative, the closure would improve the native vegetation of Ash Springs due to a substantial reduction of recreation activity. If the site were to reopen without improvements, the same threats to native vegetation would exist that were present prior to the temporary closure, and the increased public use could increase the potential impact of vegetation trampling. This includes any native riparian vegetation (e.g., cottonwood and ash) regeneration or recruitment.

## **3.4.11 Special Status Plant Species**

### **3.4.11.1 Affected Environment**

#### **Mojave Thistle (*Cirsium mohavense*)**

Mojave thistle is a biennial to perennial forb that is native to the southwestern U.S. (Arizona, California, Nevada, and Utah). A survey conducted in 2016 documented 23 fertile individuals within the Ash Springs recreation site; however, several first year rosettes probably occur (Gust 2016).

#### **St. George Blue-eyed Grass (*Sisyrinchium radicum*)**

The St. George blue-eyed grass is a perennial forb within the Iris family that is endemic to southern Nevada and southwestern Utah. In Nevada, this species is known only from Clark, Lincoln and Nye Counties. Gust (2016) documented dozens of this species within the Ash Springs recreation site and on the adjacent private property; however, due to the timing of the surveys, quantification of the number of plants can be confounded by the closely related stiff blue eyed grass (*Sisyrinchium demissum*).

### **3.4.11.2 Environmental Effects**

#### **Alternative 1: Recreation Development Proposal**

Designated restrooms, trash receptacles, and other infrastructure would decrease the amount of potential habitat for special status plant species. Development of a walking path through the riparian area could increase the potential for spreading of non-native vegetation from human recreational use.

#### **Alternative 2: Land-Based Recreation and Habitat Conservation**

Impacts to habitat for special status plant species from development of recreation facilities would be expected to be less than those impacts analyzed in Alternative 1, with fewer proposed amenities. Walkways could increase the potential for spreading of non-native vegetation from human recreational use, which could impact habitat quality and availability for special status plant species.

#### **Alternative 3: Proposed Action: Land and Water-based Recreation and Habitat Conservation**

Impacts to special status plant species would be similar to those analyzed in the Special Status Plant Species section, Alternative 2.

#### **Alternative 4: Habitat Conservation**

As the site would be permanently closed to public use under Alternative 4, special status plant species would likely increase because the existing infrastructure would be removed and only authorized personnel would be permitted access. The potential for the spread of non-native vegetation would be less than alternatives 1 to 3 due to limited access of the site.

#### **Alternative 5: No Action**

The existing infrastructure would remain and no new habitat would be available for special status plant species. The potential for the spread of non-native vegetation would be marginal without human recreation.

### **3.4.12 Transportation/Access**

#### **3.4.12.1 Affected Environment**

The Ash Spring Site is located on Highway 93, a two lane state highway. The site is approximately 7.4 miles north of Alamo, Nevada; and approximately 6 miles south of the intersection of Highway 93 & SR 318. No railroads exist within the Study Area or within the Pahranaagat Valley. The rural nature of the Ash Spring area precludes congested traffic

situations, but traffic counts are increasing, potentially leading to more visitor use. The annual average daily traffic count at the site (traffic count station 0170004) in 2009 was 1600 trips; by 2014, it was 2200 trips (Nevada Department of Transportation 2015).

### **3.4.12.2 Environmental Effects**

#### **Alternative 1: Friend's Group Proposal**

Alternative 1 would make the most recreation-oriented improvements to the site. These improvements to the Ash Springs recreation experience could facilitate increased public use of the site, and a concomitant increase of traffic on Highway 93. Subject to acquiring access easements from the adjacent landowners to cross their private lands, the site would be accessed from the existing entry. However, this increase and potential move of the current entrance would not impact the capacity of the highway as long as the parking area could handle the visitor volume.

#### **Alternative 2: Land-Based Recreation Use and Habitat Conservation**

Alternative 2 would permit land-based recreation and would make recreation-oriented improvements to the site. These improvements could increase public use and despite recreational swimming being prohibited. Subject to acquiring access easements from adjacent landowners to cross their private lands, the site would be accessed from the existing entry. In absence of an easement, the alternative access road would be developed to the site exiting Highway 93. However, this increase and potential move of the current entrance would not impact the capacity of the highway as long as the parking area could handle the visitor volume.

#### **Alternative 3: Proposed Action: Land and Water-based Recreation Use and Habitat Conservation**

Alternative 3 would permit land and water-based recreation and would make recreation-oriented improvements to the site. These improvements to the Ash Springs recreation experience could facilitate increase public use of the site, and a concomitant increase on U.S. 93. Subject to acquiring 40' wide access easements from adjacent landowners to cross their private lands, the site would be accessed from the existing entry. In absence of an easement, the alternative access road would be developed to the site exiting Highway 93. However, this increase and potential move of the current entrance would not impact the capacity of the highway as long as the parking area could handle the visitor volume.

#### **Alternative 4: Habitat Conservation**

As the site would be permanently closed to public use under Alternative 4 and only authorized personnel would be permitted access. Subject to acquiring 40' access easements from adjacent landowners to cross their private lands, the site would be accessed from the existing entry. In absence of an easement, the alternative access road would be developed to the site exiting Highway 93. However, this potential move of the current entrance would not impact the



capacity of the highway as long as the parking area could handle the visitor volume. Thus, no impacts are expected to Highway 93.

### **Alternative 5: No Action**

Under the No Action Alternative the site would still need to be accessed by either acquiring an easement from the adjacent landowners or by developing an access road off of Highway 93. However, traffic at the site would continue to be minimal due to the closure.

## **3.4.13 Socioeconomics**

### **3.4.13.1 Affected Environment**

Regulations for implementing NEPA require analysis of social effects when they are interrelated with effects on the physical or natural environment (40 CFR §1508.14). Ash Springs Recreation Site is situated in Lincoln County, Nevada. Visitor usage is primarily from residents of Lincoln County, and Clark County, Nevada.

#### **Population and Demographics**

The populations of Clark County, the State of Nevada, and the U.S. have grown during the period from 2010 to 2015 (U.S. Census Bureau 2016a). In contrast, Lincoln County's population has slightly declined. Lincoln County is a rural county with a density of less than one person per square mile, as opposed to 24.6 persons per square mile in the state of Nevada, and 247.3 Clark County, which contains the large urban area of Las Vegas (U.S. Census Bureau 2016b).

Lincoln County also differs from Clark County, the state, and the nation by having a slightly different demographic composition. A larger percentage of the population is over 65 years old, and a larger percentage of the population identify themselves as "white". Nearly all residents of the Alamo zip code (99.8%) classify themselves as "white." 11.1% of the residents of the Alamo zip code, and only 8.9 % of the Lincoln County residents classify themselves as Hispanic or Latino. In contrast, 29.8% of Clark County residents classify themselves as Hispanic or Latino, which is more similar to the state. Hispanic origin can be viewed as the heritage, nationality, lineage, or country of birth of the person or the person's parents or ancestors before arriving in the United States (U.S. Census Bureau 2016). People who identify as Hispanic, Latino, or Spanish may be of any race.

#### **Employment and Income**

Median household income for Lincoln County is lower than Clark County, the state, and the nation (U.S. Census Bureau 2016a). Median household income for Alamo is \$48,937, lower than that of Lincoln County (\$61,528) and the state of Nevada (\$69,351). The civilian labor force in the Alamo zip code was 518 persons in 2014, and in Lincoln County, it was 1,995 persons. The unemployment rate in the Alamo zip code was high (34.2%) in 2014, whereas in Lincoln County it was 14.6%, with a margin of error overlapping that of the statewide estimate

of 11.8% (U.S. Census Bureau 2016c).

### **3.4.13.2 Environmental Effects**

#### **Alternative 1: Recreation Development Proposal**

Alternative 1 would make the most recreation-oriented improvements to the site and would also provide the most potential for generating local income. Aside from the entry fees to the Ash Springs Recreation Site, additional income potential would be generated locally at locations such as the gas station across from Ash Spring, local motels, restaurants, and stores.

#### **Alternative 2: Land-Based Recreation and Habitat Conservation**

Alternative 2 would permit non-swimming recreation and would make recreation-oriented improvements to the site. Income potential would be generated locally at locations such as the gas station across from Ash Spring, local motels, restaurants, and stores.

#### **Alternative 3: Land and Water-based Recreation and Habitat Conservation**

Alternative 3 would permit land based and swimming recreation and would make recreation-oriented improvements to the site. Income potential would be generated locally at locations such as the gas station across from Ash Spring, local motels, restaurants, and stores.

#### **Alternative 4: Habitat Conservation**

The site would be permanently closed to public use under Alternative 4 and only authorized personnel would be permitted access. As the site would be closed to the public, minimal potential for income to the local economy would exist from this alternative.

#### **Alternative 5: No Action**

Under the No Action Alternative, the site would not receive recreation-oriented improvements and would remain closed. Income potential resulting from continued use of Ash Springs would not be realized as public use of the site would remain restricted.

### **3.4.14 Environmental Justice**

#### **3.4.14.1 Affected Environment**

A low income environmental justice (EJ) population is not present. The populations of Lincoln County and Clark County are analyzed for this assessment. The percentage of the population classified as low income in the counties analyzed is not equal to or greater than 50 percent, nor is it more than 10 percentage points higher than that of the State of Nevada. Therefore, a low income EJ population is not present for purposes of this analysis.

A minority EJ population is not present. The percentage of the population classified as minority in the counties analyzed is not equal to or greater than 50 percent, nor is it more than 10 percentage points higher than that of the State of Nevada. However, anecdotal reports received from community members in Alamo suggest that the site was heavily used by Hispanic and Latino populations prior to the closure.

There is not an American Indian EJ population present in that the percentage of the population classified as American Indian in the counties analyzed is not equal to or greater than 50 percent, nor is it 10 percentage points higher than that of the State of Nevada. However, there is a concentrated population of American Indians living on the Moapa River Indian Reservation (Reservation) in Clark County, 66 miles south of Alamo. The total population of the Reservation is 216 with 96% falling within a minority (Non-Hispanic or white) population.

**Table 2.2 Low Income and Minority Populations in Lincoln and Clark Counties**

<b>Population</b>	<b>Low Income*</b>	<b>Minority</b>	<b>American Indian</b>
Lincoln County	8.0%	12.3%	3.5%
Clark County	11.4%	37.3%	0.6%
County Region**	11.3%	37.3%	0.6%
State of Nevada	11.0%	31.9%	1.1%

\*Families below poverty

\*\*County Region combines the statistics for Lincoln and Clark Counties

Data source:

- Headwaters Economics EPS: <https://headwaterseconomics.org/tools/economic-profile-system/#measures-report-section> (accessed April 2018)

### **3.4.14.2 Environmental Effects**

#### **Alternative 1: Recreation Development Proposal**

This alternative would still allow for soaking and picnicking at the spring. Part of the appeal to visitors of the spring may have been that was traditionally a free and relatively unregulated place to recreate, therefore, the developments proposed in this alternative may discourage some users from coming back. However, this alternative would not have a disproportionate impact on a minority population as the site would remain open and available to all user groups.

## **Alternative 2: Land-Based Recreation and Habitat Conservation**

Because this alternative would restrict users to only land based recreation (e.g. picnicking), a larger percentage of the visiting population may be discouraged from using the site. However, access to the site would remain free and open to all visitors. Therefore, this alternative would not have a disproportionate impact on a minority population.

## **Alternative 3: Land and Water-based Recreation and Habitat Conservation**

This alternative would essentially reopen the Ash Spring site as it was prior to the closure. The addition of upgraded facilities, picnic areas, and parking may encourage more use at the site, however, the site would remain open and available to all user groups. Therefore, this alternative would not have a disproportionate impact on a minority population.

## **Alternative 4: Habitat Conservation**

This alternative would close the site to all members of public except for purposes of monitoring or scientific research. Because the use restriction would be universal, there would be no disproportionate impact to a minority population.

## **Alternative 5: No Action**

Under the No Action Alternative the site would be closed to recreation. There would be no disproportionate impact to a minority population.

# 4 CUMULATIVE IMPACTS

## 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 Preferred Alternative 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 Past, Present, and Reasonably Foreseeable Future Actions

Ash Springs, including the BLM-administered Recreation Site, has been heavily used throughout history. In recent history, the adjacent private property was open to the public for recreation that included: swimming, water slides, and RV infrastructure. The Ash Springs Recreation Site had previously been open to cattle and received minimal management. Currently, the adjacent private property is closed to the public; however, the landowners have plans to develop their property with recreation-oriented infrastructure, including: restrooms and changing areas, soaking pools, parking areas, an interpretive area, and picnic sites (see Appendix E). If this development occurs, it would contribute to the cumulative impacts for several resources.

Not all resources analyzed in the EA will be impacted by past, present, and reasonably foreseeable future actions. Therefore, only those resources impacted by other actions in conjunction with the alternatives considered in the EA are carried forward for cumulative impact analysis.

The following resources were dismissed from cumulative impact analysis:

**Table 4.1 Resources Dismissed From Cumulative Impacts Analysis**

<b>Resource</b>	<b>Rationale</b>
Public Safety	Public safety would not change with development of the adjacent property. Like any private developer, the land owners would be required to follow safety regulations for operating a business and a private recreation site.
Water Resources	The neighboring property owners own and maintain a water right for use of the spring on

	their land which would not have a cumulative impact to the water resources at the Ash Spring site.
Transportation/Access	Development of the neighboring site would not limit or change access to Ash Springs or Highway 93.
Environmental Justice	There would be no disproportionate impact to any minority communities from any of the proposed alternatives. Likewise, if the neighboring property were developed, it would be open to all members of the public and not have a disproportionate impact to any minority population.

### 4.3 Cumulative Impact Analysis

#### 4.3.1 Recreation Use

Recreation use would either increase or decrease with the implementation of any of the proposed alternatives. If the adjacent private property is also developed for recreation, all of Ash Springs would experience an increase in recreation pressure if any of the recreation-oriented alternatives were exercised. However, impacts would not be cumulatively significant considering past recreation that included both private and public lands being used for recreation.

#### 4.3.2 Wetlands / Riparian Zones

Alternatives 1 and 2, when combined with the potential development of adjacent private lands for aquatic recreation, would contribute to cumulative impacts if the entirety of the Ash Springs system is used for public recreation. Project design features and improved management that complies with existing laws and supplemental rules identified in this EA would minimize cumulative impacts on water quality. However, the impacts of implementing any of the recreation development alternatives taken into account with the development on private land would not have any cumulatively significant impacts to the wetlands and riparian area.

#### 4.3.3 Water Quality

The proximity of the Ash Springs Recreation Site to Highway 93 increases the exposure of the site to human use, including litter accumulation and pollutants entering the water. Any spills or leaks of contaminants could pose a threat to the water quality. All recreation-oriented alternatives discussed in this EA, excluding the Alternative 4 and the No Action Alternative, would potentially impact the water quality of the Ash Springs Recreation Site and downstream users due to increased public use (e.g., litter, spills, increased turbidity, and illegal dumping).

Alternatives 1 and 3 would contribute to cumulative impacts with the potential development of the adjacent private. Any alternative other than Alternative 4 and No Action Alternative, in combination with the development of the adjacent private property, would lead to the entirety of Ash Spring being exposed to public use. Project design features and improved management that complies with existing laws and supplemental rules identified in this EA would minimize cumulative impacts on water quality. However, the impacts of implementing any of the recreation development alternatives taken into account with the development on private land would not have any cumulatively significant impacts to water quality at the BLM managed site.

#### **4.3.4 Soils / Watershed**

All recreation-oriented alternatives (excluding Alternative 4 and the No Action Alternative) discussed in this EA would potentially impact the soils of Ash Springs when considered in the context of cumulative impacts with the potential development for recreation on the adjacent private property. These cumulative impacts to the soils would occur from the development footprints where proposed recreation structures would be placed in addition to any staging areas. These cumulative impacts would be greater if recreation infrastructure would be developed on presently undisturbed areas. There would be minimal cumulative impacts to the watershed at Ash Springs, including the privately-owned portion, which is a relatively small area compared to the Pahrangat Valley and White River Watershed. However, the impacts of implementing any of the recreation development alternatives taken into account with the development on private land would not have any cumulatively significant impacts to the soils and watershed.

#### **4.3.5 Fish and Wildlife, Including Migratory Birds**

All recreation-oriented alternatives discussed in this EA, excluding Alternatives 4 and 5, in combination with the development of the adjacent private property, would lead to approximately 0.25 mile of the 2 mile riparian area being exposed to increased public use and disturbance (e.g., noise and physical disturbances). It would be anticipated that species sensitive to human disturbances would shift habitat use out of Ash Springs and into neighboring riparian areas within the Pahrangat Valley. Project design features and adaptive management that complies with existing laws and supplemental rules identified in this EA would minimize cumulative impacts on fish, wildlife and migratory birds. The impacts of implementing any of the recreation development alternatives taken into account with the development on private land would not have any cumulatively significant impacts to fish, wildlife, and migratory birds.

#### **4.3.6 Threatened or Endangered Species and Critical Habitat**

Alternatives that involve construction activities would temporarily directly impact endangered fish from increased turbidity, noise, and displacement. These alternatives would also contribute to cumulative impacts if construction activities occur at the same time on the adjacent private property.

Project design features and adaptive management that complies with existing laws and supplemental rules identified in this EA would minimize cumulative impacts on threatened and

endangered species and their habitat. Activities would be subject to stipulations provided through Section 7 Consultation of the Endangered Species Act. When combined with similar activities and Section 10 Consultation on the adjacent private lands, these activities would not have significant cumulative effects.

### **4.3.7 Special Status Animal Species**

Cumulative impacts to special status animal species with the potential development of the adjacent private property would be the same as analyzed for fish, wildlife, migratory birds, and threatened and endangered species in respect to disturbances from construction and recreation activities. Project design features and adaptive management that complies with existing laws and supplemental rules identified in this EA would minimize cumulative impacts to these resources. However, the impacts of implementing any of the recreation development alternatives taken into account with the development on private land would not have any cumulatively significant impacts to special status animal species.

### **4.3.8 Vegetation**

All recreation-oriented alternatives (excluding Alternative 4 and the No Action Alternative) discussed in this EA would minimally impact vegetation due to increased public use and potential disturbance (e.g., removal due to construction). These alternatives could contribute to cumulative impacts to vegetation with the potential development of the adjacent private property for recreation. Alternative 1 would have the largest development footprint and thus the most disturbance to land available to native vegetation persistence or establishment. However, the impacts of implementing any of the recreation development alternatives taken into account with the development on private land would not have any cumulatively significant impacts to vegetation.

### **4.3.9 Special Status Plant Species**

All alternatives (excluding the No Action alternative), in combination with development of the adjacent private property would increase the potential for spread of non-native plant species, which would lower the quality and availability of habitat for special status plant species. Alternative 1 would have the highest potential for spreading of non-native plants from recreation use (i.e., nature trails or walkways) and would potentially impact the entire 0.25 mile of habitat for these species. Project design features and adaptive management that complies with existing laws and supplemental rules identified in this EA would minimize cumulative impacts on these species. However, the impacts of implementing any of the recreation development alternatives taken into account with the development on private land would not have any cumulatively significant impacts to special status plant species.



### **4.3.10 Socioeconomics**

All recreation alternatives would benefit the local economy of Ash Springs and the surrounding region, especially within the context of whether the adjacent private property is developed for recreation. Alternative 1 would have the greatest socioeconomic influence of all the presented alternatives as there would be the most recreational infrastructure constructed that would attract public use and revenue. The economic and social impacts of employing any of the recreation alternatives at the Ash Springs site would be compounded by development at the adjacent property. Should the adjacent property be developed in conjunction with the recreational use at Ash Springs, it can be expected that Alamo and the nearby communities would see an increase in visitation. The impacts of higher visitation could include increased spending and economic growth, increased traffic, job opportunities, and either a higher or lower sense of community pride about the springs. However, the impacts of implementing any of the recreation development alternatives taken into account with the development on private land would not have any cumulatively significant impacts to socioeconomics.

# 5 CONSULTATION AND COORDINATION

## 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 Persons, Groups, and Agencies Consulted

**Table 5.1 Persons, Groups, and Agencies Consulted**

<b>Name</b>	<b>Purpose or Authority</b>	<b>Comments/Conclusions</b>
<b>Nevada State Historic Preservation Office (SHPO)</b>	Consultation for undertakings as required by the National Historic Preservation Act (54 U.S.C. § 300101 et seq.)	Consultation is ongoing. A Cultural Resources Inventory Needs Assessment will be completed prior to any ground disturbance.
<b>USFWS</b>	Section 7 of the Endangered Species Act of 1973, P.L. 93-205	Consultation is ongoing.
<b>Tribes contacted</b>  Battle Mountain Band Council  Cedar Band of Paiutes  Duckwater Shoshone Tribe of the Duckwater Reservation Nevada  Elko Band Council  Moapa Band of Paiute Indians of the Moapa River Indian Reservation Nevada  Las Vegas Paiute Tribe of the Las Vegas Indian Colony	National Historic Preservation Act of 1966: Section 106; Executive Order 13175 Consultation and Coordination with Indian Tribal Governments	Letters to the Tribes were sent on January 25, 2016. A site visit was conducted and no concerns were raised.

<p>Ely Shoshone Tribe of Nevada</p> <p>Confederated Tribes of the Goshute Reservation Nevada-Utah</p> <p>Te-Moak Tribe of the Western Shoshone Indians of Nevada</p> <p>Paiute Indian Tribe of Utah</p> <p>Indian Peaks Band</p> <p>Wells Band Council</p> <p>South Fork Band Council</p> <p>Shivwits Band of Paiutes</p> <p>Kaibab Band of Paiutes Indians of the Kaibab Indian Reservation Arizona</p> <p>Yomba Shoshone Tribe of the Yomba Reservation Nevada</p>		
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## 6 LIST OF PREPARERS

**Table 6.1 List of Non-BLM Preparers**

<b>Name</b>	<b>Title</b>	<b>Responsible for the Following Section(s) of</b>
Scott Blackman	Natural Resources Specialist	Wildlife Resources, Hydrology and Soils
Terry Frederick	Project Manager	Laws and Regulations
Howard Gimblett	Recreation Specialist	Recreation
Lisa Harris	NEPA Specialist	Socioeconomics, Environmental Justice
Laura Burghardt	Cultural Resource Specialist	Cultural Resources

**Table 6.2 List of BLM Preparers**

<b>Name</b>	<b>Title</b>	<b>Resource Represented</b>
Elizabeth Domina	Outdoor Recreation Planner	Recreation; Transportation/Access
Andy Gault	Ely District Hydrologist	Water Resources, Water Quality
Jon Prescott	Planning and Environmental Coordinator	NEPA Compliance; Environmental Justice
Maggie Marston	Assistant Field Manager	Soils/Watershed
Todd Trapp Jessica Patterson	Wildlife Biologist Wildlife Biologist	Fish and Wildlife; Threatened or Endangered Species; Special Status Species;
Harry Knowin	Archaeologist	Cultural Resources
Julie Suhr Pierce	Socioeconomist	Socioeconomics
Cameron Boyce	Natural Resource Specialist	Vegetation
Elvis Wall	Native American Coordinator	Native American Concerns
Shirley Johnson	Assistant Field Manager	Editor
Chris Carlton	Caliente Field Manager	Editor
Russell Jensen	Environmental Protection	Public Safety

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## Acronyms

ACEC	Area of Critical Environmental Concern
ADA	Americans with Disabilities Act
BLM	Bureau of Land Management
DO	Dissolved Oxygen
DOI	Department of Interior
DR	Decision Record
EA	Environmental Assessment
EIS	Environmental Impact Statement
EJ	Environmental Justice
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act
FONSI	Finding Of No Significant Impact
mg/L	Milligrams per liter
NAC	Nevada Administrative Code
NDEP	Nevada Department of Environmental Protection
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
RAMA	Recreation Area Management Assessment
RMP	Resource Management Plan
SDWA	Safe Drinking Water Act of 1974
µS/cm	Siemens per centimeter
USACE	US Army Corps of Engineers
WQS	Water Quality Standards