

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

Environmental Assessment

**Pine Creek Hazardous Fuels Treatment
DOI-BLM-NV-S020-2012-0005-EA**

April 30, 2012

PREPARING OFFICE

U.S. Department of the Interior
Bureau of Land Management
Southern Nevada District Office
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Environmental Assessment
Pine Creek Hazardous Fuels Treatment
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Chapter 1. Introduction

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1.1. Identifying Information:

1.1.1. Title, EA number, and type of project:

Pine Creek Hazardous Fuels Treatment

DOI-BLM-NV-S020-2012-0005-EA

Hazardous Fuels Management

1.1.2. Location of Proposed Action:

Pine Creek in Red Rock Canyon National Conservation Area, Nevada

Near the Pine Creek and Fire Ecology Trails

T. 21 S., R. 58 E., Sections 15 & 16



Map 1.1. Proposed Hazardous Fuel Treatment Area

1.1.3. Name and Location of Preparing Office:

U.S. Department of the Interior

April 30, 2012

Bureau of Land Management
Southern Nevada District Office
Division of Fire and Aviation
4701 N. Torrey Pines Drive
Las Vegas, NV 89130
Lead Office - and number

1.2. Purpose and Need for Action:

Pine Creek is a seasonal creek fed by runoff at the confluence of two steep canyons within Red Rock Canyon National Conservation Area (RRCNCA). Because of the relatively large amount of water which can flow through this confluence, Pine Creek itself retains moisture relatively longer than any of neighboring creeks. This, combined with the relatively cool temperatures caused by shading from the steep canyon walls and the east facing aspect, creates a microclimate that has supported the establishment of Ponderosa pine (*Pinus ponderosa*) in and along the creek bed located near Pine Creek Trail and Fire Ecology Trail. Ponderosa pine does not normally grow at this elevation (4,000' to 4,200') in the Mojave Desert, especially to the height these trees have attained (70' to 100').

The need for the Proposed Action is established by the Red Rock Canyon General Management Plan guidelines for Ecosystem Management. The action will reduce ladder fuels at Pine Creek. Excessive fuel composed of both living undergrowth and dead material has accumulated to the point that a natural wildland fire in the Pine Creek drainage would devastate the Ponderosa pine growing there. Vegetation management, consisting of cutting and pile burning, at Pine Creek was previously implemented in 1992. After 20 years of regrowth, it is necessary to reapply the management techniques to protect this unique habitat.

The purpose of this vegetation manipulation project is to protect a unique population of Ponderosa pine. By mechanically cutting, piling, pile burning and broadcast burning the accumulated fuels under prescribed and carefully controlled parameters, dead and living fuels buildup would be greatly reduced. The Proposed Action would allow a future wildland fire to move through Pine Creek without undue risk of igniting this unique Ponderosa population.

1.3. Scoping, Public Involvement and Issues:

BLM conducted internal scoping. This Proposed Project was scoped by the U.S. Fish and Wildlife Service for the formal Section 7 Consultation pursuant to the Endangered Species Act (ESA) of 1973.

Chapter 2. Proposed Action and Alternatives

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2.1. Description of the Proposed Action:

The purpose of this vegetation manipulation project is to protect a unique population of Ponderosa pine. This action would reduce ladder fuels surrounding mature Ponderosa pine by mechanically cutting, piling, pile burning and broadcast burning the accumulated fuels under prescribed and carefully controlled parameters. Targeted species for removal consist of: oakbrush (*Quercus turbinella*), juniper (*Juniperus monosperma*), blackbrush (*Coleogyne ramosissima*), manzanita (*Arctostaphyulos patula*) and sage (*Artemesia tridentata*). No dead Ponderosa pine snags over 10 feet in height would be cut.

The area to be treated consists of approximately 100 yards along either side of Pine Creek, (running parallel with the creek and the Pine Creek trail. The treatment area runs lengthwise from the lower (east) end of the drainage, approximately opposite the Pine Creek parking area, to the upper (west) end approximately just south of the historic homestead site. Treatment will be targeted to remove vegetation from areas adjacent to individual Ponderosa pine trees. Thinning around trees will be done as deemed necessary to provide protection in the event of a wildland fire. Generically fuel will be removed in a 25 to 50 foot radius around the base of protected trees, distance may vary depending on the threat to individuals. See Map 1.1.

Pine Creek trail would not be closed during the cutting, piling and pile burning portions of the project. Signs would be posted in the parking area and along the trail during all operations to inform the public of activities. Piles would be attended by fire suppression forces at all times during burning.

Small scale broadcast burning will be done to remove accumulation of needlecast underneath Ponderosa stands, where appropriate, after thinning and pile burning has been accomplished. During broadcast burn Pine Creek trail may be closed if deemed necessary for safety. Safety to the public and firefighters is the first priority of all prescribed fire projects.

The site would be prepared using BLM fire crews. Crews, under the direction of the District Fuels Management Specialist would cut, using chainsaws, pulaskis and various other handtools, the targeted vegetation. Vegetation would be cut close to ground level to avoid creating tripping hazards. The crews would stack the cut slash as the areas are cleared, forming piles approximately 6–8 feet in diameter. No piles would be placed adjacent to or underneath any dead or living vegetation, and at least 30 feet from any live tree. Burning would only occur when weather conditions are within prescription as dictated by an approved burn plan. Fire operations would be conducted in accordance with an approved prescribed burn plan and carried out using qualified staff from the BLM.

The Proposed Action would greatly reduce the dead and living fuels buildup. This would allow a future wildland fire to move through Pine Creek without undue risk of igniting and potentially decimating this unique ponderosa population.



The area where vegetation treatments are proposed is designated as the “Fire Ecology Trail.” Interpretive signs were installed along the trail after treatments performed in 1992. A) Sign reads: “This area was burned in May of 1992 under controlled conditions to simulate the effects of a wildfire in heavy accumulated brush. The regeneration process is apparent over the years as a succession of various species re-establish themselves in the burned area.” B) Sign reads: “This plot is a brush control treatment area demonstrating how after the brush has been cut and trimmed, a wildfire can pass underneath the pines without damaging them. The excess brush was stacked in two piles and burned.” C) Sign reads: “This area demonstrates the ongoing treatment project or “vegetative manipulation” which the BLM has undertaken throughout the Pine Creek wash. The project is designed to reduce accumulated fuel hazard (brush) which could carry a fire into the rare stands of Ponderosa pine in Pine Creek.”

Timing

Fuels reduction activities are to take place October through April. Upon completion of thinning and piling burn operations will be conducted. Prescribed burning will take place in accordance with fuels and weather parameters identified in the burn plan. The burn will be conducted in the same time period limitations stated above, and would likely be completed within 7 days. To meet parameters operations might not be on consecutive days.

2.2. Description of Alternatives Analyzed in Detail:

No Action Alternative

Under the No Action Alternative, underbrush growing together with mature Ponderosa pine at Pine Creek in RRCNCA would not be actively managed. Shrubs and small trees would continue to grow and accumulate below unique, old Ponderosa pine. In the event of a future wildland fire, this dense underbrush would likely increase fire intensity, contributing to a greater potential for Ponderosa pine ignition.

2.3. Alternatives Considered but not Analyzed in Detail

Herbicide treatment

Underbrush would be cut and stumps would be immediately treated with herbicide. Since target vegetation occurs immediately below Ponderosa pine, there would be potential for leaching herbicide to damage or kill the population of Ponderosa pine the project intends to protect. Additionally, it is not necessary to try to prevent regrowth of removed vegetation. Herbicide application was deemed too risky. Additionally, leaving the cut brush on the site without pile burning would do nothing to reduce the future fire potential.

2.4. Conformance

The EA is in conformance with the Red Rock General Management Plan(GMP) and Final Environmental Impact Statement for Red Rock Canyon National Conservation Area (2000)..

The Proposed Action would comply with the following Federal Regulations, directives, policy plans and strategy plans:

- Red Rock Canyon GMP, 2000; Activity: Ecosystem Management. “Successful implementation of this program (prescribed fire) will benefit fire dependent species like the Ponderosa pine while reducing fuel loading. When debris is allowed to accumulate to unnatural volumes through aggressive fire suppression, the level of damage increases when a fire does occur.”
- Las Vegas Fire Management Plan, 2004 Prescribed Fire, Chapter 4, pages 354-355
- Federal Land Policy and Management Act (FLPMA)
- BLM implementation strategy (community assistance, hazardous fuels reduction)
- Nevada Weed Management Strategy (IB-97–137)
- Executive Order 13112 (February 3, 1999) for the prevention and control of invasive species

In addition to conforming to existing directives, regulations, policy plans and strategy plans, the Proposed Action follows the guidelines and methods approved for vegetative manipulation found in the programmatic document, Vegetative Treatments on BLM Lands in 17 Western States, Final Programmatic Environmental Report (June 2007). The report outlines the methods to be used, compares treatment impacts, and analyzes environmental and cumulative impacts.

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Chapter 3. Affected Environment:

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The Affected Environment section describes the existing conditions of the environmental resources within the project area. There are several resources that are not present in the project area or are present but would not be affected by the Proposed Action. These resources that were considered but not deemed to be potentially effected by the Proposed Action, Alternative Actions or No Action Alternative are noted in Table 1, and will not be discussed further.

A detailed description of the area of the affected environment is contained in the Proposed General Management Plan and Final Environmental Impact Statement for Red Rock Canyon National Conservation Area (2000).

The table below summarizes the environmental attributes that have been reviewed, whether they may be affected by the Proposed Action or No Action Alternative and the rationale for that determination. Elements with identified issues that were further analyzed in the document include: Floodplains, Fuels/Fire Management, Hydrologic Conditions, Invasive Species/Noxious Weeds and Wild Horses/Burros.

Table 3.1. Affected Resources Table

Supplemental Authority	Not Present	Present/ Not Affected	Present/ May be Affected	Rationale
Air Quality		X		The action is administrative in nature. No issues.
Areas of Critical Environmental Concern	X			The proposed project area is not within an ACEC or any critical desert tortoise habitat.
Areas with Wilderness Characteristics	X			Not Present.
BLM Natural Areas	X			The proposed action is not located within North Pine Creek Natural Area.
Cultural Resources		X		No historic properties affected in the area.
Environmental Justice	X			No minority or low-income communities are present in project area.
Farmlands (Prime/ Unique)	X			There are no prime or unique farmland designations in the District.
Floodplains			X	The proposed action does not occur in a floodplain but may impact downstream flooding due to increased velocity of flows after rainfall once vegetation is removed.
Fuels/Fire Management			X	Project will improve the ability of the Ponderosa stand to withstand a wildland fire event. Carried forward for analysis.
Geology/Minerals/ Energy Production	X			No issues.
Greenhouse Gas Emissions		X		Currently there are no emission limits for suspected Greenhouse Gas (GHG) emissions, and no technically defensible methodology for predicting potential climate changes from GHG emissions. However, there are, and will continue to be, several efforts to address GHG emissions from federal activities, including BLM authorized uses.
Human Health and Safety		X		Public will be informed of all action prior to commencing. Smoke impacts will be limited and area may be closed during ignition operations if necessary.

Hydrologic Conditions			X	A reduction in vegetation will increase the run-off and velocity of flows within the canyon, which, in turn, will result in infiltration further downstream rather than within the canyon.
Invasive Species/ Noxious Weeds			X	Carried forward for analysis. All standard stipulations apply regarding equipment and personnel arriving and leaving site free of soil and vegetation to prevent introduction and transportation of weeds.
Lands/Access	X			As long as the disturbance is minimized, there are no issue. Notify visitors of the closure of the area to minimize anyone from attempting to access the location
Livestock Grazing	X			The proposed action area is not located in any authorized grazing allotments.
Migratory Birds			X	Carried forward for analysis.
Native American Religious Concerns		X		Per the development of Red Rock RMP no Native American concerns were identified in the area.
Noise		X		Some noise impacts may exist during thinning operations. Signs will be posted in project area during project activity.
Paleontological Resources		X		No paleontological resources are know to be in the area.
Rangeland Health Standards		X		Negative impacts to Rangeland Health are not expected. Adverse impacts to surface hydrology which could also negatively affect rangeland health will be addressed and, if necessary mitigated, under the hydrology section.
Recreation			X	Carried forward for analysis.
Socio-Economics		X		The Proposed Action may reduce fuel on the land, thus enabling time and control to suppress an unforeseen wildland fire. This would provide a social and economic benefit to human health and safety and protection of property, but not to a degree that analysis would be required.
Soils		X		The proposed action will help restore natural degradation and aggregation cycles. No issues.
Threatened, Endangered or Candidate Plant Species	X			Not present.
Threatened, Endangered or Candidate Animal Species		X		The above proposed action has a no affect determination on the threatened desert tortoise (<i>Gopherus agassizii</i>). This project will have no affect on any other federally listed species or designated critical habitat. This project is not within desert tortoise habitat. However, adjacent to the project site there is suitable tortoise habitat. No impacts to desert tortoises or their habitat are expected. This notice will serve as the Section 7 Determination and no additional paperwork will be provided (Sec 7 Log # NV-052-12-089).

Vegetation Excluding Federally Listed Species		X		<p>The proposed project is adjacent to known occurrences of BLM Sensitive Plant species rough angelica (<i>Angelica scabrida</i>) and Spring Mountains milkvetch (<i>Astragalus remotus</i>).</p> <p>Great Basin Institute Natural Resource Specialist conducted two site visits of the project site on June 8 and 18, 2012 and did not observe either species; however, there is potential for these species to be present.</p> <p>As the proposed action is to be carried out in the October through February, outside the flowering /seeding season (approximately April through August) for these species, impacts are reduced. There may be direct impacts during clearing as these species are perennials; however, impacts are expected to be minimal as clearing is only around the Ponderosa pines and not the entire drainage system.</p>
Visual Resources		X		The action is administrative in nature. No new disturbances or activities are proposed.
Wastes Hazardous or Solid	X			Not present.
Water Resources/ Quality (drinking/ surface/ground)		X		DO NOT ENTER washes during rain or shortly before or after precipitation events. No new impacts to water resources if dry washes are restored and entered during dry conditions ONLY. For surface water resources see comment for wetlands/riparian zones.
Wetland/Riparian		X		The greatest threat to wetlands/riparian zones in the project area stems from wildfires, which are more likely under the no action alternative. Wildfires have the potential to completely denude these sensitive areas.
Wild and Scenic Rivers	X			No wild or scenic rivers are present in the project area.
Wild Horses/Burros			X	The proposed project is located in the Red Rock Herd Management Area (HMA). The Red Rock HMA currently has approximately 75–80 wild burros and 58–68 wild horses. Please see the additional information below.
Wilderness		X		<p>The proposed action is not located within WSAs or ISAs. The proposed action is adjacent to and outside of Rainbow Mountain Wilderness. The enabling legislation does not intend “protective perimeters or buffer zones” around wilderness and the fact that nonwilderness activities or uses could be seen or heard from areas within the wilderness does not preclude the conduct of those activities or uses outside the wilderness boundaries. Recreationists within wilderness may see and/or hear treatment activities in the vicinity, however activities would be temporary and localized.</p> <p>The Pine Creek Trail is a major access point to some of the most popular (internationally</p>

				<p>recognized) climbing routes within Rainbow Mountain Wilderness. As burning would close this trail for up to 3 days, the BLM should provide ample notification to the public on closure dates. Please coordinate with the Wilderness Specialist, Nick Walendziak, and/or RRCNCA Rec staff regarding getting closure information to the public.</p> <p>NOTE: The BLM is in the process of finalizing the official wilderness maps and legal boundary descriptions which differ slightly from the current legislative boundaries. Please confer with the Wilderness Specialist for an update on the wilderness boundary adjustment.</p>
Wildlife Excluding Federally Listed Species			X	Carried forward for analysis.
Woodland/Forestry		X		Cactus and yucca are present within the project impact area. Cactus and yucca are considered government property and are regulated under the Nevada BLM forestry program. To avoid impacts, the proposed action is to adhere the measure provided in the mitigation section below.

3.1. BLM Sensitive Wildlife Species

According to the definition of a BLM sensitive species the following sensitive species are known to potentially occur within the area adjacent to the project site: Western burrowing owl (*Athene cuniculari hypugaea*), Western chuckwalla (*Sauromalus obesus*) and banded Gila monster (*Heloderma suspectum*).

Western burrowing owl

The Western burrowing owl is a diurnal bird of prey specialized for grassland and shrub steppe habitats in western North America. The owls are widely distributed throughout the Americas and can be found from central Alberta, Canada to Tierra del Fuego in South America. Burrowing owl habitat typically consists of open, dry, treeless areas on plains, prairies and desert floors. Burrowing owls most frequently use mammal burrows created by other animals such as prairie dogs (*Cynomys* spp.), ground squirrels (*Spermophilus* spp.), coyotes (*Canis latrans*) or desert tortoises (*Gopherus agassizii*). The burrows are used for nesting, roosting, cover and caching prey. In recent decades, the range and species count have been declining primarily due to agricultural, industrial and urban development that reduce burrow availability.

Western chuckwalla

The Western chuckwalla is a State of Nevada Protected Species that is found throughout the deserts of the southwestern United States and northern Mexico. Chuckwallas inhabit rocky outcrops where cover is available between boulders or in rock crevices, typically on slopes and open flats below 5,000 feet. Typical habitat includes rocky hillsides and talus slopes, boulder piles, lava beds or other clusters of rock, usually in association with Mojave Desert

shrub vegetation. This species requires shady, well-drained soils for nests. The chuckwalla is a widespread species, but is regionally limited by its requirement for rock outcrops. Chuckwallas likely occur within the project area, but would be localized on rock outcroppings.

Banded Gila monster

The Gila monster is a large, heavy-bodied lizard with a massive head, a short thick tail and short limbs with strong claws. It has flamboyant dorsal coloration of black and pink, orange or yellow and occasionally exceeds 50 centimeters (19.7 inches) in total length. The Gila monster's range includes extreme southwestern Utah, southern Nevada, and adjacent southeastern California south through southern Arizona, southwestern New Mexico, and much of Sonora to Sinaloa, Mexico. Its habitat includes Mojave and Sonoran Desert scrub, desert grassland, thorn scrub, and occasionally pine-oak woodland. Threats to this reptile include illegal collection, traffic fatalities and most severe is habitat destruction from urban and agricultural development.

Desert bighorn sheep (*Ovis canadensis*)

The desert bighorn sheep is a species of management concern that is found mainly along desert mountain ranges in Nevada and California to west Texas and south into Mexico. Bighorn sheep are gregarious, sometimes forming herds of over 100 individuals, but small groups of 8-10 are more common. Mature males usually stay apart from females and young for most of the year in separate bachelor herds. They usually migrate seasonally, using larger upland areas in the summer and concentrating in sheltered valleys during the winter. Big horn sheep habitat is found within and adjacent to the project area.

Bats

There are several sensitive species of bats found within the project area. They can be found in a wide range of habitats from low desert scrub to high elevation coniferous forests. They use mines, caves, trees and buildings for day and night roost sites and are very sensitive to roost disturbance.

The majority of the information available about bats in RRCNCA is about bats found around springs. Springs provide water as well as hunting grounds for many of the insect species that form the prey base of most local bats. Bats require certain minimum surface areas of water to be able to skim their drinking intake while in full flight.

Desert glossy snake

The desert glossy snake is a burrowing, nocturnal snake that occurs in a variety of habitat throughout the Mojave Desert including light shrubby to barren desert, grasslands and woodlands. The desert glossy snake generally prefers open areas where the ground is sandy to loamy.

Mojave Desert sidewinder

The Mojave Desert sidewinder is a nocturnal snake hiding during the day in animal burrows or coiled camouflaged in a shallow self-made pit at the base of a shrub. This species is most common where there are sand hummocks topped with creosote bushes, mesquite or other desert plants but may also occur on flats, barren dunes, hardpan and rocky hillsides.

Mojave shovel-nosed snake

The Mojave shovel-nosed snake is a burrowing, nocturnal snake frequenting washes, dunes, sandy flats, loose soil and rocky hillsides in sandy gullies or pockets among the rocks throughout the Mojave Desert.

3.2. Floodplains

A specific approach to understanding and assessing flood hazards on alluvial fans has been developed for arid alluvial fans in southern Nevada. This approach uses geologic mapping to determine active and inactive portions of alluvial fans. Physical features such as stratigraphic relationships, topography, drainage patterns, soil development, and surface morphology are used to determine active and inactive portions of fans. Certain portions of alluvial fans can become inactive and may remain inactive for thousands of years. Wildfire is likely to alter the accuracy of surface water modeling on alluvial fans and increase the associated flood hazards.

3.3. Hydrologic Conditions

Desert washes, which are the typical in the Mojave Desert region including those in RRCNCA, are braided in plain view. These streams flow only intermittently during seasonal precipitation events, are unstable, and can migrate laterally during significant runoff. Water in this area commonly flows into dry lakes, or as in the case of RRCNCA, detention basins.

Geologically, the Proposed Project area is located on alluvial fan lobes that form large, cone-shaped, sedimentary deposits. It is likely that most of Proposed Project area is on alluvial fan that have originated from significant amounts of flowing water carrying, and subsequently depositing, sediments across their entire extent during their life span. Dry washes can also carry destructive bedloads (boulders and gravels) during rain events.

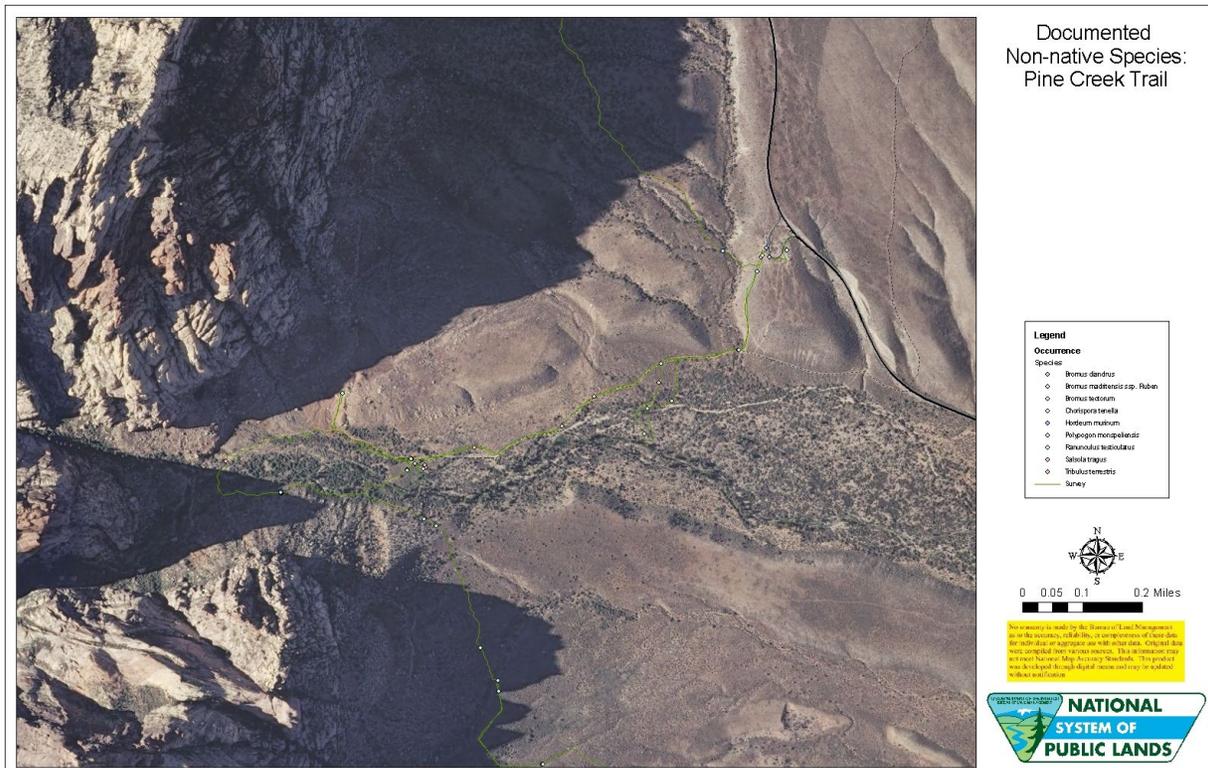
The hydrologic processes that occur on alluvial fans can be random and difficult to model. Sediments, which can range from clay to large boulders, are transported across alluvial fans by water in desert washes, debris flows, and sheet floods. Flood events on alluvial fans in arid climates are triggered by significant storms. Specific to the Mojave Desert region, these would include the random summer cloud bursts that occur infrequently but can supply a large amount of water to a localized area, or a larger storm such as a tropical storm that occurs on a 100-year time scale. Any of these storms could result in flooding hazards that would cause significant damage across the Proposed Project area and could potentially cause significant localized destruction, especially following a vegetation consuming wildfire.

3.4. Invasive Species/Noxious Weeds

Legally designated noxious weed species that have been documented within the Pine Creek area of RRCNCA include puncturevine (*Tribulus terrestris*) and tamarisk (*Tamarix ramosissima*). Both species are Category C noxious weeds within the State of Nevada. Category C weeds are those which are currently established and generally widespread in many counties of the state. Regulations indicate that Category C weeds should be actively eradicated from nursery stock dealer premises. Abatement in other environments is at the discretion of the state quarantine officer. A site visit in May 2012, indicated that the puncturevine that had been previously

documented was no longer present. An existing EA, DOI-BLM-NV-S010-2011-0035-EA, provides for treating tamarisk throughout the District, efforts should be made to treat the tamarisk present in Pine Creek during the course of this project.

Non-native species occurring in the proposed project area that are not legally designated as noxious are: purple mustard (*Chorispora tenella* (however this species is on California's Noxious Weeds List, Category B)), bur buttercup (*Ranunculus testiculatus* (now *Ceratocephala testiculata*)), a type of barley (*Hordeum* spp.), rabbitfootgrass (*Polypogon monspeliensis*), and a variety of brome grasses (*Bromus* spp.)



Map 3.1. Documented Non Native Species at Pine Creek Trail

3.5. Migratory Birds

Under the Migratory Bird Treaty Act of 1918 (MBTA) and subsequent amendments (16 U.S.C. 703-711), it is unlawful to take, kill or possess migratory birds. A list of the protected bird species can be found in 50 C.F.R. §10.13. The list of birds protected under this regulation is extensive and the project site has potential to support many of these species, including the BLM sensitive species, the Western burrowing owl. Typically, the breeding season is when these species are most sensitive to disturbance, which generally occurs from March 15 through July 30.

3.6. Wild Horses/Burros

On December 15, 1971, Congress enacted the *Wild Free-Roaming Horses and Burros Act*, authorizing BLM to manage wild horses and burros on public lands. The *Act* mandated that wild and free-roaming horses and burros be protected from unauthorized capture, branding,

harassment, or death. These animals are to be considered an integral part of the natural system, based on their distribution at the time the law was enacted.

The Proposed Project area is in the Red Rock Herd Management Area (HMA). The 2011 estimated adult population is 45–54 wild burros and 48–58 wild horses. Wild burros primarily live north of SR–160 and the wild horses are generally south of SR–160.

3.7. Wildlife Excluding Federally Listed Species

The RRCNCA supports a rich community of nearly 300 diverse wildlife species. The project area supports wildlife characteristic of the northeastern Mojave Desert. Biological diversity varies according to topography, plant community, and proximity to water, soil type, and season. Many of these species have adapted complex life strategies for survival in the desert environment.

Wildlife species in the general area include small mammals, rodents, birds and reptiles. Based on ecological sensitivity factors, groups of priority management concern are bats, raptors, reptiles and amphibians. The remaining RRCNCA wildlife group, carnivores and hoofed animals, represent a mix of unrelated species. Carnivores include foxes, coyotes, ringtails, badgers, bobcats and mountain lions. The hoofed animals of the RRCNCA are mule deer, bighorn sheep and elk.

Several common species of reptiles would be represented in the surrounding habitat types. These species include the western whip-tail (*Cnemidophorus tigris*), desert iguana (*Dipsosaurus dorsalis*), side-blotched lizard (*Uta stansburniana*), zebra-tail lizard (*Callisaurus draconoides*), desert tortoise (*Gopherus agassizii*), western shovel-nosed snake (*Chionactis occipitalis*) and garter snake (*Thamnophis* sp.).

Common bird species that would be represented include the rock wren (*Salpinctes obsoletus*), black-throated sparrow (*Amphispiza quinquestriata*), turkey vulture (*Cathartes aura*), common raven (*Corvus corax*), phainopepla (*Phainopepla nitens*), red-tailed hawk (*Buteo jamaicensis*) and western burrowing owl (*Athene cunicularia hypugea*).

Common mammal species include the black-tailed hare (*Lepus californicus*), and the desert cottontail (*Sylvilagus audubonii*). Abundant evidence during the site visit suggested the presence of common Mojave Desert rodent inhabitants such as cactus mice (*Peromyscus eremicus*), Merriam kangaroo rats (*Dipodomys merriami*) and species associated with rocky habitats including the wood rat (*Neotoma lepida*).

All of these species maintain dens and nest, hunt and forage, and rely on close ecological relationships to the habitat in which they live.

Chapter 4. Environmental Effects:

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The Environmental Effects section describes the potential effects of the Proposed Action and No Action Alternative on the environmental resources within the project area. This section provides analysis of the environmental consequences of the Proposed Action and No Action Alternative to determine if the Proposed Project will require further investigation to determine the significance of impacts.

4.1. Direct and Indirect Effects:

Resource issue impacts describe whether the Proposed Action or No Action Alternative would have direct or indirect effects on a resource. Direct effects are effects which are caused by the action and occur at the same time and place. Indirect effects are those effects which are caused by the action and are later in time or farther removed in distance, but still occur in the reasonably foreseeable future.

4.1.1. Floodplains

4.1.1.1. Proposed Action

Removing undergrowth within the Ponderosa pine stand may increase the effect of a flood event on the floodplains. However it is determined that these effects should be minimal, therefore no significant impacts will occur to floodplains.

4.1.1.2. No Action Alternative

Any significant storms could result in flooding hazards that would cause significant damage across the Proposed Project area and could potentially cause significant localized destruction, especially following a vegetation consuming wildland fire. Wildland fire is likely to change or alter the accuracy of surface water modeling on alluvial fans and increase the associated flood hazards. Catastrophic flooding would occur during precipitation events following a wildland fire in the project area. Public safety would be decreased and both government and private structures would remain at risk.

4.1.2. Hydrologic Conditions

4.1.2.1. Proposed Action

Removing undergrowth and burning within the Ponderosa pine stand may impact hydrologic conditions. However it is determined that these effects should be minimal, therefore no significant impacts will occur to hydrologic conditions.

4.1.2.2. No Action Alternative

The disturbance associated with wildland fire will increase erosion on and off-site, thereby increasing sediment loads in surface runoff, altering the discharge and retention rates of water and change the velocity of water moving through the system. This could result in the degradation of surface water quality, as well as flow events exceeding the capacity of constructed detention basins

Another wildfire in the project area could have serious impacts to the hydrologic conditions. Current vegetation regimes are likely to create hydrophobic soils, which, in turn, would prevent the local aquifer from properly recharging, ultimately causing local springs to become dry or less productive. This would occur to a lesser extent even if hydrophobic soils were not created.

4.1.3. Migratory Birds

4.1.3.1. Proposed Action

The Proposed Action Alternative will have a negative effect on migratory birds as it would remove vegetation which provides suitable habitat utilized for foraging, breeding, nesting sites, perches and cover. Loss of habitat will be localized to vegetation surrounding Ponderosa pines; therefore, not all suitable migratory bird habitat will be removed from the project area. If carried out during the nesting season, impacts would also include mortality and nest failure. In addition, noise and human activities during treatments will disrupt birds causing them to flush from cover or completely avoid the area. This disturbance would only occur during daylight hours when the proposed action is being carried out. To comply with the Migratory Bird Treaty Act and to minimize effects, the proposed action is required to comply with Migratory Bird measures provided in the Mitigation section of this EA.

4.1.3.2. No Action

Under the No action Alternative, impacts to migratory birds described above would not take place; however, if left untreated the dense underbrush would likely increase fire intensity in the event of a wildlife fire which may result in greater loss of bird nesting and foraging habitat in this unique ecosystem.

4.1.4. Recreation

4.1.4.1. Proposed Action

The proposed action project area includes popular hiking and climbing access trails including: Pine Creek Canyon Trail, Pine Creek Canyon Loop Trail, and Fire Ecology Trail. Cross country travel is also popular in the project area. These recreationists may see and/or hear treatment activities in the vicinity. A detailed thinning plan should be developed with details to make the area look natural to recreationist.

As burning would impact these trails for up to 3 days, the BLM should provide ample notification to the public on dates. Please coordinate with ORP Nick Walendziak regarding getting closure information to the public.

4.1.4.2. No Action

If no action is undertaken the recreation environment in Pine Creek continue in its current form.

4.1.5. Wildland Fire Management

4.1.5.1. Proposed Action

The Proposed Action will reduce the fuel loading of targeted vegetative species within the project boundary in order to provide fire protection to the unique Ponderosa pine stand of Pine Creek. Targeted vegetation will be that which would provide a ladder for fire to impact the standing Ponderosa in the Pine Creek Drainage. Removed fuel will be piled on site and burned at a later date when prescriptions are met in accordance with the prescribed fire burn plan.

Piles will be made as crew progress through the area but will not be burned immediately. These piles will be placed so that there will be no restrictions to visitor use. During thinning and burning operations signs will be posted to warn visitors of thinning or burning activities. If deemed necessary for safety a person will be placed along the trail to aide in guiding people through the project area.

4.1.5.2. No Action Alternative

If no action is undertaken the current fuel arrangement will remain. Benefits from the reduction to the Fuels and Fire Environment will not be realized.

4.1.6. Invasive Species/Noxious Weeds

4.1.6.1. Proposed Action

Land disturbance activities present a high risk for weed introduction and spread. Brome and other weed populations within the treatment area could increase in response to brush clearing and broadcast fire. Since there is an established native plant community on site the existing seed bank likely contains both native and weed species to naturally revegetate post-fire.

4.1.6.2. No Action Alternative

Under the No Action Alternative, weed populations would likely remain at current levels or increase.

4.1.7. Wild Horses/Burros

4.1.7.1. Proposed Action

There should be minimal impacts to the wild horses and burros, because of the location of the project, however the potential does exist for individuals to see wild horses and burros. Individuals would informed to not harass (feed, pet, chase, etc.) wild horses and burros if encountered on or near the project areas. If they do see any wild horses and burros, they should keep a safe distance, they are wild animals and can be unpredictable, especially during foaling and breeding season. The proposed project covers a small portion of the entire HMA and minimal forage will be lost to complete this project. There will be no adjustment to the wild horse and burro appropriate management level based on this project.

4.1.7.2. No Action Alternative

If no action is taken, conditions in the drainage will remain unchanged and burros and horses will not be impacted during the Proposed Action.

4.1.8. Wildlife Excluding Federally Listed Species including BLM sensitive species

4.1.8.1. Proposed Action

Wildlife species in the general area include small mammals, rodents, birds and reptiles. These species would be displaced as lands are disturbed within the project area. The primary direct impact of the proposed action on wildlife would be killing or maiming of ground dwelling animals during burning and the loss of habitat. Additional impacts associated with the mortality from vehicular traffic to and from the project site. The ponderosa pine ecosystem is a fire adapted ecosystem. Therefore, in the long run burning the area will create a healthier ecosystem.

4.1.8.2. No Action

If no action is taken the conditions in Pine Creek will remain the same and this resources will not be impacted by the Proposed Action.

4.2. Cumulative Effects:

The Council of Environmental Quality (CEQ) regulations implementing NEPA define cumulative impacts as "...[T]he impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions (RFFA) regardless of what agency (Federal or Non-Federal) or person undertakes such actions." Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

Past, Present, and Reasonably Foreseeable Future Actions

On the basis of agency records, GIS analysis and interdisciplinary team discussion the following past, present and RFFA, which have impacted or may impact the affected resources within the assessment area to varying degrees, have been identified:

Past Actions

In 1992, a similar project was implemented at Pine Creek to reduce hazardous fuels surrounding Ponderosa pine. After project implementation hazardous fuels in the project area were reduced. However, in the 20 years since the project was implemented, the forest understory has regrown.

Present Actions

*Chapter 4 Environmental Effects:
Wildlife Excluding Federally Listed Species including
BLM sensitive species*

April 30, 2012

The Pine Creek Trail is adjacent to the Proposed Project area. Pine Creek Trail is a main artery to popular climbing routes; thus, the trail supports high visitor use.

Reasonably Foreseeable Future Actions

There are plans to create 300-foot wide fuel breaks strategically throughout RRCNCA by applying herbicide to reduce brome species. Implementation could begin as soon as Fall 2012. The nearest planned fuel break would occur along the northern boundary of the Proposed Project Area. The herbicide application project was designed to avoid treating near water or in washes, so it would not occur in the same area as the Proposed Project.

Additionally, there may be a parking lot expansion at Pine Creek to accommodate high visitor use. Currently the Transportation Project is early in the EA development stage, and it is not likely that the increase would effect resources within the Proposed Project Area.

4.3. Mitigation:

Mitigation measures are those measures that could reduce or avoid adverse impacts and have not been incorporated in the Proposed Action or the No Action Alternative. To ensure potential impacts to the area are minimized, the measures listed below and the stipulations listed in ??? will be added as Standard Stipulations

4.3.1. Invasive Species/Noxious Weeds

- The area of vegetation removal and ground disturbance shall be limited to the absolute minimum necessary to perform the activity safely and as designed.
- Project operations will begin in weed free areas whenever feasible before operating in weed-infested areas.
- Staging areas shall be located in areas that are relatively weed-free. Travel through weed-infested areas shall be minimized.
- All equipment and staff, including footwear and laces, shall be cleaned of mud, dirt and plant parts before entering the project area and again after leaving.
- Weed surveys will be conducted within the Project Area, during the growing season following implementation, to ensure that any new noxious weed infestations are documented and treated.

4.3.2. Migratory Birds

- To prevent undue harm, habitat-altering projects or portions of projects should be scheduled outside bird breeding season. In upland desert habitats and ephemeral washes containing upland species, the season generally occurs between March 15th - July 30th.
- If a project that may alter any breeding habitat has to occur during the breeding season, then a qualified biologist must survey the area for nests prior to commencement of construction activities. This shall include burrowing and ground nesting species in addition to those nesting

in vegetation. If any active nests (containing eggs or young) are found, an appropriately-sized buffer area must be avoided until the young birds fledge.

4.3.3. T&E or Candidate Animal Species

- A speed limit of 25 miles per hour shall be required for all vehicles travelling on the existing access roads.
- Should a desert tortoise enter the area of activity, all activity shall cease until such time as the animal has left the area of its own accord.
- Workers will be instructed to check underneath all vehicles before moving them as tortoises often take cover underneath parked vehicles.
- Workers will be provided educational information on the desert tortoise which includes the legal protection and consequences for the violation of the Endangered Species Act.
- All related trash will be contained and removed from the site at the conclusion of the event(s).
-

4.3.4. Wild Horses/Burros

- Participants will not exceed 25 mph speeds throughout the HMA, especially from March to June, this is the primary foaling season. Also, future gathers and removals will take place when it has been determined that there are excess wild horses and burros in the HMA. The tour will be temporarily suspended during these times to allow for a safe gather environment.

4.3.5. Woodland/Forestry

- To the extent practical, cactus and yucca species are to be avoided by fuel reduction. Burn areas are to be within sites devoid of vegetation and lacking cactus and yucca species.

Chapter 5. Tribes, Individuals, Organizations, or Agencies Consulted:

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[Describe consultation efforts here.]

Table 5.1. List of Persons, Agencies and Organizations Consulted

Name	Purpose & Authorities for Consultation or Coordination	Findings & Conclusions
Enter Name		
Enter Name		

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Chapter 6. List of Preparers

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In accordance with the systematic and interdisciplinary approach specified in 40 CFR 1501.2a, the BLM and contractors selected a team of resource specialists to systematically plan and analyze all project components that may have an impact on the physical or human environment. The team consisted of the following personnel:

Table 6.1. List of Preparers

Name	Title
Lisa Christianson	Air Resources Specialist
Susan Farkas	Planning and Environmental Coordinator
Krystal Johnson	Wild Horse and Burro Specialist
Boris Poff	Hydrologist
Sendi Kalcic	Wilderness Specialist
Lorri Dee Dukes	Geologist
Nick Walendziak	Recreation Planner
Kerri-Anne Thorpe	Realty Specialist
Katie Kleinick	Natural Resource Specialist
Amelia Savage	Wildlife Biologist
Jill Craig	Natural Resource Specialist
Lucas Rhea	Fire Management Specialist
Sendi Kalcic	Wilderness Planner