UPPER COLONY II FUELS TREATMENT PROJECT ENVIRONMENTAL ASSESSMENT

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U.S. Department of the Interior
Bureau of Land Management
Carson City District
Sierra Front Field Office
5665 Morgan Mill Road
Carson City, NV 89701
775-885-6000

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BLM

Sierra Front Field Office, Carson City

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I. INTRODUCTION/PURPOSE & NEED

INTRODUCTION

The Bureau of Land Management, Carson City District, Sierra Front Field Office (BLM) is proposing a 1,080-acre fuels treatment project on the western edge of Smith Valley, Lyon County, Nevada. The project is on BLM administered land adjacent to wildland-urban interface containing numerous residences and outbuildings.

The project is part of a nation-wide initiative to help protect communities considered at high risk from wildfire damage. Smith Valley is on the list of at risk communities found in the Federal Register and the west side of Smith Valley has been assigned a High Hazard category in the *Nevada Community Wildfire/Hazard Assessment Project – Lyon County (2004).*

In 2006 the BLM, Smith Valley Fire Protection District and local residents jointly developed a small scale fuels treatment project on the west side of Smith Valley for the purpose of increasing public and firefighter safety and reducing the risk of wildfire damage to area residences. The project was implemented in spring of 2006 and initially met the treatment objectives. Further assessment of wildfire risks and an uncharacteristically high growth rate of plants treated in the 2006 project area have resulted in the BLM and the Smith Valley Fire Protection District having concerns the original project may have limited effectiveness and that a larger scale project would be needed. Such a project would not only enhance public and firefighter safety and reduce the risk of wildfire damage to area residences, but also improve ecosystem health in an area of important wildlife habitat and high aesthetic and recreation values.

PURPOSE & NEED

The purposes of the proposed project are to:

- Enhance public and firefighter safety.
- Reduce the risk of wildfire damage to area residences.
- Reduce the risk for uncharacteristically large intense wildfires.
- Improve ecosystem health, vigor, and resistance to insects and disease.
- Maintain aesthetic and recreation values.

Under the National Fire Plan (2000), governments, communities and fire professionals have been tasked with identifying communities at risk and proposing projects to reduce the potential for wildfire damage in the wildland-urban interface.

The Pine Nut Mountains west of the project area have a history of large intense wildfires. The BLM, Lyon County, the Smith Valley Fire Protection District and local residents are concerned that in the event of an intense wildfire, residential areas would be difficult to defend, property and resource damage could be substantial, and the lives of the public and firefighters could be at risk.

The wildland-urban interface condition in Smith Valley is primarily intermix, where residences are on larger lots and wildland fuels are often continuous up to each residence. Lot sizes vary with the majority of lots between one and ten acres in size. Structures and flammable wildland vegetation are not separated by clear lines of demarcation.

Wildland-urban interface with proposed project area in foreground

If vegetation structure and composition is not addressed fuel loads would increase, understory vegetation would be stressed and depleted, and the stage would be set for a large high intensity wildfire. Such a wildfire would be difficult and dangerous to control and would be detrimental to wildland-urban interface, wildlife, aesthetic and recreation values.

LAND USE PLAN CONFORMANCE STATEMENT

The proposed action and alternatives described below are in conformance with the *Carson City Field Office Consolidated Resource Management Plan, 2001 (CCFO CRMP 2001):*

Fire – Desired Outcomes (*CCFO CRMP 2001, pg. FIR-2*)

- Restore fire as an integral part of the ecosystem, improve the diversity of vegetation and reduce fire hazard fuels.

Wildlife - Desired Outcomes (*CCFO CRMP 2001, pg. WLD-2*)

- Maintain and improve wildlife habitat, including riparian/stream habitats, and reduce habitat conflicts while providing for other appropriate uses.

Forestry - Desired Outcomes *(CCFO CRMP 2001, pg. FOR-1)*

- Forest and woodland management will be based on the principles of multiple use, sustained yield, and ecosystem management.

Forestry – Land Use Allocations *(CCFO CRMP 2001, pg. FOR-1)*

- Sell green pinyon and juniper for fuelwood and fence posts, for personal use, at the rate of up to 5,000 cords and 1,000 posts annually...only in areas where there would be no conflicts, or in areas where the conflicts could be mitigated.

Carson City Field Office Fire Management Plan, 2004. (CCFO FMP, 2004) The proposed Upper Colony II Project is located in the Como Fire Management Unit (FMU) (NV-030-07). Management direction applicable to this proposal includes the following:

FMU Fire Management Objectives Priority Statement *(CCFO FMP, 2004 pg. 127)*

- Firefighter and public safety is the first priority.
- Protection of communities and associated infrastructure.
- Promote a fire safe condition for Communities at Risk.
- Maintain a sufficient quality and diversity of habitat and forage for livestock, wildlife and wild horses through natural regeneration and/or vegetation manipulation.
- Protect recreation opportunities on public lands.

Non-Fire Fuels Treatment Strategies: *(CCFO FMP, 2004 pg. 131)*

- Hazardous fuels treatment may be considered in combination with resource driven vegetation modification projects to achieve mutually beneficial vegetation, habitat, watershed, cultural resource, and fuels objectives. Hazardous fuels loads would be treated in order to reduce rates of fire spread, and the threat of escaped fires.

RELATIONSHIPS TO STATUTES, REGULATIONS, AND OTHER PLANS

This environmental analysis (EA) is consistent with Protecting People and Natural Resources, A Cohesive Fuels Treatment Strategy (2006). The mission of the strategy is to lessen risks from damaging wildfires by reducing fuels build-up in forests and woodlands and by reducing threats from flammable invasive species on rangelands in the most efficient and cost effective manner possible.

This EA is consistent with the Nevada Community Wildfire/Hazard Assessment Project – Lyon County (2004), which assessed wildfire risks to Lyon County communities and recommended risk mitigation projects (Appendix A). The Project scored the west side of Smith Valley in the High Hazard category and recommended the BLM create a shaded fuelbreak on the west side of the community.

This EA is consistent with Vegetation Treatments on Bureau of Land Management Lands in 17 Western States, Programmatic Environmental Report (2007).

This EA was prepared in accordance with the National Environmental Policy Act (NEPA) and is in compliance with applicable regulations and laws passed subsequently, including the President's Council of Environmental Quality Regulations, US Department of Interior requirements, and guidelines listed in BLM Manual Handbook H-1790-1. The EA assesses the potential environmental impacts of the Proposed Action and reasonable alternatives and documents public participation as well as the decision-making process.

II. PROPOSED ACTION AND ALTERNATIVES

PROPOSED ACTION

Location T 11N, R 23E, Sections 4, 9, 16 & T 12N, R 23E, Sections 29, 32, 33

General The trees and shrubs in the project area would be thinned in a manner that creates an area where wildfire would burn with reduced intensity, ecosystem health would be improved and aesthetic values would be maintained (Project Map).

Treatment Design The proposed project would modify the amount, structure and continuity of vegetation through mechanical mastication (mowing) and limited public woodcutting.

Tree spacing would be adjusted to approximately 30 feet between individual trees or groups of trees to reduce the potential for crown fire rejuvenate shrubs and grasses and increase species diversity. Tree thinning would target smaller diameter trees, retaining primarily larger older trees. Where applicable trees would be retained in small groups with openings between the groups. Areas with healthy shrubs and grasses would be the target locations for openings.

In the woodcutting area trees to be retained would be marked with either flagging or paint. Residual slash would be left in place and shredded by subsequent mastication operations. Public woodcutting activities would be terminated prior to initiation of mastication operations.

Shrub spacing would be adjusted by treating approximately 60% of the shrubs in a mosaic pattern to reduce fire intensity potential and promote a mosaic of shrub size on the landscape.

Trees and shrubs would be severed on the stump, no higher than six inches above the ground and treated to lie within 12 inches of the ground. Shredded vegetation would be left in place to stabilize soils, reduce dust generation and obscure travel routes created by woodcutters.

All large standing dead trees (snags) would be retained. Raptor nests discovered during project implementation would be retained.

An area a minimum of 30 feet each side of Red Creek (T11N, R23E, S4) would be left untreated to maintain unique riparian habitat. An area a minimum of 15 feet each side of the buried water pipeline in Pipeline Canyon (T12N, R23E, S29) would be left untreated to mitigate damage potential. Untreated vegetation would be left standing within the project area to reduce visual impacts, retain wildlife habitat and discourage off road vehicle use. The distribution and arrangement of untreated vegetation would be random and irregular.

The outside edges of the project area would be blended into the untreated vegetation adjacent to minimize the creation of strong linear edges.

Treatment Schedule Treatment could occur any time of the year but the preferred timing of treatment would be mid-July through April to reduce disturbance during nesting season.

Post Treatment Management The project would be managed to remain effective, prevent excessive generation of dust, soil erosion, and protect the project area from unnecessary disturbance.

In order to achieve these objectives the following management actions would be enacted:

1. Vehicle use would be discouraged off road in the project area to protect vegetation recovery.
2. Signs indicating management restrictions would be installed at access points to the project area.
3. Existing roads and trails in the project area would remain open.
4. If noxious weeds are detected in the project area, infestations would be identified for treatment in the Carson City District Annual Weed Treatment Plan.

Monitoring Monitoring would be conducted throughout the project area both during and after project implementation. Monitoring will consist of periodic surveys to:

1. Ensure that the initial treatment objectives are met.
2. Evaluate vegetation recovery.
3. Identify invasive species for subsequent treatment.
4. Ensure that motorized vehicle use is restricted to existing roads and trails in treated areas.

Maintenance The project would require periodic maintenance to remain effective. Monitoring would be conducted periodically to assess changes in treatment effectiveness. When treatment effectiveness is compromised maintenance actions would be initiated.

Specific District Resource Protocol

Cultural Resources:

- Following BLM regulations (43 CFR Part 8100) and other federal laws including the National Historic Preservation Act (16 USC § 470f) and its implementing regulations (36 CFR Part 800), as amended, BLM reviewed the immediate region for historic properties prior to a federal undertaking (issuance of a federal permit). By definition, an historic property is a "prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places" and includes "artifacts, records, and remains that are related to and located within such properties" (36 CFR 800.16(l)(1)).

- The mechanical treatment for this project has the potential to adversely affect cultural resources. Per 36 CFR Part 800 and 43 CFR Part 8100 (BLM), as amended, BLM is required to identify and evaluate cultural resources within the area of potential effect for this project. Historic properties identified and evaluated as eligible under the National Register of Historic places will be avoided with a 50 meter buffer during implementation to result in no adverse effect to the historic property(ies) pursuant to 36 CFR Part 800, the *State Protocol Agreement Between the Bureau of Land Management, Nevada and the Nevada State Historic Preservation Office for Implementing the National Historic Preservation Act*, 2009, Appendix L, and in consultation with the local tribal entity(ies).

Native American Religious Concerns:

- The Native American tribes that has cultural affiliation with the area within the allotment is the Yerington Paiute Tribe and the Walker River Paiute Tribe. Per 36 CFR Part 800 and 43 CFR Part 8100 (BLM), as amended, a consultation letter with a general summary of the proposed project, and map including the project area were sent to the Tribes on January 27, 2010, concerning the Upper Colony II Fuels Treatment. Consultation is ongoing.

- A Class III survey will be conducted for the proposed mechanical treatment as identified and may potentially have an effect on tribal concerns. Per 36 CFR Part 800 and 43 CFR Part 8100 (BLM), as amended, BLM would review known tribal concerns and conduct Native American coordination and consultation as necessary. As always respect for all cultural resources would be maintained especially in the case of human remains that may be inadvertently discovered in the process of conducting the proposed treatments.

Soil Water and Air:

- Best Management Practices (Appendix B) would be implemented to minimize soil erosion and protect water quality. The project would be scheduled during a low-impact period, surface disturbance would be minimized and mitigated and sensitive riparian areas, wetlands and drainages would be avoided.

- All equipment utilized in the project area would be washed and determined to be free of noxious or invasive species prior to entering the project area.

NO ACTION ALTERNATIVE

The No Action Alternative is the current management situation. Under this alternative, there would be no treatments applied and vegetation would continue to grow beyond levels representative of the natural (historic) fire regime. Ecosystem health would continue to decline.

III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter identifies and describes the current condition and trend of elements or resources in the human environment which may be affected by the Proposed Action or Alternatives and the environmental consequences or effects of the action(s).

SCOPING AND ISSUE IDENTIFICATION

Collaborative development of the proposed Upper Colony II project was initiated in the fall of 2009.

On October 29, 2009 BLM mailed 145 letters and project information sheets to area property owners and cooperative agencies. Letters encouraged recipients to attend a public meeting held in Smith on November 10, 2009 and solicited comment on the project proposal. Comments were requested by December 10, 2009. 22 members of the public attended the meeting and one written comment was received.

Written communication including a description of the Proposed Action and a map was provided to the Walker River Paiute Tribe and the Yerington Paiute Tribe on January 27, 2010. Consultation is ongoing.

Internal scoping for the proposed Upper Colony II project was initiated at the regularly scheduled Interdisciplinary Team meeting at the Carson District Office on December 7, 2009 and continued until April 9, 2010.

The Upper Colony II Environmental Assessment was sent to the Nevada State Clearinghouse for proposal review on April 9, 2010.

PROPOSED ACTION

General Setting

The proposed project area is located on the western edge of Smith Valley, Lyon County, Nevada. Vegetation in the project area is typical of the western Great Basin and consists of a mix of grasses, brush and trees. Elevation ranges between 4,840 and 5,080 feet, aspect for the project site is generally east and slope ranges between 0 and 20 percent. Average annual precipitation is 9 inches, air temperature 50° Fahrenheit and the frost free season 100-120 days.

SUPPLEMENTAL AUTHORITIES

Appendix 1 of BLM's NEPA Handbook (H-1790-1) identifies Supplemental Authorities that are subject to requirements specified by statute or executive order and must be considered in all BLM environmental documents. The table below lists the Supplemental Authorities and their status in the project area. Supplemental Authorities that may be affected by the Proposed Action are further described in this EA.

Supplemental Authority*	Not Present **	Present/Not Affected	Present/May Be Affected***	Rationale and/ or Reference Section
Air Quality		X		Present not affected.
Areas of Critical Environmental Concern	X			Resource not present.
Cultural Resources		X		Based on the survey results and as stated in the Proposed Action, avoidance areas would be established to avoid impacting any historic properties.
Environmental Justice	X			Resource not present.
Farm Lands (prime or unique)	X			Resource not present.
Floodplains	X			Resource not present.
Invasive, Nonnative and Noxious Species	X			Resource not present.
Migratory Birds			X	Carried through EA.
Native American Religious Concerns		X		Written communication including a description of the Proposed Action and a map was provided to the Walker River Paiute Tribe and the Yerington Paiute Tribe on January 27, 2010. Consultation is ongoing.
Threatened and/or Endangered Species	X			Resource not present. The USFWS Nevada's Protected Species list was reviewed by the BLM wildlife biologist and no federally-listed animal species or habitat occurs in the project area (Appendix C).
Wastes, Hazardous or Solid	X			Resource not present.
Water Quality (Surface/Ground)		X		Only the Red Canyon drainage has significant water flow and riparian vegetation. Implementing the BMPs in Appendix B would effectively mitigate any potential impacts.
Wetlands/Riparian Zones		X		Only the Red Canyon drainage has significant water flow and riparian vegetation. Implementing the BMPs in Appendix B would effectively mitigate any potential impacts.
Wild and Scenic Rivers	X			Resource not present.
Wilderness	X			Resource not present.

* *See H-1790-1(January 2009) Appendix 1 Supplemental Authorities to be Considered.*

** *Supplemental Authorities determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.*

*** *Supplemental Authorities determined to be Present/May Be Affected must be carried forward in the document.*

RESOURCES OR USES OTHER THAN SUPPLEMENTAL AUTHORITIES

The following resources or uses, which are not Supplemental Authorities as defined by BLM's Handbook H-1790-1, are present in the area. BLM specialists have evaluated the potential impact of the Proposed Action on these resources and documented their findings in the table below. Resources or uses that may be affected by the Proposed Action are further described in this EA.

Resource or Issue	Present/Not Affected#	Present/May Be Affected##	Rationale
Fire Management/Vegetation		X	Carried through EA.
Forest Resources		X	Carried through EA.
General Wildlife		X	Carried through EA.
Lands and Realty	X		There is a right-of-way in Pipeline Canyon (NVN 036603) for a buried water pipeline and associated facilities and two existing right-of-ways for roads, one in Pipeline Canyon (NVN 037654) and the other in Burbank Canyon (NVN 047498). The Proposed Action would effectively mitigate any potential impacts.
Recreation	X		Dispersed recreation in the proposed project area is low whereas public access to the nearby Pinenut Mountain Range would not be limited by the proposed project.
Soils		X	Carried through EA.
BLM Sensitive Species		X	Carried through EA.
Visual Resource Management	X		The effects of the Proposed Action are short term in nature. Design criteria identified in the Proposed Action would reduce impact to the visual elements of the existing landscape. The Proposed Action would meet the criteria of a Class III area without undue impairment.

 # Resources or uses determined to be Present/Not Affected need not be carried forward or discussed further in the document.
Resources or uses determined to be Present/May Be Affected must be carried forward in the document.

RESOURCES PRESENT AND BROUGHT FORWARD FOR ANALYSIS (All Resources)

The following resources are present in the area and may be affected by the Proposed Action.

A. FIRE MANAGEMENT/VEGETATION

Affected Environment

The potential native plant community consists of Thurber's needlegrass (*Achnatherum thurberianum*), bottlebrush squirreltail (*Elymus elymoides*), Indian ricegrass (*Achnatherum hymenoides*), Wyoming big sagebrush (*Artemisia tridentata* var. *wyomingensis*) and antelope bitterbrush (*Purshia tridentata*).

The dominant present vegetation includes Thurber's needlegrass (*Achnatherum thurberianum*), bottlebrush squirreltail (*Elymus elymoides*), Wyoming big sagebrush (*Artemisia tridentata* var. *wyomingensis*), spineless horsebrush (*Tetradymia canescens*) and green ephedra (*Ephedra viridis*). Utah juniper (*Juniperus osteosperma*) and singleleaf pinyon pine (*Pinus monophylla*) have invaded.

Fire is widely recognized as a natural process influencing vegetation patterns in many mountain landscapes of the western United States including the Pine Nut Mountains. In recent history, management policy has been the systematic exclusion of fire, which influences vegetation patterns by removing the influence of the predominant disturbance process. As brush and tree crown cover and density increase with the absence of disturbance, fuel loads also increase and understory vegetation is depleted. Lack of disturbance also increases the expansion of the pinyon-juniper into the sagebrush ecosystem. Increases in woody fuel loads result in a shift from frequent low and mixed intensity fires to less frequent high intensity fires. High intensity fires can create a post fire environment that is often exploited by fire dependent species such as cheatgrass. Once established this species provides fine fuels that increase opportunities for wildfire ignition and spread. In many areas cheatgrass is associated with a fire return interval of two to five years.

Fire regime condition class (FRCC) describes the degree of fire regime departure from historical fire cycles due to fire exclusion and other influences (selective timber harvesting, grazing, insects and disease, the introduction and establishment of non-native plants). FRCC identifies changes to key ecosystem components such as species composition, structural stage, tree or shrub stand age, and canopy closure. It characterizes the landscape by five "Fire Regime Groups" and three "Fire Condition Classes". Wildfire risk conditions are identified by the Fire Regime Groups and are measured by the Fire Condition Classes. Specifically, the natural historic frequency and severity of fire within an ecosystem is the identified Fire Regime, and Fire Condition Class identifies the departure of current conditions from the historical reference condition. The National Fire Plan and Healthy Forest Restoration Act dictate that the federal agencies use FRCC as criteria for planning projects.

The project area can be characterized by Fire Regime Groups III and IV which have a natural historical fire frequency of 35-100+ years and mixed and stand replacement fire severity. The condition class for the project area can be characterized as a mix of Condition Class 1, meaning the fire regime is within historical range and the risk of losing key ecosystem components from the occurrence of wildland fire is low and Condition Class 3, meaning the fire regime is significantly altered from its historical range and the risk of losing key ecosystem components from fire is high.

The southern Pine Nut Mountains have experienced a number of large wildfires in the past 30 years, one being the 1994 Holbrook Fire which burned over 7,400 acres, threatened residences and negatively impacted wildlife habitat due to post-fire dominance of cheatgrass which has delayed and ultimately may arrest the reestablishment of important native sagebrush plant communities.

Environmental Consequences

Proposed Action:

The overall effect of the Proposed Action would result in the intended consequences of reducing the risks of damaging wildfire and its potential adverse impacts to life, property and ecosystem health. Strategically placed treatments have proven effective reducing high fire behavior potential, helping to facilitate the suppression of wildfires and protecting values at risk. Both natural and human caused fires will continue to occur on the landscape. The goal of the Proposed Action is not to eliminate the process of disturbance caused by fire but to reduce its impact to values at risk and increase the resilience of ecosystem.

The structure, amount and continuity of flammable vegetation within the project area would be altered resulting in reduced fire intensity. The project area would be moved from high to extreme intensity wildfire fuel conditions to low to moderate intensity wildfire fuels conditions. The shrub component would be thinned reducing the surface fuel quantity and continuity. Trees would be thinned reducing the connection from the younger trees to the older trees. Openings established between tree crowns would reduce the tree torching and crowning potential. Condition Class would be improved.

The Proposed Action, which will reduce total canopy cover, could result in increased wind speeds, higher temperatures, and lower humidities for a given time and place, resulting in slightly lower fine fuel moisture in the fine surface fuels.

There is a slight risk of the equipment conducting the mechanical treatment starting a wildland fire by hitting rocks and causing sparks. This risk can be minimized by scheduling the treatment outside periods of high to extreme fire danger.

No Action Alternative:
The No-Action Alternative would result in the continuation of current fire management practices. This alternative assumes that fuels in the project area would continue to build up. Condition Class and the associated risk of losing key ecosystem components would continue to degrade. Under drought conditions and/or high winds, a running crown fire could put life, property and ecosystem health at risk.

The risk of lower fine fuel moisture in the fine surface fuels and equipment starting a wildland fire would not exist.

B. FOREST RESOURCES

Affected Environment

Vegetation covering a large portion of the project area includes and expanding population of singleleaf pinyon pine and Utah juniper. Nearly all of the trees have all grown in on the site since within the last several decades. Virtually all the accessible trees in the area and the nearby Pine Nut Mountains were clear-cut in the middle to late 1800s for use as cordwood and mine timbers in the famous Comstock area mines around Virginia City, Nevada.

The public in general has an affinity for trees for a variety of values including scenery and aesthetics, wildlife habitat, and woodland products. Most residents in and near the project area place a much higher value on the trees of the site as desirable landscaping than as products such as cordwood.

However, as much as people value trees, awareness has been growing of the danger to residences from damaging wildfires in wooded communities. Numerous losses of homes to wildfires have occurred in the region and nation, and programs promoting loss prevention through fuels management such as the Nevada Fire Safe Council and the Defensible Space initiative have been accepted and proven successful. As local residents have come to understand the need to reduce flammable vegetation in the wildland/urban interface zone, some realize the practicality of utilizing some of the wood from trees that need to be removed as a by-product of fuels management.

Wildfire obviously also poses a major threat to the survival of trees on the site, and many instances of total loss of tree cover due to past wildfires can be found in the vicinity. Conversely, many instances can now be cited where tree mortality from wildfires was proven to be greatly reduced by thinning forest stands and reducing fire hazard fuels.

Pinyon pines and junipers on many acres of dense woodlands in the vicinity have been attacked by bark beetles, notably the pinyon Ips. During drought periods, trees that are densely stocked are critically competing with each other for moisture and may not be able to produce enough sap to keep bark beetles from penetrating the bark. While a certain level of bark beetle activity occurs naturally, thinning woodland stands effectively helps trees resist mortality and can prevent abnormal insect population surges. This has become a standard and accepted treatment to protect forest resources in the area.

Environmental Consequences

Proposed Action:

While the proposed action is designed to prevent destructive fire behavior to protect homes, it would also produce the beneficial effect of reducing loss of trees to such damaging wildfires by reducing the amount of fuels and therefore fire intensities and spread. Wildfires would be more readily controlled in the treated area, so trees would be better protected.

Thinning the woodland stands would also result in increased vigor of trees growing on the site and therefore greater resistance to attacks on them by bark beetles.

No Action Alternative:

To leave the woodland untreated would continue to subject the ecosystem to the adverse effects of damaging wildfire. In only a matter of time, it is likely that a wildfire would occur there that would be very difficult to control before causing tragic loss of property, natural resources, and possibly human lives even despite incredibly costly efforts of fire management agencies to suppress it. In light of the mandate given the Bureau through the National Fire Plan and efforts of other entities such as Nevada Fire Safe Council and Nevada Division of Forestry to act to prevent such loss, failure of the Bureau to cooperate in the public interest would be indefensible and, practically speaking, is not a viable alternative.

C. GENERAL WILDLIFE

Affected Environment

Wildlife habitat types in the project area are sagebrush and pinyon-juniper woodland. Vegetation includes singleleaf pinyon pine, Utah juniper, Wyoming sagebrush, ephedra, horsebrush, Thurber's needlegrass, and bottlebrush squirreltail. The predominant vegetation should be Wyoming big sagebrush with an understory of native grasses and forbs, but singleleaf pinyon pine and Utah juniper have invaded. Pinyon-juniper woodlands were almost completely wiped out during the late nineteenth century, but have thrived with fire suppression after the 1920s to not only repopulate their pre-settlement range but to expand aggressively into historic sagebrush range. Fire suppression has allowed trees to move from fire-safe sites provided by shallow rocky soils that trees historically occupied into sagebrush on alluvial fans, canyon bottoms, and hillslopes with deeper soils. Pinyon-juniper woodland exceeds its historical distribution and density in the Pine Nut Mountains. This is especially the case at the lower to mid elevations where woodlands continue to invade into sagebrush communities. Sagebrush in the project area is currently interspersed with invading trees and they are increasing throughout the project area, replacing the native shrub/understory community. Where trees

are dense in the project area, shrubs are mature and decadent, grasses and forbs such as bluegrass and Indian paintbrush are sparse, and there are large areas of bare ground. The sagebrush habitat in the project area is lacking a healthy, robust understory. Eventually pinyon-juniper dominated areas convert to closed woodlands that support little to no shrub/grass understory. Where sagebrush habitat has been depleted of its understory, it lacks the ability to provide nesting cover, escape cover, and sources of food for wildlife (Wildlife Action Plan Team 2006). Conversely, sagebrush range in good condition supports a substantial bunchgrass/forb component. Riparian vegetation in the form of willows and cottonwoods exists in Red Canyon. Pinyon pine and juniper trees also present a serious wildfire threat to sagebrush habitat in and around the project area and an uncharacteristic wildfire would negatively alter the landscape for the long-term.

Sagebrush provides habitat for wildlife species such as kit foxes, horned lizards, kangaroo mice, ground squirrels, voles, and shrews. Little of the pinyon in the project area appears to be of nut producing age. The junipers may produce berries in favorable moisture years and the berry crop would be an important food resource for birds and small mammals. Pinyon-juniper provides hiding cover and nest sites for birds, bats, and small mammals. As an evergreen cover, it provides important thermal cover for wildlife during winter. Wildlife species associated with this habitat type include Cassin's finch, mountain bluebird, and pinyon mouse. Common species in the project area include Great Basin kangaroo rat, gray fox, and black-throated sparrow. There are no known raptor nests in the project area. For the same reason as previously described for migratory birds and sensitive species, the trajectory for diversity and individual numbers of general wildlife associated with sagebrush is likely downward. Sagebrush dependent species currently have less habitat and poorer quality habitat than if the trees were less abundant, and they also face the possibility of losing a large amount of sagebrush habitat to uncharacteristic wildfire fueled by the build of trees.

Mule deer have incurred a 50% decline in Nevada since the 1980s (Wildlife Action Plan Team 2006). The project area is located within key mule deer winter range (NDOW 2004). The project area should be dominated by Wyoming big sagebrush, which is a key winter and spring forage plant because it has one of the highest protein contents of all the sagebrush types (Welch et al. 1986). Antelope bitterbrush should also be available. Big sagebrush also serves as cover for fawning and for all age classes of mule deer (Welch 2005). The conversion of sagebrush to pinyon-juniper with little to no understory is making big game range less effective than it could be. Mountain lions can be found in any habitat used by mule deer. When deer numbers are low, lion numbers drop. Mountain lion predation would not cause a healthy deer population to decline (Wallmo 1981). However, if a mule deer population is low and habitat is in poor condition or in short supply, mountain lions can keep deer numbers down. Current conditions of compromised winter range could be allowing mountain lions to keep deer populations low. The project area is within historic bighorn range and the Pine Nut Mountains have been identified as potential desert bighorn sheep habitat, but it is not currently occupied by the species (NDOW 2006a). Historically, pronghorn were present in all valleys of Nevada (BLM 1988). The project area does not occur within designated pronghorn habitat (NDOW 2006). Black bears occur in the Pine Nut Mountains, but the project area is just east of, and outside, black bear habitat (NDOW 2005).

Environmental Consequences

Proposed Action:

Reducing loss to pinyon-juniper encroachment and stabilizing the loss of sagebrush to wildfire are conservation objectives identified in the Nevada Wildlife Action Plan (Wildlife Action Plan Team 2006). The proposed action addresses, and would help accomplish, these objectives. It would benefit wildlife species that use big sagebrush habitat because it would interrupt the current conversion to pinyon-juniper. This would be done by removing trees and creating opening in areas where there are healthy shrubs and grasses. The proposed 30 ft-spacing between trees or clumps of trees would rejuvenate shrubs, grasses, and forbs. Larger, older trees more valuable to wildlife would be retained. Spacing of retained trees and shrubs would be random and irregular to create a mosaic of patchy habitat. Mowing would also leave a greater variety of shrub heights and increase structural complexity. Perennial shrubs and forbs in treated areas would likely increase in vigor, abundance, and type. Retention and re-establishment of key deer browse species, such as bitterbrush, and shrubs used for cover are important benefits that would result from project implementation. Better forage and cover could result in a deer herd that is able to maintain or increase despite predation. Diverse forage sources such as seeds, insects, and rodents (voles, moles, shrews, kangaroo mice, kangaroo rats) would be maintained and improved by a healthy shrub/grass community. The proposed project would allow a more diverse and abundant assemblage of wildlife species to be supported by the project area in the long-term. The proposed project would not affect riparian areas. Trees to be retained in the woodcutting area would be marked, and residual slash would be shredded during the subsequent mowing operations and left on-site to help obscure travel routes created by woodcutters that could further fragment habitat. Any noxious weed infestations that are detected would be identified for treatment. While the proposed action would also help reduce the potential that existing habitat in the project area could be lost to damaging wildfire, it would not eliminate the potential for characteristic fire (a natural disturbance process). The proposed action would increase system resilience by moving existing conditions to typical low to moderate intensity fuel loads.

No Action Alternative:

Under this alternative, wildlife diversity would decline and would be skewed toward closed-canopy woodland assemblages. Without treatment, understory vegetation will continue to be lost and the project area will support fewer species. Mule deer habitat will deteriorate as the closing canopy causes browse plants to disappear. If a major wildfire occurred, it would alter or eliminate wildlife habitat in the project area for the long-term.

D. MIGRATORY BIRDS

Affected Environment

On January 11, 2001, President Clinton signed Executive Order (EO) 13186 placing emphasis on the conservation and management of migratory birds. The EO addresses the responsibilities of federal agencies to protect migratory birds by taking actions to implement the Migratory Bird Treaty Act of 1918. The Intermountain West is the center of distribution for many western birds (Rich et al. 2004). Over half of this biome's Species of Continental Importance have 75% or more of their population here. Many breeding species from this biome migrate to winter in central and western Mexico or in the Southwestern biome. Shrub-nesting species comprise the largest number of Species of Continental Importance in this biome. BLM management for migratory birds is based on Instruction Memorandum No. 2008-050 (BLM 2007). The IM also includes lists of the migratory birds associated with western BLM lands. The BLM migratory bird species of conservation concern that occur or are likely to occur in the project area are listed in Appendix D.

There are no Important Bird Areas (IBAs) of Nevada associated with the project area (McIvor 2005). Although IBAs have no legal status, they do give an indication of concentrations of migratory birds.

Habitat for migratory birds in the project area consists of sagebrush, pinyon-juniper woodland, and riparian vegetation comprised of willows and cottonwoods in the Red Canyon drainage. The project area should be primarily Wyoming big sagebrush and a mix of native grasses, but woodland encroachment has occurred. Tree species are beginning to dominate much of the project area and are crowding the shrub/understory community out of the system. Pinyon-juniper trees also present the threat of wildfire to habitat in the project area and would currently act as a conduit for conveying fast-moving uncharacteristic crown wildfires up the mountainside into higher elevations (see the General Wildlife Affected Environment section for more discussion on existing habitat conditions).

The Brewer's sparrow and sage sparrow are sagebrush obligates and require a sagebrush-dominated system for most of their life history needs (Wildlife Action Plan Team 2006). These birds depend heavily on the shrub component for nesting substrate and their distribution is closely tied with that of sagebrush. The U.S. Breeding Bird Survey documented a population decline of 50% or greater for Brewer's sparrow between 1966 and 1999 (Wildlife Action Plan 2006). Sagebrush loss has been identified as a major threat for the sage sparrow (www.natureserve.com). Mature shrubs also provide nesting structure, protection from predators, and thermal cover for loggerhead shrikes (Wildlife Action Plan Team 2006). Prairie falcons and ferruginous hawks spend most of their time hunting over sagebrush for ground squirrels and jackrabbits (Wildlife Action Plan Team 2006). Ferruginous hawks also exploit pinyon-juniper by using older trees of sufficient size to support their large nests. The gray vireo is an insectivorous species that uses pinyon-juniper woodland during the breeding season, migration, and non-breeding season. It builds cup nests suspended from twigs in shrubs or trees. North American Breeding Bird Survey (BBS) trend estimates show significant survey-wide population declines from 1966 to 1996, but also show population increases in Nevada (www.natureserve.com). The species is considered vulnerable in Nevada (www.natureserve.com). Threats and reasons for range contractions are largely unknown, but this species may be affected by grazing where shrub cover is diminished or removed, and changes in fire regime that bring about an increase in fire extent or frequency may be detrimental. Overall, migratory bird species that use the project area are likely skewed toward those that use pinyon-juniper and/or are more tolerant of a loss of understory vegetation. The general trend in the project area is likely one of lowered bird diversity and declining abundance of sagebrush-associated birds from habitat loss and reduced habitat quality of the shrub community due to pinyon-juniper invasion.

Environmental Consequences

Proposed Action:

The proposed action is in accordance with the North American Landbird Conservation Plan, which recommends maintaining and promoting growth of native grasses and forbs and preventing large-scale wildfire in shrub habitat (Rich et al. 2004). The proposed action would benefit some migratory bird species more than others (see the General Wildlife Environmental Consequences section for more discussion on effects to habitat). The proposed action would primarily benefit individuals, and possibly local populations, of species that use sagebrush such as the ferruginous hawk, Swainson's hawk, golden eagle, loggerhead shrike, black-throated gray warbler, Brewer's sparrow, sage sparrow, and prairie falcon. Mourning doves and pinyon jays use sagebrush habitat, but are also dependent on pinyon woodlands so benefits to these birds would be less than to the others. The pinyon jay is strongly tied to pinyon nut crops. The pinyon trees that would be removed from the project area are smaller trees, not mature nut-producing trees. The gray vireo is a pinyon-woodland species and is

likely the main species that would lose some habitat with project implementation because tree spacing would be adjusted to approximately 30 ft between individual trees or groups of trees. The project area is small at just over 1,000 acres and a loss of some of this acreage represents a tiny fraction of habitat available to gray vireos in the area. A 30 ft buffer on each side of Red Creek would be left untreated to protect rare, unique riparian habitat. The proposed project could temporarily affect individual birds if implemented during the nesting season. Mitigation has been recommended to avoid such disturbance, but if implementation occurred during nesting season, only one year's production would be potentially affected. There could be some impacts to individual migratory birds at the local level, but regional populations for all species would either be unaffected or would benefit from the proposed treatment in the long-term.

No Action Alternative:
This alternative would adversely affect individuals at the local level that are dependent on sagebrush such as the sage sparrow and Brewer's sparrow. It would benefit woodland-associated migratory birds because woodland expansion would continue, but expansion would also amplify the risk of losing woodland habitat to damaging wildfire. For this reason, benefits from this alternative to migratory bird species that use woodland habitat such as the pinyon jay and gray vireo would be short-term because it is only a matter of time before a major wildfire destroys habitat and thereby alters a large piece of the landscape for many years. More pinyon-juniper habitat would be lost in a wildfire than would be lost from implementing the proposed action. Impacts from this alternative could affect individual migratory birds at the local level, but would not affect regional populations of any species.

E. SOILS

Affected Environment

The treatment area is within soil mapping units that contain Holbrook and Hotsprings series soils. These soils formed from mixed alluvium and have textures that range from gravelly loamy coarse sand to stony sandy loam. They are only slightly susceptible to water or wind erosion.

Environmental Consequences

Proposed Action:
Surface disturbance associated with the use of equipment would cause impacts to soils, but these impacts would be minimized by implementing the BMPs described in Appendix B. Soils in the treatment area are only slightly susceptible to erosion, and the residual plant material would limit any soil movement. Impacts that do occur are expected to be minor and temporary because vegetation regrowth has occurred rapidly following past treatments in the area.

No Action Alternative:
The No-Action Alternative would result in no impacts to soils.

F. BLM SENSITIVE SPECIES

Affected Environment

BLM Manual 6840 establishes procedures for the management of species designated BLM sensitive, and their habitat (BLM 2008). All federally designated candidate species, proposed species, and delisted species in the 5 years following their delisting shall be conserved as Bureau sensitive species. Species designated as Bureau sensitive must be native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management, and either: (1) there is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct

population segment of the species is at risk across all or a significant portion of the species range, or (2) the species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk. A list of sensitive animal and plant species associated with BLM lands in Nevada was signed in 2003 (BLM 2003). The Nevada BLM sensitive animal species that occur or are likely to occur in the project area are listed in Appendix E.

The general habitat issues of pinyon-juniper encroachment, declining health of sagebrush, loss of grasses and forbs, and high risk of habitat loss to wildfire that were discussed for migratory birds also apply to sensitive species (see the General Wildlife Affected Environment section for more discussion on existing habitat conditions).

The greater sage-grouse is a sensitive species highly adapted to sagebrush (Wildlife Action Plan Team 2006). Ninety-eight percent of the year-round diet of adults is made up of sagebrush leaves, which gives the bird the ability to winter on sagebrush range. Sage-grouse depend on mature shrubs for nesting structure, protection from predators, and thermal cover. They nest on the ground under low-growing sagebrush bushes enhanced with thick bunchgrass understory. Both a dense shrub overstory and an herbaceous understory of grasses are crucial for shade and concealment. This species has experienced a 50% population decline since 1966 primarily due to habitat degradation (Wildlife Action Plan Team 2006). There is a small population of grouse in the Pine Nut Mountains. The Pine Nut Population Management Unit (PMU) is described in the Greater Sage-Grouse Conservation Plan for the Bi-State Plan Area of Nevada and Eastern California (2004). Biologists have identified two distinct breeding populations within the Pine Nut PMU. The South Pine Nut breeding habitat is north of Minnehaha Canyon and west of Red Canyon, and consists of 2 documented lek locations and possibly a third. Pinyon-juniper encroachment into sagebrush is occurring throughout the Pine Nut PMU and is of concern because it reduces habitat quality and quantity. The project area occurs in the southern portion of the PMU, but does not overlap with summer, winter, or nesting habitat designations within the PMU (NDOW 2008). Brooding habitat is generally all riparian habitat within sage grouse range, but the steep topography and woody riparian vegetation in Red Canyon makes its value as sage-grouse brood habitat questionable. Designated sage-grouse habitat up the mountainside from the project area is currently at risk from wildfire because of fuel loads in the project area. Prevailing winds would push crown fires up the mountainside much quicker than they would characteristic low-intensity ground fires. A wildfire of only a few thousand acres would eliminate the South Pine Nut breeding habitat. Sagebrush in the vicinity of Minnehaha Canyon is already lacking as a result of the Holbrook fire that burned roughly 7,400 acres in 1994.

The project area's soils are primarily course-textured and could be used by burrowing owls, which use sandy soils in sagebrush habitat (Wildlife Action Plan Team 2006). While mature pinyon-juniper provides nesting structure, protection from predators, and an insect prey base for some sensitive species such as the pinyon jay, juniper titmouse, long-eared myotis, fringed myotis, and western small-footed myotis, the overall trajectory for the project area is less species diversity and lowered species abundance through loss of sagebrush habitat quantity and reduced habitat quality to tree encroachment. Sensitive species that use the project area are likely those that use pinyon-juniper and/or are more tolerant of a loss of understory vegetation.

Environmental Consequences

Proposed Action:

In general, impacts to sensitive species would be similar to those described in the General Wildlife Environmental Consequences section (see this section for more discussion on effects to habitat). Several species of birds were already covered in the migratory bird section. The proposed action would benefit some sensitive species more than others. Species associated with sagebrush and its understory plants such as mountain quail, vesper sparrow, and several bat species would benefit most from sagebrush conservation and restoration. Species like the long-eared owl, little brown myotis, and Brazilian free-tailed bat that use woodland habitat in addition to sagebrush would not benefit as much and would lose some woodland habitat. Benefits and negative effects for these species essentially cancel each other out. Effects from disturbance, most likely displacement during project implementation, would be short-term and there is plenty of similar available habitat surrounding the project area that individuals could move into. Sage-grouse would benefit greatly from the proposed action because it would reduce the chance that wildfire could spread up the mountain from the project area and reach the South Pine Nut breeding habitat. The loss of leks in this breeding habitat would adversely affect the Pine Nut population. The juniper titmouse would likely be the species most negatively affected by a loss of woodland habitat because it eats large seeds (juniper, pinyon pine) and acorns rather than arthropods, and prefers senescent trees because its nests are constructed in tree cavities or old woodpecker holes. Larger, older trees are the trees likely to contain cavities and these would be retained. Trees to be removed are not mature nut-producing pinyon pines. Bat species would benefit from the 30 ft buffer on each side of Red Creek that would be left untreated to protect rare, unique riparian habitat.

No Action Alternative:

There would be no disturbance to sensitive species from project activities under this alternative, but this alternative represents a lost opportunity to enhance shrub habitat important to several BLM sensitive species. Mountain quail and vesper sparrows could be negatively affected by the failure to conserve sagebrush in the project area whereas the long-eared owl and mountain bluebird would likely benefit from leaving woodland untreated. Left untreated, woodland expansion would continue and would consequently increase the risk of damaging wildfire jeopardizing existing habitat in the project area and most importantly, the sage grouse leks above the project area in the Pine Nut Mountains. More pinyon-juniper habitat would be lost if a wildfire occurred than would be lost from implementing the proposed action.

CUMULATIVE IMPACTS

The cumulative impacts of the Proposed Action are based on the direct and indirect effects of the project when considered in combination with the effects of past, present, and planned future actions in the Pine Nut Mountains. Past actions and their effects include all actions that have occurred from the time of European settlement in the late 1800s. Past, present, and planned future activities considered in the following analysis include:

- Fire suppression (since 1940s)
- Grazing (since 1880s)
- Historic woodland harvest (since 1880s)
- Vegetation/fuels treatments (since 1960s)
- Urban/recreational development (since 1880s)

Approximately 5,000 acres of the Pine Nut Mountains (415,000 acres) has been treated in the past decade to move vegetative conditions toward a more historic vegetative composition and structure which is more resistant to adverse effects of uncharacteristic wildfire. Present actions include those projects with currently approved environmental analysis. Currently approved environmental analysis exists for less than 1,000 acres of vegetation treatment per year. Reasonably foreseeable future actions include those projects that are in the planning stage and likely to be completed in the next 10 years. Reasonably foreseeable future actions include up to 1,000 acres of vegetation treatment per year. The Upper Colony II Fuels Treatment Project would affect a very small area, less than 1/10 of 1 % of the Pine Nut Mountains.

All resource values and issues affected by the proposed Upper Colony II Fuels Treatment Project have been evaluated for cumulative impacts. Examination of the affected environment and environmental consequences section of this environmental assessment reveals that the proposed action would not affect air quality, areas of critical environmental concern, cultural resources, environmental justice, farm lands, floodplains, invasive/nonnative/noxious species, lands and realty, native American religious concerns, recreation, threatened and/or endangered species, visual resource management, hazardous or solid wastes, water quality, wetlands/riparian zones, wild and scenic rivers, or wilderness and thus cannot contribute to cumulative impacts on these issues and resources. These issues and resources would not be considered further.

Further examination of the affected environment and environmental consequences section of this environmental assessment reveals that the proposed action may affect fire management/vegetation, forest resources, general wildlife, migratory birds, soils and special status species therefore may contribute to cumulative impacts on these issues and resources. Thus these issues and resources would be considered in the cumulative impacts analysis.

Past actions such as fire suppression, grazing and woodland harvest have resulted in an ecosystem that has moved away from the historic range of variability in terms of stand densities, species composition and vegetative structure. General trends across the landscape as a result of past actions include denser vegetation, species composition shifts, vegetative structure that is more dominated trees rather than shrubs and perennial grasses and increased accumulation of fuels. These trends have led to changes in habitat, uncharacteristic fuel profiles, increased fire hazard and increased potential for uncharacteristic severe wildfire that can lead to undesirable property and resource damage. All present and reasonably foreseeable future actions are designed to reverse the trends of past actions that have resulted in a shift away from the historic range of variability. Present vegetation management projects and reasonably foreseeable future vegetation management projects in the Pine Nut Mountains, under the current management paradigm, have or will be designed to move vegetative conditions toward a more historic vegetative composition and structure which is more resistant to adverse effects of uncharacteristic wildfire.

There are no anticipated negative cumulative effects, but rather beneficial effects when considered with other vegetative treatments in the Pine Nut Mountains designed to move vegetative conditions toward a more historic vegetative composition and structure.

MONITORING

The monitoring described in the Proposed Action is sufficient for this action.

IV. PERSONS, GROUPS, AND AGENCIES CONSULTED

LIST OF PREPARERS

Bureau of Land Management

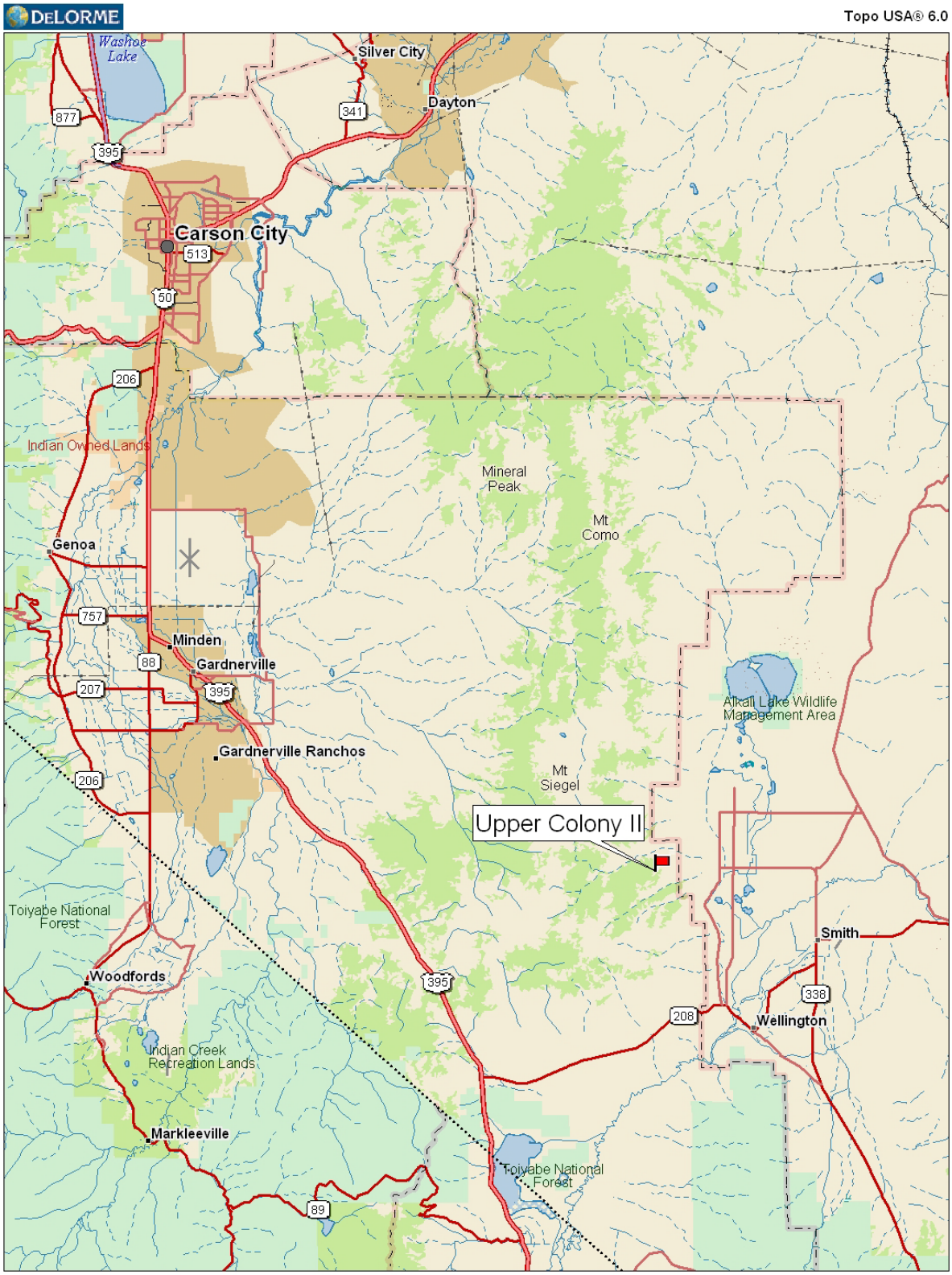
NAME	TITLE	PROJECT EXPERTISE
Arthur Callan	Outdoor Recreation Planner	Recreation, Visual Resources, Wild and Scenic Rivers, Wilderness
Jim Carter	Archeologist	Cultural Resources, Native American Religious Concerns
Jo Ann Hufnagle	Realty Specialist	Lands and Realty
Tim Roide	Fuels Specialist	Air Quality, Fire Management/Vegetation, Proposed Action
Jim Schroeder	Hydrologist	Soils, Water Quality, Wetlands/Riparian Zones
Steep Weiss	Forester	Forest Resources
Pilar Ziegler	Wildlife Biologist	General Wildlife, Migratory Birds, BLM Sensitive Species, Threatened and/or Endangered Species

PERSONS, GROUPS, OR AGENCIES CONSULTED

NAME	AGENCY	PROJECT EXPERTISE
Various (143)	Area Property Owners	Public Representation
Pat Murphy	Nevada Fire Safe Council	Public Safety/Resource Management
Michelle Langsdorf	Mason and Smith Valley Conservation Districts	Public Safety/Resource Management
Rob Loveberg, Jim Hardison	Smith Valley Fire Protection District	Public Safety
Jeff Page	Lyon County	Public Safety
Various	Walker River Paiute Tribe	Cultural Resources
Various	Nevada State Agency Clearinghouse	Resource Management/Other

V. MAPS

VICINITY MAP



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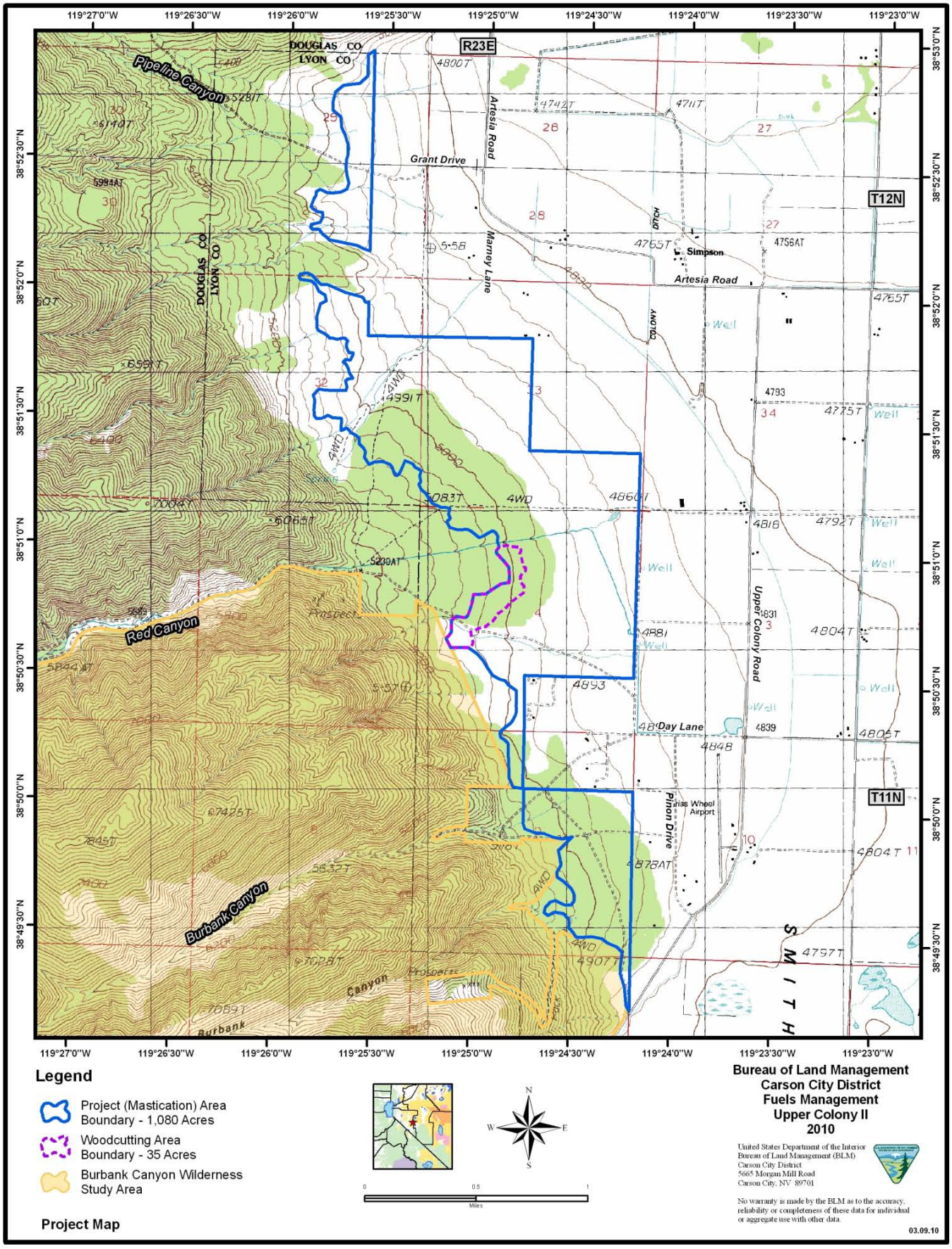
MN (14.1° E)

0 1 2 3 4 5 6 7 8 9 mi

Data Zoom 9-1

PROJECT MAP


Pipe line Canyon
DOUGLAS CO
LYON CO
R23E
T12N
T11N
Grant Drive
Artesia Road
Marney Lane
Simpson
Red Canyon
Burbank Canyon
Upper Colony Road
Day Lane
Pinon Drive
Arias Wheel Airport
SMITH
Legend
Project (Mastication) Area Boundary - 1,080 Acres
Woodcutting Area Boundary - 35 Acres
Burbank Canyon Wilderness Study Area
Project Map
Bureau of Land Management
Carson City District
Fuels Management
Upper Colony II
2010
United States Department of the Interior
Bureau of Land Management (BLM)
Carson City District
5665 Morgan Mill Road
Carson City, NV 89701
No warranty is made by the BLM as to the accuracy, reliability or completeness of these data for individual or aggregate use with other data.
03.09.10

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APPENDICES

Appendix A - Nevada Community Wildfire/Hazard Assessment Project – Lyon County (2004*)*
Appendix B - Soil Water and Air program Best Management Practices
Appendix C - USFWS Nevada's Protected Species List
Appendix D – Migratory Bird Species
Appendix E – Nevada BLM Sensitive Species

APPENDIX - A
Nevada Community Wildfire/Hazard Assessment Project – Lyon County (2004*)*

"The risk/hazard assessment resulted in classifying Smith Valley in the Moderate Hazard category. If evaluated separately, the west side of Smith Valley would score in the High Hazard category due to the high to extreme fuel hazard."

"The majority of the homes had landscaping that would meet the defensible space requirement to protect the home from damage or minimize loss during a wildfire. The exception is the homes on the west side of Smith Valley adjacent to pinyon-juniper fuels and steep slopes that require increasing the width of the defensible space zone."

"The worst case fire behavior scenario would likely occur on the west side of Smith Valley near Upper Colony Road. A lightning strike ignition in the afternoon of a high hazard day in the summer could rapidly spread if driven by west, southwest or downslope winds. The steep slopes, narrow canyons and limited access in the area would make initial attack difficult. Flame lengths of a wind-driven fire in this fuel type could reach 10-30 feet in length spreading fire at an estimated rate of 2,600 to 3,960 feet per hour. The limited number of volunteer fire personnel and potential rapid spread rates could allow the fire to escape initial attack and threaten nearby homes."

"The responsibility to keep a community fire safe falls not only on the local fire protection district but also on the residents of the community, businesses and local governments. Recommendations focus primarily on additional efforts that can be taken by community members and public agencies to increase wildfire safety through reduction of hazardous fuels. "

"Bureau of Land Management Responsibilities – Create a shaded fuelbreak on the west side of the community, west of Upper Colony Road... Remove brush using masticator or brush beater type equipment. Thin trees to a spacing of one and one-half times the height of the trees…"

APPENDIX - B
Soil Water and Air program Best Management Practices

The following best management practices (BMPs) are to be used to minimize soil erosion and protect water quality when completing forestry or hazardous fuel reduction projects. The management objectives of these projects are achieved by altering vegetation communities. Implementing the BMPs would minimize unnecessary surface disturbance and damage to residual vegetation that protects soils from erosion.

BMP 1: Schedule projects during low-impact period

Definition: Projects would be scheduled to avoid wet soil conditions.

Purpose: Timber and fuels projects can cause soil disturbance and damage non-target plants that provide ground cover. BMP 1 restricts projects to periods that would minimize the likelihood of these impacts.

Applicability: This practice would apply to any project site when significant soil surface disturbance could occur, but is especially important on fine-textured soils and soils with well developed structure, such as loams. These soils are especially prone to compaction, rutting, and similar impacts.

Planning Criteria: Plan to complete work during periods when soils are typically dry. Fall and winter are the preferred seasons for fuels projects due to the low risk of wildfire, BLM budget cycles, and greater availability of fire personnel. Regional precipitation primarily occurs in winter, however, so flexibility should be provided in the work schedule to avoid wet conditions.

BMP 2: Minimize and mitigate surface disturbances

Definition: Methods that avoid unnecessary surface disturbance would be chosen.

Purpose: These management practices would reduce or mitigate surface disturbances which can lead to soil erosion in many ways, including (1) directly detaching and transporting soil, (2) exposing soil to erosion by reducing non-target vegetative ground cover, (3) compacting soils and reducing infiltration, and (4) rutting that concentrates overland flow.

Applicability: BMP 2 would apply to any project site where significant surface disturbance could occur, but is especially important on fine-textured soils and soils with well developed structure, such as loams. These soils are especially prone to compaction, rutting, and similar impacts.

Planning Criteria: Site access should minimize the amount and intensity of disturbance associated with vehicle traffic and off-road travel. Choose appropriate treatment methods to minimize surface disturbance and to avoid impacts to non-target plants when felling trees, operating machinery, and performing other tasks.

Methods:

1. Minimize the area and intensity of disturbance. For example, a road that switchbacks up a slope would disturb a greater area, but have less impact than one directed up and down a slope.
2. Avoid repeated vehicle and equipment traffic on areas prone to soil and vegetation impacts.
3. Plan vehicle routes where they do the least damage, such as rock outcrops or coarse-textured soils that resist compaction.
4. Travel and conduct treatment operations along the contour of the slope to the extent possible to avoid channelizing overland flow.
5. When leaving slash or wood chips onsite, scatter over disturbed areas to protect exposed soils from raindrop impact.

BMP 3: Avoid sensitive riparian areas, wetlands, and drainages

Definition: Exclude treatment from sensitive riparian areas, wetlands, and drainages, including an adequate buffer where appropriate. The presence of water in these areas could be ephemeral, so BMP 3 might be necessary where no surface water is present during project planning and implementation. Note that BMP 3 could be modified or limited for projects that target plants in these areas (e.g., removing juniper near a spring to reduce competition with riparian species).

Purpose: BMP 3 is designed to protect sensitive riparian and wetland areas, and to prevent sediment deposition in drainages where the sediment could be transported to other water bodies.

Applicability: This practice could apply to any project where an identifiable drainage exists, but is especially important for perennial waters, riparian and wetland areas, and where a drainage leads from the project area to a water body.

Planning Criteria: Survey the project area to identify riparian and wetland areas, and drainages. Evaluate the potential for sediment to be generated by the project and delivered to offsite water bodies. Determine what areas would be left untreated to protect these resources. Size of buffers would depend on project objectives and site conditions, such as soil type, vegetative cover, slope, and aspect.

Methods:

1. Mark buffer areas to be left untreated or where treatment would be limited.
2. Be sure work crews have clear instructions on the meaning of all markers.
3. Map avoidance areas to facilitate planning and communication with work crews.
4. When necessary, have a project inspector onsite during operations to instruct crews on avoidance areas.
5. If avoidance is unfeasible, use portable bridges or other devices to prevent impacts.
6. Do not perform equipment maintenance onsite where fuel, lubricants, or other contaminants could enter water bodies.

APPENDIX - C

USFWS Nevada's Protected Species List

Nevada Fish & Wildlife Office

Pacific Southwest Region

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Desert Tortoise
Ecological Services
Candidate Program
Consultation
Environmental Quality
Federal Activities
Listing
Permitting
Recovery
Environmental Documents
Fisheries
Lahontan Fish Hatchery
Desert Fish Recovery
Let's Go Outside!
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Habitat Conservation Plans
Safe Harbor Agreements
What's New!
Meetings and Events
Public Comments/Notices

Protected Species Home | Nevada's Species List | Species By County

Amphibians | Birds | Fish | Invertebrates | Mammals | Plants | Reptiles

Nevada's Protected Species

U.S. FISH AND WILDLIFE SERVICE
NEVADA FISH AND WILDLIFE OFFICE

ENDANGERED, THREATENED, PROPOSED, and CANDIDATE SPECIES within the GEOGRAPHIC AREA (NV and part of CA) covered by the NEVADA FISH AND WILDLIFE OFFICE
(Updated May 2, 2008)

SPECIES	FEDERAL STATUS	CRITICAL HABITAT IN NV/CA	LEAD OFFICE	STATE CA/NV
Mammals				
Bighorn sheep, Ovis canadensis californiana (Sierra Nevada DPS)	E	P	VFWO	CA
Fisher, Martes pennanti (West Coast DPS)	C	N/A	YFWO	CA
Birds				
Southwestern willow flycatcher, *Empidonax traillii extimus*	E	Y	AESFO	NV
Yellow-billed cuckoo, *Coccyzus americanus* (Western U.S. DPS)	C	N/A	SFWO	NV/CA
Yuma clapper rail, Rallus longirostris yumanensis	E	N	AESFO	NV
Reptile				
Desert tortoise, *Gopherus agassizii* (Mojave population)	T	Y	NFWO	NV/CA
Amphibians				
Columbia spotted frog, *Rana luteiventris* (Great Basin DPS)	C	N/A	NFWO	NV
Mountain yellow-legged frog, *Rana muscosa* (Sierra Nevada DPS)	C	N/A	SFWO	NV/CA
Relict leopard frog, *Rana onca*	C	N/A	SNFO	NV
Yosemite toad, *Bufo canorus*	C	N/A	SFWO	CA
Fishes				
Ash Meadows Amargosa pupfish, *C. nevadensis mionectes*	E	Y	SNFO	NV
Ash Meadows speckled dace, *R. osculus nevadensis*	E	Y	SNFO	NV
Big Spring spinedace, *Lepidomeda mollispinis pratensis*	T	Y	SNFO	NV
Bonytail chub, *Gila elegans*	E	Y	AESFO	NV
Bull trout, *Salvelinus confluentus* (Jarbidge River DPS)	T	N	NFWO	NV
Clover Valley speckled dace, *R. osculus oligoporus*	E	N	NFWO	NV

Colorado pikeminnow, ***Ptychocheilus lucius*** *	E	N	CESFO	NV
Cui-ui, ***Chasmistes cujus***	E	N	NFWO	NV
Desert dace, ***Eremichthys acros***	T	Y	***NFWO***	***NV***
Devils Hole pupfish, ***Cyprinodon diabolis***	E	N	SNFO	NV
Hiko White River springfish, ***Crenichthys baileyi grandis***	E	Y	SNFO	NV
Humpback chub, ***Gila cypha*** *	E	N	CESFO	NV
Independence Valley speckled dace, ***Rhinichthys osculus lethoporus***	E	N	NFWO	NV
Lahontan cutthroat trout, ***Oncorhynchus clarkii henshawi***	T	N	NFWO	NV/ CA
Moapa dace, ***Moapa coriacea***	E	N	SNFO	NV
Pahranagat roundtail chub, ***Gila robusta jordani***	E	N	SNFO	NV
Pahrump poolfish, ***Empetrichthys latos***	E	N	SNFO	NV
Paiute cutthroat trout, ***Oncorhynchus clarkii seleniris***	T	N	NFWO	CA
Railroad Valley springfish, ***Crenichthys nevadae***	T	Y	NFWO	NV
Razorback sucker, ***Xyrauchen texanus***	E	Y	AESFO	NV
Virgin River chub, ***Gila seminuda***	E	Y	UFOSLC	NV
Warm Springs pupfish, ***Cyprinodon nevadensis pectoralis***	E	N	SNFO	NV
Warner sucker, ***Catostomus warnerensis***	T	N	BFO	NV/ CA
White River spinedace, ***Lepidomeda albivallis***	E	Y	NFWO	NV
White River springfish, ***Crenichthys baileyi baileyi***	E	Y	SNFO	NV
Woundfin, ***Plagopterus argentissimus***	E	Y	UFOSLC	NV
Invertebrates				
Ash Meadows naucorid, ***Ambrysus amargosus***	T	Y	SNFO	NV
Carson wandering skipper, ***Pseudocopaeodes eunus obscurus***	E	N	NFWO	NV/CA
Elongate mud meadows springsnail, ***Pyrgulopsis notidicola***	C	N/A	NFWO	NV
Plants				
Amargosa niterwort, ***Nitrophila mohavensis***	E	N	SNFO	NV
Ash Meadows blazing star, ***Mentzelia leucophylla***	T	Y	SNFO	NV
Ash Meadows gumplant, ***Grindelia fraxinopratensis***	T	Y	SNFO	NV
Ash Meadows ivesia (mousetail) ***Ivesia eremica*** (= ***I. kingii*** var. ***eremica***)	T	Y	SNFO	NV
Ash Meadows milk-vetch, ***Astragalus phoenix***	T	Y	SNFO	NV
Ash Meadows sunray, ***Enceliopsis nudicaulis*** var. ***corrugata***	T	Y	SNFO	NV
Churchill Narrows buckwheat, ***Eriogonum diatomaceum***	C	N/A	NFWO	NV
Goose Creek Milkvetch, ***Astragalus Anserinus***	C	N/A	UFOWVC	NV
Las Vegas Buckwheat, ***Eriogonum corymbosum*** var . ***nilesil***	C	N/A	SNFO	NV
Soldier Meadows cinquefoil, ***Potentilla basaltica***	C	N/A	NFWO	NV
Spring-loving centaury, ***Centaurium namophilum***	T	Y	SNFO	NV
Steamboat buckwheat, ***Eriogonum ovalifolium*** var. ***williamsiae***	E	N	NFWO	NV
Tahoe yellow cress, ***Rorippa subumbellata***	C	N/A	NFWO	NV/ CA
Ute lady's tresses, ***Spiranthes diluvialis***	T	N	UFOSLC	NV
Webber's ivesia, ***Ivesia webberi***	C	N/A	NFWO	NV/ CA

http://www.fws.gov/nevada/protected_species/nevada_species_list.html (2 of 3) [1/19/2010 3:17:58 PM]

E = Endangered; T = Threatened; C=Candidate;
Y = Yes; N = No; P = Proposed; N/A = Not Applicable
* = Believed extirpated from Nevada ; ‡ Endangered only in the Virgin River; population in Muddy River is species of concern.

AESFO = Arizona Ecological Services Field Office, BFO = Bend Field Office, CESFO = Colorado Ecological Services Field Office, KFFWO = Klamath Falls Fish and Wildlife Office, NFWO = Nevada Fish and Wildlife Office, SFWO = Sacramento Fish and Wildlife Office, SNFO = Southern Nevada Field Office, UFOSLC = Utah Field Office Salt Lake City, UFOWVC = Utah Field Office West Valley City, VFWO = Ventura Fish and Wildlife Office, YFWO = Yreka Fish and Wildlife Office

Last updated: January 13, 2010

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APPENDIX - D
Migratory Bird Species

The following is a list of the BLM migratory bird species of concern that occur or could occur in the project area (Wildlife Action Plan Team 2006, www.natureserve.com).

Black-throated gray warbler	*Dendroica nigrescens*
Brewer's sparrow	*Spizella breweri*
Burrowing owl	*Athene cunicularia*
Ferruginous hawk	*Buteo regalis*
Golden eagle	*Aquila chrysaetos*
Gray vireo	*Vireo vicinior*
Loggerhead shrike	*Lanius ludovicianus*
Mourning dove	*Zenaida macroura*
Pinyon jay	*Gymnorhinus cyanocephalus*
Prairie falcon	*Falco mexicanus*
Sage sparrow	*Amphispiza belli*
Swainson's hawk	*Buteo swainsoni*
Virginia's warbler	*Vermivora virginiae*

APPENDIX - E
Nevada BLM Sensitive Species

The following is a list of the Nevada BLM sensitive species that occur or could occur in the project area (Floyd et al. 2007, Wildlife Action Plan Team 2006, The Nevada Bat Working Group 2006, www.natureserve.com).

Big brown bat	*Eptesicus fuscus*
Brazilian free-tailed bat	*Tadarida braziliensis*
Burrowing owl	*Athene cunicularia*
California myotis	*Myotis californicus*
Cooper's hawk	*Accipiter cooperii*
Ferruginous hawk	*Buteo regalis*
Fringed myotis	*Myotis thysanodes*
Golden eagle	*Aquila chrysaetos*
Gray vireo	*Vireo vicinior*
Greater sage-grouse	*Centrocercus urophasianus*
Juniper titmouse	*Baeolophus griseus*
Little brown myotis	*Myotis lucifugus*
Loggerhead shrike	*Lanius ludovicianus*
Long-eared myotis	*Myotis evotis*
Long-legged myotis	*Myotis volans*
Long-eared owl	*Asio otus*
Mountain quail	*Oreortyx pictus*
Pallid bat	*Antrozous pallidus*
Pinyon jay	*Gymnorhinus cyanocephalus*
Prairie falcon	*Falco mexicanus*
Small-footed myotis	*Myotis ciliolabrum*
Spotted bat	*Euderma maculatum*
Swainson's hawk	*Buteo swainsoni*
Townsend's big-eared bat	*Corynorhinus townsendii*
Vesper sparrow	*Pooecetes gamineus*
Western pipistrelle bat	*Pipistrellus hesperus*
Yuma myotis	*Myotis yumanensis*