

VIRGINIA HIGHLANDS FUELS TREATMENT PROJECT ENVIRONMENTAL ASSESSMENT

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It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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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 29-acre fuels treatment project in the Virginia Highlands, Storey County, Nevada. The project is on a BLM administered 40-acre parcel surrounded by private land wildland-urban interface containing numerous residences and associated outbuildings.

The project is part of a nation-wide initiative to help protect communities considered at high risk from wildfire damage. The Virginia Highlands is on the list of at risk communities found in the Federal Register and has been assigned an Extreme Hazard category in the Nevada Community Wildfire/Hazard Assessment Project – Storey County (2005).

PURPOSE & NEED

The purposes of the proposed project are to:

- Enhance public and firefighter safety.
- Reduce the risk of wildfire damage to area residences.
- Improve vegetation health, vigor, and resistance to fire, insects and disease.
- Maintain aesthetic values.

The project would reduce the amount and continuity of vegetation in order to reduce fire intensity and improve ecosystem health.

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 urban-interface condition surrounding the Virginia Highlands is intermixed. The community consists of 1,169 one-acre lots clustered in the interior of the subdivision, with 10-acre parcels concentrically located around the one-acre core and 40-acre parcels in the outermost extents of the subdivision. Structures and wildland fuels are not separated by clear lines of demarcation. The BLM administers one 40-acre parcel within the community with 15 residences directly adjacent. The slopes on and adjacent to the BLM parcel are steep and the vegetation dense, continuous and highly flammable. Under warm, dry, and windy weather conditions, the risk of an intense damaging wildfire is high.



Residences with proposed project area directly adjacent

The BLM, Storey County Fire Department, Nevada Division of Forestry, Nevada Fire Safe Council and local residents are concerned that in the event of an intense wildfire in the Virginia Highlands, residential areas would be difficult to defend, property damage could be substantial, access/evacuation could be dangerous, and the lives of the public and firefighters could be at risk.

LAND USE PLAN CONFORMANCE STATEMENT

Carson City Field Office Consolidated Resource Management Plan, 2001. (CCFO CRMP 2001)

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.

Carson City Field Office Fire Management Plan, 2004. (CCFO FMP, 2004) The proposed Virginia Highlands Project is located in the Carson River Fire Management Unit (FMU) (NV-030-04). Management direction applicable to this proposal includes the following:

FMU Fire Management Objectives Priority Statement (CCFO FMP, 2004 pg. 84)

- Firefighter and public safety is the first priority.
- Protection of communities and associated infrastructure.
- Promote a fire safe condition for Communities at Risk.

Non-Fire Fuels Treatment Strategies: (CCFO FMP, 2004 pg. 88)

- Priority will be given to fuel treatment projects in the wildland urban interface designed to protect life and private property. Techniques to accomplish this will include thinning, chipping, mowing, mastication, and seeding of fire resistant species.
- 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 catastrophic 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 – Storey County (2005), which assessed wildfire risks to Storey County communities and recommended risk mitigation projects (Appendix A). The Project scored the Virginia Highlands in the Extreme Hazard category.

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

T17N, R21E, S8, NW NW

The Proposed Action would include thinning of trees, brush and grass through mechanical mastication on up to 29 acres 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 structure, amount and continuity of flammable vegetation through mechanical mastication in order to reduce fire intensity. Tree spacing would be adjusted to approximately 25 feet between individual trees and groups of trees to reduce the potential for the rapid spread of wildfire through tree crowns. Brush spacing would be adjusted by treating approximately 70% of the brush in a mosaic pattern to modify fuel structure and reduce fire intensity potential. 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.

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

Patches of untreated vegetation would be left standing to reduce visual impacts, discourage off highway vehicle (OHV) use, and retain wildlife habitat. The distribution and arrangement of untreated vegetation would be random. To maintain diversity, trees selected to be retained would be of good form and vigor, of various size/age classes, and be a mix of both pinyon and juniper.

The outside edges of the project area would be feathered into the adjacent untreated vegetation to minimize the creation of strong linear edges. Shredded vegetation would be left in place to stabilize soils and reduce dust generation in the project area.

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 would 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 30 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.

Native American Religious Concerns:

- The Native American tribe that has cultural affiliation with the area within the allotment is the Washoe Tribe of Nevada and California. 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 was sent to the Tribe on April 20, 2010, concerning the Virginia Highlands project. Consultation is ongoing.

- A Class III survey was conducted for the proposed mechanical treatment as identified and three sites were located, none of which are eligible for the National Register. 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 treatment.

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, and surface disturbance would be minimized to protect sensitive resources.
- 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 hazardous fuel conditions would continue to accumulate 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 Virginia Highlands project was initiated in the fall of 2009.

On October 7, 2009 BLM mailed 48 letters and project information sheets to area property owners and cooperative agencies. Letters encouraged recipients to attend a public meeting held in the Virginia Highlands on October 20, 2009 and solicited comment on the project proposal. The public meeting was advertised in the Nevada Appeal newspaper on October 10, 2009. Comments were requested by November 20, 2009. Five members of the public attended the meeting and two written comments were received.

Written communication including a description of the Proposed Action and a map was provided to the Washoe Tribe of Nevada and California on April 20, 2010. Consultation is ongoing.

Internal scoping for the proposed Virginia Highlands project was initiated at the regularly scheduled Interdisciplinary Team meeting at the Carson District Office on November 9, 2009 and continued until April 26, 2010.

The Virginia Highlands Environmental Assessment was sent to the Nevada State Clearinghouse for proposal review on April 26, 2010.

PROPOSED ACTION

General Setting

The proposed project area is located in the Virginia Highlands north of Virginia City, Virginia Range, Storey 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 6,540 and 6,710 feet, aspect for the project site is generally north and slope ranges between 0 and 40 percent. Average annual precipitation is 12 inches, air temperature 46° Fahrenheit and the frost free season 100 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		A Class III survey was conducted for the proposed mechanical treatment as identified and three sites were located, none of which are eligible for the National Register.
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 Washoe Tribe of Nevada and California on April 20, 2010. Consultation is ongoing.
Threatened and/or Endangered Species	X			Resource not present. The USFWS Nevada's Protected Species list was reviewed by BLM specialists and no federally-listed plant or animal species or habitat occurs in the project area (Appendix C).
Wastes, Hazardous or Solid	X			Resource not present.
Water Quality (Surface/Ground)		X		No perennial water exists in the project area. Only minor, short-term impacts to the watershed would occur and they would be effectively mitigated by implementing the BMPs in Appendix B.
Wetlands/Riparian Zones	X			Resource not present.
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.
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 IV 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*), basin wildrye (*Leymus cinereus*), bluegrass (*Poa sp.*), Wyoming big sagebrush (*Artemisia tridentata* var. *wyomingensis*), antelope bitterbrush (*Purshia tridentata*), Utah juniper (*Juniperus osteosperma*) and singleleaf pinyon pine (*Pinus monophylla*).

The dominant present vegetation includes Thurber’s needlegrass (*Achnatherum thurberianum*), Wyoming big sagebrush (*Artemisia tridentata* var. *wyomingensis*), antelope bitterbrush (*Purshia tridentata*), Utah juniper (*Juniperus osteosperma*) and singleleaf pinyon pine (*Pinus monophylla*). Project area vegetation has been moderately impacted by historic and modern human disturbances.

Fire is widely recognized as a natural process influencing vegetation patterns in many mountain landscapes of the western United States including the Virginia Range. 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 tree crown cover and density increases in the pinyon-juniper woodlands 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 Group III which has a natural historical fire frequency of 35-100+ years and a mixed fire severity. The condition class for the project area can be characterized as Condition Class 1 in the sagebrush bottom, 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 as Condition Class 3 on the pinyon-juniper slopes, meaning the fire regime is significantly altered from its historical range and the risk of losing key ecosystem components from fire is high.

Environmental Consequences

Proposed Action:

The overall effect of the Proposed Action would result in the intended consequences of reducing the risks of catastrophic 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 consists of a dominance of dense second-growth singleleaf pinyon pine (*Pinus monophylla*) and Utah juniper (*Juniperus osteosperma*). The trees have all grown in on the site since virtually all the trees in the area were clearcut in the middle to late 1800s for use as cordwood and mine timbers during periods of large-scale mining in the famous Comstock area 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. The situation of private property surrounding the project site, the close proximity of residences, and steepness of terrain renders the harvest of wood an impractical resource management option.

As much as people value trees, awareness has been growing of the danger to residences from catastrophic 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.

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 catastrophic 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 catastrophic 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

Vegetation in the project area is typical of the western Great Basin, with wildlife habitat types in the project area being sagebrush and pinyon-juniper woodland. The project area ranges in elevation from roughly 6,500 to 6,700 ft and average annual precipitation is 12 in. 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. 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 are sparse, and there are 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. Pinyon pine and juniper trees are 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. Pinyon pine in the project area does not appear 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 may 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 trees were less abundant, and they also face the possibility of losing a large amount of sagebrush habitat to uncharacteristic wildfire fueled by high woody fuel loads from trees.

Game Species -

Mule deer have incurred a 50% decline in Nevada since the 1980s (Wildlife Action Plan Team 2006). The project area provides mule deer habitat (NDOW 2006a). The project area should be dominated by Wyoming big sagebrush and antelope bitterbrush, which are important winter and spring forage plants because of high protein contents. 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. The project area is within potential desert bighorn sheep habitat, but it is not currently occupied by the species (NDOW 2006b). Historically, pronghorn were present in all valleys of Nevada, but the project area does not occur within designated pronghorn habitat (NDOW 2006c). The project area occurs in current range for black bears (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. These treatments would increase the structural complexity and diversity of remaining habitat. Perennial shrubs and forbs in treated areas would likely increase in vigor, abundance, and type. Any effects to wildlife such as displacement of individual animals during project implementation would be short-term and there is plenty of similar habitat available in the vicinity of the project area that individuals could move into. At under 30 acres, the project area is extremely small and a loss of this amount of habitat is a tiny fraction of habitat available in the general area. 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 any perennial water, riparian areas/wetlands, or riparian vegetation. 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. 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 catastrophic wildfire, it would not eliminate the potential for characteristic fire (a natural disturbance process). Natural 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 by increasing ecosystem resilience. The proposed action would increase ecosystem resilience by decreasing existing fuel loads. Monitoring during project implementation and post-treatment would ensure initial objectives are met, evaluate recovery of native vegetation, identify invasive species, and ensure motorized vehicles are restricted to existing roads.

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 and the quality of black bear habitat would decline because the project area would provide habitat for fewer prey species. 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. BLM management for these species 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 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.

The BLM migratory bird species of conservation concern that occur or are likely to occur in the project area are listed in Appendix D. Habitat for migratory birds in the project area consists of sagebrush and pinyon-juniper woodland. The dominant vegetation in the project area includes Thurber's needlegrass (*Achnatherum thurberianum*), Wyoming big sagebrush (*Artemisia tridentata* var. *wyomingensis*), antelope bitterbrush (*Purshia tridentata*), Utah juniper (*Juniperus osteosperma*), and singleleaf pinyon pine (*Pinus monophylla*). The project area lacks perennial water, riparian areas/wetlands, and riparian vegetation. Any water in the project area is ephemeral and does not support riparian vegetation. Vegetation in the project area has been impacted by a history of fire exclusion. Fire is widely recognized as a natural process influencing vegetation patterns in mountain landscapes of the western United States, including the Virginia Range. A lack of disturbance from fire increases the expansion of pinyon-juniper woodland into sagebrush habitat. Tree species have invaded the project area and the shrub/understory community is being depleted. Fire exclusion in the project area and the resulting increase in woody fuel loads from invading trees has shifted the historic fire regime from frequent low and mixed intensity fires to less frequent high intensity fires. Fire-dependent species such as invasive cheatgrass (*Bromus tectorum*) exploit areas of high intensity fires. Cheatgrass is often associated with a fire return interval of only two to five years. (See the Affected Environment section for General Wildlife for more discussion on existing habitat conditions.)

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. 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 Environmental Consequences section General Wildlife 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 very small at under 30 acres and a loss of this amount of habitat is a tiny fraction of habitat available to gray vireos in the vicinity of the project area and surrounding lands. The proposed project could temporarily affect individual birds in the short-term 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 invasion increases the risk of losing large amounts of woodland habitat to catastrophic wildfire. More pinyon-juniper habitat would be lost in a wildfire than would be lost from implementing the proposed action. This alternative could affect some individual birds at the local level, but would not affect regional populations of any species.

E. SOILS

Affected Environment

The treatment area is within the 1010-Teguro-Indiano-Oppio association soil map unit, which is derived from residuum and colluviums of volcanic rock. This soil unit ranges in texture from fine sandy loam to very cobbly loam, and can be susceptible to water erosion. Generally, the susceptibility to wind erosion is slight.

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. 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 (Special Status Species Management) provides policy and guidance for the conservation of BLM special status species and the ecosystems upon which they depend on BLM-administered lands (BLM 2008). BLM special status species are: (1) species listed or proposed for listing under the Endangered Species Act (ESA), and (2) species requiring special management considerations to promote their conservation and reduce the likelihood and need for future listing under the ESA, which are designated as Bureau sensitive by the State Director(s).

Threatened and Endangered Species-

Federally listed Threatened and Endangered species are protected by the ESA of 1973, as amended.

The USFWS Nevada's Protected Species list was reviewed by the BLM wildlife biologist and no species listed or proposed for listing under the ESA occur in the project area (Appendix E).

BLM Sensitive Species –

All federally designated candidate species, proposed species, and delisted species in the 5 years following their delisting shall be conserved as Bureau sensitive species. Sensitive species are defined in Manual 6840 as 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 C. 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 the sensitive species in Appendix C (see the Affected Environment section for General Wildlife for more discussion on existing habitat conditions). The project area is not in a greater sage-grouse population management unit (PMU) and does not contain known leks or designated habitat (NDOW 2005 and 2008). 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 and reduced habitat quality from tree encroachment and depletion of understory. 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:

Impacts to sensitive species would be similar to those described in the Environmental Consequences section for General Wildlife (see this section for more discussion on effects to habitat). Several species of sensitive 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 the protection and improvement of sagebrush. 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. Positive and negative effects for these species roughly cancel each other out. Effects from disturbance such as displacement of individual animals during project implementation would be short-term and there is plenty of similar habitat available in the vicinity of the project area that individuals could move into. The project area is very small at under 30 acres and a loss of this amount of habitat is a tiny fraction of habitat available in the general area. 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 pines.

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/grass 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 catastrophic wildfire jeopardizing existing woodland habitat in the project area. More pinyon-juniper habitat would be lost if a wildfire occurred than would be lost from implementing the proposed action. If a major wildfire occurred, it would alter or eliminate wildlife habitat in the project area for the long-term.

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 Virginia and Flowery Ranges. 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)

Less than 1,000 acres of the Virginia and Flowery Ranges (approximately 265,000 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 public land projects with currently approved environmental analysis and private land projects with currently awarded grants. Currently approved environmental analysis and currently awarded grants exist for less than 500 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 500 acres of vegetation treatment per year. The Virginia Highlands Fuels Treatment Project would affect a very small area, 1/10,000 of 1 % of the Virginia and Flowery Ranges.

All resource values and issues affected by the proposed Virginia Highlands 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, native American religious concerns, 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 BLM sensitive 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 Virginia and Flowery Ranges, 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 Virginia and Flowery Ranges 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

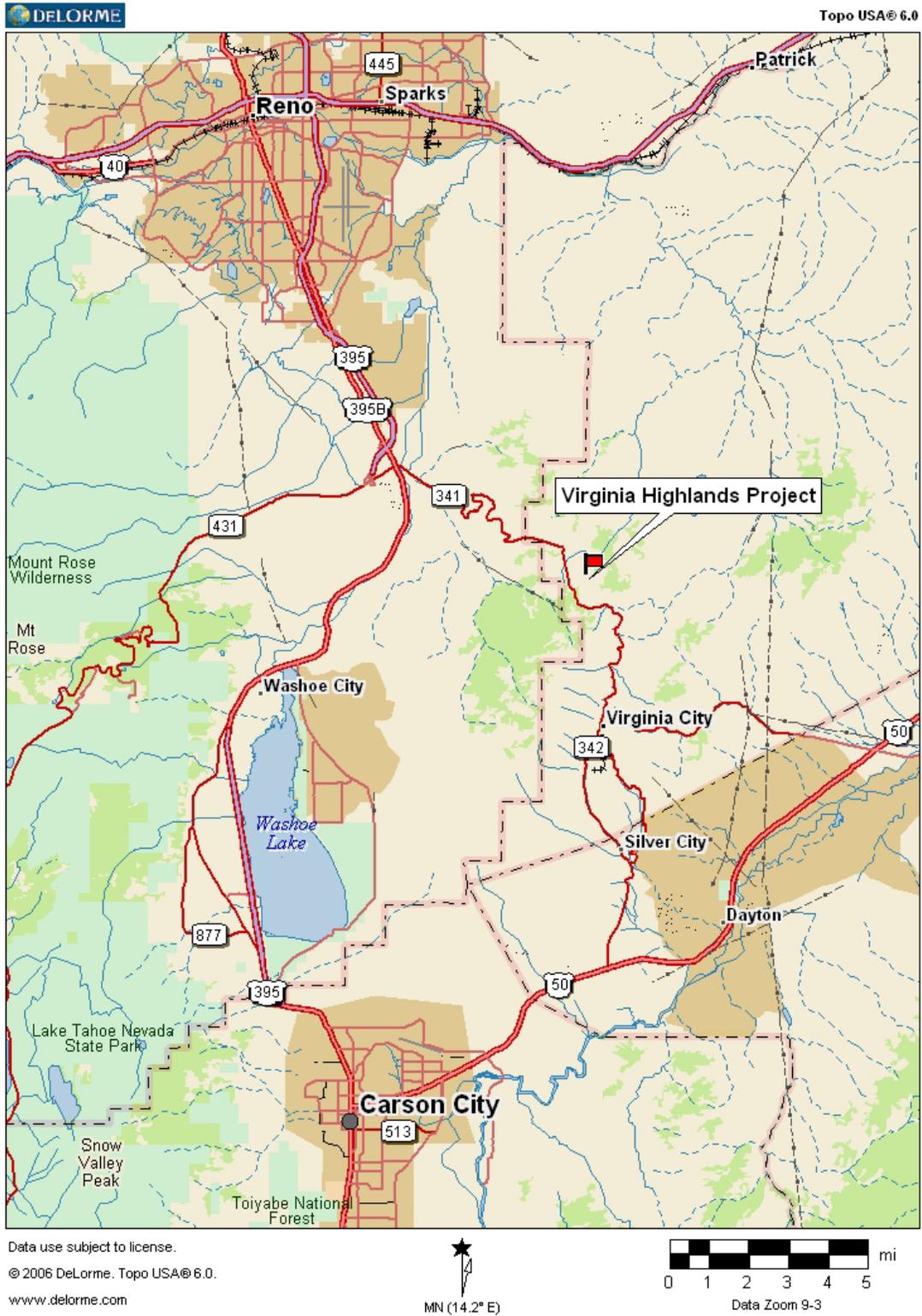
NAME	TITLE	PROJECT EXPERTISE
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Jim Carter	Archeologist	Cultural Resources, Native American Religious Concerns
Tim Roide	Fuels Specialist	Air Quality, Fire Management/Vegetation, Proposed Action
Jim Schroeder	Hydrologist	Soils, Water Quality, Wetlands/Riparian Zones
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Pilar Ziegler	Wildlife Biologist	General Wildlife, Migratory Birds, BLM Sensitive Species, Threatened and/or Endangered Animal Species

PERSONS, GROUPS, OR AGENCIES CONSULTED

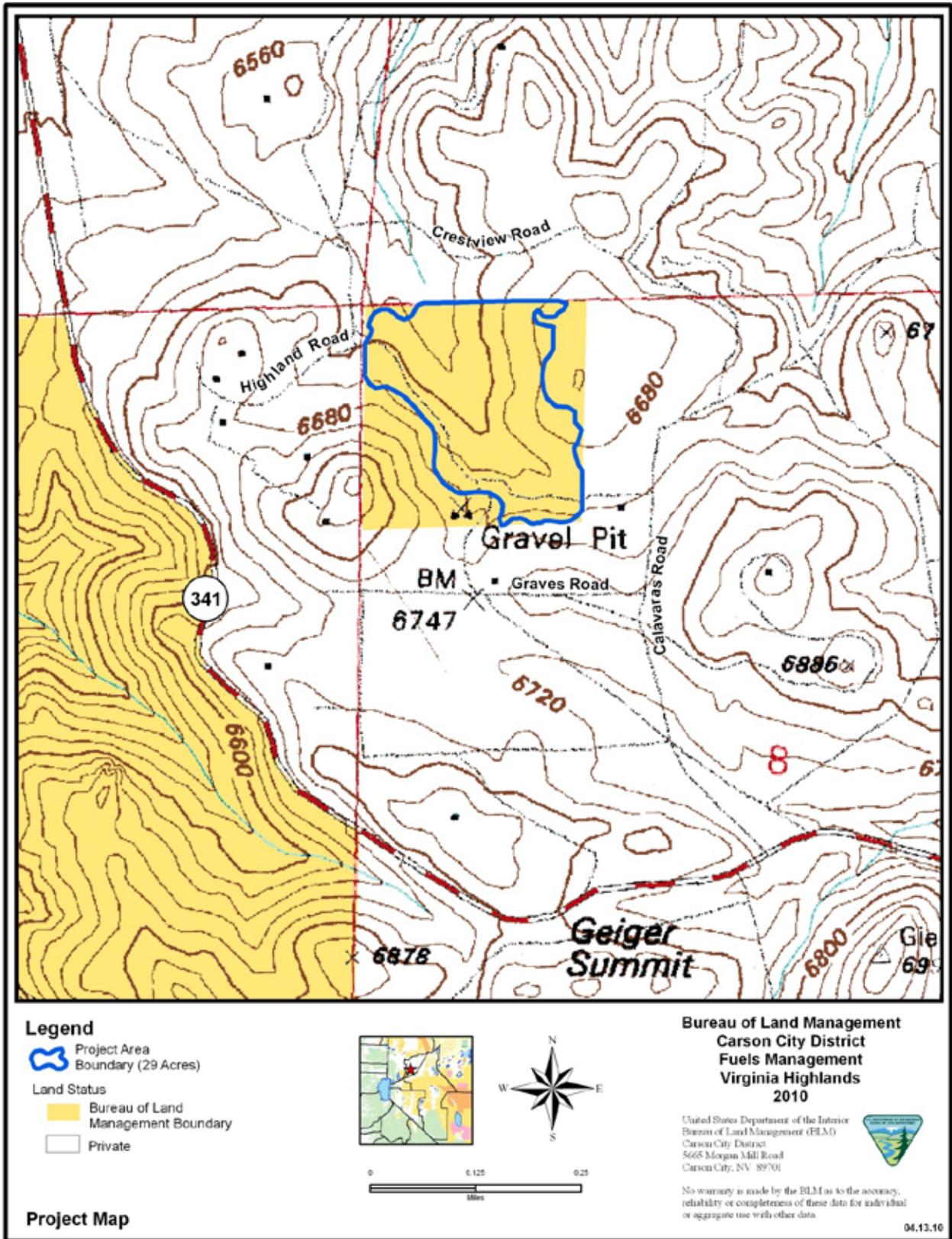
NAME	AGENCY	PROJECT EXPERTISE
Various (48)	Area Property Owners	Public Representation
Harry Stanley	Highlands Fire Safe Council Chapter	Public Representation
Pat Murphy	Nevada Fire Safe Council	Public Safety/Resource Management
Bill Moline	Nevada Division of Forestry	Public Safety/Resource Management
Gary Hames and Tracy Curtis	Storey County Fire Department	Public Safety
Various	Washoe Tribe of Nevada and California	Cultural Resources
Various	Nevada State Agency Clearinghouse	Resource Management/Other

V. MAPS

VICINITY MAP



PROJECT MAP



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APPENDICES

Appendix A - Nevada Community Wildfire/Hazard Assessment Project – Storey County (2005)

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 – Storey County (2005)

There is high to extreme potential for a catastrophic wildfire in the wildland-urban interface areas of Virginia City, Gold Hill, and the Virginia Highlands. These elevated hazard ratings are primarily attributed to the moderate to extreme fuel loading that often occur in volatile pinyon-juniper fuel types, inadequate defensible space, combustible building materials, and steep slopes. These circumstances also contribute to extremely dangerous conditions for firefighters.

A total of 116,550 linear feet (approximately 250-500 acres) of fuelbreak is recommended for the Virginia Highlands area. The local chapter of the Nevada Fire Safe Council must continue to emphasize the importance of internal fuelbreaks to property owners in the community as a necessary prerequisite to enhancing fire protection and they must continue to implement recommended fuel reduction treatments in the interior of the community.

To be most effective, fire safe practices need to be implemented on a community-wide basis. There is no guarantee that a wildfire will not occur in any of these communities, even if all of the recommendations in this report are implemented. Nonetheless, public awareness, neighbors helping neighbors, and concerned, proactive individuals setting examples for others to follow are among the most important initiatives involved in reducing the risk of wildfire ignition and managing the hazards inherent in wildland-urban interface areas.

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's Species List



Nevada Fish & Wildlife Office

Pacific Southwest Region

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

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

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

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, UFOWWC = Utah Field Office West Valley City, VFWO = Ventura Fish and Wildlife Office, YRWO = Yreka Fish and Wildlife Office

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APPENDIX - D
Migratory Bird Species

BLM migratory bird species of concern that occur or could occur in the project area (BLM 2007, Wildlife Action Plan Team 2006, www.natureserve.com).

Game Birds of Conservation Concern

Mourning dove *Zenaida macroura*

Bird Species of Conservation Concern

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*
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 (BLM 2003, Floyd et al. 2007, Wildlife Action Plan Team 2006, The Nevada Bat Working Group 2006, www.natureserve.com).

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