

# United States Department of the Interior



## BUREAU OF LAND MANAGEMENT

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### **In Reply Refer To:** 4160 (NVB0100)

Dear Interested Public:

On June 23, 2009 the Bureau of Land Management's (BLM) Mount Lewis Field Office (MLFO) sent you a letter soliciting public comments for the proposed Bald Mountain Wildlife Habitat Enhancement Project. The proposed project would thin (reduce the density of) pinyon pine and juniper trees on up to 3,000 acres of an approximately 18,000 acre project area near Bald Mountain, of the northern Toiyabe Range. The project area is approximately 30 miles south of the town of Crescent Valley, Nevada (please see the map on page 4 of the enclosed EA). The project lies within the Carico Lake grazing allotment.

The primary purpose of this project is to enhance habitat for wildlife, particularly habitat for the Greater Sage-Grouse whose numbers have declined in recent decades in Nevada as elsewhere. Livestock and wild horses would also benefit from the proposed project.

Pinyon and juniper woodlands are expanding throughout the Great Basin region at the expense of shrubs, grasses, and forbs. Increases in both density and distribution of pinyon and juniper trees are especially evident in the Bald Mountain area, resulting in a decreased quantity and quality of wildlife habitat. Removal of these trees will reverse or retard the degradation of remaining high-value wildlife habitats.

The thinning of pinyon and juniper trees in the project area would be accomplished by crews, on foot, using chainsaws. Felled trees would remain in place without further treatment (lop and scatter) in order to minimize costs. However, harvest of downed trees by the public would be encouraged in order to reduce fuel loading. Operations could begin as early as spring 2010 and might continue on a seasonal basis for multiple years as priorities and funding allow. Riparian areas (springs, seeps and especially wet meadows) would receive treatment priority.

Please find the attached Environmental Assessment (EA) #NV062-EA08-083. The EA is being issued for your review prior to the issuance of the Proposed Grazing Decision. Please review this document and submit any comments to the above address within 15 days of the date posted on this letter. Please contact Mike Stamm (775 635-4185 or fax 775 635-4034) with any questions.

Sincerely,

Douglas W. Furtado  
Field Manager  
Mount Lewis Field Office

Enclosure:



**United States Department of the Interior  
Bureau of Land Management  
Mount Lewis Field Office**

January, 2010



Mount Lewis Field Office  
Bureau of Land Management  
50 Bastian Road  
Battle Mountain, NV 89820

**Environmental Assessment  
NV062-EA08-083  
Bald Mountain Wildlife Habitat Enhancement Project**



## **I. Introduction/Overview**

Perhaps the most evident change in vegetation of the Great Basin during the past 140 years has been the dramatic expansion of pinyon and juniper woodlands, both in range and density, within the sagebrush ecosystem. Numerous studies have documented this woodland expansion and the resulting replacement of shrub-steppe communities (Cottam and Stewart 1940, Adams 1975, Burkhardt and Tisdale 1976, Nallion et. al. 1993, Gedney et. al. 1999, Tausch and West 1988, 1995, Miller and Rose 1995, 1999, Miller and Tausch 2001, Schaeffer et. al. 2003, Reiner 2004, Miller et. al. 2005, Miller et. al. 2008).

Much additional wildlife habitat, particularly mountain big sagebrush sites, is at risk of further encroachment (Connelly, et. al. 2004). As trees begin to dominate sites, the shrub-grass-forb understory is essentially lost or greatly reduced through competitive exclusion (Tausch et. al. 1981, Schaefer et. al. 2003, Nallion, et. al. 2003, Weisberg and Greenwood 2007, Tausch et. al. 2009). Weisberg and Greenwood (2007) suggest that Utah juniper, because of its flexible rooting structure, has a disproportionately strong effect on shrub cover relative to singleleaf pinyon. Juniper's shallow roots, in addition to its deep roots, result in greater competitive ability for water in surface soil layers. Once pinyon-juniper domination has occurred, conversion back to more diverse plant communities is not a simple process.

Expansion and increasing densities of pinyon and juniper trees in the Bald Mountain area of the northern Toiyabe Mountains of central Nevada represents an example of this phenomenon on a smaller scale. The proliferation of trees has decreased both the amount and the quality of wildlife habitat there. A recent study in the neighboring Simpson Park Mountains (Weisberg et. al. 2007) helps to illustrate the problem, which is likely typical for many central Nevada mountain ranges. The Weisberg study found that woodland cover had increased 11 to 33 percent (depending on the scale examined) in just 30 years (between 1966 and 1995) primarily as result of infilling.

The Bureau of Land Management (BLM) Mount Lewis Field Office proposes to substantially thin up to 3,000 acres of pinyon-juniper within an 18,000 acre project area near Bald Mountain at the northernmost tip of the Toiyabe Range (Figure 1.) to enhance wildlife habitat. The project site lies within the Carico Lake grazing allotment, approximately 30 miles south of the town of Crescent Valley, Nevada. Trees would be thinned by crews (most likely from the Bootstraps program) on foot using chainsaws, over a period of several years as time and resources allow.

### Agency's Purpose and Need

The Mount Lewis BLM's purpose is to reduce or reverse pinyon-juniper encroachment on up to 3,000 acres of important wildlife habitat in the Bald Mountain area of the Northern Toiyabe Mountains. The BLM's project is needed to enhance habitat for wildlife, particularly sage grouse, because pinyon and juniper trees have increased in both distribution and density at the expense of shrubs, grasses and forbs in the project area.

### Land Use Plan Conformance

This action is in conformance with the Shoshone Eureka Resource Management Plan Record of Decision (page 25), approved February 1986, and Shoshone-Eureka Rangeland Program Summary (page 2), approved October 1988. Wildlife habitat objectives articulated in those documents are to:

1. Maintain and improve wildlife habitat ...
2. Provide habitat sufficient to allow big game populations to achieve reasonable numbers in the long-term.
3. Improve and maintain habitat for state listed sensitive species and federally listed threatened or endangered species.

## **II. Description of the Proposed Action and Alternatives**

### Proposed Action

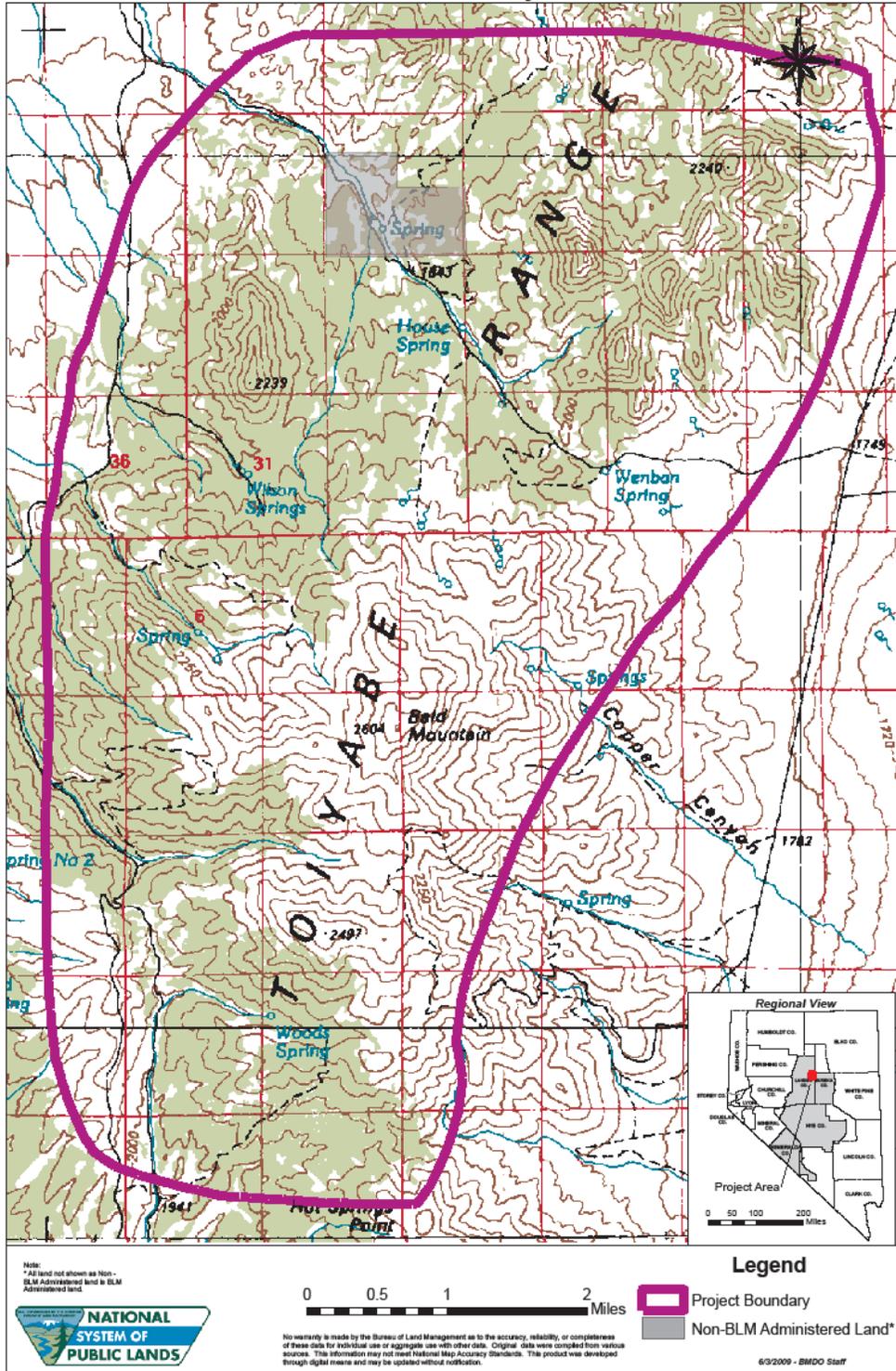
The Mount Lewis Field Office proposes to substantially thin (reduce the number of trees) on up to 3,000 acres of pinyon and juniper trees within an 18,000 acre project area near Bald Mountain of the northern Toiyabe Mountains, mostly at elevations above 6,000 feet. Numerous post European settlement trees, the majority of which have established since the early 1900s, would be cut down by crews on foot using chainsaws.

Moist areas, including riparian habitats, with gentle slope, would receive priority treatment for removal of pinyon-juniper encroachment. Such areas constitute a small percentage of the total Proposed Project area but provide a relative abundance of succulent forbs and insects crucial for sage grouse chick survival in late summer and fall (Atamian 2007). Loss of quality brood rearing habitat is believed to be a major factor in sage grouse population declines (Aldridge and Brigham 2001, Connelly et al. 2004, Crawford et al. 2004, Gregg 2006).

In order to minimize costs and to create microhabitats for wildlife and underlying vegetation, no further treatment of the felled trees (such as limbing, scattering or piling) would be undertaken. Firewood collection by the public would be encouraged however, to reduce fuel loading. The effectiveness of reducing heavy fuels, at least in proximity to roads, by opening the area to public firewood collection was demonstrated convincingly in the Roberts Mountains during the fall of 2009.

Trees larger than 20 feet in height and 10 inches diameter breast height (DBH) would not, in most cases, be cut down. Nor would thinning normally occur where pinyon-juniper canopy cover exceeds 30%. Thinning would occur primarily in Phase I and early Phase II woodlands (see box below for pinyon-juniper woodland phase descriptions).

**Bald Mountain Wildlife Habitat  
Enhancement Project**



**Figure 1. Location of the Proposed Bald Mountain Wildlife Enhancement Project**

- Phase I – trees are present but shrubs and grasses are the dominant vegetation that influence ecological processes (hydrologic, nutrient, and energy cycles) on the site;
- Phase II – trees are co-dominant with shrubs and herbs, and all three vegetation layers influence ecological processes on the site;
- Phase III – trees are the dominant vegetation and the primary plant layer influencing ecological processes on the site. Shrubs no longer dominate the understory.

This approach would maximize the efficiency of chainsaw crews, by allowing the treatment of the largest possible area of habitat with available funding. The approach also addresses the concerns of BLM fire/fuels specialists and others about the effects of pinyon-juniper thinning on ground-level fuel loading and minimizes the risk of removing old growth, pre-European settlement trees.

Thinning of trees could begin as early as spring 2010 and would continue into the autumn until inclement weather limited access. Thinning would continue during summer and autumn months for multiple years as work priorities and funding allow. Though it is difficult to accurately predict how many man hours the project would entail, a conservative estimate is that a full time crew of 10 to 12 people would require a minimum of five months to accomplish this thinning.

#### No Action Alternative

Under the no action alternative, no action would be undertaken to reverse increases in pinyon-juniper distribution and density.

#### Alternatives Considered but Eliminated from Further Analysis

Alternatives considered but rejected from further analysis in this Environmental Assessment (EA) include other methods of pinyon-juniper treatment such as herbicide, prescribed fire, and mechanical treatments using methods other than hand-removal.

#### Alternative 1: Prescribed Fire

Prescribed fire was eliminated from consideration primarily because Phase I and early Phase II pinyon-juniper fire treatments are difficult to keep confined to the target fuels (pinyon-juniper trees) because of more open stand conditions and relative difficulty in treating often single tree occurrences. In order to be cost-effective, fire would need to be broadcast across relatively large areas, which may result in unintended or even detrimental consequences, such as loss of key understory. Prescribed fire would also require some combination of fencing and/or livestock closure which would increase the cost and complexity of the project.

#### Alternative 2: Mechanical Treatments Other than Hand Removal

Mechanical pinyon-juniper thinning using tree shears or masticators mounted on wheeled or tracked equipment was also eliminated from further consideration. The use of mechanical equipment may result in unnecessary disturbance to soils or key vegetation and cultural resources, especially on steeper slopes. Moreover, mechanized treatments would offer little or no cost advantage over chainsaw thinning by foot crews in this project environment, especially when the cost of additional cost of archaeological clearance is considered. More intensive surveys would be necessary due to greater potential ground disturbance.

### Alternative 3: Herbicide Treatments

Herbicide treatments were also eliminated from consideration. Connelly, et. al. 2000 (*Guidelines to Manage Sage Grouse Populations and Their Habitats*) recommended using herbicides within sage grouse habitats only on an experimental basis until the long-term effects are known. Additionally, herbicide treatment would leave standing dead trees on the landscape which would serve as raptor perches and possibly as an inhibition to sage grouse movement and habitat use.

## III. Affected Environment/Environmental Consequences

### Supplemental Authorities Table

To comply with the National Environmental Policy Act (NEPA), the Bureau of Land Management is required to address specific elements of the environment that are subject to requirements specified in statute or regulation or by executive order (BLM 1988, BLM 1997, BLM 2008). The following table outlines the elements that must be addressed in all environmental analyses, as well as other resources deemed appropriate for evaluation by the BLM, and denotes if the Proposed Action or No Action Alternative affects those elements.

Supplemental Authority <sup>1</sup>	Not Present <sup>2</sup>	Present/Not Affected	Present/May be Affected <sup>3</sup>	Rationale
Air Quality		x		Effects of the Proposed Project on air quality are expected to be minimal and temporary.
Area of Critical Environmental Concern (ACEC)	x			None present
Cultural/Historical			x	See discussion in text
Environmental Justice	x			No minority or low-income populations would be disproportionately affected by the Proposed Action or alternatives
Farmlands Prime or Unique	x			None present
Noxious Weeds/Invasive Non-native Species			x	See discussion in text
Native American Religious Concerns			x	See discussion in text
Floodplains	x			
Riparian/Wetlands			x	See discussion in text

1 See H-1790-1 (January 2008) Appendix 1 Supplemental Authorities to be Considered.

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

3 Supplemental Authorities determined to be present/May be Affected must be carried forward for analysis in the document.

4 Other Resources determined to be Not Present or Present/Not Affected need not be carried forward for analysis or discussed further in the document based on the rationale provided.

<b>Supplemental Authority1</b>	<b>Not Present2</b>	<b>Present/Not Affected</b>	<b>Present/May be Affected3</b>	<b>Rationale</b>
Threatened and Endangered Species	<b>x</b>			None present
Migratory Birds			<b>x</b>	See discussion in text
Waste – Hazardous/Solid	<b>x</b>			None present
Water Quality			<b>x</b>	See discussion in text
Wild & Scenic Rivers	<b>x</b>			None present
Wilderness	<b>x</b>			None present
Forests and Rangelands (HFRA only)	<b>NA</b>			Healthy Forests Restoration Act (HRFA) criteria for expedited NEPA do not apply
Human Health and Safety	<b>NA</b>			Executive Order is 13045 pertains to protection of children from environmental health and safety risks.

Other resources of the human environment that have been considered for this EA are listed in the table below. Elements that may be affected are further described in the EA. Rationale for those elements that would not be affected by the Proposed Action can be found in the table below.

<b>Other Resources</b>	<b>Not Present4</b>	<b>Present/Not Affected</b>	<b>Present/May be Affected</b>	<b>Rationale</b>
Grazing Management			<b>x</b>	See discussion in text
Land Use Authorization	<b>x</b>			None present
Minerals		<b>x</b>		The Proposed Project has no potential to affect mineral resources
Paleontological Resources			<b>x</b>	See discussion in text
Recreation			<b>x</b>	See discussion in text
Socio-Economic Values			<b>x</b>	See discussion in text
Soils			<b>x</b>	See discussion in text
Special Status Species			<b>x</b>	See discussion in text
Vegetation			<b>x</b>	See discussion in text
Visual Resources			<b>x</b>	See discussion in text
Wild Horses and Burros			<b>x</b>	See discussion in text
Wildlife			<b>x</b>	See discussion in text

### **Soils/Vegetation**

Several major soil types, shallow to moderately deep, and having erosion potentials ranging from moderate to high, are found in the Northern Toiyabe Mountains (which includes the Bald Mountain Proposed Project area). Upper elevational zones (5,800-8,000 feet), where this project is proposed, consist mainly of shallow to moderately deep, well drained soils known as the Itca-Reluctan-Punchbowl group.

Wyoming sagebrush and mountain brush communities typify vegetation of the project area. Common plant species include Utah juniper, singleleaf pinyon, mountain big sagebrush, Wyoming big sagebrush, snowberry, serviceberry, bluebunch wheatgrass, Nevada bluegrass, Thurber's needlegrass, Indian ricegrass along with a variety of forbs such as, lupine, arrowleaf balsamroot, penstemon, phlox, sorrel, hawksbeard and several eriogonum species.

### **Environmental Consequences of the Proposed Action**

In the long term, the Proposed Action would help to maintain and facilitate a diverse natural plant community in good ecological condition, exhibiting strong soil/slope stabilizing characteristics. Reducing pinyon and juniper dominance is expected to stimulate herbaceous plant recovery, improve water infiltration capacity, and reduce soil erosion potential (Pierson et. al. 2007). Conifer competition with shrubs such as sagebrush and serviceberry would be reduced, preserving and propagating these species, which are especially important for wildlife.

The short-term impacts of the project on soils and non-target vegetation would be minimal to non-existent – an advantage of using crews on foot with chainsaws. Soil compaction, erosion and disturbance to vegetation would be less than, and minimally additive to, that caused by the normal activities of wildlife, livestock and wild horses.

### **Environmental Consequences of the No Action Alternative**

Under the No Action alternative, increasing dominance by pinyon-juniper trees, and the associated diminished plant diversity, and accelerated soil erosion can be expected. Juniper-induced reductions in understory vegetation and litter can negatively affect hydrology and erosion to the point where a site begins to generate runoff and erode under frequent small thunderstorms (Pierson et. al. 2007).

### **Forestry Resources**

The project area includes many thousands of acres of single-leaf pinyon pine and Utah juniper. Commercial harvest of cordwood, juniper posts and Christmas trees are authorized on a selective cut basis and in designated areas. A greenwood firewood cutting area was authorized recently in the Bald Mountain area, though to date, little use of this cutting area has been made by the public. Based on Mount Lewis Field Office experience, the public overwhelmingly prefers dead and downed wood which has cured for at least one season. Such wood is more easily cut, is lighter in weight, and can be used immediately without curing. Pinyon pine nuts are also harvested within and around the project area on a non-commercial basis, with good crops developing usually every three or four years.

### Environmental Consequences of the Proposed Action

The Proposed Action would preserve forestry resources while at the same time promoting maximum diversity of the plant community. Pine nut harvesting would not be negatively affected because few older, more productive trees would be cut. Pine nut and juniper berry yields would likely increase for many mature trees as a result of reduced competition from smaller surrounding trees. Pine nut and juniper berry production is typically low to absent in Phase III stands.

### Environmental Consequences No Action Alternative

Pinyon and juniper would increasingly dominate the plant community, reducing plant community diversity through the process of competitive exclusion (Tausch et.al. 2009). Health, vigor and productivity of pinyon and juniper trees would decline from inter and intra-specific competition as Phase II woodlands transition to closed canopy Phase III stands.

### **Wildlife (Including, Special Status Species and Migratory Birds)**

Common wildlife species found in the project area include mule deer, mountain lion, coyote, bobcat, badger, long-tailed weasel, gray and kit foxes, black-tailed jackrabbit, cottontail rabbit, sage grouse, and numerous birds, reptiles and small mammals (mice, voles, ground squirrels, chipmunks, kangaroo rats, woodrats, shrews, and gophers). Several bat species also inhabit the project area.

### **Hoofed Mammals**

#### Mule Deer

Though the seasonal movements of mule deer inhabiting the Bald Mountain area are not well understood, the area includes important fall, spring and summer habitat for mule deer. Mule deer are nutritionally dependent on the shrubs and forbs that are characteristic of healthy and diverse Wyoming sagebrush/mountain brush communities that should dominate the project area. Vegetation that is important for mule deer includes serviceberry, snowberry, mountain mahogany, sagebrush, aspen, willows, wild rose, pinyon pine, juniper, eriogonum, arrowleaf balsamroot, penstemon, phlox, sorrel, hawksbeard, lupine, western yarrow and numerous other forbs. Stream-side and meadow habitats supporting riparian vegetation are important fawn-rearing areas.

#### Pronghorn

Pronghorn occupy the lower elevations of the project area year-round. The sparse distribution of water sources is often the most limiting factor for this species in the Great Basin. Preferred habitat (diet, cover, etc) consists of 40-60% grasses, 10-30% forbs, and 5-20% shrubs. Low vegetative structure, averaging 15-24 inches in height is preferred (Bureau of Land Management 1980). Key vegetation species for pronghorn include bitterbrush, silver sage, black sage, rabbitbrush, greasewood, ricegrass, needlegrasses, lupine, arrowleaf balsamroot, several buckwheat (Eriogonum) species, scarlet globe-mallow, phlox, loco weed and most other succulent (tender) forbs.

### Special Status Species

No federally listed threatened or endangered species inhabits the project area. Other “special status” species that the BLM protects by policy (see 6840 section of the BLM Manual) that potentially occur within the project area are listed in the following table:

<b>MAMMALS</b>	
<b>Scientific Name</b>	<b>Common Name</b>
<i>Antrozous pallidus</i>	pallid bat
<i>Brachylagus idahoensis</i>	pygmy rabbit
<i>Corynorhinus townsendii</i>	Townsend’s big-eared bat
<i>Eptesicus fuscus</i>	big brown bat
<i>Lasionycteris noctivagans</i>	silver-haired bat
<i>Lasiurus cinereus</i>	hoary bat
<i>Myotis ciliolabrum</i>	small-footed myotis
<i>Myotis evotis</i>	long-eared myotis
<i>Myotis lucifugus</i>	little brown myotis
<i>Myotis volans</i>	long-legged myotis
<i>Myotis yamanensis</i>	Yuma Myotis
<i>Pipistrellus heperus</i>	western pipistrelle
<i>Tadarida braziliensis</i>	Brazilian free-tailed bat
<b>BIRDS</b>	
<i>Accipiter gentilis</i>	Northern Goshawk
<i>Aquila chrysaetos</i>	Golden Eagle
<i>Asio flammeus</i>	Short-eared Owl
<i>Asio otus</i>	Long-eared Owl
<i>Athene cunicularia</i>	Burrowing Owl
<i>Baeolophus griseus</i>	Juniper titmouse
<i>Buteo regalis</i>	Ferruginous Hawk
<i>Buteo swainsoni</i>	Swainson’s Hawk
<i>Centrocercus urophasianus</i>	Greater Sage-Grouse
<i>Falco mexicanus</i>	Prairie Falcon
<i>Gymnorhinus cyanocephalus</i>	Pinyon Jay
<i>Icteria virens</i>	Yellow-breasted Chat
<i>Lanius ludovicianus</i>	Loggerhead Shrike
<i>Leucosticte atrata</i>	Black Rosy-Finch
<i>Melanerpes lewis</i>	Lewis’s Woodpecker
<i>Numenius americanus</i>	Long-billed Curlew
<i>Pooecetes gramineus</i>	Vesper Sparrow
<i>Sphyrapicus nuchalis</i>	Red-naped sapsucker
<b>AMPHIBIANS</b>	
<b>None</b>	<b>None</b>
<b>FISH</b>	
<b>None</b>	<b>None</b>
<b>PLANTS</b>	
<i>Eriogonum anemophilum</i>	windloving buckwheat

**Several of these special status species are discussed here briefly:**

**Pygmy rabbits** are North America's smallest rabbits, and the only rabbits that commonly construct their own burrows, usually in stands of tall, dense sagebrush in locations with deep, loose soils. Pygmies are patchily distributed throughout most of the Great Basin. Though locally common, these animals have apparently never been generally abundant during historical times, and may have undergone serious population declines, habitat and population fragmentation, and local extinction in recent decades. Pygmy rabbits are sagebrush obligates and their decline is probably closely related to loss and degradation of sagebrush habitats. Very little is known about population dynamics of this species. Pygmy rabbits are not known to inhabit the project area, though no comprehensive inventory has been conducted.

The **golden eagle** is Nevada's largest resident bird of prey, sometimes weighing over twelve pounds and having a wingspan that may exceed seven feet. This bird is highly adaptable, has worldwide distribution and is a common yearlong resident of the Bald Mountain area. Golden eagles feed primarily on small mammals – jackrabbits, cottontails and ground squirrels – though they are capable of taking larger prey.

Little is known about seasonal movements and habitat use of the Bald Mountain area by **sage grouse**, but the project area is known to be inhabited by the birds during all seasons. A number of sage grouse strutting grounds, called leks, are known to exist in Grass Valley to the south of Bald Mountain and another lek is reported to exist to the east of Wenban Spring, although the exact location has not been plotted. The project area includes important nesting and brood rearing habitats. Though radio telemetry has not been conducted on Bald Mountain sage grouse, sage grouse collared in conjunction with the Falcon-Gonder sage grouse study, well to the east of the Proposed Project, area have been found to be using the Bald Mountain area, suggesting the importance of this habitat at a landscape scale.

**Pinyon jays** are primarily obligates of the pinyon pine woodlands and feed principally on pine nuts, which they store in fall and consume during winter and spring. The bird's local population varies from year to year with the success of the nut crop. Pinyon jays nest earlier in spring/summer following good harvests, while in poor years, they delay breeding until August. In winter, huge flocks wander erratically to lower elevation desert shrub or farmlands. Pinyon jays prefer open pinyon-juniper woodlands rather than dense stands.

As its name suggests **juniper titmouse** is small bird. It is an obligate inhabitant of pinyon-juniper woodlands, occurring as singles or pairs and does not typically form large flocks. Nests are normally located in juniper trees, constructed in rotten wood or existing cavities are used. The juniper titmouse diet consists of insects in late spring and summer switching to pine, juniper, and other seeds during the fall, winter, and early spring. Research indicates that breeding juniper titmouse densities tend to drop with increasing tree density, increased proportion of junipers, canopy cover, and total bird density.

**Migratory Birds**

Migratory bird species utilize almost all of the project area during some time of the year. Very common shrub nesting species include the sage thrasher, sage sparrow, Brewer's sparrow,

horned lark and meadow lark. The loggerhead shrike, common nighthawk, various wrens, warblers, larks and swallows are all common within the Proposed Project area.

#### Environmental Consequences of the Proposed Action

The Proposed Project would maintain and enhance habitat for a variety of wildlife species, by reducing one of the most important threats to that habitat: pinyon-juniper encroachment and domination. Although pinyon and juniper, especially old-growth stands, have important value as wildlife habitat, these trees, in the absence of periodic fire or other treatment, often proliferate at the expense of other plant community species (Tausch et. al.1981, Schaefer et. al. 2003, Nallion et. al. 2003, Weisberg and Greenwood, 2007, Tausch et. al. 2009). To date, research has not identified wildlife species obligate to closed (Phase III) juniper woodlands. Bird species diversity and richness is greatest in Phases I and II. Juniper berry crops, important as winter bird food, decline as woodlands transition to Phase III (Miller et.al. 2007).

The Proposed Project would result in periodic, temporary disturbance to wildlife during the implementation phase. In order to minimize impacts to migratory birds, nesting raptors, sage grouse and pygmy rabbits, standard avoidance measures (Appendix A) would be employed.

#### Environmental Consequences No Action Alternative

Pinyon-juniper trees would continue to encroach into high-value wildlife habitat, slowly excluding, by dominance, other plant species from the community and further degrading wildlife habitat. Increasing density and distribution of pinyon-juniper woodlands has been widely identified as a threat to sagebrush ecosystems. Connelly et. al. (2004), assert that mountain big sagebrush sites within the Great Basin are at high risk of pinyon-juniper invasion, and indeed, the project site is being encroached by thousands of trees, the great majority of which are less than 120 years old. If left untreated, this encroachment would eventually result in the loss of high quality wildlife habitat through competitive exclusion of grasses, shrubs and forbs. Moreover, sage grouse generally shun pinyon juniper woodlands even before exclusion of other species occurs (Braun 1998). Studies in Colorado report avoidance of pinyon-juniper throughout the year and especially during breeding and summer periods (Commons et. al. 1999). In a confirmation of earlier literature, Atamian (2007) found that sage grouse in central Nevada are intolerant of (strongly avoid) pinyon-juniper woodlands, especially during brood rearing.

Pygmy rabbits might also be negatively affected by pinyon-juniper encroachment (National Park Service 2004) and would certainly be eliminated after sagebrush is excluded from the habitat. Even obligate inhabitants of pinyon-juniper woodlands such as the Juniper Titmouse and Pinyon Jay would decline in numbers as these woodlands approach Phase III densities.

#### Riparian & Wetland Zones / Water Quality

The Proposed Project area includes a number of springs and seeps, many of which are unnamed, some of which do not even appear on the best available maps (USGS 7.5 minute, 1/24000 scale topographic maps). A few of these springs and seeps support short reaches of perennial stream and/or wet meadows.

### Environmental Consequences of the Proposed Action

The Proposed Project would maintain and enhance riparian communities by preventing the encroachment of pinyon and juniper trees into these important habitats and the displacement of riparian plant species. Water quality would be preserved. Pierson et. al. (2007), found that cutting juniper stimulated herbaceous plant recovery, improved infiltration capacity, and protected the soil surface from even large thunderstorms, thereby preserving the water quality of riparian systems. Deboodt (2008) found that removal of all post-European age (< 140 years of age) juniper from an eastern Oregon watershed resulted in increased late-season spring flow, increased ground water, and increased availability of late season soil moisture. No negative effects to riparian habitats would be expected to result from execution of the project.

### Environmental Consequences of the No Action Alternative

Increasing encroachment and dominance of the Bald Mountain area by pinyon-juniper would gradually result in deteriorating riparian condition through direct competitive exclusion of riparian plants. Decreased spring flows might also result (depending on site specific soils and geology) from increasing pinyon-juniper encroachment, with resulting narrowed or foreshortened riparian areas. Soil erosion associated with increasing pinyon-juniper domination would degrade water quality by increasing dissolved solids and sediment loading.

### Cultural-Paleontological Resources

The Bald Mountain region of the northern Toiyabe Range is known to be both prehistorically and historically significant. What little has been done in the immediate vicinity indicates a high likelihood of both prehistoric and historic cultural resource being present. Prehistoric occupation of the region dates back to the early Holocene and may have served as an upland extraction locus for early populations exploiting the Pluvial Lakes in Grass and Carico Lake Valleys. Certainly by the Archaic Period (~ 4500 BC), prehistoric populations were exploiting the mineral, vegetative and faunal resources of the region. Later Native American populations focused on the Bald Mountain area as a resource for pine nut gathering and this activity has persisted to the present day in some parts of the region. Although little work has been done in the immediate project vicinity, what has been done in the surrounding areas indicates that prehistoric sites associated with upland hunting and resource acquisition are likely to be quite common. In addition, there is a high probability of encountering prehistoric and ethno-historic pinyon gathering sites and possible winter village sites.

Likewise, this area has seen extensive utilization by historic Euro-American populations for mining and ranching. Of particular interest is the intensive utilization of pinyon and juniper for the production of charcoal to fuel the early local mining industry. Numerous adits, shafts, limited tailings, prospect pits, cabins and trails are found throughout the region as well, attesting to the mineral richness of the area.

A search of the cultural resource inventory reports, site records and database at the Mount Lewis Field Office as well as the Nevada Cultural Resource Information System (NVCRIS) indicates that approximately 41 cultural resource inventories, primarily in support of minerals exploration, have been performed within the proposed treatment boundary encompassing about 25% of the project area. Several smaller, limited projects have been undertaken (such as drift fences or

limited ROWs crossing the project area) but these have produced very few recorded cultural resources.

What has been found is typical of the archaeological record for this region and consists primarily of light lithic scatters, scattered evidence of historic mining activity, and evidence of charcoal production. A few ethno-historic sites occur in the area and many of the sites remain unevaluated. Charcoal platforms and their habitation sites are common throughout the area several areas within the vicinity have been identified as cultural landscapes (essentially archaeological districts) in response to the density and general state of preservation of sites associated with these *Carbonari*. It is likely that unknown archaeological sites do exist within the project area but are deemed to be at limited risk under the Proposed Action.

The paleontology of this region of central Nevada is poorly understood. Few fossil remains have been discovered from within the region although there are indicators that at least Pleistocene mammalia should be represented. The geological history of the region is convoluted to say the least and is comprised of faulted and overlain Late Paleozoic and Early Mesozoic clastic material generally covered with Tertiary ash-flow and Quaternary alluvium (Tingley and Smith 1983).

#### Environmental Consequences of the Proposed Action

The proposed thinning would have no impact on cultural or paleontological resources within the project area. Since the activity involves hand-thinning of young trees, no sub-surface disturbance is anticipated. Under the terms of the Nevada State Protocol, any hand-thinning activity which does not produce ground disturbing activity is considered categorically not to have any adverse effect on cultural resources (M.3(a)). Although the utilization of hand crews to perform the thinning may pose a risk to cultural resources in that collection of surface artifacts is always a possibility, steps would be taken to minimize that risk. Since there is no subsurface disturbance, the likelihood of encountering intact, buried deposits is highly unlikely, which reduces the chance of collection. Furthermore, field crews would be briefed by a district archaeologist on the importance of cultural resources and the possible penalties under the Archeological Resources Protection Act for the destruction of archaeological resources. Ultimately, the Proposed Action would have a likely positive effect on cultural and paleontological resources within the area of treatment as encouraging re-growth of ground-cover would curtail erosion, effectively preserving sites.

#### Environmental Consequences of the No Action Alternative

Although the Proposed Action would have no effect on cultural or paleontological resources due to the nature of the activity (hand-thinning, no sub-surface disturbance), lack of action (the no-action alternative) could harm sensitive cultural resources. Since paleontological and archaeological sites, especially prehistoric sites, are very sensitive to erosion, the risks posed by heightened run-off precipitated by loss of vegetative cover due to pinyon-juniper dominance would continue. If left unabated, we would likely suffer continued loss of potentially significant archaeological resources.

#### Noxious Weeds, Invasive and Non-native Species

The project area has been relatively free of invasive and noxious weed species. However hoary cress is common along road-sides. Russian Knapweed, as well as Musk/Scotch, thistle are found

in areas of disturbance and near riparian resources. Cheatgrass, a long-established invasive annual grass species, is also widely distributed throughout the area.

#### Environmental Consequences of the Proposed Action

The Proposed Action has little potential to create conditions favorable for the proliferation of noxious weeds and invasive species. Disturbance to soils and vegetation (other than the target tree species) by crews on foot carrying chain saws would be negligible. Nevertheless, the Proposed Project will observe Prevention and Best Management Practices as incorporated by Battle Mountain District, Integrated Weed Management Plan (2009) to further minimize the chances of introducing or spreading noxious weeds or invasive species. Active noxious weed control will take place on site by a certified pesticide applicator as weeds are discovered or identified.

#### Environmental Consequences of the No Action Alternative

The no action alternative would have essentially the same outcome as that of the Proposed Action with respect to noxious weeds, invasive and non-native species. Current conditions would be expected to change little as no new activities would occur under this alternative.

#### Native American Religious Concerns

Various tribes and bands of the Western Shoshone have stated that federal projects and land actions can have widespread effects to their culture and religion as they consider the landscape as sacred and as a provider. The Proposed Project area lies within the traditional territory of the Western Shoshone.

#### Environmental Consequences of the Proposed Action

The low disturbance potential of the Proposed Project makes an adverse effect to any Native American religious site or religious practice very unlikely. Nevertheless, coordination was conducted with the relevant tribes to ensure that any concerns would be addressed.

The tribes have generally voiced opposition to chaining projects, preferring instead, hand thinning control of pinyon-juniper. Additionally, the tribes have expressed a desire to preserve older, mature, nut-bearing pinyon pine trees along with sufficient young trees to insure adequate future pine nut harvests. This desire fits well with the thinning prescription of the Proposed Project (trees larger than 20 feet in height and 10 inches diameter breast height (DBH) would not, in most cases, be cut down) as discussed under the Proposed Action. Pinyon pines would also be preferred over junipers as “leave” trees. This prescription would ensure the preservation, present and future, of a healthy pinyon pine resource. The tribes have also expressed interest in, and would be permitted to harvest, firewood from downed trees in the project area.

Although the possibility of disturbing Native American gravesites within the project area is extremely low, inadvertent discovery procedures must be noted. The Native American Graves Protection and Repatriation Act, section (3)(d)(1), states that the discovering individual must notify the land manager in writing of such a discovery. If the discovery occurs in connection with an authorized use, the activity, which caused the discovery, is to cease and the materials are to be protected until the land manager can respond to the situation.

### Environmental Consequences of the No Action Alternative

No effect to Native American Religious site would be anticipated to result from the No Action Alternative - at least in the short term. In the long term, increased potential for erosion or catastrophic fire associated with pinyon-juniper domination might have deleterious effects, depending on the nature of the site.

### Visual Resource Management

The Proposed Project area presents a scene rather typical of a central Nevada mountain range. At the highest elevations of 8,500 foot Bald Mountain, only plants of low growth form - low sage, a few grasses and short-statured forbs - can brave the wind and cold. Slightly lower down, a mountain brush/Wyoming sage brush community cloaks the slopes. Pinyon and juniper dominate the view as elevation decreases.

The Proposed Project is within a visual resource management (VRM) class IV. The objective of this management classification is to: “provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic of the landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.”

### Environmental Consequences of the Proposed Action

Although VRM class rating of IV presents little restriction to the type of project that may be undertaken in the Bald Mountain area, the edges of the thinned areas under the Proposed Action would be “feathered” in order to avoid the appearance of obvious human influence. In the long term, the Proposed Project would result in a visual aspect greatly preferable to one dominated and obscured by dense stands of conifers that would eventually result without the Proposed Action. Opportunities for wildlife viewing would also be preserved and enhanced by the Proposed Action. The overall appearance of the project area under the Proposed Action would be one with fewer evergreen trees, an appearance more in keeping with the pre-settlement condition of the landscape.

### Environmental Consequences of the No Action Alternative

Visual resources would not immediately change from current condition if the Proposed Project is not implemented. Over time, pinyon-juniper domination would degrade the visual variety of the project area. Opportunities for wildlife viewing would be diminished as both the quality of the habitat (which would support less wildlife), and visibility, declined.

### Recreation

Recreational activity in and around the project area is of a dispersed nature and includes such activities as camping, off-road vehicle use, hunting, hiking, wildlife viewing and rock hounding. There are no developed recreational sites/facilities or primary access points within the Proposed Project area.

### Environmental Consequences of the Proposed Action

The Proposed Action, with its associated chain saw noise, could have short-term negative effects upon recreational opportunities in the project area by detracting from the naturalness of the experience. In the long term however, recreational opportunities such as wildlife viewing and hunting would be enhanced by the preservation of the habitat.

### Environmental Consequences of the No Action Alternative

Under the no action alternative, wildlife and scenery-based recreational opportunities would decrease over time as the quality of wildlife habitat decreased. Other forms of recreation would be little affected.

### **Socio-Economic Values**

A number of socio-economic values, important locally and regionally, are associated with the project area. Traditional socio-economic activities within the project area include livestock grazing, mining and mineral exploration (though no mines are currently active inside the project area), along with pine nut, fuel wood and fence post harvesting. Outdoor recreation, which includes hunting, hiking, camping, rock hounding, along with wildlife and wild horse viewing, has become increasingly important to local economies as well.

As of the year 2000 census, Lander County had a total population of 5,794. The Battle Mountain Census Designated Place (CDP) is a population center within Lander County having a population of 2,871 (U.S. Census Bureau 2006a and 2006b).

The labor force for Lander County was estimated in the year 2000 to be 2,741 persons. This project would likely be undertaken through the Bootstraps program, a collaborative endeavor of the University of Nevada Cooperative Extension and the BLM. The program is designed to accomplish natural resource projects on public lands while teaching job skills and responsibility to young adults. Between 12 and 15 young adults, along with a job coach, would be employed on the project from May through October during at least one, but possibly two, seasons depending on the size of the crew and the availability of funding.

### Environmental Consequences of the Proposed Action

For reasons discussed previously in Section III, the Proposed Action would help to preserve socio-economic values associated with livestock grazing, pine nut harvesting, wildlife and wild horse viewing, hunting and hiking, and would promote fuel wood harvesting within the project area.

The project is expected to employ 12-15 local young adults for the months of May through October during the 2010 calendar year. The crews would be camping at the project site for up to four nights per week. The Bootstraps Crews would likely be comprised of locals from the nearby communities.

The Proposed Project is short-term (up to two years of seasonal work) and temporary and would not induce any population growth in an area. Neither would the Proposed Project create or provide any infrastructure which would indirectly induce substantial population growth.

The crews would likely spend money in local communities for groceries, gasoline, tools and equipment. This spending activity associated with the Proposed Project would have a small but positive effect on local businesses in Lander County.

The Proposed Action would have little effect, positive or negative, on the socio-economics of mining, mineral exploration and rock hounding.

#### Environmental Consequences of the No Action Alternative

Without the Proposed Action, the socio-economic potential of the project area would decline. Opportunities for livestock grazing, pine nut harvesting, hunting, wildlife and wild horse viewing will diminish as carrying capacities of the range deteriorate and pinyon and juniper trees become increasingly dominant. Seasonal employment opportunities for young adults in the local communities would not be realized.

#### **Rangeland Resources/Grazing Management**

The Bald Mountain area has been grazed by livestock, both cattle and sheep, since the mid 1800s. The Proposed Project area lies within the Toiyabe Mountain Use Area of the Carico Lake grazing allotment.

Livestock grazing management on the Carico Lake allotment was modified by a Final Multiple Use Decision, issued in December, 2005. Changes made in grazing management have resulted in improving range conditions. Currently, both cattle and sheep are permitted to graze the Toiyabe Mountain Use Area from April 1<sup>st</sup> to June 30<sup>th</sup>, though only cattle are normally found in the Proposed Project area. Reduction of wild horse numbers to appropriate management levels during January, 2009 is also contributing to improving range and riparian conditions.

#### Environmental Consequences of the Proposed Action

In the short term (< 1 year) the Proposed Action would have minimal effect on range resources. In the long-term (> 1 year) the Proposed Action would maintain and enhance forage availability for livestock, wild horses and wildlife.

#### Environmental Consequences of the No Action Alternative

Over time, increasing domination of plant communities by pinyon and juniper would reduce and eventually eliminate livestock forage from large portions of the project area.

#### **Wild Horses and Burros**

The Proposed Project falls within the Bald Mountain Wild Horse Management Area (HMA). Wild horses range throughout the project area. The appropriate management level for this HMA has been established at 129 - 215 animals and that population level was achieved through a gather in January, 2009. The current population estimate is 152 animals.

#### Environmental Consequences of the Proposed Action

A short-term disruption of wild horse movements and habitat use might possibly result from human activity and chainsaw noise associated with the Proposed Action while the project is in progress. In the long-term, habitat quality for wild horses would be enhanced as understory vegetation, particularly grasses and forbs, are protected from pinyon-juniper domination.

### Environmental Consequences of the No Action Alternative

Under the No Action Alternative, pinyon-juniper encroachment and dominance of the project area would continue. Availability of forage and other habitat requirements for wild horses would decline.

## **IV. Cumulative Impacts**

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

The Cumulative Effects Study Area (CESA) for the Proposed Action and No Action Alternative will consist of Bald Mountain, surrounding valleys and adjacent mountain ranges: the northern Toiyabe Range to the south, the Cortez, Simpson Park, Roberts and Sulphur Springs Ranges to the east and the Shoshone Range to the west.

### ***A. Past, Present, and Reasonably Foreseeable Actions***

Since European settlement of the CESA began in the mid-1800s, several major influences have contributed cumulatively to the need for the Proposed Action. These include the removal of native peoples (along with their frequent firing of vegetation) from the landscape, removal of fine fuels associated with the introduction of domestic livestock, and the direct suppression of wildfire. These influences have together, resulted in reduction in fire frequency, which in turn contributed to widespread increases in pinyon-juniper distribution and density. Increases in pinyon-juniper have also been attributed to changes in climate and increases in atmospheric carbon dioxide. Whatever the causes, pinyon-juniper has become more abundant on many sites at the expense of range and wildlife habitat.

The Proposed Project, in conjunction with similar past, ongoing and future vegetation treatment projects in the CESA (Tonkin Springs, 2005; Red Hills, 2006-2010; Sulphur Springs, 2009-2011 Roberts 2008-2009) are designed to reverse, in a modest way, the cumulative effects of drastic changes, during the past 150 years, in fire frequency. As such, the Proposed Action and similar projects would have a modest but important beneficial cumulative effect (though very beneficial site-specific effects). The 3-Bars Ecosystem and Landscape Restoration Project, 2012-2022, is a more ambitious, larger scale initiative with potentially more significant beneficial impact within the CESA. An environmental impact statement (EIS) is presently being developed for this project.)

Other past, present, and reasonably foreseeable future actions applicable to the assessment area but which are less relevant to the Proposed Action (because they are of a fundamentally different nature) are identified below:

Project Name or Description	Status (x)		
	Past	Present	Future
Issuance of multiple use decisions and grazing permits for livestock management	x		x
Wild horse gathers/decisions	x		x
Construction of exclosures around springs or other riparian resources	x	x	x
Mineral Exploration	x	x	x
Mining Activities associated with Tonkin Springs and Atlas Mines	x	x	x
Reclamation of Abandoned Mine Lands	x	x	x
Construction of fences	x	x	x
Spring development	x	x	x
Riparian habitat management	x	x	x
Invasive weed inventory/treatments	x	x	x
Vegetation rehabilitation treatments	x	x	x
Construction of communication towers and transmission lines	x	x	x

Future Proposed Projects within the CESA would be analyzed in an appropriate environmental document following site specific planning. Future project planning would also include public involvement.

***B. Effect of Past, Present, and Reasonably Foreseeable Future Actions***

**1. Proposed Action**

**Soils/Vegetation/Rangeland Resources**

As discussed in the *Environmental Consequences* section of this document, the Proposed Action and similar habitat enhancement projects, as well as wildfire rehabilitation, habitat restoration, and invasive weed treatments would have a positive cumulative impact in helping to maintain and facilitate a diverse natural plant community in good ecological condition, exhibiting strong soil/slope stabilizing characteristics.

Other past, present, and future actions such as mining, uncontrolled OHV use, and poorly managed livestock grazing can result in compaction of soils which in turn can decrease infiltration rates and permeability, loss of microbiotic crusts, increased erosion, and susceptibility to noxious weeds, invasive and non-native species. The Proposed Project would not contribute to, and in fact would tend to mitigate, those effects. The Proposed Action and similar vegetation manipulation projects are expected to be cumulatively beneficial for rangeland health.

### **Forestry Resources**

Past, present and foreseeable future projects have had both positive and negative cumulative effects on forestry resources. Early mining activity decimated forest lands locally in the smelting of ore. Actions that have indirectly suppressed fire, such as the removal of native peoples, the introduction of livestock, along with later direct suppression of fire by the BLM and others, have allowed pinyon-juniper forests to expand and increase dramatically in density. At some point however, this will result in catastrophic wildfires which will devastate forest resources. Very hot-burning, nearly unstoppable catastrophic fires can occur after pinyon-juniper forests reach canopy closure.

The Proposed Action and similar habitat manipulation projects, past, present and future would preserve forestry resources while at the same time promoting maximum diversity of the plant community.

### **Wildlife (Including Special Status Species and Migratory Birds)**

The most relevant cumulative effects result from the sum of similar habitat enhancement projects. Cumulatively, these projects have a beneficial effect on wildlife and wildlife habitats. Cumulative impacts associated with the Proposed Action and other activities, such as wildfire rehabilitation, sage grouse habitat improvement projects, construction of wildlife guzzlers, vegetation rehabilitation, and invasive weed treatments are beneficial for wildlife and wildlife habitat. These projects/activities are implemented to enhance rangeland condition, riparian/wetland health and functionality, and improve water quality, all of which benefit wildlife species and associated habitat.

A number of other ongoing and foreseeable human activities in the area, most notably mining, mineral exploration and increased OHV use, could result in cumulatively adverse impacts to wildlife, special status species, and migratory birds. These activities result in loss of habitat, habitat fragmentation, and disruption of movement patterns.

### **Riparian & Wetland Zones / Water Quality**

As discussed in the *Environmental Consequences* section, the Proposed Project would help to maintain and enhance riparian resources by reducing pinyon-juniper encroachment into meadows and stream sides. The Proposed Action, in conjunction with improved livestock and wild horse management practices, has direct impacts that are of benefit to riparian/wetland zones and associated water quality. Invasive weed treatments and wildfire rehabilitation aid in maintaining the health, viability, and functionality of wetland and riparian zones. These activities and projects, along with the Proposed Action, cumulatively aid in the improvement of riparian/wetland zones by allowing the riparian area to improve in functionality (improved vigor of vegetative species, enhanced stream bank stability and sediment filtration, etc.). Water quality also benefits from improvements in wetland/riparian functioning.

Activities such as mining and increasing OHV use can degrade riparian resources and water quality. The dewatering operations which are sometimes a part of mine operations can affect or even eliminate wetland and riparian areas. Loss of wetland and riparian resources adversely affect wildlife species by impacting the health of sensitive areas that wildlife depend upon. Increasing OHV-based recreation can impact riparian areas through increased erosion, drop in

the water table, loss of riparian vegetation, and reduced functionality of the entire system. However, the cumulative impacts associated with the Proposed Action would not contribute to those impacts. The cumulative impacts of the Proposed Action and those of past, present, and reasonably foreseeable similar actions are expected to have positive consequences for riparian resources.

### **Cultural-Paleontological Resources**

Past actions that involved any sort of significant ground disturbance have likely had cumulative effects to cultural or paleontological resources. Greater efforts to identify and mitigate impacts are undertaken for present and future ground disturbance projects.

The Proposed Action has very low potential to impact cultural or paleontological resources or to contribute measurably to the cumulative impacts of past, present, and reasonably foreseeable future actions. Changes in grazing management, wild horse gathers, the construction of spring and upland exclosures, fencing projects, spring development, habitat management, in conjunction with the implementation of the Proposed Action result in effects that are, on balance, cumulatively beneficial to cultural resources. Such projects help to minimize the effects of trampling and erosion that would otherwise result from livestock, wild horses and wildlife use.

### **Noxious Weeds, Invasive and Non-native Species**

The CESA has no major infestations of any State of Nevada designated noxious weeds. Musk and Scotch thistle, hoary cress and Russian knapweed, are all noxious weeds that are present and occur in isolated locations in and around disturbed areas like road-sides and near riparian areas. Cheatgrass, a long-established invasive annual grass species is also present and widely distributed. A complete noxious weed inventory for the CESA has not been completed.

Past, present, and reasonably foreseeable future actions may promote the proliferation of noxious weeds and invasive species, which capitalize on distressed native plant communities. Disturbance to soils or vegetation from range improvement construction activities, mining, wildfire suppression/rehabilitation, OHV use, and habitat restoration can cause disturbance that promote the establishment of noxious weeds and invasive species.

Adherence to the District's Integrated Weed Management Plan and incorporated best management practices, in combination with proper grazing management, wild horse gathers, riparian fencing, habitat restoration, wildfire suppression and rehabilitation, and noxious weed treatments is expected to result in improved range and riparian conditions. Disturbance to soils and vegetation (other than the target tree species) by crews on foot carrying chain saws would be negligible. The Proposed Project has little potential to contribute to any cumulative effect relative to noxious weeds and invasive plant species. The Proposed Project is designed to minimize disturbance and to preserve the health and vigor of native plant communities.

### **Native American Religious Concerns**

The cumulative effects of the Proposed Action and similar habitat manipulation projects would have the effect of indirectly preserving sacred Native American sites from pinyon-juniper domination, increased soil erosion and eventual catastrophic wildfire. As such, these projects

would have a positive cumulative effect with respect to Native American religions concerns. The Proposed Action would not contribute to negative cumulative effects of mining and some other soil disturbing projects.

### **Visual Resources Management**

Past, present, and reasonably foreseeable projects such as transmission lines, roads, fences, and mines arguably have negative cumulative impacts for visual resources. As discussed in the *Environmental Consequences* section of this document, however, the Proposed Action, would, in the long term, have a positive benefit for visual resources, and therefore would tend to weigh on the positive side of the cumulative visual effects balance scale.

### **Recreation**

Some types of projects, such as fencing, might detract from a recreational experience. Recreators might feel encumbered by the cumulative effects of livestock fencing. Mining activities may also affect recreational experiences due to the reduced amount of public land that is accessible or available for recreation.

As Nevada's human population increases, recreational demand will increase within the CESA. The cumulative impacts associated with the Proposed Action and similar past, present, and reasonably foreseeable future actions would have generally positive cumulative benefits for recreation by preserving wildlife, ecological health of the environment and aesthetic appeal.

### **Socio-Economic Values**

This project, along with similar vegetation treatment projects will cumulatively help to preserve social and economic values associated with hunting, hiking camping, wildlife and wild horse viewing, firewood harvesting, livestock grazing, and pine nut harvesting.

## **2. No Action Alternative**

The No Action Alternative would result in the continuation of pinyon-juniper domination of the Proposed Project area. Impacts of the No Action Alternative coupled with the impacts from past, present, and reasonably foreseeable actions would include reduced quality of wildlife habitat within the CESA, declining health and diversity of vegetative communities and degradation of ecological condition of range sites, downward trend and condition of riparian/wetland zones and water quality. Failure to cumulatively manipulate vegetation by removing increasingly dense stands of pinyon-juniper would also result in eventual catastrophic wildfires which could cumulatively devastate forest resources, Native American religious sites, cultural resources, visual resources, and would favor the establishment of invasive plant species and noxious weeds.

### ***C. Summary of Past, Present, and Reasonably Foreseeable Future Actions***

Past, present, and reasonably foreseeable future actions cumulatively have both positive and negative effects for the resources involved. Projects such as improvements in livestock grazing management, wild horse gathers, construction of spring and upland exclosures, construction of pasture fences, habitat restoration and enhancement, establishment of wildlife guzzlers, wildfire rehabilitation, and invasive weed treatments contribute to positive cumulative effects for upland

and riparian plant communities, wildlife and special status species habitats, forests, recreation and water quality. Such projects also tend to mitigate impacts to cultural/paleontological resources, and Native American sacred sites. Other activities such as mining, construction of roads, transmission lines and communication sites, and increasing OHV use can have negative cumulative consequences for all resources. The Proposed Action however, would contribute to beneficial cumulative impacts for all resources addressed in this document.

**V. Mitigation Measures for the Proposed Action**

Please refer to the Proposed Action, *Environmental Consequences* section for a discussion of mitigation measures. See also Appendix A.

## Consultation, Coordination, Cooperation

· Cultural Resources	Chris Cook	MLFO
· Native American Religious Concerns	Gerald Dixon	BMDO
· Hazmat	Dan Tecca	MLFO
· Lands and Realty	Nancy Lockridge	MLFO
· Visual Resources/Recreation/Wilderness	Todd Neville	MLFO
· Wild Horses and Burros	Shawna Richardson	MLFO
· Fire/Fuels Management	Donovan Walker	BMDO
· Range/Vegetation/Soils	Casey Johnson	MLFO
· Hydrology	Robert Hassmiller	MLFO
· Noxious and Invasive Weeds	Mike Vermeys	MLFO
· Minerals	Leesa Marine	MLFO
· Soils/Forestry Resources	Ryan Sandefur	MLFO
· Support Services	Jill McConville	BMDO
· Wildlife	Ryan Sandefur Jeremy Lutz	MLFO NDOW
· Threatened & Endangered Species	Mike Stamm	MLFO
· NEPA Compliance	Angelica Rose	BMDO
· Socio-Economics	Angelica Rose	BMDO
· Permittees	John Filippini	C Ranches Inc.

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## Appendix A

### Special Status Species/Migratory Bird Avoidance Measures

#### **sage grouse:**

Minimize human activity within view of (or by at least 0.5 miles ) leks (strutting grounds) especially between midnight and 10:00 AM (see *Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Nevada*, BLM, October 2000).

**March 1 - May 15**

Avoid nesting and brood rearing areas (especially riparian areas where broods concentrate beginning usually in June) by 0.5 miles

**April 1 – June 30**

Avoid sage grouse wintering areas by 0.5 miles while occupied. Most known wintering grounds in the Shoshone-Eureka Resource Area occur at high elevations and are not likely to be affected.

**dates will vary**

Minimize disturbance to vegetation in all known sage grouse habitats.

**ferruginous hawks:** avoid active nests by 0.5 miles

**March 15 - July 1**

#### **pygmy rabbits**

Per instruction memorandum NV-2003-064, May, 2003, “all field offices should begin to survey for pygmy rabbits in relation to all proposed ground disturbance activities, including issuance of rights-of-ways in suitable habitat . . . . Wherever practicable, field offices should avoid ground disturbing activities in pygmy rabbit habitat.”

#### **migratory birds**

Whenever possible, conduct activities which might disturb nests outside of the migratory bird nesting season, which occurs during, March through July, and especially May 15 through July 15). Where this isn't possible or practical, site surveys by a qualified biologist will be required to determine the presence of nesting birds, and protective buffer zones established until the young birds are fledged.