Winnemucca Wildland Urban Interface Greenstrip
Environmental Assessment
EA# NV-020-06-15
Winnemucca Field Office

1.0 INTRODUCTION/PURPOSE AND NEED FOR ACTION

1.1 Introduction

In order to provide protection from wildfire, construction of a 100-foot wide greenstrip is proposed on the outskirts of the communities of Winnemucca and Grass Valley located in Humboldt County Nevada.

In the past 5-10 years many people have built homes in the surrounding area. Outdoor activities such as hiking, biking, motorcycle, and ATV use occur on the BLM lands that surround the city limits. The benefits of such a greenstrip would be two-fold, it would protect the Wildland Urban Interface (WUI) areas from wildfire that occurs on outside BLM lands, as well as protecting BLM lands from fires that originate inside of the Wildland Urban Interface.

1.2 Purpose and Need

The communities of Winnemucca and Grass Valley are surrounded by public and private lands with a history of large, fast-moving rangeland wildfires that pose a threat to the inhabitants and to the structures of the communities. Fires over 50,000 acres have burned in a ten-mile radius surrounding the Winnemucca and Grass Valley areas.

The purpose of this project is to create a defensible space (by changing vegetation to reduce fire behavior) around the communities to reduce the chances of wildfire burning into the two communities. The National Fire Plan supports this project for communities at risk of wildfire (Federal Register Vol. 66 No. 160 pg 43413 & 43414).

As a result of implementing the Proposed Action, buffers would be created in strategic areas, which would serve to moderate fire behavior within the treated areas, and thereby reduce the likelihood of a wildfire entering the communities. The proposed project would also create a safer environment for firefighters to engage in fire suppression operations than is currently present.

1.3 Land Use Plan Conformance Statement

The Sonoma-Gerlach Resource Management plan supports the proposed action. Although not specifically addressed, fuels treatments conform to the Fire Objectives (F.1), which include the direction to minimize wildfire damage to life, property, and resources.

1.4 Relationship to Laws, Regulations, and other Plans

This Environmental Assessment is tiered to the Vegetation Treatment on BLM Lands in Thirteen Western States Program EIS for Fiscal Year 1991. The Winnemucca Fire Management Plan supports these actions as well. The proposed action is consistent with the Bureau's policies on wildland fire and protection of public safety. The proposed action is consistent with Federal, State and local laws, regulations and plans to the maximum extent possible.

1.5 Issues

An interested party letter was sent out in March of 2006 informing known interested parties that the BLM was proposing to implement a greenstrip around the towns of Winnemucca and Grass Valley. The letter was also written into an information bulletin that was broadcast on radio stations in the area and sent to the Humboldt Sun (a local newspaper). Comments, ideas, questions, and issues with the proposed project were requested. Two comments were received. One comment was from an interested public that wanted to know what we were doing and why and also requested a copy of the NEPA documentation when we send it out for public comment. The second comment was from the Nevada Division of State Lands showing its support for fuels projects, but asking us to address maintenance issues as they relate to noxious weeds that might invade the proposed greenstrip.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Areas

Sonoma and Thomas Creek Allotments (see Appendix 1)

2.2 Proposed Action

The proposed action is for the BLM, Winnemucca Field Office, in cooperation with the Northern Region of the Nevada Division of Forestry, to construct a 100-foot-wide approximately 8-9 mile long greenstrip (100 acres) on public and private lands around the towns of Winnemucca and Grass Valley Nevada to decrease the threat of wildfire in the urban interface. Greenstrip construction would entail treating up to approximately 100 acres with mechanical and hand brush removal, herbicide spray to prevent annual (cheatgrass) growth, and drill seeding of fire resistant herbaceous species. The objective of the treatment is to create a defensible space (by changing vegetation and reducing fire behavior) around the towns to reduce the chances of wildland fire burning the town. The mowing would occur in the late summer or fall months of 2006. Herbicide treatments and seeding would follow the mowing in an appropriate time frame.

The proposed action is located within the following legal description (see attached map: Appendix 1):

Winnemucca WUI Greenstrip: T.36N, R.38E (Section33), T.35N, R38E (Sections 5, 8, 17, 20, 29, 32), T. 34N, R. 38E (Sections 5, 6).

2.2.1 Operational Procedures/Design

1. The project would avoid any sites of historical significance, which would be eligible for listing in the National Register.

2. Methods used for brush removal would include mechanical and manual removal.

3. Implementation of the project would be accomplished using brush mowers, rangeland drill, broadcast seeder, rangeland disk, backpack sprayers, and four-wheelers or trucks set up to spray chemicals.

4. Methods used for seed application would include drill seeding and manual broadcast application.

5. The seed mix used in the greenstrip would include a form of crested wheatgrass, Sandberg's Bluegrass, and Immigrant Forage Kochia which are all suitable for use in the soil types and precipitation zone of the area. Seeding rate is 9.0 pounds per acre of pure live seed (PLS).

Species	**PLS LBS./Acre**	**Bulk LBS./Acre**	**PLS/sq. ft.**
Crested wheatgrass varieties Nordan, Hycrest, or Siberian	6.00	7.00	30
Sandberg bluegrass	1.00	1.20	21
Forage kochia	2.00	2.50	18
Totals	9.00	10.70	69

6. Invasive non-native weed treatments, to include herbicide application, would be implemented to reduce the threat of weed and annual (cheatgrass) invasion in the greenstrip area. Herbicide treatments would be conducted annually, or as needed, to reduce invasive weeds and annuals. Only BLM approved herbicides would be used.

7. Equipment used would be washed off after use and before relocation to other areas to prevent the spread of noxious weeds. The wash down area will be GPSed, recorded and monitored.

2.3 No Action Alternative

No treatments would occur on the proposed project site. The site would be left as it currently exists. The potential for a wildfire to burn onto private property and into Wildland Urban Interface (WUI) areas would also increase each year with the accumulation of both live and dead cheatgrass and other vegetation that exist in the proposed treatment area.

3.0 AFFECTED ENVIRONMENT

A variety of laws, regulations, and policy directives mandate that the effects of a proposed action and alternative(s) on certain critical environmental elements be considered. Not all of the critical elements that require inclusion in this EA are present, or if they are present some may not be affected by the proposed action and alternative (Table 1). Only those mandatory critical elements that are present and would be affected are described in this section.

In addition to the mandatory critical elements, there are additional resources that require impact analysis relative to the proposed action and alternative. These are presented in Section 3.2.

3.1 Critical Environmental Elements

The following critical elements of the human environment are present and would or could be affected by the proposed action and alternative: air quality, cultural resources, invasive, non-native species, migratory birds, Native American religious concerns, hazardous materials, water quality, and wetland and riparian zones.

Table 1. Critical Environmental Elements

Critical Element	*Present*		*Affected*		*Rationale*
	Yes	No	Yes	No	
Air Quality	Present		Affected		Sections 3.1.1, 4.1.1 and 5.3.1.
ACECs		Not Present		Not Affected	
Cultural Resources	Present		Affected		Sections 3.1.2, 4.1.2 and 5.3.2.
Environmental Justice		Not Present		Not Affected	
Floodplains		Not Present		Not Affected	
Invasive, Nonnative Species	Present		Affected		Sections 3.1.3, 4.1.3 and 5.3.3.
Migratory Birds	Present		Affected		
Native American Religious Concerns		Not present		Not affected	The Winnemucca Indian Colony did not express concerns in relation to the proposed action or alternative
Prime or Unique Farmlands		Not Present		Not Affected	
Threatened and Endangered Species		Not Present		Not Affected	
Wastes, Hazardous or Solid		Not Present		Not Affected	Section 3.1.5.
Water Quality (Surface and Ground)	Present		Affected		Sections 3.1.6, 4.1.5 and 5.3.5.
Wetlands and Riparian Zones	Present			Not Affected	
Wild and Scenic Rivers		Not Present		Not Affected	
Wilderness		Not Present		Not Affected	

3.1.1 Air Resources

Meteorological data from Winnemucca, Nevada indicate average winds of 8-10 miles per hour, with wind directions showing a general bimodal distribution. The primary mode is south-southwesterly during the summer months. The secondary mode is north-northeasterly during the winter. The ground level wind directions in Nevada are locally modified by the north/south trending mountain ranges and valleys of the Basin and Range topography of the region.

Presently, the air quality on lands administered by the WFO is good except for periods during late spring, summer, and early fall when particulate concentrations (dust) become excessive. Windborne dust from west-southwesterly winds blowing across the Black Rock Desert in late spring, summer, and early fall causes a degradation of air quality in the region. Dust generated in the Black Rock Desert is carried across the state, reaching as far east as Elko during severe low-pressure disturbances.

During winter, stagnating air masses called anticyclones often remain over the region for two or more days preventing vertical atmosphere movement and thus causing atmospheric mixing depths to remain shallow. This condition is prevalent over Nevada from November through January. These conditions, coupled with generally light winds, tend to allow air pollution to accumulate. However, because the area is virtually undeveloped and has few sources of pollution, these meteorological conditions cause little impact on the air quality in the area.

Periodic wildfires emit particulate matter (smoke) into the air, producing noticeable deterioration of air quality within the area. Burned areas are exposed to wind erosion, which suspends ash and soil particles that decrease air quality.

3.1.2 Cultural Resources

A Class III cultural resource inventory was conducted along the entire area of the proposed green strip (Vierra 2006). A single obsidian primary flake was identified and documented during the course of the survey.

3.1.3 Invasive, Nonnative Species

Several laws authorize control of noxious weeds on public land under the BLM's administrative jurisdiction (e.g., The Federal Insecticide, Fungicide and Rodenticide Act of 1972, Federal Noxious Weed Act of 1974, FLPMA (1976), and the Public Rangelands Improvement Act of 1978).

Nevada Revised Statutes, Chapter 555.05 defines "noxious weeds" and mandates land owners and land management agencies to include control of noxious weeds on lands under their jurisdiction.

Nevada has listed 42 non-native invasive plant species that require control. Thirteen of these 42 species have been found on the Winnemucca District (Table 2).

Table 2. Invasive, Non-Native Species found

in the Winnemucca District.

Common Name	Scientific Name
Poison Hemlock	*Conium maculatum*
Russian Knapweed	*Acroptilon repens*
Spotted Knapweed	*Centaria maculosa*
Leafy Spurge	*Euphorbia elsua*
Medusahead	*Taeniatherum caput-medusae*
Tall White Top	*Lepedium latifolium*
Puncturevine	*Tribulus terrestris*
Salt Cedar (Tamarisk)	*Tamarix ramosissima*
Canada Thistle	*Circium arvense*
Musk Thistle	*Cardus nutans*
Scotch Thistle	*Onopordum acanthium*
Yellow Star Thistle	*Centaria solstitalis*
Hoary Cress	*Cardaria draba*

Weeds are spread from infested areas by people, equipment, animals and wind. When introduced, these non-native, invasive plant species can quickly dominate the landscape if management action is not initiated to control the infestations' expansion. Noxious weeds may proliferate, forming monocultures, which can crowd out other plants that provide biodiversity.

The project area has been inventoried for the presence of the above mentioned species. None of the listed species are present in the within the project area, however, given the past fire history as well as the close proximity to an urban area and the heavy OHV use that is present, there is possibility that the species could be present within the greater region.

3.1.4 Migratory Birds

Migratory birds are protected and managed under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et. seq.*) and Executive Order 13186. Under the MBTA nests (nests with eggs or young) of migratory birds may not be harmed, nor may migratory birds be killed. Executive Order 13186 directs federal agencies to promote the conservation of migratory bird populations.

Migratory birds that may be associated with the project areas include: black-throated sparrow (*Amphispiza bilineata*), Brewer's blackbird (*Euphagus cyanocephalus*), Brewer's sparrow (*Spizella breweri*), burrowing owl (*Athene cunicularia*), canyon wren (*Catherpes mexicanus*), gray flycatcher (*Empidonax wrightii*), green-tailed towhee (*Pipilo chlorurus*), loggerhead shrike (*Lanius ludovicianus*), rock wren (*Salpinctes obsoletus*), sage sparrow (*Amphispiza belli*), sage thrasher (*Oreoscoptes montanus*), western meadowlark (*Sturnella neglecta*), and vesper sparrow (*Pooecetes gramineus*).

The burrowing owl, loggerhead shrike and vesper sparrow are also BLM designated sensitive species.

3.1.5 Hazardous Materials

Herbicide would not be stored at the project site. Product label directions and MSDS would be available on site for reference in case of spill or exposure.

Herbicide treatment would follow BLM procedures outlined in BLM Handbook H-9011-1 (Chemical Pest Control), and manuals 1112 (Safety), 9011 (Chemical Pest Control), and 9015 (Integrated Weed Management), and would meet or exceed state label standards. Treatments would comply with the USEPA label and would follow all of the recommendations provided.

All unused chemicals or empty containers would be disposed of by the licensed herbicide applicator in accordance with the USEPA label at an approved disposal site.

No waste, hazardous or solid would be associated with the proposed action.

3.1.6 Water Quality

Surface water resources within the project area are limited to dry washes and ephemeral channels originating in the higher elevations of the Sonoma Range. With the exception of Thomas Canyon and Water Canyon Creeks, all channels within the project area flow only in response to large precipitation events.

Thomas and Water Canyon Creeks are perennial within their respective headwaters, but are considered to be seasonal at the elevation in the project area (approximately 4,600 feet). Stream flow in these channels within the project area is dependant upon the seasonal snow pack and normally occurs during the months of March, April and May.

The quality of the surface water (when present) is most likely good for dissolved constituents given that most flows originate from the melting snow pack. Groundwater is also present in the project area at depths greater than 100 feet (most likely in excess of 300 feet bgs).

3.2 Additional Affected Resources

In addition to the critical environmental elements, the following resources, which are present and would be affected by the proposed action and alternative, are described: vegetation, visual resources, wildlife, soils, and recreation. Those resources that are either not present or not affected by the proposed action or alternative are not presented.

3.2.1 Grazing

The proposal is located within two allotments: Thomas Creek and Sonoma. The Thomas Creek Allotment consists of two pastures: Below the Drift Fence and Above the Drift Fence. Thomas

Creek Allotment is grazed from April 16 to May 15 every year in the Below the Drift Fence Pasture and May 16 to August 16 in the Above the Drift Fence Pasture. The Sonoma Allotment is also grazed from April 22 to Aug 20 every year with seasonal movement to the higher elevations in the summer. There would be no changes to the livestock grazing systems for either allotment.

3.2.2 Recreation

Recreational activities that occur in the area are some hunting, hiking or walking trails/roads, and extensive off-road vehicle use. The predominant recreation activity is off-road vehicle use, including 4-wheel drive vehicles, ATV's and dirt-bikes. The proposed project area is criss-crossed with numerous primitive roads and trails used for this purpose.

3.2.3 Soils

Soils information is extracted from the Soil Survey of Humboldt County, Nevada, East Part. The proposed greenstrip would cross six soil map units. The soil map units are: 110 Adelaide silt loam, 2 to 8 percent slopes; 151 Blackhawk silt loam, 0 to 2 percent slope; 161 Bliss-Chiara association; 188 Chiara association; 331 McConnel very gravelly fine sandy loam, 0 to 2 percent slopes; and 460 Rad loamy fine sand, 4 to 8 percent slopes. Soil surface textures are silt loam, very fine sandy loam, fine sandy loam, very cobbly very fine sandy loam, cobbly sandy loam, very gravelly fine sandy loam, and loamy fine sand. Wind erosion hazard is moderate or high north of Thomas Canyon Road and slight to moderate south of Thomas Canyon Road. Water erosion hazard is generally slight, except for a small area of dissected fan piedmonts north of Thomas Canyon Road where the water erosion hazard would be moderate.

3.2.4 Special Status Species

No on-the-ground field investigation was conducted for sensitive/protected plant or animal species (including birds). However, according to the Nevada Natural Heritage database (May, 2005), no endangered, threatened, candidate, or sensitive plants or animals (including birds) have been reported in the project area.

Portions of the project area are characterized by Wyoming big sagebrush. Pygmy rabbits (*Brachylagus idahoensis*) are considered a big sagebrush obligate species and may be found in stands of Wyoming big sagebrush. They are burrowing rabbits and must have soils that are conducive to burrowing. The soils associated with the big sagebrush sites in the project area have a gravely/cobbly substrate or a shallow hardpan which would limit pygmy rabbit's ability to dig burrows. Because of these soil features, it is unlikely that pygmy rabbits would be found within the project area.

The proposed project area is located outside of identified greater sage-grouse (*Centrocercus europhasianus*) habitat.

3.2.5 Vegetation

North of Thomas Canyon Road is primarily cheatgrass and tumble mustard with minor amounts of Indian ricegrass and needle and thread. South of Thomas Canyon Road vegetation is primarily Wyoming big sagebrush and Sandberg bluegrass with minor amounts of cheatgrass and spiny hopsage.

3.2.6 Visual Resources

The proposed project is within a Visual Resource Management Class III area. The objective for Class III is to partially retain existing landscape character. The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate a casual observer's view.

The dominant visual elements in relatively undisturbed areas are sagebrush and other low profile shrubs on low hills interspersed with flats and drainages. Some of the project area that has burned in the past has different visual characteristics. These areas, dominated by cheatgrass, are characterized by lighter colors and finer texture than the sagebrush dominated areas. The proposed site is viewed primarily by recreationists, power-line workers, and ranchers.

3.2.7 Wildlife

A wide variety of wildlife species common to the Great Basin ecosystem/Big sagebrush community type can be found adjacent to or within the project area. Approximately 100 bird species and 70 mammal species can be found in habitats similar to the project area and within adjacent sagebrush sites. Common large mammal species representative of the area include coyote, badger, and black-tailed jackrabbit. There would also be various small mammals and common reptiles associated with the project area.

Parts of the project area have burned in the past and are dominated by cheatgrass. These cheatgrass areas have a less diverse wildlife population than the unburned sagebrush habitats.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Proposed Action and Alternatives

4.1.1 Air Resources

Proposed Action
Travel on dirt roads, drilling seed, vehicle emissions, and applying herbicides within the project area would create fugitive dust and emissions causing a minor impact to air resources. Fugitive dust would be controlled by minimizing surface disturbance. Travel on roads within the Project Area would be conducted at prudent speeds. Seeding and re-vegetation of proposed surface disturbance would gradually eliminate long-term impacts to air resources.

No Action Alternative
The No Action Alternative would have no impact on air quality.

4.1.2 Cultural Resources

Proposed Action
While the single artifact identified during the course of the inventory could be displaced or destroyed by the proposed action, it does not meet minimal site criterion and is not considered eligible for the National Register of Historic Places. Therefore, the proposed action would have no impact on significant cultural resources.

No Action Alternative
The No Action alternative would have no impact on cultural resources.

4.1.3 Invasive, Nonnative Species

Proposed Action
There is a possibility that invasive nonnative species could infest areas that have been disked or mowed, however, since the areas will be treated with herbicide to eliminate fine flashy fuels, such as cheat grass, and invasive weed infestations within the fuel breaks, the risk of this is low.

Indirectly, the project could have the possibility of reducing the spread potential for invasive, nonnative species, primarily those that respond to an increased fire frequency through breaking up the fuel continuity and thereby limiting the potential spread of wildfires that can exacerbate the spread of invasive nonnative species through large scale vegetation disturbance.

No Action Alternative
The No Action Alternative would have no impact on invasive non-native species.

4.1.4 Migratory Birds

Proposed Action
Direct impacts to migratory birds from the proposed project should be minimal since the work would be conducted outside of the nesting season. There would be a small loss/alteration of habitat within the project area. However, that would be largely offset by the indirect benefits of reducing the spread of wildfire and conversion of sagebrush habitats to less desirable habitats.

No Action Alternative
There could possibly be indirect impacts from this alternative, since wildfires started in cheatgrass habitats could spread unimpeded into adjoining sagebrush habitats.

4.1.5 Water Quality

Proposed Action
Impacts to water resources resulting from the proposed action are limited to minor effects of sedimentation from the ground disturbing activities. Impacts to water quality associated with the application of herbicide are not anticipated provided that the application occurs in accordance with label guidance. Long term impacts are not anticipated since the sites are being revegetated with fire resistant species.

No Action Alternative
The No Action Alternative would have no action on water quality.

4.1.6 Grazing

Proposed Action
Impacts to the grazing would be minimal. The proposed action would occur during the time that the livestock are not authorized on the allotment. However, the seeded plant species would entice the livestock to graze the newly established Greenstrip. Livestock may benefit through the incidental use of the seeded plants.

No Action Alternative
If no action is taken, there would be no changes to livestock grazing. This action could result in a more limited control of wildfires on the allotment which could possibly close sections of the allotment to grazing for several years.

4.1.7 Recreation

Proposed Action
There would likely be some temporary displacement of recreational use of the primitive roads/trails in the immediate area during the actual treatment applications. The proposed treatment area is very small compared to the total area in the vicinity that is available for recreational use. The expected benefits of improved protection from wildfire far outweigh any temporary displacement or reduction in recreational opportunities. No mitigation is recommended.

No Action Alternative
Under the no action alternative it is likely there would continue to be a gradual increase in recreational use of the proposed area; i.e. off-road vehicle use, hiking/walking, and hunting.

4.1.8 Soils

Proposed Action
The implementation of the project would impact approximately 100 acres of soils. The potential for wind and water erosion of disturbed soils would increase until vegetation is established. Following successful re-vegetation or the establishment of annual species on disturbed areas soil loss would be minimal. Strong winds may transport soil and herbicide for short distances adjacent to the linear disturbance.

No Action Alternative
If the No Action Alternative is chosen there will be no soil disturbance.

4.1.9 Special Status Species

Proposed Action

No impacts to threatened/endangered or special status species are expected, since none have been identified within the project area.

No Action Alternative
No impacts to threatened/endangered or special status species are expected, since none have been identified within the project area.

4.1.10 Vegetation

Proposed Action
The Proposed Action would result in surface disturbance of approximately 100 acres of vegetation. Part of the disturbance would occur on lands previously disturbed by wildland fires. Seeding using the recommended seed mix would begin in the fall upon completion of mowing and herbicide treatments. The disturbance would be linear and therefore highly likely to be recolonized by surrounding vegetation. Livestock grazing could affect the establishment of seeded species by up rooting seedlings. Strong winds may transport soil and herbicide for short distances adjacent to the linear disturbance weakening or killing adjacent vegetation.

No Action Alternative
If the No Action Alternative is chosen there will be no impacts to existing vegetation on the proposed Greenstrip site. The existing cheatgrass will continue to colonize the site.

4.1.11 Visual Resources

Proposed Action
The visual elements of color and texture will be changed on much of the site, as a result of the proposed actions, if approved. The projected changes would fall within the objectives for Visual Resource Management Class III, as defined in the Sonoma-Gerlach MFP; that is to say, the level of change to the characteristic landscape would be moderate and management activities would not dominate a casual observer's view.

No Action Alternative
Under the no action alternative, it is likely there would continue to be gradual change in the visual elements/characteristics. This would be due primarily to continued development on the private holdings that the projected green-strip crosses, and the possibility of more of the view-shed area being burned in the future without the green-strip.

4.1.12 Wildlife

Proposed Action
The proposed project would result in the loss of a very small amount of sagebrush habitat. Some small mammals and possibly a few reptiles would be lost or displaced. However, many species thrive in areas that have an *edge* such as a grass dominated site juxtaposed to a sage-brush dominated site. One of the beneficial effects of the proposed project is the *edge* it would create if the seeding is successful. The greatest beneficial impact would be the indirect impact of limiting the spread of wildfire and its potential to convert habitats to cheatgrass dominated sites.

No Action Alternative
There could possibly be indirect impacts from this alternative, since wildfires started in cheatgrass habitats could spread unimpeded into adjoining sagebrush habitats.

5.0 CUMULATIVE IMPACT ANALYSIS

The Council of Environmental Quality (CEQ) regulations implementing NEPA defines cumulative impacts as "…[T]he impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions 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 impact assessment area for this EA is the Humboldt River/Clear Creek watershed (USDA 2006a; Appendix 2). The area consists of approximately 165,241 acres of which about 68,836 acres are public lands, 95,298 acres are private lands, and about 341 acres are reservation lands administered by the Bureau of Indian Affairs (BIA). The area, which includes the northern end of Grass Valley and the town of Winnemucca, is bounded on the north by Winnemucca Mountain and the Krum Hills, on the east by the Sonoma Range, and on the west by the East Range.

5.1 Past and Present Actions

On the basis of aerial photographic data, agency records and GIS analysis, the following past and present actions, which have impacted the assessment area to varying degrees, have been identified: livestock grazing, residential, commercial, and industrial development, mining, agricultural development, wildfire, and recreational activity.

Livestock Grazing – Livestock grazing has a long history in the region dating back to the late 1800's. Today, it remains the dominant use of the southern part of the cumulative impact assessment area. Throughout its' history, ranching has remained a dispersed activity characterized by localized areas of more intensive use.

Portions of 8 different grazing allotments are represented in the assessment area (BLM 2006a). The majority of the acreage is within the Dolly Hayden, Sonoma, and Thomas Creek allotments, with the remaining acreage on private lands around the Humboldt River, and in the Sand Dunes, Humboldt Valley, Harmony, Melody, and Clear Creek allotments.

In order to support the management of these allotments, a variety of range improvement projects have been implemented through the years. Collectively, 127 miles of permanent fencing (both public and private) and five miles of water pipelines have been constructed in support of grazing management objectives in the assessment area (BLM 2006b).

Over the last twenty years, grazing use within the assessment area has declined as residential development has expanded. This is particularly the case in the Dolly Hayden, Thomas Creek,

and Sonoma allotments where grazing on many private sections has been excluded or restricted to accommodate residential expansion.

Residential, Commercial, and Industrial Development – Residential, commercial and industrial development is concentrated in the town of Winnemucca with more dispersed residential developments in Grass Valley to the south of the town, along Rose Creek Road to the west, and adjacent to Jungo Road to the north.

The incorporated municipal boundary of Winnemucca (population 7,174, Humboldt County 2002), covers approximately 4,833 acres along the Humboldt River in the northeastern periphery of the assessment area. Current land use data provided by Humboldt County indicates that a large number of acres within the municipal boundary are vacant with smaller acreages being used for commercial, residential, and industrial purposes (Figure 1). A small number of acres are rural or are used to house public utilities.

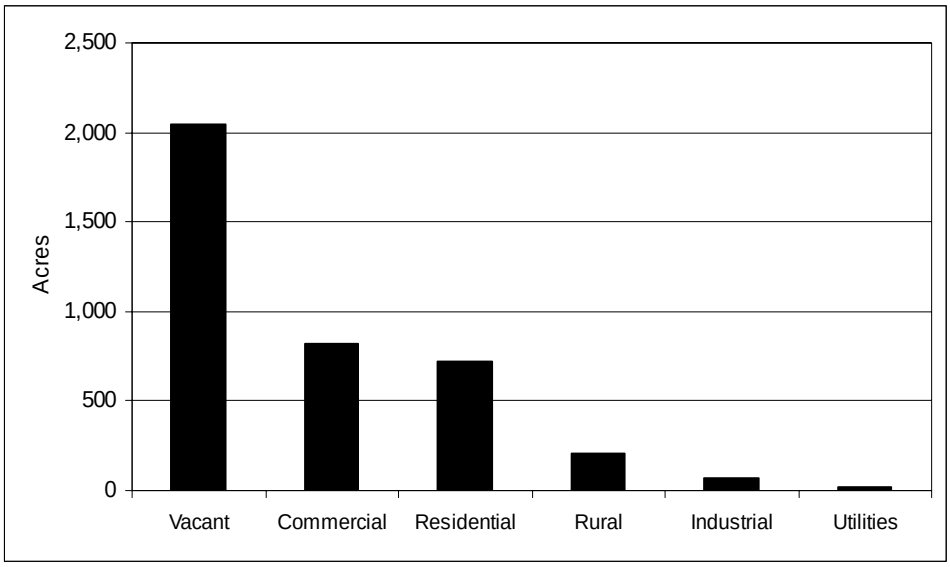

Figure 1. Acreage by land use category within the municipal boundary of Winnemucca.

These land uses are associated with concentrated building construction and infrastructural development. A wide range of capital facilities such as water and wastewater systems, public utilities, public streets and roads, recreational facilities, and schools are also associated.

In contrast to Winnemucca, dispersed residences along Grass Valley Road and Rose Creek and Jungo Roads are characterized by large lot sizes (1 to 10 acres) and a lack of urban facilities. These areas, which collectively cover approximately 3,292 acres, are not supported by municipal water and wastewater systems, but are served by individual wells and septic systems.

Both the municipal and outlying developments are supported by an extensive transportation system which includes approximately 752 miles of roads (BLM 2006c). These include 75 miles of paved roads and streets within the municipal boundary of Winnemucca. In addition, a 22-mile section of Interstate 80 and a 4-mile section of Route 95 and a large number of secondary paved and graveled roads and unimproved dirt tracks are located in the assessment area.

Other elements of the transportation system include the Winnemucca Municipal airport which covers approximately 450 acres of the north-central assessment area and the Burlington Northern and Union Pacific railroad lines which together run across approximately 24 miles of the northern assessment area.

Mining – The assessment area, which covers parts of the historic Winnemucca, Harmony, Washiki, Rose Creek, and Sierra mining districts, has a history of minerals activity dating to the latter part of the 19th century (Tingley 1998). In general, activity has been intermittent with the earliest production in the East Range beginning in the Civil War-era and the last major activity being in the Winnemucca Mountain/Krum Hills area during the early years of World War II (Vanderburg 1988; Willden 1964). None of the impacts associated with any of these historic mining operations have been subject to reclamation. Since this time, relatively little activity beyond periodic exploration activities have occurred in the assessment area.

There are currently 706 active lode and 2 active placer mining claims within the assessment area (BLM 2006d). The majority of these are located in the Winnemucca Mountain/Krum Hills region in the north. Three notices of intent to conduct mineral exploration operations are currently active. Two are associated with gold exploration, while the third is associated with exploration for magnesium and dolomite. Under each of these notices, a maximum of 5 acres of ground surface may be disturbed.

One plan of operations to conduct mining operations has been authorized in the area (BLM 2006d). The plan is associated with the mining of limestone deposits on the eastern foothills of the Sonoma Range in the east-central assessment area. Under the plan, a maximum of 18 surface acres are, or will be, disturbed.

Agricultural Development – The cultivation of hay crops, such as alfalfa and native grasses, as well as wheat and barley, is a prominent activity on private land with the assessment area. Approximately 5,265 acres or about 6 percent of privately held lands in the assessment area are currently under agricultural production (USDA 2006b). This level of production is supported by substantial irrigation facilities and associated utilities.

Wildfire – Between 1974 and 2001, 20 separate wildfires have burned approximately 54,254 acres or about 33 percent of the assessment area (BLM 2006e). Parts of the area on and around Winnemucca Mountain have burned multiple times; initially during the Jungo fire of 1985 and again during the Winnemucca Mountain fire of 1996, the Cyanco fire of 1999, and the Krum fire of 2001. Most of the affected areas have been subjected to a variety of stabilization and rehabilitation treatments with mixed results.

Recreational Activity- Most of the recreational activity in the assessment area occurs in Winnemucca where municipal facilities such as parks, a golf course, ball fields, and public swimming pools are located.

Outside of Winnemucca, recreational activities include relatively dispersed pursuits such as hunting, hiking, biking, rock hounding, and more concentrated activities such as camping and

OHV use. The BLM has developed a popular mountain bike trail system, part of which is located in the northeastern periphery of the assessment area. Recreational activity, including camping, paintballing, and OHV use is also concentrated in Water Canyon, where the BLM is in the initial stages of implementing a recreation management plan. A similar range of activities, although of a less intensive nature, occurs in Thomas and Sonoma Canyons to the south.

The BLM has also permitted a number of competitive recreational events in the area, including motorcycle and mule races and running events. To this point, the majority of these events have occurred in the Winnemucca Mountain/Krum Hills region of the northern assessment area.

5.2 Reasonably Foreseeable Future Actions

All of the past and present actions discussed above are expected to persist into the foreseeable future, though the relative intensity of these actions could vary depending on a variety of economic and other factors.

Livestock Grazing - The intensity and character of livestock grazing is anticipated to remain consistent into the foreseeable future. At the current time, there are no proposals to change stocking levels or seasons of use of any of the allotments represented in the assessment area. It is reasonably foreseeable, however, that small-scale range improvements, such as exclosures, troughs, water pipelines, or fences could be proposed in support of allotment-specific objectives.

Residential, Commercial, and Industrial Development – Reasonably foreseeable residential, commercial, and industrial developments are variable across the assessment area. Within the town of Winnemucca, the Humboldt County Regional Master Plan (2002) had identified the need to seek greater economic diversity to reduce dependence on the mining industry. The county proposes to meet this goal by encouraging additional commercial and industrial development within areas presently serviced by adequate infrastructure and by pursuing opportunities to designate additional lands outside of the town for future industrial and commercial use and develop new or extend existing infrastructure.

Toward this goal, the county has proposed, and the BLM is currently evaluating, a proposal to dispose of public lands in the area of the Winnemucca Municipal airport for the construction of an industrial park (BLM 2006f). The park, which would be 345 acres in size, would likely house a community of manufacturing and service industries and businesses. These would be supported by a proposed railroad spur running from the adjacent Union Pacific railroad tracks.

According to county projections, there is sufficient housing and existing infrastructure within the town of Winnemucca to support projected population growth for the next ten years (Humboldt County 2002). Therefore, residential expansion with the city limits will likely be limited to a modest level of new construction.

Outside of Winnemucca, dispersed residential development could expand on privately held parcels depending on economic conditions. Historically, the long-term pattern has been characterized by fluctuation and it is likely that residential development will expand and contract at various points in the foreseeable future. Due to high costs, the expansion of urban services into

these areas is considered unlikely and the present pattern of individual water wells and septic systems on large residential lots will probably continue.

The southern assessment area, which is predominantly rangeland, is unlikely to see any residential, commercial, and industrial expansion.

Mining – The level of mining activity in the assessment area will depend on future values of precious metals, especially gold. The historic pattern in gold values has been one characterized by considerable fluctuation, resulting in repeated boom and bust cycles.

Based on the number of active claims in the assessment area, it is reasonably foreseeable that the BLM will receive notices to conduct exploration operations within the assessment area. However, the area has not seen substantial mineral production since World War II and an increase in minerals actions above the exploration level is not considered likely.

Agricultural Development – Future levels of agricultural activity are likely to be tied to the commodity price of hay and grain products. At present, there are no known plans to expand agricultural production on privately held lands and there are no current proposals to acquire public lands for this purpose. It is likely that agricultural activities will remain more or less static in the foreseeable future.

Wildfire – While the occurrence of wildfire is unpredictable, it is likely based on historical patterns, that wildfire will again burn parts of the assessment area. BLM fire management policy states that wildfire will be aggressively suppressed, which makes it likely that suppression techniques such as the construction of dozer lines, the cross-country travel of engines, the implementation of retardant drops, and the establishment of base camps for fire fighters are reasonably foreseeable.

Depending on the severity of the fire, and the nature of topography and soils, it is also reasonably foreseeable that some combination of rehabilitation and stabilization treatments such as dozer line stabilization, road repair, the construction of erosion or sediment control structures, the repair of damaged range improvements and facilities, drill and/or aerial seeding, range closures, greenstripping and nonnative weed control would be implemented.

Recreational Activity – Recreational uses of the assessment area will probably increase as a function of anticipated population growth in the region. Some activities, such as OHV use, are anticipated to increase substantially. It is possible that this activity could be limited or prohibited on some public sections of the assessment area, pending the completion of an on-going resource management planning effort.

The anticipated growth in recreational activity will be supported by the implementation of a recreational management plan in Water Canyon. The plan will include an expansion of recreational facilities that will encourage day use – hiking, picnicking, wildlife viewing, and camping activity in the canyon.

The following sections discuss the cumulative impacts of the Proposed Action and No Action alternative when combined with past, present, and reasonably foreseeable future actions within the assessment area.

5.3 Impacts Associated with Past, Present, and Reasonably Foreseeable Future Actions

Impacts associated with past, present, and reasonably foreseeable future actions are generally created by ground or vegetation-disturbing activities that effect natural and cultural resources in various ways. Of particular concern is the accumulation of these impacts over time. This section of the EA considers the nature of the cumulative effect and analyzes the degree to which the Proposed Action and No Action alternative contribute to the collective impact.

5.3.1 Air Resources

Impacts from Past and Present Actions

Ground-disturbing activities from agriculture, mining, residential development, livestock grazing, recreation, and road construction/maintenance have generated low to moderate air quality effects in the impact assessment area. The past and present air quality impacts are short-term and cease once the ground-disturbing activity is completed and vegetation establishes.

Impacts from Reasonable Foreseeable Future Actions

Mining Emissions, Traffic Emissions, Windblown Dust.

Increased ground-disturbing activities from recreation, residential development, and road construction/maintenance would contribute a low or moderate impact to air quality within the impact assessment area; however, these anticipated impacts would be short-term and would cease once the ground-disturbing activity is completed and vegetation is established. Additional traffic and therefore additional long-term impacts to air quality can be expected from increased residential development and recreational use.

Impacts from the Proposed Action and No Action Alternative

The Proposed Action would have minimal affect on the air quality within the impact assessment area. Dust and vehicle emissions from mowing and seeding would cease once the activity is completed. Strong wind events could generate dust from the seeded area for three years or until vegetation is established. Strong winds may transport soil and herbicide for short distances adjacent to the linear disturbance weakening or killing adjacent vegetation.

The No Action would have a detrimental impact on the air quality; fires size would not be reduced or contained within the fuel breaks. Larger burned areas would result in increased bare ground increasing the dust hazard to residential areas.

Cumulative Impact

Air quality within the impact assessment area has been slightly impacted through time largely from agriculture, mining, residential development, livestock grazing, recreation, and road construction/maintenance. Impacts from implementation of the Proposed Action to air quality would be low.

5.3.2 Cultural Resources

Impacts from Past and Present Actions
Ground disturbances associated with past and present actions have disturbed or destroyed cultural resources, especially along the Humboldt River.

In more recent times, the accumulation of impacts on public lands has slowed due to the compliance requirements of the National Historic Preservation Act

Impacts from Reasonable Foreseeable Future Actions
Impacts will continue to accumulate especially if residential, commercial, and industrial development, and recreational activity expand.

Many impacts on public lands will be avoided or mitigated due to mandated compliance with the National Historic Preservation Act

Impacts from the Proposed Action and No Action Alternative
The Proposed action and No Action alternative will have no impact on significant cultural resources

Cumulative Impact
The cumulative impact could be substantial since most of the ground disturbing activity has or is likely to occur in areas of moderate to high resource sensitivity

5.3.3 Invasive Non Native Species

Impacts from Past and Present Actions
Impacts related to nonnative invasive species stem from ground and vegetation disturbing activities which allow nonnative invasive species a disturbance that is easily colonized. In addition, all activities have to some extent allowed the introduction of invasive species from outside areas.

Control efforts related to invasive nonnative species in past were less substantial than present, except in localized setting within the assessment area. Presently, control efforts have increased and are more effective due to increased education, treatment methods, and public awareness, which helps reduce the spread of invasive nonnative species.

Impacts from Reasonable Foreseeable Future Actions
A substantial increase in recreation, particularly OHV use could potentially increase the spread of nonnative invasive species. Fires are also likely to occur in the cumulative impact assessment areas, which have the potential increase the spread of invasive nonnative species.
Increased population growth in the assessment area could have the potential to amplify the spread of invasive nonnative species, including the introduction of new invasive species.
Other activities are generally not expected to increase substantially, or mitigation such as treatment, could be provided to reduce the spread of invasive, nonnative species. Control efforts are likely to increase throughout the assessment area based on increased education and knowledge of the impacts associated with invasive species.

Impacts from the Proposed Action and No Action Alternative
The proposed action has a low potential to spread invasive non-native species due to the treatment of weeds that would occur. Indirectly, the project has the potential to reduce the spread of invasive nonnative species across the landscape by reducing the potential for catastrophic wildfire through the creation of fuel breaks that could assist in limiting the size of fires. This has the potential to reduce the amount of disturbance caused by fires and therefore limiting the spread of invasive nonnative species.

The no action alternative would also have a low probability of increasing the spread of invasive nonnative species due to absence of any vegetation disturbing activities, but would not provide the indirect benefit of possibly reducing wildfire spread.

Cumulative Impact
Collectively, agriculture, livestock grazing, recreational uses, residential development, and road construction/maintenance would continue to have a low or moderate impact on invasive nonnative species within the impact assessment area. This is likely to occur with or without the proposed action.

5.3.4 Migratory Birds

Impacts from Past and Present Actions
Loss of habitat from clearing vegetation. Conversion of habitat from fire and livestock grazing.

Impacts from Reasonable Foreseeable Future Actions
Loss of habitat from clearing vegetation. Conversion of habitat from fire and livestock grazing.

Impacts from the Proposed Action and No Action Alternative
In the proposed action there would be a slight alteration of habitat.

In the no action the impacts would be the same as the past and present actions.

Cumulative Impact
Immeasurable cumulative impacts expected from the proposed action.

5.3.5 Water Quality

Impacts from Past and Present Actions
Groundwater quality is slowly degrading in the Grass Valley area due nitrate discharge from septic tanks and possibly from the discharge of process water from the potato processing plants.

Impacts from Reasonable Foreseeable Future Actions
Future impacts to water quality are likely if past growth patterns, without municipal services are allowed to persist into the future.

Impacts from the Proposed Action and No Action Alternative

No impacts from the proposed and no actions alternatives are anticipated. Impacts could potentially occur due to a mishap, but their incremental affect would be negligible due to the depth to groundwater and the limited amount of proposed herbicide.

Cumulative Impact
No cumulative impacts are anticipated.

5.3.6 Grazing

Impacts from Past and Present Actions
Land open to livestock grazing has been reduced due to residential development. Many surface disturbing activities have displaced livestock grazing for short periods of time.

Impacts from Reasonable Foreseeable Future Actions
Possible change in grazing system after land health assessment is completed. The management changes may afford more opportunities to increase the success of the greenstrips by reducing the impacts from livestock.

Impacts from the Proposed Action and No Action Alternative
No impacts to grazing are expected.

Cumulative Impact
No cumulative impacts expected from the proposed action.

5.3.7 Recreation

Impacts from Past and Present Actions
Changes in landscape as development occurs. More motorized recreational use, higher noise levels, less solitude.

Impacts from Reasonable Foreseeable Future Actions
Same as past and present actions.

Impacts from the Proposed Action and No Action Alternative
Temporary displacement of some recreational use during actual treatment with the proposed action.

Continued recreational use of the area, and continuing change from less developed toward more intensive use would continue with the no action.

Cumulative Impact
Net cumulative impact to recreation across the cumulative impact area will likely be a continuing trend of change in recreational use from less developed and lower intensity to more developed and higher intensity uses. This is likely to occur with or without the proposed action.

5.3.8 Soils

Impacts from Past and Present Actions
Cumulative impacts to soils occurred during past actions as a result of livestock grazing, vehicle travel over native surface during recreation and surface disturbance during mineral exploration and mining development. Impacts from recreation were considered low due to the small amount of surface area traveled in the CESA. Impacts from mineral exploration and mining were considered low because topsoil was salvaged and protected, and was or will be used in reclamation of surfaces disturbed due to these past actions. Overall impacts to soils from past actions are considered to have been low.

Impacts to soils would occur from livestock grazing, fire disturbances, recreational activities, mineral exploration, and mining development in the CESA due to present and past actions. Impacts could be the failure of seeded species to establish. However, the cumulative impacts on soils in the CESA due to present actions are considered to be low based on the use of adapted seeds and if annual species do establish the soil surface would be protected from erosion.

Impacts from Reasonable Foreseeable Future Actions
Cumulative impacts to soils from RFFAs could result from an increase in erosion from public recreational activities from increased cross country travel, mineral exploration, possible mine development, land sales, and continued wildland fires. Erosion from off road vehicle travel would likely create a moderate impact to soils. Impacts from mineral exploration, possible mining development, and wildland fires would remain as the past or present actions. Impacts from mining activities to soils from RFFAs in the CESA would be low, depending on the extent of disturbance and processing from mining operations.

Impacts from the Proposed Action and No Action Alternative
Impacts from implementation of proposed project would increase short term impacts to soil resources but would lessen impacts form fires maintaining and improving soil resource.

The No Action would have a detrimental impact on the soil resource; fires size would not be reduced or contained within the fuel breaks, wind and water erosion would increase.

Cumulative Impact
Collectively, continued agriculture, livestock grazing, recreation activities, residential development, and road construction/maintenance would continue to impact soils within the impact assessment area. The Proposed Action would lessen the affect of fires and improve the soil resources through a decrease in wind and water erosion.

5.3.9 Vegetation

Impacts from Past and Present Actions
Cumulative impacts to native vegetation occurred from livestock, fire disturbances, recreational activities, mineral exploration and mining development. Re-vegetation of areas disturbed from these past actions are considered to result in overall moderate impacts to vegetation.
Impacts to vegetation from livestock, fire disturbances, recreational activities, mineral exploration, and mining development would occur due to removal of vegetation. The

implementation of this proposed project impacts to vegetation would occur due to vegetation replacement from seeding and herbicide use. Re-vegetation of disturbed lands by seeding is anticipated to result in a low cumulative impact to vegetation in the CESA.

Impacts from Reasonable Foreseeable Future Actions
Reasonably Foreseeable Future Actions: Impacts to vegetation from RFFAs could result from an increase in vegetation removal from public recreational activities from increased cross country travel, land sales, and continued wildland fires. Erosion from off road vehicle travel, land sales, and continued wildland fires would likely create a moderate impact to vegetation. . Impacts from mineral exploration, possible mining development, and livestock grazing would likely create a low impact to vegetation.

Impacts from the Proposed Action and No Action Alternative
Impacts from implementation of proposed project would increase short term impacts to vegetation in the project area, but would lessen impacts from fires by reducing fire sizes and maintaining and improving vegetation resource.

The No Action would have a detrimental impact on the vegetation resource; fires size would not be reduced or contained within the fuel breaks and existing native vegetation would be reduced and replaced with annual species.

Cumulative Impact
Collectively, agriculture, livestock grazing, recreational uses, residential development, and road construction/maintenance would continue to have a low or moderate impact to the vegetation resource within the impact assessment area. The Proposed Action would maintain and improve the health and diversity of the vegetation communities.

5.3.10 Visual Resources

Impacts from Past and Present Actions
Change in visual elements of color and texture have occurred and are occurring due to continued development.

Impacts from Reasonable Foreseeable Future Actions
Change in visual elements of color and texture will continue due to continued development.

Impacts from the Proposed Action and No Action Alternative
Visual elements of color and texture will change with the proposed action.

Visual elements of color and texture will continue to gradually change if no action is taken.

Cumulative Impact
Gradual change to the visual elements of color and texture is likely to occur across the cumulative impact area with the passage of time. The proposed action will contribute to this gradual change, although it may also lessen the change if it prevents or reduces the size and/or intensity of one or more wildfires.

5.3.11 Wildlife

Impacts from Past and Present Actions
Loss of habitat from clearing vegetation. Conversion of habitat from fire and livestock grazing.

Impacts from Reasonable Foreseeable Future Actions
Loss of habitat from clearing vegetation. Conversion of habitat from fire and livestock grazing.

Impacts from the Proposed Action and No Action Alternative
Minimal loss of sagebrush habitat will occur with the proposed action.

If no action is taken the results will be the same as described in the Past and Present Actions.

Cumulative Impact
Negligible cumulative impacts expected from the proposed action.

6.0 PROPOSED MITIGATION AND MONITORING

6.1 Proposed Mitigation and Monitoring During Treatment

During all the phases of implementation a BLM representative will be present, whether acting as a Contracting Officers Representative or Project Inspector (COR/PI).

6.2 Proposed Mitigation and Monitoring After Treatment

The project site will be monitored after treatment to determine the effectiveness of the treatments. If there is no sign of a seeding success within three years the project will be re-applied for through fuels and alternative funding methods and re-treated when such funds become available.

Future treatments and maintenance will depend on the rate that sagebrush, other native species or undesirable annuals spread back into the treated areas.

7.0 CONSULTATION AND COORDINATION

7.1 List of Preparers:

Bureau of Land Management

Ken Detweiler	Wildlife Biologist
Craig Drake	Hydrologist
Mark Ennes	Cultural Resources/Native American Religious Concerns/Cumulative Impacts
Gerald Gulley	Recreation, VRM
Lynn Harrison	Environmental Planner and Coordinator
Barbara Kehrberg	Realty Specialist

Angie Messmer	Fire Ecologist
Derek Messmer	Weeds Specialist
Chuck Schlarb	Engineering
Jonathan Sheeler	Rangeland Management Specialist
Jamie Thompson	Public Outreach
Mike Zielinski	Soils and Vegetation Specialist

7.2 Persons, Groups, or Agencies Consulted

Northern Region, Nevada Division of Forestry
John and Patsy Aitken
Garley Amos Jr.
Department of Administration
Humboldt County Commissioners
Nevada Department of Wildlife -Winnemucca
Nevada Department of Wildlife -Fallon
Nevada Cattleman's Association
Nevada Wool Growers
Natural Resources Conservation Service
Pedroli Ranches
Dave Piquet
Public Land Solutions
Richard and Nancy Rosasco
United States Fish and Wildlife Service
Jack Warn
Western Watersheds Project
Winnemucca Indian Colony

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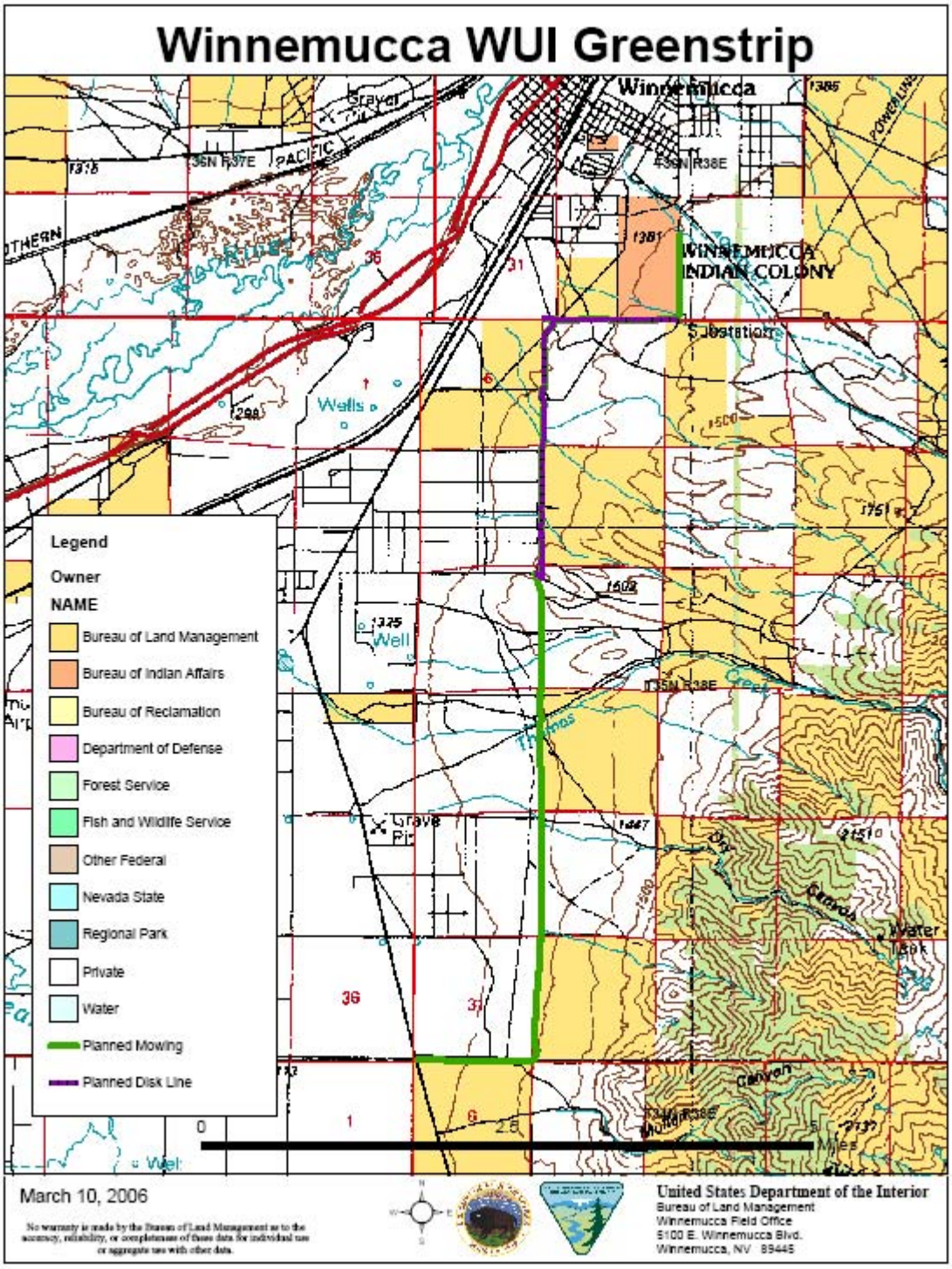
9.0 Appendices

Appendix 1-Winnemucca WUI Greenstrip Location Map



Appendix 2-Winnemucca WUI Cumulative Impacts Assessment Area Map