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Environmental Assessment of the
Issuance of a Ten Year Livestock Grazing Permit
For the Martin Creek Allotment

NV-020-06-EA-21

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U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
WINNEMUCCA FIELD OFFICE

ENVIRONMENTAL ASSESSMENT OF THE PROPOSED CARLO RECANZONE PERMIT ISSUANCE – MARTIN CREEK ALLOTMENT

EA Number: NV-020-06-EA-21

1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze the environmental effects of livestock grazing on the Martin Creek Allotment (T. 42N. R40E. to T.42N. R.41E.)

This EA contains the site-specific analysis of potential impacts that could result with the implementation of a proposed action or alternatives to the Proposed Action. The EA ensures compliance with the National Environmental Policy Act (NEPA), analyzes information to determine whether to prepare an Environmental Impact Statement (EIS) or issue a "Finding of No Significant Impact" (FONSI). A FONSI documents why implementation of the selected action would not result in environmental impacts that would significantly affect the quality of the human environment.

1.1 Purpose and Need

The need for the Proposed Action is to issue a ten year livestock grazing permit with terms and conditions that will continue to meet the Standards for Rangeland Health (SRH) or make significant progress toward meeting the SRH and the Multiple Use Objectives established for the Martin Creek Allotment.

A temporary term livestock grazing permit has been issued for the period of March 1, 2006 to February 28, 2016 in accordance with Sec. 325. Title III, H.R.2691, Department of the Interior and related agencies appropriations act, 2004 (P.L. 108-108), which was enacted on November 10, 2003, states: This grazing permit or lease is renewed under section 402 of the Federal Land Policy And Management Act Of 1976, as amended (43 U.S.C. 1752), Title III Of The Bankhead-Jones Farm Tenant Act (7 U.S.C. 1010 et seq.), or, if applicable, Section 510 of the California Desert Protection Act (16 U.S.C. 410aaa-50). In accordance with Public Law 108-108, the terms and conditions contained in the expired or transferred permit or lease have been incorporated into this permit or lease and shall continue in effect under the renewed permit or lease until such time as the Secretary of the Interior completes processing of this permit or lease in compliance with all applicable laws and regulations, at which time this permit or lease may be canceled, suspended or modified, in whole or in part, to meet the requirements of such applicable laws and regulations.

1.2 Regulatory Authorities

The proposals presented in this EA would be implemented subject to the following regulatory authorities:

- Taylor Grazing Act of 1934 as amended and supplemented
- Federal Land Policy and Management Act of 1976
- Public Rangelands Improvement Act of 1978
- 43 CFR Part 4100 et al – *Grazing Administration*

1.3 Land Use Plan Conformance

This EA is in conformance with the *Paradise-Denio Final Grazing Environmental Impact Statement* and Record of Decision dated September 18, 1981, which resulted in the decision that livestock grazing was an appropriate use of the public lands within this allotment.

This EA is also in conformance with the BLM *Paradise-Denio Management Framework Plan* (1982) objectives to:

- Provide forage on a sustained yield basis through natural regeneration (RM-1)
- Increase existing allocatable livestock forage by artificial methods (RM-2)
- Improve and maintain a sufficient quantity, quality and diversity of habitats for all species of wildlife in the planning area (WL-1).

1.4 Relationship to Laws, Regulations, and Other Plans

This EA conforms to the recommendations presented in the Standards for Rangeland Health (SRH) as developed in consultation with the Sierra Front-Northwestern Great Basin Resource Advisory Council, other interested publics and approved by the Secretary of the Interior on February 12, 1997. Grazing practices and activities subject to the Standards and Guidelines include the development of grazing-related portions of activity plans, establishment of terms and conditions of the permits, leasing and other livestock grazing authorizations, and range improvements such as vegetation manipulation, fence construction and the development of water. These activities must be in conformance with these approved Standards:

a. Soil processes will be appropriate to soil types, climate and land form

b. Riparian/wetland systems are in properly functioning condition.

c. Water quality criteria in Nevada or California State Law shall be achieved or maintained.

d. Populations and communities of native plant species and habitats for native animal species are healthy, productive and diverse.

e. Habitat conditions meet the life cycle requirements of special status species.

These Standards and Guidelines reflect the stated goals of maintaining or improving rangeland health while providing for the viability of the livestock industry in the Sierra Front – Northwestern Great Basin Resource Area.

The livestock grazing permit that is being analyzed is for livestock grazing use that was authorized by the Martin Creek Allotment Final Multiple Use Decision dated March 11, 1996.

The terms and conditions of the permit will be modified if additional information indicates that revision is necessary to conform to 43 CFR 4180 as supplemented by the Sierra Front - Northwestern Great Basin Resource Advisory Council Standards for Rangeland Health and Guidelines for Grazing Management.

1.5 Identification of Issues

On May 26, 2006 a scoping letter was sent to the entire mailing list for the Martin Creek Allotment plus others who had expressed interest in the general area. This letter informed the recipients of the task, solicited information about issues and concerns, and included the proposed schedule. The Winnemucca Field Office (WFO) received no comments in regards to the livestock grazing permit renewal for the Martin Creek Allotment.

No issues were identified.

2.0 THE PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The Proposed Action is to issue a ten year livestock grazing permit to Carlo Recanzone for the Martin Creek Allotment (Refer to Map 1). This permit would reactivate 43 historic AUMs resulting in a total of 300 AUMs. This would allow 138 head of cattle which equates to approximately 28 acres per AUM. The permitted season of use would be from April 15 to June 19.

The permittee has consistently met the current utilization objectives for the Martin Creek Allotment. These objectives currently allow for a maximum of 50 percent utilization on any key species. Monitoring data shows that utilization has been at 40 percent or less the last eight of ten years (refer to Section 3.2.4, Table 2). This has allowed for progress toward the SRH. In order to ensure continued progress, with an increase in AUMs, the utilization limit would be decreased to 40 percent.

Under the Proposed Action, the Martin Creek Allotment objectives would be updated as follows:

a. Short Term:

1. Utilization on any key plant species, Thurber's needlegrass (*Achnatherum thurberianum* (ACTH7)), bottlebrush squirreltail (*Elymus elymoides* (ELEL5)), basin wildrye (*Leymus cinereus* (LECI4)), bluebunch

wheatgrass (*Pseudoroegneria spicata* (PSSP)), and Indian ricegrass (*Achnatherum hymenoides* (ACHY)), in upland habitats shall not exceed 40 percent.

b. Long Term:

1. Manage, maintain and improve public rangeland conditions to provide forage on a sustained yield basis for livestock, with an initial stocking level of 300 AUMs.

2. Manage, maintain and improve public rangeland conditions to provide forage on a sustained yield basis for big game, with an initial forage demand of 151 AUMs for mule deer.

3. Sagebrush Habitat-Sagebrush Obligates

Maintain and improve sagebrush plant communities on stable soils with structurally diverse shrub component in various age classes (within a stand or among stands across the landscape) with vigorous, diverse self-sustaining understory of native grasses and forbs. Emphasis will be placed on maintaining and improving the composition of the following native grasses: bluebunch wheatgrass, Indian ricegrass and Thurber's needlegrass.

4. Improve and/or maintain existing bitterbrush (*Purshia tridentata*) stands to ensure adequate reproduction/recruitment and proper age structure by limiting utilization to 40% of annual leader growth.

2.2 Alternative 1. Change in Season-of-Use

This alternative would issue a ten year livestock grazing permit to Carlo Recanzone for the Martin Creek Allotment. This permit would reactivate 43 historic AUMs resulting in a total of 300 AUMs. This would allow 138 head of cattle which equates to approximately 28 acres per AUM. The season of use would be at a time other than the critical growth period (May 1 through June 30). Maximum allowable utilization on any key species would be 50 percent.

Under this alternative, the Martin Creek Allotment objectives would be updated as follows:

a. Short Term:

1. Utilization on any key plant species Thurber's needlegrass, bottlebrush squirreltail, basin wildrye, bluebunch wheatgrass, and Indian ricegrass in upland habitats shall not exceed 50 percent.

b. Long Term:

1. Manage, maintain and improve public rangeland conditions to provide forage on a sustained yield basis for livestock, with an initial stocking level of 300 AUMs.

2. Manage, maintain and improve public rangeland conditions to provide forage on a sustained yield basis for big game, with an initial forage demand of 151 AUMs for mule deer.

3. Sagebrush Habitat-Sagebrush Obligates

Maintain and improve sagebrush plant communities on stable soils with structurally diverse shrub component in various age classes (within a stand or among stands across the landscape) with vigorous, diverse, self-sustaining understory of native grasses and forbs. Emphasis will be placed on maintaining and improving the composition of the following native grasses: bluebunch wheatgrass, Indian ricegrass and Thurber's needlegrass.

4. Improve and/or maintain existing bitterbrush stands to ensure adequate reproduction/recruitment and proper age structure.

2.3 Alternative 2. No Action

The No Action Alternative would maintain the status quo and the existing permit would be reissued to Carlo Recanzone for the Martin Creek Allotment under the same terms and conditions. This action would allow for current permitted numbers of livestock to graze the allotment from April 15 to June 19. This equates to 257 AUMs which is approximately 33 acres per AUM.

The Martin Creek Allotment would continue to be managed under the allotment specific objectives as outlined in the Martin Creek FMUD issued March 11, 1996.

2.3 Alternative 3. No Livestock Grazing

Under the No Livestock Grazing Alternative, no permit would be issued. The permit would be cancelled under this alternative. As a result, Carlo Recanzone would not be authorized to graze livestock in the Martin Creek Allotment.

The Paradise Denio Grazing EIS, 1981, analyzed livestock use alternatives including a "no grazing" alternative. That "no grazing" analysis is applicable to this decision. This EA tiers to the analysis in the 1981 EIS.

Selection of the No Livestock Grazing Alternative would not be an option under the Paradise-Denio Management Framework Plan III (PD MFP III). A decision to amend the PD MFP III

would be required as grazing was identified as an appropriate use for the public lands in the Martin Creek Allotment.

3.0 THE AFFECTED ENVIRONMENT

The Martin Creek Allotment is located approximately 6 miles east of Paradise Valley, Nevada. The allotment is approximately 8,375 acres in size, of which approximately 2,215 acres (26%) are private land (Refer to Map 1).

A variety of laws, regulations, executive orders, and policy directives mandate that the effects of a proposed action and alternatives on certain critical environmental elements be considered. Not all of the critical elements that require inclusion in this EA will be present, or if they are present, may not be affected by the Proposed Action and alternatives (Table 1). Only those mandatory critical elements that are present and affected, or need to be considered, 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 alternatives. These are presented in section **3.2 Additional Affected Resources.**

3.1 Critical Environmental Elements

To comply with the National Environmental Protection Act, the following elements of the human environment are subject to requirements specified in statute, regulation or executive order and must be considered.

Table 1. List of Critical Elements of the Human Environment.

Critical Elements	Not Present	Present Not Affected	Present Affected	Reference Section	Comments
Air Quality		Not Affected			
Areas of Critical Environmental Concern (ACEC's)	Not Present				
Cultural Resources			Affected	3.1.1, 4.1.1, 5.3	
Environmental Justice	Not Present				
Floodplains	Not Present				
Invasive, Nonnative Species			Affected	3.1.2, 4.1.2, 5.3	
Migratory Birds			Affected	3.1.3, 4.1.3, 5.3	
Native American Religious Concerns		Not Affected			
Prime or Unique Farmlands	Not Present				

Critical Elements	Not Present	Present Not Affected	Present Affected	Reference Section	Comments
Threatened & Endangered Species	**Not Present**			**3.2.3, 5.3**	**No known populations exist**
Wastes, Hazardous or Solid	**Not Present**				
Water Quality (Surface and Ground)	**Not Present**			**3.1.4, 5.3**	
Wetlands and Riparian Zones	**Not Present**				
Wild and Scenic Rivers	**Not Present**				
Wilderness	**Not Present**				

The following critical elements have been identified in Table 1. as being present and affected by the Proposed Action and alternatives: cultural resources, invasive, non-native species, and migratory birds.

3.1.1 Cultural Resources

Cultural resources are abundant in the Martin Creek Allotment. Prehistoric sites, ranging from small lithic scatters to large complex camps are located on the terraces of Martin Creek. Some of these sites may contain intact subsurface and/or datable deposits. Although no historic period resources have been documented in the allotment, it is likely that the remnants of ranching and mining activity are present. At the present time, no resources have been nominated for the National Register.

3.1.2 Invasive, Non-Native Species

Of the 42 noxious weed species identified in Nevada, hoary cress (*Cardaria draba*) and perennial pepperweed (*Lepidium latifolium*) have been found within the Martin Creek Allotment along roads. The following noxious weeds have been found within the vicinity of Martin Creek Allotment: Russian knapweed (*Acroptilon repens*), Scotch thistle (*Onopordum acanthiumn*), medusahead (*Taeniatherum caput-medusae*), and leafy spurge (*Euphorbia esula*).

3.1.3 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.

Most of the vegetation communities on the Martin Creek Allotment are characterized by sagebrush species. Migratory birds associated with this vegetative community may 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 BLM designated sensitive species. Most of these species require a diversity of plant structure and herbaceous understory. Good diversity provides sufficient habitat for nesting, foraging and cover.

3.1.4 Water Quality (Surface and Ground)

The Winnemucca Field Office water inventory does not identify any natural surface waters or wells in the Martin Creek Allotment. Martin Creek does not cross through the allotment. There are three man-made water haul sites.

3.2 Additional Affected Resources

In addition to the critical elements, the following resources may be affected by the Proposed Action and alternatives: socio-economics, soils, special status species, vegetation, and wildlife. Minerals, recreation, transportation resources, visual resources, and wild horses would not be affected by the Proposed Action and alternatives and are, therefore, not described.

A review of the Martin Creek Allotment monitoring data was conducted. Baseline data included the Natural Resource Conservation Service, soil survey information, NDOW habitat information, slope topology, the Winnemucca BLM Field office water and weed inventories. Monitoring data included the ReGap data, Nevada Natural Heritage Program cheatgrass monitoring, professional judgment, and utilization. Utilization monitoring was conducted from 1996 through 2005.

3.2.1 Socio-Economics

Historically, ranching has played a major role in the northern Nevada way-of-life; therefore, livestock grazing also holds a social value as well as an economic value within the community. Because of ranching, public and private land uses in northern Nevada are often intertwined. Public land is used for livestock grazing during part of the year and private land is used to care for livestock the remainder of the year. Because of this public and private land use relationship, decisions made in the management of rangelands can amplify impacts to ranchers.

Humboldt County is comprised of 6,210,560 acres (2002 Humboldt County Regional Master Plan). Of this total, 4,986,811 are publicly owned rangelands, much of which are used for livestock grazing. The Martin Creek Allotment includes 6,160 acres of public land which is less than 1 percent of Humboldt County's total publicly owned land. The privately owned remaining acres of the Martin Creek Allotment are utilized, in part, for agricultural purposes in support of livestock operations.

3.2.2 Soils

Soils for the Martin Creek Allotment are diverse with eleven soil map units. Soils information is extracted from the Soil Survey of Humboldt County Nevada, East Part, 2002. Soil is a function of five soil forming processes: climate, relief, organism (plant and animal), parent material, and time.

Soil surface texture for the Martin Creek Allotment consists of a medium texture, composed of fine sandy loam, silt loam, very fine sandy loam, and loam. Water erosion potential for the Martin Creek Allotment is primarily slight with small areas of moderate potential. Wind erosion potential is primarily slight with an area of moderate potential.

Vegetation, litter, and rock fragments are the dominant soil features protecting the soil surface from erosion. The soil surface textures have a high potential for soil biological crusts but these crusts are a minor component of the soil surface. The vegetation and litter are the major sources of nutrient cycling. Surface rock fragment content for soil map units 160, 262, and 844 is 0 to 15 percent, and provides minimal protection of soil biological crust from trampling and shearing; surface rock fragment content for soil map units 340, 724, 726, and 1322 is 15 to 35 percent, and provides moderate protection of soil biological crusts from trampling and shearing; and surface rock fragment content for soil map units 596, 720, and 1321 is 35 to 60 percent, and provides high protection of soil biological crusts from trampling and shearing.

Martin Creek Allotment topology is not uniform and ranges from level to very steep. The steepest area (greater than 60 percent slope) is along Martin Creek Canyon. This steep canyon area is protected from livestock grazing by rock rims and gap fencing. There is a narrow strip of moderately steep to very steep terrain in the center of the Martin Creek Allotment.

3.2.3 Special Status Species

No on-the-ground field investigation was conducted for sensitive/protected plant, or animal species including birds. However, the Nevada Natural Heritage data base (January, 2006) and the Nevada Department of Wildlife (NDOW) Diversity data base (2005) were consulted for the possible presence of endangered, threatened, candidate and/or sensitive plants or animal species.

The following designated Bureau of Land Management (BLM) sensitive animal species are described, as portions of the allotment contain habitat characteristics where these species could occur.

<u>Burrowing Owl</u>

Burrowing owls may be found in sagebrush/bunchgrass vegetative communities, so it is possible that they may occur on the allotment. They are dependent on burrowing mammal populations for maintenance of nest habitat. Dense stands of grasses and forbs within owl home ranges support populations of rodent and insect prey. However, there are no known colonies of burrowing owls within the Martin Creek Allotment.

Loggerhead Shrike

Loggerhead shrikes may be found in sagebrush/bunchgrass vegetative communities, so it is possible that they may occur on the allotment. These birds would benefit from habitat with a diverse structure and species composition. Healthy sagebrush communities would provide these habitat characteristics. According to Paige and Ritter (1999), "Long –term heavy grazing may ultimately reduce prey habitat and degrade the vegetation structure for nesting and roosting. Light to moderate grazing may provide open foraging habitat".

Pygmy Rabbit

In the Great Basin, the pygmy rabbit is typically restricted to the sagebrush-grass complex. A dietary study of pygmy rabbits showed that they are dependent on sagebrush year round. Sagebrush was eaten throughout the year at 51% of the diet in summer and 99% in the winter. They also showed a preference for grasses and to lesser extent forbs, in the summer (Green and Flinders, 1980). These data seem to indicate that pygmy rabbits require sagebrush stands with an understory of perennial grasses to meet their seasonal dietary requirements. There has been no inventory for pygmy rabbits on the subject allotment so their presence there is not documented.

High quality habitat for the pygmy rabbit has not been identified in the Martin Creek Allotment. The dominate soil map units in potential pygmy rabbit habitat are 726 and 844. In both these soil units, the Connel soil, a contrasting inclusion located on inset fans would have the highest potential for pygmy rabbits, but is limited by the depth to unconformable gravel and sand at a depth of 20 to 35 inches with rock fragments ranging from 40 to 80 percent. The identified potential habitat in Martin Creek Allotment is primarily Wyoming big sagebrush.

Sage-Grouse

The sage-grouse is a sagebrush obligate species and is strictly associated with sagebrush/grasslands. Sage-grouse may eat a variety of grasses, forbs and insects during the breeding season. However, they feed almost entirely on sagebrush during the winter months, selecting shrubs with high protein levels (Paige and Ritter, 1999),

Most of the sage-grouse habitat within the allotment has been classified as winter range. Winter habitat management/protection should consist of the following: Maintain sagebrush communities on a landscape scale, allowing sage-grouse access to sagebrush stands with canopy cover of 10-30% and heights of at least 25-35 cm regardless of snow cover (Connelly et.al., 2000).

There is some limited summer habitat identified along Martin Creek. Summer habitat is generally characterized by relatively moist conditions and many succulent forbs in or adjacent to sagebrush cover. However, sage-grouse use of this habitat adjacent to Martin Creek is probably very limited since much of the creek flows through a narrow canyon and gorge. There are no springs or seeps within the allotment, further restricting the area as summer habitat.

A very small area of the allotment has been identified as nesting habitat and it too is located adjacent to Martin Creek. Nesting habitat management/protection should consist of the

following: Support 15-25% canopy cover of sagebrush, perennial herbaceous cover averaging ≥ 18 cm in heights with ≥ 15% canopy cover for grasses and ≥ 10% for forbs and a diversity of forbs (Connelly et.al., 2000).

Vesper Sparrow

The vesper sparrow may be found on the allotment since it typically inhabits sagebrush-grass vegetative communities. However, it differs greatly from the loggerhead shrike in its foraging habits. It forages on the ground and eats mostly seeds from grasses and forbs and will also eat insects when they are available. The vesper sparrow responds negatively to heavy grazing in sagebrush/grasslands. In these habitats, it benefits from open areas with scattered shrubs and a cover of good bunchgrasses for nest concealment, since it is a ground nester (Paige and Ritter, 1999).

3.2.4 Vegetation

The potential vegetation communities have been derived from information extracted from the Soil Survey of Humboldt County Nevada, East Part, 2002 (refer to Map 2). The potential natural vegetation consists primarily of Wyoming big sagebrush (*Artemesia tridentata wyomingensis*), with a minor component of shadscale (*Atriplex confertifolia*) and bud sagebrush (*Picrothamnus desertorum*).

The Martin Creek Allotment supports vegetation typical for the Great Basin. The extremes of climate, elevation, exposure, and soil type combine to produce a diverse variety of plant communities. The Martin Creek ReGap Vegetation Map 3 identifies three dominant present vegetation types: S054 Inter-Mountain Basins Big Sagebrush Shrubland, S055 Great Basin Xeric Mixed Sagebrush Shrubland, and S065 Inter-Mountain Basins mixed Salt Desert Scrub. The concept of S054 is greater than 75 percent shrubs with an herbaceous component of less than 25 percent. The concept of S055 is sagebrush canopy with a sparse understory of perennial bunchgrasses. The concept of S065 is a salt desert shrub canopy with a sparse to moderate understory of graminoids.

Cheatgrass (*Bromus tectorum*) is present throughout the Martin Creek Allotment. The composition ranges from 5 to 20 percent. Cheatgrass composition is greater on the alluvial soils and decreases with elevation.

Utilization data collected on the Martin Creek Allotment over the period of the 10 year grazing permit resulted in the following use levels (Table 2):

Table 2. Utilization Levels of Key Plant Species on the Martin Creek Allotment

Year	Actual Use AUMs	ACTH7 *Achnatherum thurberianum*	ELEL5 *Elymus elymoides*	ACHY *Achnatherum hymenoides*	FEID *Festuca idahoensis*	LECI4 *Leymus cinereus*
1996	250	Light	Slight-Light	Slight		
1997	257	Light	Slight	Slight		
1998	354	Light	Slight-Light	Slight-Light		
1999	156	Slight	Slight-Moderate			
2000	146	Slight	Slight	Slight		
2001	242	Slight	Slight	-	Slight	Light
2002	246	Moderate	Slight	-	-	-
2003	65	-	Slight	-	-	-
2004	241	Slight/Light	Slight	Moderate	-	-
2005	236	Slight	Slight	-	-	-

Slight = 1-20%, Light = 21-40%, Moderate = 41-60%, Heavy = 61-80%, Severe 81-100%

The critical growth period for key plant species is: Thurber's needlegrass and bluebunch wheatgrass, May 1 to July 15; bottlebrush squirreltail, May 1 to June 30; basin wildrye, May 1 to July 31; Idaho fescue, May 15 to July 31; Indian ricegrass, April 15 to July 15; and bitterbrush, May 1 to July 15.

Table 3. Climatological data collected at the Paradise Valley National Oceanic and Atmospheric Adminstration (NOAA) Station from 1995 through 2005

Climatological Data	
Paradise Valley NOAA Station	
Year	Growing Season (Inches)
1995	**15.02** Inches
1996	**11.18** Inches
1997	**12.80** Inches
1998	**12.44** Inches
1999	**13.25** Inches
2000	**10.01** Inches
2001	7.20 Inches
2002	**10.25** Inches
2003	7.78 Inches
2004	8.22 Inches
2005	**11.14** Inches
Station Mean	9.54 Inches
Notes: Growing season is defined as September through June. Precipitation in the allotment averages from 8 to12 inches annually with much of it coming in the form of snow and rain during the winter months	

3.2.5 Wildlife

Terrestrial wildlife resources on the Martin Creek Allotment are typical of the Northern Great Basin. A wide variety of wildlife species common to the Great Basin ecosystem can be found within the allotment. The vegetation on the allotment could be categorized into the two broad vegetative types, primarily big sagebrush with a minor amount of salt desert shrub. Common wildlife species occurring on the allotment include coyote, badger, chukar partridge and other non-game species. Mule deer *(Odocoileus hemionus)*, sage-grouse, and pronghorn antelope *(Antilocapra americana)* occur on the allotment, but in limited numbers due to the lack of free water.

Priority species for the allotment include neo-tropical migrant birds, greater sage-grouse and mule deer. Migrant birds are considered in section 3.1.3 Migratory Birds, and greater sage-grouse are considered in section 3.2.3 Special Status Species. There are many other wildlife species that occupy habitats within the allotment including raptors, predators, small mammals, reptiles and small game species. However, the priority species were chosen because of past consideration in BLM's planning process and knowledge about habitat needs and conditions and known potential impacts from livestock grazing.

Mule Deer

The Paradise-Denio Management Framework Plan set the reasonable numbers (AUMs) of mule deer for this allotment at 151 AUMs.

However, it's generally understood that most of the mule deer use is made during the winter season. The western portion of the Martin Creek Allotment is agricultural lands/unique habitat.

Deer are generally classified as browsers, with shrubs and forbs making up the bulk of their annual diet. The diet of mule deer is quite varied; however, the importance of various classes of forage plants varies by season. In winter, especially when grasses and forbs are covered with snow, their entire diet may consist of shrubby species.

In the Martin Creek Allotment, Wyoming big sagebrush is probably the most important browse species. A bitterbrush stand is located in T.42 N. R.41 E. Section 18. Perennial grasses such as bluegrass (*Poa spp*.), bottlebrush squirreltail and Thurber's needlegrass are important when they are green in spring and early summer and in the winter when they are not covered by deep snow. These perennial grasses provide diversity in the mule deer's diet. Forbs such as globemallow (*Sphaeralcea spp.*) would also provide needed diversity in the deer's diet.

Pronghorn Antelope

Although the pronghorn use area is described as yearlong, only a small number of pronghorns utilize the allotment and their use could be described as intermittent. Rangelands with a mixture of grasses, forbs, and shrubs provide the best habitat for pronghorns. Pronghorn seem to prefer habitats with shrub heights between 10-25 inches. Most of the allotment is dominated by Wyoming big sagebrush with the average height approaching or exceeding the 25 inch threshold.

No reasonable numbers for pronghorn were set for this allotment in the Paradise-Denio Management Framework Plan. Pronghorn distribution on the allotment was not recognized in the Paradise-Denio Grazing Environmental Impact Statement. It is generally understood that pronghorn have expanded their range onto the Martin Creek Allotment since the EIS was completed in 1981.

4.0 ENVIRONMENTAL CONSEQUENCES

The environmental consequences of livestock grazing were analyzed in the Paradise-Denio Grazing EIS. The Martin Creek Allotment Proposed Action and alternatives are within the array of options identified and analyzed in Paradise-Denio Grazing EIS. Site specific resource information relevant to the Proposed Action, or impacts thereof, have been identified that were not analyzed in the Paradise-Denio Grazing EIS. The following site-specific analysis is in addition to that in the Paradise-Denio Grazing EIS.

4.1 Proposed Action

The issuance of the grazing permit would have no direct impacts on the following resources, with the exception of Socio-Economics, as it is merely an administrative action.

4.1.1 Cultural Resources

Trampling and trailing associated with livestock grazing has the potential to affect cultural values by dispersing and destroying artifacts, disrupting site integrity, eradicating subsurface and/or datable cultural deposits, and promoting erosion. However, these impacts are generally minor as long as the cattle are distributed. More severe impacts are likely at troughs, salting grounds, and other locations where livestock concentrate. Within the Martin Creek Allotment, these locations do not appear to coincide with known or potential areas of high cultural resource sensitivity.

Under the Proposed Action, a small increase in stocking levels is proposed but no new range improvements are envisioned. The small increase should not increase the rate or intensity of these impacts.

4.1.2 Invasive, Non-Native Species

Implementation of the Proposed Action could have a possible impact regarding invasive and noxious plant species. The Proposed Action would change the utilization level objective to 40 percent or less on key plant species in upland habitats. This lower utilization level is expected to result in improved vigor of key plant species and increased production. Healthy native perennial plants would maintain or increase competition with invasive and noxious weed species, reducing weed establishment. The concentration of livestock in the immediate vicinity of water sources and salting areas could result in disturbed areas more susceptible to colonization of invasive or noxious weeds.

4.1.3 Migratory Birds

Under current conditions, habitat for migratory birds is less than optimum, since some of the native bunch grass components are not properly represented. Limiting utilization to 40% is intended to maintain and possibly improve the abundance and vigor of key grass species and allow for plant stubble to remain for the nesting season. Livestock do not typically utilize sagebrush and since the stocking rate (28 acres per AUM) is limited, mechanical damage to sagebrush is not anticipated. Upland areas are expected to function as healthy ecosystems and therefore capable of meeting the lifecycle/habitat requirements of migratory birds.

4.1.4 Socio-Economics

The Proposed Action would allow for continued improvement of rangeland resources and a net beneficial economic impact to the permittee. No change in the season of use is proposed, since the permittee must have the cattle off of his private fields by April 15 in order to conduct farming. This proposal would meet the needs of the permittee.

Although the Martin Creek Allotment would be grazed every year during the critical growth period, reduction of the utilization level on key plant species to 40 percent would help to ensure improvement in plant vigor. With this change in utilization level, historic suspended use 43 AUMs would be restored.

4.1.5 Soils

Utilization of 40 percent or less on key plant species would provide sufficient litter to protect the soil surface from erosion, increase organic matter for nutrient cycling, improve soil structure, and decrease surface runoff allowing for increased infiltration of water. This change would allow for maintenance and improvement of the soil resources within the Martin Creek Allotment.

Biological crusts are more susceptible to surface disturbance when soils are dry from mid June through October. This grazing system avoids the dry period when biological crusts are most susceptible to disturbance.

4.1.6 Special Status Species

Burrowing Owl

Under the proposed grazing regime, upland areas are expected to function as healthy ecosystems and therefore capable of meeting the lifecycle/habitat requirements of burrowing owls and their prey species.

Loggerhead shrike

The proposed grazing regime would limit utilization to 40%, which falls into the light category. This level of utilization should continue to allow the sagebrush habitats to function as healthy

ecosystems. The proposed level of grazing may provide some open foraging areas required by these birds.

Pygmy Rabbit

The proposed grazing regime is not expected to have any negative affects on pygmy rabbit habitat if it is present on the allotment. The most important components of its habitat are sagebrush with a perennial grass understory. Under the Proposed Action, upland areas are expected to function as healthy ecosystems and therefore capable of meeting the lifecycle/habitat requirements of sagebrush obligate species. No significant mechanical damage to burrows is expected due to the limited livestock stocking levels.

Sage-Grouse

The proposed grazing regime is not expected to have negative impacts on sagebrush/grass vegetative types. Since the primary considerations for sage-grouse winter range is adequate sagebrush height and canopy covers, no negative impacts to sage-grouse are anticipated. If grass and forb species diversity and abundance increase, there may be indirect impacts to sage-grouse by providing more food and cover. Sagebrush stands with good grass and forb understory are less susceptible to repeated wildfires.

Vesper sparrow

Limiting utilization to 40% should allow for the maintenance and possibly spread/re-establishment of native bunchgrasses. This would be especially beneficial to these birds since they need good ground cover for nesting and seeds for feed. It is impossible to meet all of the life cycle requirements for all species on every sagebrush stand. However, it is anticipated that healthy sagebrush stands with natural patchiness will provide the habitat requirements on the landscape scale.

4.1.7 Vegetation

To maintain or improve healthy plant communities, plants need to be able to complete their life cycle by escaping damage during the critical growth period **or** utilization must not exceed 40 percent during that same period. Livestock would graze from April 15 to June 19, which is during the critical growth period but utilization would be limited to 40%. The key plant species would have the potential for limited growth after livestock removal, primarily dependent on June moisture.

4.1.8 Wildlife

Mule Deer

The proposed season of use and utilization levels should at a minimum, maintain mule deer habitat quality and would, most likely, result in improvement. It is anticipated that the proposed grazing regime would allow the re-establishment and spread of native plant species, primarily

grasses and forbs, throughout the Martin Creek allotment. This is due to the fact that light utilization would occur allowing for increased plant vigor and production. An improvement in plant species diversity would enhance mule deer habitat.

Pronghorn Antelope

The discussion on mule deer is applicable to pronghorns with regard to grazing season of use and utilization levels. Improved species diversity would enhance pronghorn habitat, since they prefer habitats with a diversity of grasses, forbs and shrubs.

4.2 Alternative 2. Change in Season of Use

The issuance of the grazing permit would have no direct impacts on the following resources, with the exception of Socio-Economics, as it is merely an administrative action.

4.2.1 Cultural Resources

Alternative 2 would have the same impacts on cultural resources as the Proposed Action.

4.2.2 Invasive, Non-Native Species

Implementation of Alternative 2 could have a possible impact regarding invasive and noxious plant species. This alternative would change the season of use so that key plant species in upland habitats are not utilized during the critical growth period every year. Allowing the plants to complete their life cycle prior to livestock use would result in improved vigor of key plant species and increased production. Healthy native perennial plants would maintain or increase competition with invasive and noxious weed species, reducing weed establishment. The concentration of livestock in the immediate vicinity of water sources and salting areas could result in disturbed areas more susceptible to colonization of invasive or noxious weeds.

4.2.3 Migratory Birds

Although there would be livestock grazing, the results of this proposal would be similar to the No Livestock Grazing Alternative. Key grass species should be able to complete their life cycle, thereby improving their vigor and possibly abundance. Upland areas are expected to function as healthy ecosystems and therefore capable of meeting the lifecycle/habitat requirements of migratory birds.

4.2.4 Socio-Economics

Alternative 2 would allow for improvement of rangeland resources but it would create an economic hardship for the permittee. A change in the season of use would mean that livestock would have to remain on the private lands during the months of April and May when the permittee would be farming, therefore, he would not be able to farm the fields with cattle present.

Results of the permit analysis indicate that modifications are needed to the terms and conditions. With this change in season of use the suspended 43 AUMs would be reactivated on the permit and the 50 percent utilization level on any key species would be maintained.

4.2.5 Soils

With this alternative, the maximum allowable utilization level of 50 percent would remain the same as it has been but use would occur outside the critical growth period. Healthy and productive vegetation would allow for sufficient litter to protect the soil surface from erosion, increase organic matter for nutrient cycling, improve soil structure, and decrease surface runoff allowing for increased infiltration of water. This change would allow for maintenance and improvement of the soil resources within the Martin Creek Allotment.

Biological crusts are more susceptible to surface disturbance when soils are dry from mid June through October. Depending on the change in season of use, biological crusts may be impacted. A change in season of use to July and August, outside the critical growth period for the vegetation, is during the time period that biological crusts are more susceptible. Changing the season of use to February and March would have the same impacts as the Proposed Action as the soils on the allotment are moist and biological crusts are less likely to be impacted.

4.2.6 Special Status Species

Although there would be livestock grazing, the results of this proposal would be similar to the No Livestock Grazing Alternative (refer to section 4.4.6). It is anticipated that ecological condition would improve. As ecological condition improves, the health, vigor and abundance of grasses and forbs would increase. The probable increase in grasses and forbs would enhance habitat quality for all special status species.

4.2.7 Vegetation

To maintain or improve healthy plant communities, plants need to be able to complete their life cycle by escaping damage during the critical growth period **or** utilization must not exceed 40 percent during that same period. Livestock would graze outside of the critical growth period therefore allowing the plants to complete their life cycle prior to livestock use which would result in improved vigor of key plant species and increased production.

4.2.8 Wildlife

Although there would be livestock grazing, the results of this proposal would be similar to the No Livestock Grazing Alternative. It is anticipated that ecological condition would improve. As ecological condition improves, the health, vigor and abundance of grasses and forbs would increase. The probable increase in grasses and forbs would enhance habitat quality for mule deer and pronghorn.

4.3 Alternative 3. No Action Alternative

The issuance of the grazing permit would have no direct impacts on the following resources, with the exception of Socio-Economics, as it is merely an administrative action.

4.3.1 Cultural Resources

Impacts would be the same as described in the Proposed Action.

4.3.2 Invasive, Non-Native Species

Impacts would be the same as described in the Proposed Action.

4.3.3 Migratory Birds

Impacts to migratory bird habitat would be greater than the Proposed Action. Repeated utilization of 50 percent on key grass species, during the peak growing season, may not lead to proper plant health. Over time, this may result in diminished habitat quality.

4.3.4 Socio-Economics

The No Action Alternative would have an economic impact on the permittee, since the grazing permit would be reissued.

4.3.5 Soils

The present grazing system which allows for up to 50 percent utilization of key plant species during the critical growth period, would remain in place with this alternative. If key plant species are consistently utilized to 50 percent, decreased litter production preventing improvement in plant vigor and production would be expected. This would allow for maintenance but would not facilitate improvement of the soil resources within the allotment.

4.3.6 Special Status Species

Repeated utilization of key species up to 50 percent during the peak growing season is less desirable than the Proposed Action. This type and level of utilization may not allow the key species to complete their physiological processes necessary for their health and improvement. Since these key species are important to all of the special status species, there may be an incremental decline in special status species habitat.

4.3.7 Vegetation

Under the current system, livestock graze on the Martin Creek Allotment from April 15 to June 19. The key plant species would have the potential for limited growth after livestock removal, primarily dependent on June moisture. Utilization data shows that the permittee has consistently held utilization levels well below the objective of 50 percent or less on the Martin Creek

Allotment. Areas of static and upward vegetative trend have been observed on the allotment. However, in the future, if utilization of 50 percent is realized repeatedly, the vegetative trend would be expected to remain static under this alternative.

4.3.8 Wildlife

Repeated utilization of key species up to 50 percent during the peak growing season is less desirable than the Proposed Action. This level of utilization may not allow the key species to complete their physiological processes necessary for their health and improvement. Since these key species are important to mule deer and pronghorn, there may be an incremental decline in their habitat.

4.4 Alternative 4. No Livestock Grazing Alternative

Cancellation of the grazing permit would have no direct impacts on the following resources, with the exception of Socio-Economics, as it is merely an administrative action.

4.4.1 Cultural Resources

The No Livestock Grazing Alternative would eliminate a source of impacts to cultural resources.

4.4.2 Invasive, Non-Native Species

No additional impacts are expected from implementation of the No Livestock Grazing Alternative. Elimination of livestock grazing would not reduce the occurrence of noxious weeds on the Martin Creek Allotment as the Little Owyhee Road splits the allotment and vehicles are a major source of weed distribution.

4.4.3 Migratory Birds

Elimination of livestock grazing may result in improved ecological condition. Improved ecological condition implies a good mix of grasses, forbs and shrubs. These vegetative components provide the diversity and structure that are important components of migratory bird habitat.

4.4.4 Socio-Economics

The No Livestock Grazing Alternative would have a substantial impact on the permittee. There would be a minimal impact to the local economy as Paradise Valley, NV, is a small rural community dependent upon ranching and agriculture.

4.4.5 Soils

Under the No Livestock Grazing Alternative, perennial plant vigor and production should increase.

4.4.6 Special Status Species

Under this alternative it is anticipated that ecological condition would improve or would be maintained. As ecological condition improves, the health, vigor and abundance of grasses and forbs would increase. The probable increase in grasses and forbs would enhance habitat quality for all special status species.

Burrowing Owl

Under this alternative, ecological condition would be maintained or improved. This would most likely benefit rodent populations which are important to maintenance of nest habitat. Dense stands of grasses and forbs within owl home ranges support populations of rodent and insect prey. Potential impacts to burrows from livestock trampling would not occur.

Loggerhead shrike

Under this alternative it is anticipated that ecological condition would be maintained or would improve. As ecological condition improves, the health, vigor and abundance of grasses and forbs would increase. The probable increase in grasses and forbs would enhance habitat quality for all special status species.

Pygmy Rabbit

Under this alternative, ecological condition would be maintained or improved. Since pygmy rabbits require dense stands of big sagebrush with good understory of native grasses, this alternative should benefit pygmy rabbit habitat. There would be no threat of livestock trampling of burrows.

Sage-Grouse

Impacts to sage-grouse would be minimal, as the condition of their habitat should remain static or improve.

Vesper sparrow

Under this alternative it is anticipated that ecological condition would be maintained or would improve. As ecological condition improves, the health, vigor and abundance of grasses and forbs would increase. The probable increase in grasses and forbs would enhance habitat quality for all special status species.

4.4.7 Vegetation

Under the No Livestock Grazing Alternative, grazing use would be limited to wildlife. Perennial plant vigor and production should increase. The build up of litter and residual growth may eventually reduce production of the grass species and increase the potential for wild fires.

4.4.8 Wildlife

Livestock watering facilities would be unavailable for use by birds and larger species of wildlife.

Mule Deer

Elimination of livestock grazing may result in improved ecological condition. As ecological condition improves, the health, vigor and abundance of forage species would increase. Mule deer can use a variety of grasses, forbs and shrubs in the winter. The probable increase in grass and forb availability would enhance habitat quality.

Pronghorn Antelope

Elimination of livestock grazing may result in improved ecological condition. As ecological condition improves, the health, vigor and abundance of forage species would increase. The probable increase in grass and forb availability would enhance habitat quality.

5.0 CUMULATIVE IMPACTS

The Council on Environmental Quality (CEQ) regulations that implement NEPA define a cumulative impact as: "The impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future 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 includes the Little Humboldt River/Pole Creek, Spring City Creek, and Martin Creek/Deadman Gulch sub-watersheds (Map 4). The area consists of approximately 81,265 acres of which about 44,097 acres are public lands, 31,911 acres are private lands, and about 5,257 acres are administered by the United States Forest Service (USFS). The area, which includes the northern end of Paradise Valley and the town of Paradise Valley, is bounded on the north, west, and east by the Santa Rosa Mountains.

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 development, road construction, mining, agricultural development, and wildfire.

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.

The majority of the grazed acreage is on private holdings not subject to administration by the Federal government. Portions of 6 different federally administered livestock grazing allotments

are also represented in the assessment area. The majority of this acreage is within the Martin Creek, William Stock, and Buttermilk allotments, with smaller parcels in the Abel Creek, Provo, and Spring Creek allotments (BLM 2006a).

In order to support the management of these allotments, a variety of range improvement projects have been implemented through the years. Collectively, 6 springs have been developed and 57 miles of permanent fencing (both public and private), six miles of water pipelines, six reservoirs, two troughs, and six cattleguards have been constructed in support of grazing management objectives in the assessment area (BLM 2006b, 2006c; data from private holdings are incomplete).

Residential Development – Residential development in the area is concentrated in the town of Paradise Valley (population in 2000 – 308; U.S. Census Bureau 2006) located in the west-central part of the assessment area. The town, which was originally settled in the 1866, was an important agricultural and commercial center during the 1870-1920 period (Purser 1997:15-33). Population in the town reached its peak in 1890 with approximately 1,000 residents (Purser 2000:121).

The majority of the developments within the town, which have included the construction of single family houses, commercial buildings, and streets, occurred prior to 1890 (Purser 1997:168). Relatively little new construction has occurred since the turn of the century as previously constructed buildings become available for use as the population declined. More modern developments have included the installation and subsequent updating of electrical and telephone services and the construction of an earthen landing strip south of town.
The analysis of aerial imagery indicates that impacts associated with past residential developments are more extensive than the present extent of the town would indicate. Approximately 125 acres of the assessment area have been altered as a result of past residential developments, an area that is somewhat larger than the current distribution of residences.

In the balance of the assessment area, residential development is sparse consisting of widely dispersed ranching operations.

Road Construction – Past and present actions within the assessment area are supported by an extensive transportation system which includes approximately 210 miles of roads (BLM 2006d). Humboldt County currently maintains approximately 14 miles of graveled roads, the State of Nevada is responsible for 4 miles of paved road and approximately 12 miles of road in the assessment area are part of the BLM system. Approximately 181 miles of road in the area are either private, unimproved roads or dirt roads and two-tracks on public lands. Most of these roads have their origin in mining exploration and ranching access and few are regularly maintained.

Mining – The assessment area, which covers most of the historic Paradise Valley mining district, has a history of minerals activity dating to 1868 (Tingley 1998). A series of silver and gold strikes in the early 1870's led to the development of the mining camps of Spring City and Centerville and the associated milling town of Queen City. At the height of the "boom", between 100 and 200 people occupied these settlements (Paher 1970:146; Purser 1997:22-26).

By 1889, however, the mines had closed and the settlements were largely abandoned. Since this time, relatively little activity beyond periodic exploration activities have occurred in the assessment area.

According to BLM records, there are currently no active lode or placer mining claims within the assessment area and no notices to conduct exploration operations or plans of operation to develop mines are approved or pending (BLM 2006e).

Agricultural Development – The cultivation of hay crops, such as alfalfa and native grasses, as well as wheat, barley and potatoes, is a prominent activity on private land within the assessment area. The analysis of aerial imagery indicates that approximately 3,585 acres or about 11 percent of privately held lands in the assessment area are currently under agricultural production. On some parcels, this level of production is supported by substantial irrigation facilities and associated utilities.

Wildfire – Two wildfires, one in 1985 and the other in 2003, have burned approximately 3,550 acres or about 4 percent of the assessment area (BLM 2006f). Most of the affected areas have been subjected to a variety of stabilization and rehabilitation treatments with mixed results.

5.2 Reasonably Foreseeable Future Actions

Since the effects of the Proposed Action are expected to last ten years, this time frame is considered to be most appropriate for considering the incremental effect of reasonably foreseeable future actions. Many of the past and present actions discussed above are expected to persist through this time frame, though the relative intensity of these actions could vary depending on a variety of economic factors.

5.3 Cumulative Impacts to Affected Resources

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.

Resource	***Impacts from Past and Present Actions***	***Impacts from RFFAs***	***Impacts from The Proposed Action and Alternatives***	***= Cumulative Impact***
Cultural Resources	Past actions have damaged or destroyed cultural resources where the actions have occurred in areas of high cultural resource sensitivity.	Reasonably foreseeable future actions will impact additional resources, particularly if agricultural developments are expanded in sensitive areas. If agricultural developments do not occur, the accumulation of impacts should slow through time since otherwise a general decrease in the number and intensity of future actions is foreseeable.	There would be no impacts to significant cultural resources from the **Proposed Action or Alternatives**. Under the **No Livestock Grazing Alternative**, impacts to cultural resources would be lessened.	It is likely that resources would be further damaged or undisturbed sites impacted. The impact is not considered substantial because a relatively small proportion of resources in the assessment area has, or would be, affected.

Resource	***Impacts from Past and Present Actions***	***Impacts from RFFAs***	***Impacts from The Proposed Action and Alternatives***	***= Cumulative Impact***
Invasive, Nonnative Species	Ground disturbances associated with past and present actions, and impacts associated with wildfire have resulted in the expansion of invasive, non-native species. Management actions associated with these species has lead to better control in some cases.	Agriculture would continue to have problems with noxious weeds, but would be closely monitored and controlled. Mining activities are not expected to increase so no major impacts are expected from mining.	There would be minor impacts from the **Proposed Action and Alternatives** if monitoring and mitigation measures are implemented. The **No Livestock Grazing Alternative** would have little bearing on noxious weeds as livestock are not the primary source of seed dispersal.	Increases in the proliferation of invasive, nonnative species would occur if inventories are not completed and identified infestations promptly treated. Currently the cumulative impact is considered moderate.

Resource	***Impacts from Past and Present Actions***	***Impacts from RFFAs***	***Impacts from The Proposed Action and Alternatives***	***= Cumulativ Impact***
Migratory Birds	Minor to moderate amounts of displacement have resulted from disturbances to habitat associated with livestock grazing, residential development, road construction, mining and agricultural development. Large areas of native habitat have been degraded from wildfires within the assessment area.	Impacts from livestock grazing should not increase if allotment objectives are met. If residential development, road construction, mining, and/or agricultural activity increases, minor amounts of displacement would occur due to habitat disturbances.	There should be an incremental impact from the **Proposed Action** as the utilization level has been decreased slightly. **Alternative 2** would result in incremental improvement in ecological condition over extended period of time. The **No Action Alternative** would cause little impact as it would maintain the status quo. The **No Livestock Grazing Alternative** would result in incremental improvement in ecological condition over extended period of time.	Cumulative impacts would be minimal. The cumulative effect is considered minor over time. No measurable change in impacts are anticipated. The cumulative effect is considered minor over time.

Resource	***Impacts from Past and Present Actions***	***Impacts from RFFAs***	***Impacts from The Proposed Action and Alternatives***	***= Cumulative Impact***
Water Quality (Surface and Ground)	Past grazing activity has impacted springs and creeks from trampling and punching. Past agricultural activity may have caused a reduction in the regional water table from irrigation. Fire rehabilitation activities have led to minor sedimentation impacts in water quality.	Future grazing could affect water quality via trampling and punching around springs and along creeks. Future agriculture activity could result in further reduction in the regional water table. Future fire rehabilitation activities would be expected to lead to minor sedimentation impacts.	No impacts to water quality from the **Proposed Action and Alternatives** have been identified. Under the **No Action Alternative**, no changes to water quality are expected.	The cumulative effect is considered minor

Resource	*Impacts from Past and Present Actions*	*Impacts from RFFAs*	*Impacts from The Proposed Action and Alternatives*	*= Cumulative Impact*
Soils and Vegetation	Livestock grazing, agriculture and mining have damaged and destroyed some natural vegetative communities rendering some soils susceptible to wind and water erosion. Wildfires have burned a substantial amount of natural vegetation within the assessment area. In these areas natural vegetation has been replaced by invasive annual grasses and weeds.	Adherence to the Standards for Rangeland Health should limit impacts to vegetative communities and soils from grazing. Future agricultural activities could result in the replacement of natural vegetation communities and alterations in soil chemistry. Because future mining activity is expected to be limited, there should be little to no impact.	Under the **Proposed Action and Alternative 1**, some vegetation would be uprooted and crushed and small amounts of surface and subsurface soils would be disturbed. Cattle would remove vegetation in the immediate areas around the water troughs. The impact is considered minor. The **No Livestock Grazing Alternative** would result in incremental improvement to soils over extended period of time.	The collective impact is considered minor to moderate. The primary impact to vegetation in the assessment area is from wildfire which has resulte in proliferation of cheat grass monocultures.

Resource	*Impacts from Past and Present Actions*	*Impacts from RFFAs*	*Impacts from The Proposed Action and Alternatives*	*= Cumulative Impact*
Special Status Species	Past actions have resulted in displacement due to habitat loss. Wildfires have destroyed areas of native habitat that were once available to Special Status Species.	Impacts from past actions are not expected to increase. Further loss of native habitat to wildfires is the main concern.	There should be an incremental impact from the **Proposed Action** as the utilization level has been decreased slightly. **Alternative 2** would result in incremental improvement in ecological condition over extended period of time. The **No Action Alternative** would cause little impact as it would maintain the status quo. The **No Livestock Grazing Alternative** would result in incremental improvement in ecological condition over extended period of time.	Cumulative impacts would be minimal. The cumulative effect is considered minor over time. No measurable change in impacts are anticipated. The cumulative effect is considered minor over time.

Resource	*Impacts from Past and Present Actions*	*Impacts from RFFAs*	*Impacts from The Proposed Action and Alternatives*	*= Cumulativ Impact*
Wildlife	Minor to moderate amounts of displacement have resulted from disturbances to habitat associated with livestock grazing, residential development, road construction, mining and agricultural development. Wildlife habitat has been impacted by wildfire which has led to the proliferation of invasive annual grasses and weeds.	Impacts from livestock grazing should not increase if allotment objectives are met. If residential development, road construction, mining, and/or agricultural activity increases, minor amounts of displacement would occur due to habitat disturbances.	There should be an incremental impact from the **Proposed Action** as the utilization level has been decreased slightly. **Alternative 2** would result in incremental improvement in ecological condition over extended period of time. The **No Action Alternative** would cause little impact as it would maintain the status quo. The **No Livestock Grazing Alternative** would result in incremental improvement in ecological condition over extended period of time	Cumulative impacts would be minimal. The cumulative effect is considered minor over time. No measurable changes in impacts are anticipated. The cumulative effect is considered minor over time.

6.0 MONITORING AND MITIGATION MEASURES

Rangeland monitoring would be conducted by BLM specialists based on Winnemucca District priorities. Specific rangeland monitoring studies may include cover studies, ecological condition studies, key forage plant method utilization transects, Cole browse, use pattern mapping,

frequency trend, or observed apparent trend. The permittee would be encouraged to participate in monitoring. Noxious weed detection would be incorporated into monitoring activities.

Appropriate monitoring has been included in the Proposed Action. No additional monitoring has been proposed as a result of the analysis of the potential impacts.

6.1 Terms and Conditions

The Standards and Guidelines reflect the stated goals of maintaining or improving rangeland health while providing for the viability of the livestock industry in the Sierra Front – Northwestern Great Basin Resource Area. The livestock grazing permit, if issued, will incorporate terms and conditions that will continue to meet or will make significant progress toward the SRH and the multiple use objectives for the Martin Creek Allotment.

The following terms and conditions are in conformance with the Standards and Guidelines for the Sierra Front - Northwestern Great Basin Resource Advisory Council, approved by the Secretary of the Interior on February 12, 1997.

Salt and/or mineral blocks shall not be placed within one quarter (1/4) mile of water sources.

The permittee is required to haul water to strategic and previously agreed locations. These sites would be alternated from year to year. Water hauling locations are: T42N, R41E, Sec.18, 30, 36.

The permittee is required to install bird ladders in all water toughs; BLM will provide the bird ladders.

The permittee is required to perform normal maintenance on the range improvements as per their signed Cooperative Agreements/Section 4 Permits prior to turning out in a pasture or use area scheduled for livestock use.

The permittee's certified actual use report, by pasture/use area, is due 15 days after the end of the authorized livestock grazing period.

Pursuant to 43 CFR 10.4(g), the holder of this authorization must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined at 43 CFR 10.2). Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for thirty (30) days or until notified to proceed by the authorized officer.

The authorized officer reserves the authority to make modifications to the annual livestock grazing authorization that are consistent with the Standards for Rangeland Health and allotment specific objectives.

The terms and conditions of the permit will be modified if additional information indicates that revision is necessary to conform to 43 CFR 4180 as supplemented by the Sierra Front -

Northwestern Great Basin Resource Advisory Council Standards for Rangeland Health and Guidelines for Grazing Management.

7.0 LIST of PREPARERS (Assigned ID Team)

Celeste Mimnaugh	Rangeland Management Specialist/Project Lead
Derek Messmer	Noxious Weeds/Invasive Species
Ken Detweiler	Special Species Status/Migratory Birds/Wildlife
Mark Ennes	Cultural Resources/Native American Religious Concerns
Mike Zielinski	Vegetation/Soils
Craig Drake	Hydrologist
Amanda DeForest	Supervisory Rangeland Management Specialist
Lynn Harrison	Environmental Coordinator.

8.0 CONSULTATION and COORDINATION

The Winnemucca Field Office mails an annual Consultation, Cooperation, and Coordination (CCC) Letter to individuals and organizations that have expressed an interest in rangeland management related actions. Those receiving the annual CCC letter have the opportunity to request from the Field Office more information regarding specific actions. The following individuals/organizations have requested information on all actions regarding rangeland management in the Martin Creek allotment and are thus considered "interested publics."

NDOW Fallon
Western Watershed Project
State of Nevada – Department of Administration
Humboldt County Commissioners
NDOW Winnemucca
Nevada Cattlemen's Association
Nevada Woolgrower's Association
NRCS Winnemucca
USFS – Santa Rosa Ranger District
Public Land Solutions

In addition to the individuals/organizations listed above, the following Native American Tribal Councils were notified of the Proposed Action and alternatives and were asked to express any concerns they might have.

Ft. McDermitt Tribal Council
Battle Mountain Band Council

9. APPENDICES

Map 1. Martin Creek Allotment Base Map
Map 2. Dominant Potential Vegetation
Map 3. ReGap Data
Map 4. Cumulative Impact Assessment Area

10. REFERENCES

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2006d Roads GIS layer, Winnemucca Field Office.
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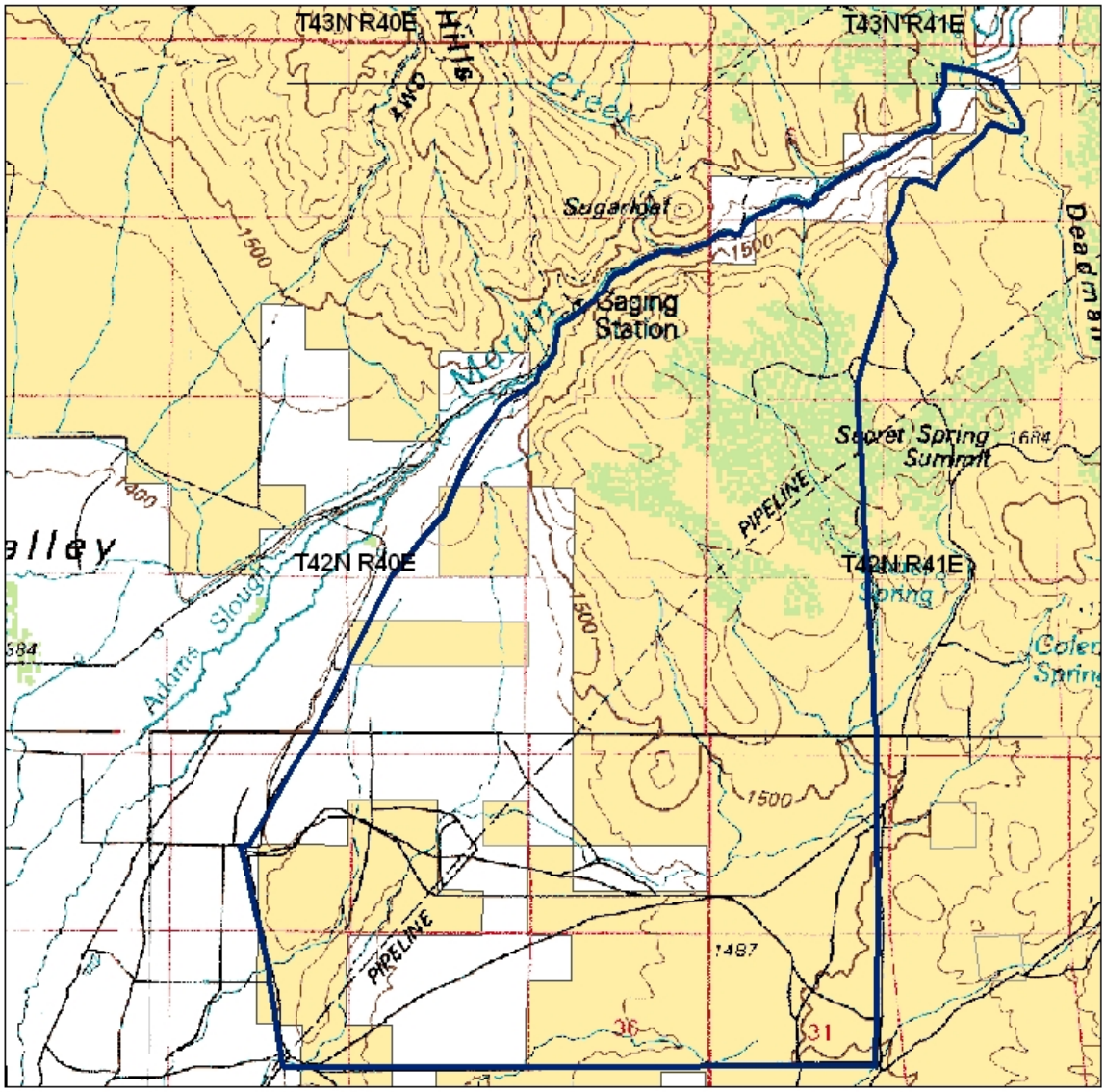
Map 1:

Martin Creek Allotment



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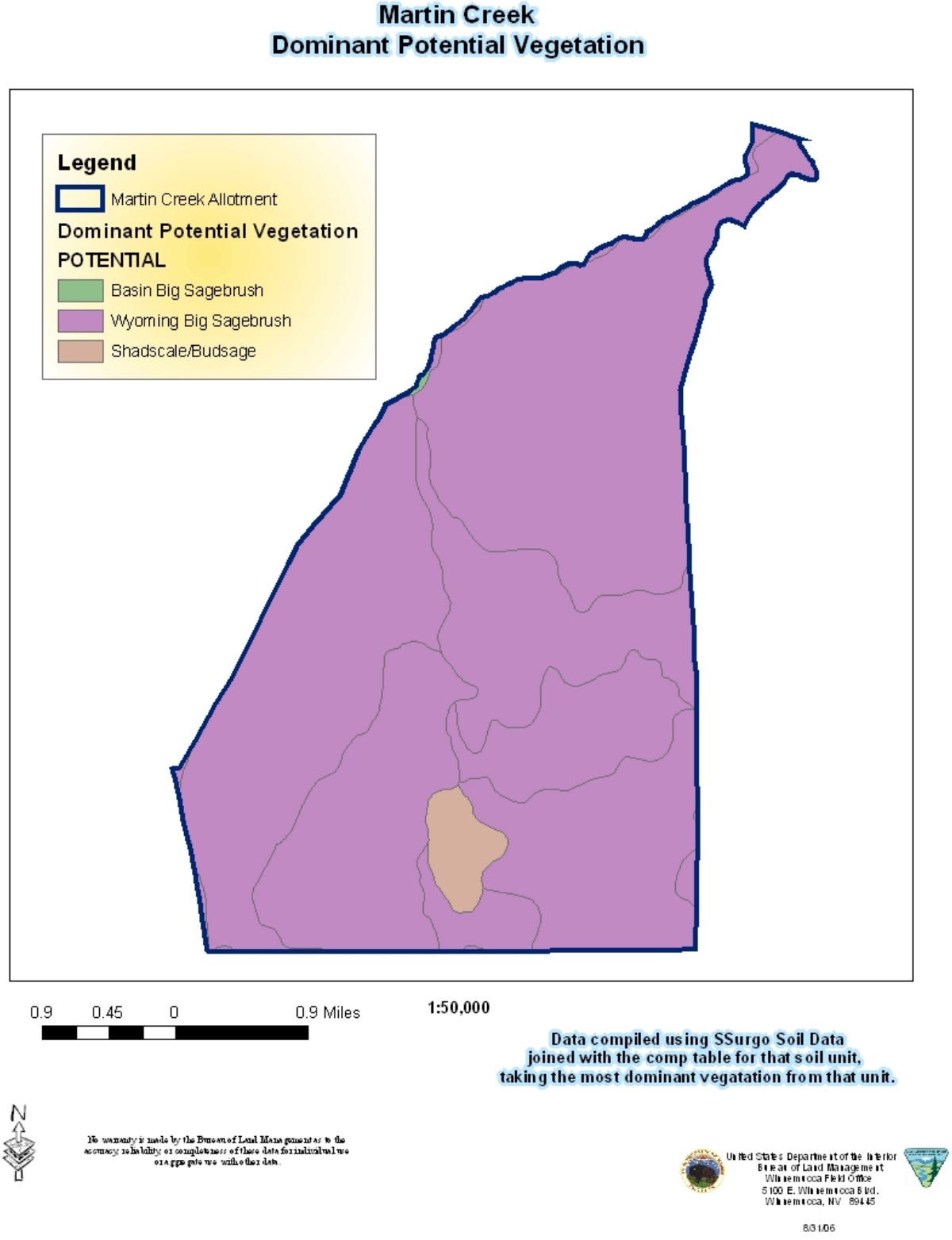
Map 2:


Martin Creek
Dominant Potential Vegetation
Legend
Martin Creek Allotment
Dominant Potential Vegetation
POTENTIAL
Basin Big Sagebrush
Wyoming Big Sagebrush
Shadscale/Budsage
0.9 0.45 0 0.9 Miles
1:50,000
Data compiled using SSurgo Soil Data
joined with the comp table for that soil unit,
taking the most dominant vegatation from that unit.
N
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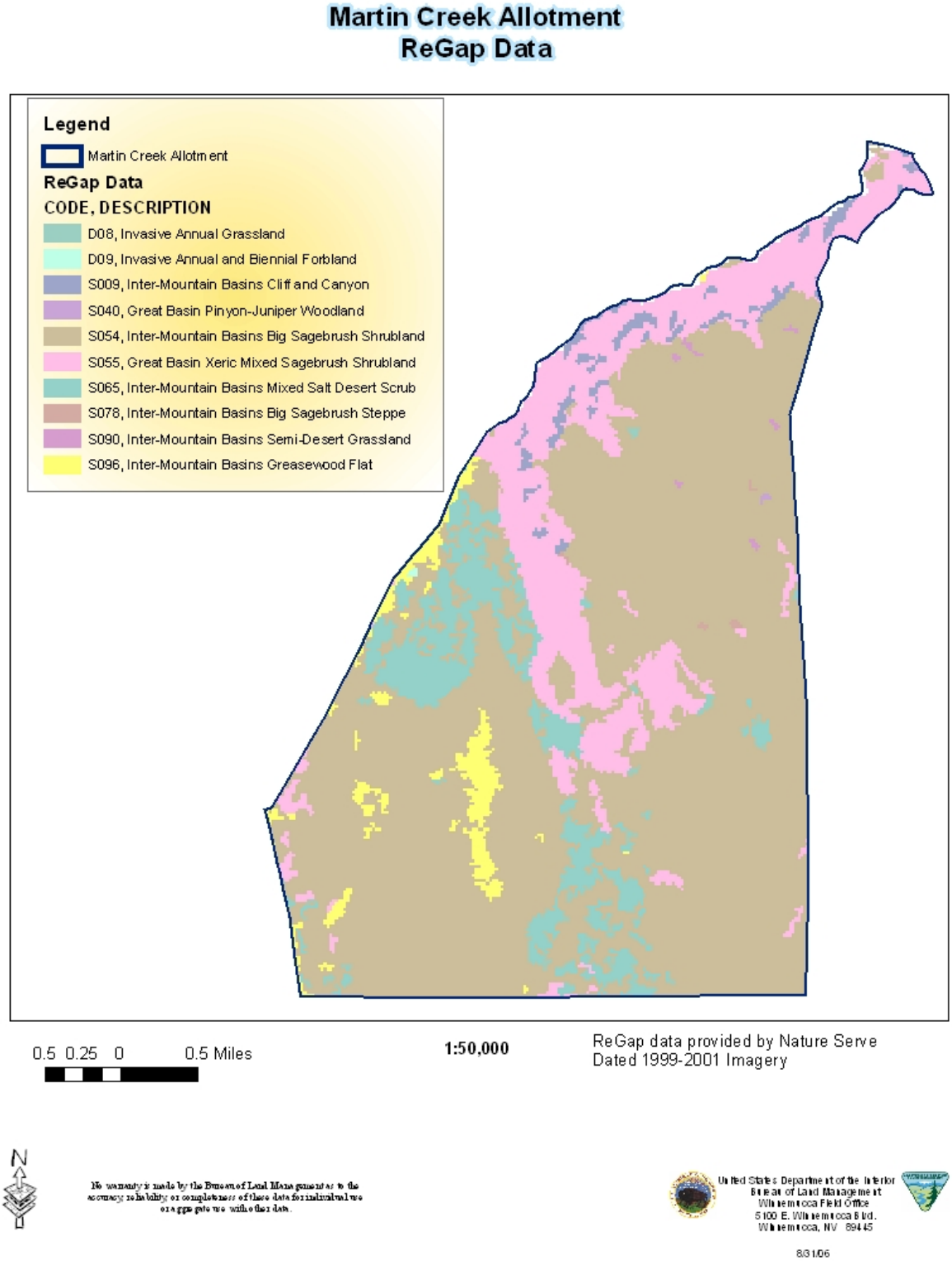
Map 3:


Martin Creek Allotment
ReGap Data
Legend
Martin Creek Allotment
ReGap Data
CODE, DESCRIPTION
D08, Invasive Annual Grassland
D09, Invasive Annual and Biennial Forbland
S009, Inter-Mountain Basins Cliff and Canyon
S040, Great Basin Pinyon-Juniper Woodland
S054, Inter-Mountain Basins Big Sagebrush Shrubland
S055, Great Basin Xeric Mixed Sagebrush Shrubland
S065, Inter-Mountain Basins Mixed Salt Desert Scrub
S078, Inter-Mountain Basins Big Sagebrush Steppe
S090, Inter-Mountain Basins Semi-Desert Grassland
S096, Inter-Mountain Basins Greasewood Flat
0.5 0.25 0 0.5 Miles
1:50,000
ReGap data provided by Nature Serve
Dated 1999-2001 Imagery
N
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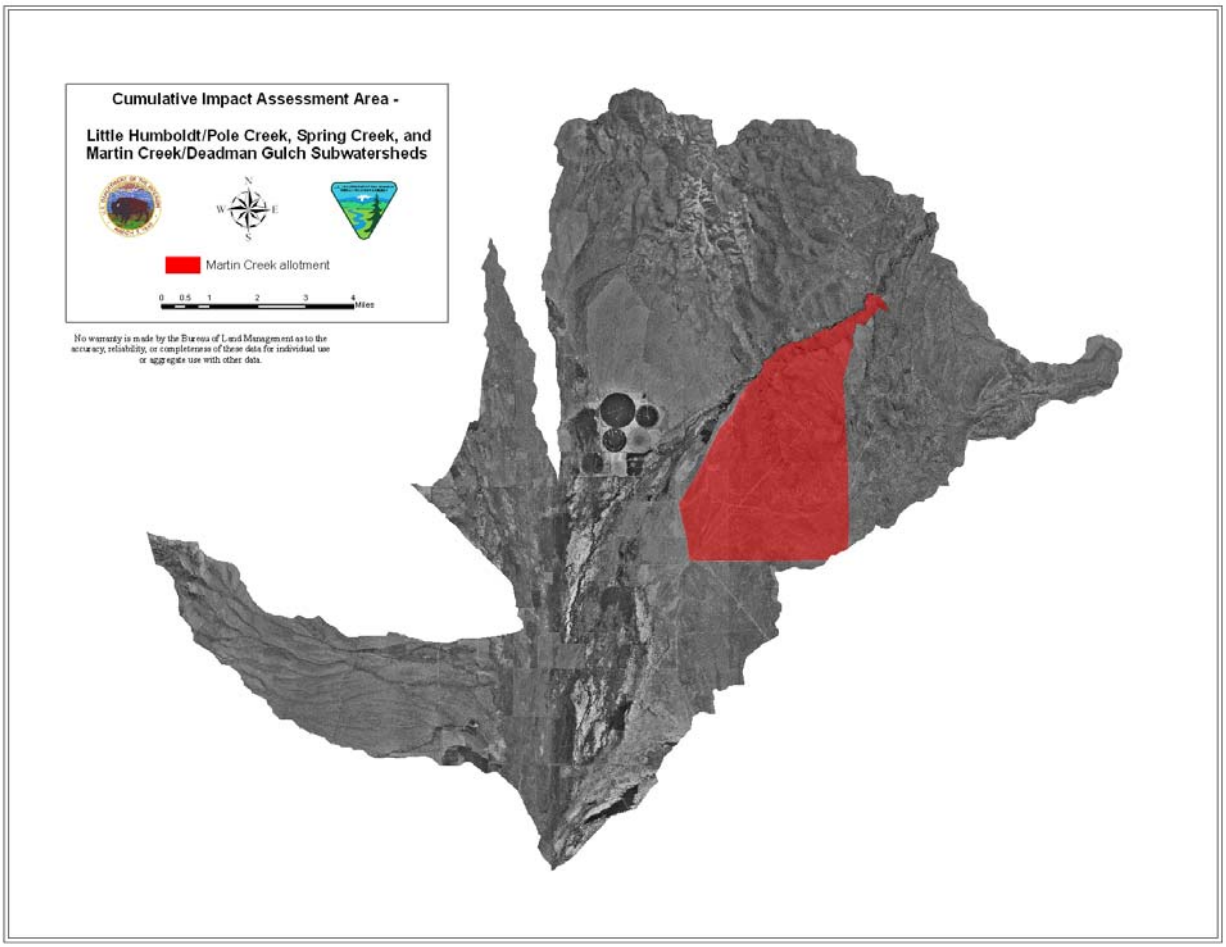
8/31/06

Map 4:


Cumulative Impact Assessment Area -
Little Humboldt/Pole Creek, Spring Creek, and Martin Creek/Deadman Gulch Subwatersheds
N
W
E
S
Martin Creek allotment
0 0.5 1 2 3 4 Miles
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