Environmental Assessment: Home Camp Acquired Lands Projects and Authorizations

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Chapter 1. INTRODUCTION and BACKGROUND

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The Bureau of Land Management (BLM) has prepared this Environmental Assessment (EA) to identify a proposed action and a range of alternatives for proposed projects on the newly acquired Home Camp lands and to analyze the environmental affects resulting from implementing each alternative. This chapter provides a background on the planning process, purpose of the effort, management policies, public concerns and other background information.

The EA is an analysis of potential impacts that would result with the implementation of different projects proposed. The EA assists the Bureau of Land Management (BLM) in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and with other laws and policies affecting the alternatives. If the decision maker determines that this project has "significant" impacts following the analysis in the EA, then an Environmental Impact Statement (EIS) will be prepared for the project. If not, a Finding of No Significant Impact (FONSI) statement will be prepared, documenting the reasons why implementation of the selected alternative would not result in "significant" environmental impacts.

The Home Camp Lands are located within Washoe County, Nevada, approximately 15 miles east of Cedarville, California. All projects covered in this EA lie within portions of those newly acquired lands.

See Chapter 10 for maps

The total acreage addressed in this EA is 376,559 acres of BLM land.

1.1. Background

The Home Camp lands were acquired through purchase in 2010 with appropriations through the Southern Nevada Public Land Management Act (SNPLMA). The lands were acquired specifically to conserve and improve fish and wildlife habitat and to facilitate public access while maintaining multiple uses of public lands. Upon acquisition the lands became subject to the Surprise Resource Management Plan (RMP) approved in 2008. Since the lands were acquired for specific purposes, the Surprise Field Office is proposing projects that will start conservation efforts on these newly acquired lands. These projects will help the Surprise Field Office better manage these lands for the purposes in which they were acquired.

1.2. Purpose and Need

The purpose for the Home Camp Acquired Lands Projects is to implement projects and activities that will improve land health standards and help develop, conserve, and protect the specific resources that were the primary reasons for the BLM acquiring these lands. The completion of this EA will provide a base of projects that will help BLM better manage these lands and protect some of the degraded resources that were a result of previous management.

The need for this EA is to comply with the requirements of NEPA and ensure that the proposed projects and activities are in conformance with the Surprise RMP and other applicable laws and regulations.

1.3. Decision to be Made

This EA discloses the environmental consequences of implementing the Proposed Action or alternatives to that action. The FONSI describes the finding of the analysis in this EA. The BLM, Surprise Field Office Manager is the Authorized Officer. The decision and rationale for that decision will be stated in Decision Records (DR). There will be two decisions that will be issued by the authorized officer. There will be a grazing decision for the temporary non-renewable (TNR) section of the EA and a decision for the rest of the projects. Based on the information provided in this EA, the Authorized Officer will decide the best management practice.

Note

Temporary Nonrenewable means when forage is temporarily available on annual basis to qualified applicants. Grazing use is authorized under nonrenewable grazing permits and leases in accordance with 43 CFR Sec. 4130.6-2. Authorized nonrenewable use does not establish any additional permitted use.

1.4. Scoping

The BLM Surprise Field Office conducted internal scoping with an interdisciplinary team of specialists, conducted an Environmental Stewardship Program Technical Review Team (TRT) to provide recommendations, as well as sent out letters to interested parties. On March 14th BLM personnel met with the Home Camp permittees to discuss the proposed projects. On March 27th BLM personnel conducted a field visit to two of the projects with one permittee. In addition, the EA was made available for a 15 day public comment period from April 18th through May 3rd. See Chapter 5 &7 for a history of the scoping process.

Summary of Issues Received During Scoping

As a result of the internal and external scoping process, the following general subjects were identified: Sage-grouse habitat, big game habitat, recreation use, livestock use of Project Areas, desired plant communities and potential plant communities, lack of understory vegetation in areas, degraded spring/riparian conditions, wilderness characteristics and implementing projects to meet resource objectives.

1.5. Plan Conformance

This proposed action is subject to the following use plan(s): The Surprise Resource Management Plan (RMP) and Record of Decision (ROD), approved on April, 2008. The proposed action has been determined to be in conformance with this plan as required by regulation (43 CFR 1610.5-3(a)).

2008 Surprise RMP Cultural Resources 2.2.2 Goals:

Protect and preserve significant cultural resources. Ensure that these resources are available to present and future generations for appropriate uses. Manage legitimate activities in a manner that will ensure preservation and provide public benefits through education (including interpretation), research, public uses, and conservation for future generations.

2008 Surprise RMP Fuels Management 2.6.2 Goals:

Achieve significant reduction of hazardous fuels (using a variety of methods) where need is greatest, especially in the wildland/urban interface. Fire would be recognized as necessary for achieving and maintaining ecosystem health, and reintroduced as a natural and normal influence on plant communities. Fuel treatment plans and management actions would restore health to vegetation, wildlife, and ecosystems, and would protect cultural resources.

2008 Surprise RMP Livestock Grazing 2.8.2 Goal:

Sustainable, ecologically sound, and economically viable livestock grazing opportunities would be provided, where suitable, in the Surprise Field Office (Surprise) management area.

2008 Surprise RMP Recreation and Visitor Services 2.9.2 Goal:

Enhance existing, and provide additional developed and undeveloped recreational opportunities to satisfy increasing demand while ensuring adequate protection of natural, cultural, and scenic resources.

2008 Surprise RMP Vegetation 2.15.2 Goal:

Restore, protect, and enhance the health and diversity of native (and desirable non-native) plants, plant communities and associations throughout the management area. Ensure that vigorous and abundant plant life is available to support other valued resources in order to (directly or indirectly) provide economic benefits and high-quality recreation.

2008 Surprise RMP Federally Listed Species 2.22.3.2 Goal:

Restore, enhance, or maintain populations and habitats of federally listed (endangered or threatened) wildlife on BLM-administered lands—including proposed and candidate species (populations and critical habitats).

2008 Surprise RMP Ungulates 2.22.5.2 Goal:

Restore, enhance, and maintain important habitats for wild ungulates on BLM-administered lands.

2008 Surprise RMP Native and Non-Native Fish and Other Aquatic Species 2.22.8.2 Goal:

Restore, enhance, or maintain habitats of native (and desirable non-native) fish and other (native) aquatic organisms throughout the management area. Achieve this through proper management of water supply and quality, livestock grazing, and bio-technology (i.e., structural additions or modifications), where appropriate.

1.6. Relationship to Statues, Regulations, and Plans

Cultural Resources

The cultural resource component is covered by several legislative authorities including Section 106 of the National Historic Preservation Act of 1966 as amended (NHPA), the Archaeological Resources Protection Act (ARPA), the American Indian Religious Freedom Act and Executive Order (E.O.) 13007, and the Native American Grave Protection and Repatriation Act (NAGPRA). Cultural resources within the Proposed Action also fall under purview of the State Protocol

Agreements between BLM Nevada and Nevada SHPO (2009c), and BLM California and California and Nevada SHPO (2007).

Threatened or Endangered Species

The Endangered Species Act of 1973 (ESA) requires federal agencies to complete formal consultation with the U.S. Fish and Wildlife Service (FWS) for any action that "may affect" federally listed species or critical habitat. The ESA also requires federal agencies to use their authorities to carry out programs for the conservation of endangered, threatened and candidate species. There are no threatened and endangered (T&E) species within the Project Area. In March 2010, the USFWS announced its listing decision for the Greater sage-grouse *(Centrocercus urophasianus)* as "warranted but precluded". Candidate species designation means the USFWS has sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list, but issuance is precluded by higher priority listing actions. At this time the species is officially considered a Candidate Species, but does not receive statutory protection under the ESA. Individual states continue to be responsible for managing sage-grouse. "Candidate species and their habitats are managed as Bureau sensitive species", (BLM Manual 6840, December 2008).

Supplemental Agreement between State Director and State Historic Preservation Officer Protocol Amendment for Renewal of Grazing Leases

In August 2004, the State Director, California Bureau of Land Management, and the California State Historic Preservation Officer (SHPO) addressed the issue of the National Historic Preservation Act (NHPA) Section 106 compliance procedures for processing grazing permit lease renewals for livestock as defined in 43 CFR 4100.0-5. The State Director and the SHPO amended the 2004 State Protocol Agreement between California Bureau of Land Management and The California State Historic Preservation Officer with the 2004 Grazing Amendment, Supplemental Procedures for Livestock Grazing Permit/Lease Renewal. This amendment allows for the renewal of existing grazing permits prior to completing all NHPA compliance needs as long as the 2007 State Protocol direction, the BLM 8100 Series Manual Guidelines, and specific amendment direction for planning, inventory methodology, tribal and interested party consultation, evaluation, effect, treatment, and monitoring stipulations are followed.

Supplemental Procedures for Sage Steppe Ecosystem Restoration

In December 2008, the State Director, California Bureau of Land Management (BLM), the California State Historic Preservation Officer (SHPO), and the Nevada SHPO addressed the issue of the National Historic Preservation Act (NHPA) Section 106 compliance procedures and restoring the sage steppe ecosystem in northeastern California and northwestern Nevada. The State Director and the SHPOs amended the 2007 State Protocol Agreement between California BLM and The California and Nevada SHPOs with the 2008 Grazing Amendment, Supplemental Procedures for Sage Steppe Ecosystem Restoration. This amendment allows for the vegetation treatment and restoration methods to the restoration the Sage Steppe Ecosystems prior to completing all NHPA compliance needs as long as the 2007 State Protocol direction, the BLM 8100 Series Manual Guidelines, and specific amendment direction for planning, inventory methodology, tribal and interested party consultation, evaluation, effect, treatment, and monitoring stipulations are followed.

BLM Standards and Guidelines for Livestock Grazing Management

The Record of Decision was signed in June 1999 for the EIS documenting the effects of adopting regional Standards for Rangeland Health and Guidelines for Livestock Grazing Management on BLM-administered lands in parts of California and northwest Nevada. The Record of Decision covers that part of California and Nevada formerly known as the Susanville District. Standards were established for Upland Soils, Streams, Water Quality, Riparian, Wetland Sites and Biodiversity. Guidelines for livestock grazing were developed to ensure that standards are met or that significant progress is made toward meeting the standards.

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Chapter 2. PROPOSED ACTION AND ALTERNATIVES

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2.1. Alternative 1 – Proposed Action:

The proposed action represents the BLM's effort to implement priority management actions on the Home Camp acquired lands. This alternative focuses on identifying specific Project Areas within the acquired lands that will have active protection, monitoring and restoration of critical resources, while providing a variety of compatible public uses. Protection and restoration efforts would be focused on specific areas/parcels where high wildlife and riparian values are present or recreational values could be improved. Temporary non-renewable grazing activities would be permissible on specific areas/parcels where the BLM has determined that uses would not have a negative impact on acquired lands and uses are consistent with Suprise RMP and other applicable statutes. This alternative contains a higher focus on protection and restoration of specific areas and would include specific projects to achieve resource protection and restoration goals outlined in this alternative. See Map 10.1

2.1.1. Projects and Grazing Authorizations Associated with Alternatives 1

1. **Boulder Reservoir Recreational Enhancement Project:**

Boulder Reservoir is one of the few sport fisheries within lands managed by the BLM Surprise Field Office and is a popular recreational area for camping and fishing. Nevada Department of Wildlife (NDOW), regularly plants rainbow trout and cuttbows (rainbow/cutthroat hybrids) in the reservoir to improve the fishery and recreational opportunities. The BLM acquired the reservoir in 2010 as part of the Home Camp Land Acquisition. The reservoir is located within the Home Camp allotment and is approximately 6 acres in size. Over time, normal erosional processes, cattle use and recreational use, combined with the shallow depth of the reservoir, has caused the reservoir to silt in and lose adequate depth in areas. The reservoir was surveyed in 2012 and was found to be 10 feet deep at the deepest point in the reservoir. The edges of the reservoir have also eroded into the water, resulting in shallow water near the edges that reduces the depth of the reservoir and negatively impacts the quantity and quality of fish habitat and fishing opportunities. The taper on the edges of the reservoir range from a 3:1 taper on the dam (north end) to a 22:1 taper on the south end of the reservoir.

The first phase of the project would protect the dam by installing a spillway to stabilize the reservoir dam from breaching during high flow events. The dredged material will be spread across the dam, the access road and a secondary cleared location. The second phase of the project would increase the reservoir pool by draining and dredging out the reservoir to increase the depth. The reservoir would be drained in late spring with dredging occurring in the summer or fall. Approximately 27,000 cubic yards of soil would be removed from the reservoir. The spoils would be spread across the dam, the camping area adjacent to the reservoir, the road, the adjacent Boulder field and in approved locations within ½ mile of the reservoir. The soil would then be seeded with a BLM seed mixture to avoid weed invasion. The reservoir would be administratively closed to the public during dredging and when personnel are operating equipment. After the maintenance is completed and the reservoir refilled, NDOW would stock the reservoir with the same trout species. NDOW/BLM would also augment natural occurring invertebrates (e.g. scuds) into Boulder Reservoir following the dredging to facilitate fish stocking. This project is proposed to maintain the reservoir and recreational opportunities for the public along with improving fish habitat.

The second phase of the project also consists of developing recreational facilities at the reservoir. This phase includes fencing approximately 31 acres to exclude cattle use around the reservoir, developing water for cattle outside the fenced area, installing up to 6 fire rings and 6 picnic tables, graveling the vault toilet and camping area, installing a vault toilet, installing an information kiosk, maintaining the road leading to the reservoir, installing 2 cattleguards for the roads coming into the reservoir, and restoring upland and riparian vegetation around the reservoir and adjacent uplands. See map 10.2 for locations of where facilities will be located.

2. **Pinto Springs Riparian Protection and Habitat Enhancement Project:**

The Pinto Springs riparian area would be fenced to create a 137 acre riparian exclosure that is proposed to include the springs, associated wet meadows and nearby upland areas. A portion of Pinto Springs (Harris field) is already fenced and is currently used as a riparian pasture for livestock gathering and holding purposes. The new fence would tie into the current fence but would remain as a separate riparian pasture. The fence would be a four strand barbed wire fence with the smooth bottom wire 18-20 inches off the ground to facilitate antelope use consistent with BLM fence standards. Rock cribs would be used for corners when feasible. The proposed fence would tie into existing fence and natural barriers, i.e. rock rims. A cattle guard would be installed on the north side of the exclosure where the fence would cross the road and where the exclosure crosses the road at the Harris field. A cattle guard already exists on the south side within the current Pinto Springs holding field. See map 10.3

Off-site water would be developed to provide a watering source for cattle and wildlife outside of the exclosure. Grazing would be excluded from this fenced area to protect damage to riparian resources and allow rest for recovery. This exclosure would be evaluated for use as a riparian pasture for livestock once down-cutting has stopped, land health standards have been met, and an interdisciplinary team has developed a livestock grazing prescription. This evaluation would take place through the permit renewal process. The BLM expects that recovery of riparian habitat would take several years to meet desired riparian conditions. If conditions are met and the BLM determined that the exclosure can be used as a riparian pasture, the fence line separating the current Harris holding field and the proposed exclosure would be removed and the two fenced portions of riparian areas would be managed as a single riparian pasture for livestock management purposes.

3. **Divine Spring Aspen Stand Habitat Enhancement Project:**

The Divine Springs aspen stand project is located approximately 8 miles east of Eagleville on Hays Canyon Rd. This is a riparian stream aspen stand that is losing younger age classes as a result of juniper encroachment and hedging of aspen seedlings from livestock during the late summer and fall months. The stand is composed of primarily older age classes of aspen with poor suckering and stand regeneration occurring. Coyote willows are present along the stream and are also hedged, with very few younger age classes of willows present. A series of springs feed the stream and provide habitat for a number of bird species and maintain hydric conditions within the riparian zone during dry seasons.

The proposed treatment within the aspen stand would involve hand cutting of juniper using chainsaws to reduce juniper encroachment on approximately 53 acres. Within the aspen and riparian zone, juniper would be cut and piled to facilitate aspen suckering and regeneration in open spaces. Piles would then be burned at a later date. Prescribed burning would only occur once a burn plan has been developed and approved by resource specialists and fire personnel and managers. Trees outside of the riparian zone would be lopped and scattered and left in place. Crews would build a minimum of 10 piles within the aspen stand that are sufficiently large (5'x

5' minimum size) that will be left and not burned to provide quail and small mammal habitat. Crews would only limb juniper trees (no falling of juniper) around the dispersed campsites that occur within the stream system to maintain camping and aesthetic values. Trees within 25 yards of a dispersed campsite would be considered within the campsite and would only be limbed. Approximately 25% of the large decadent willow stands with the Project Area would be burned to promote regeneration of willow along the riparian zone. A buck and rail fence would be constructed around one of the springs that feed the stream to protect the spring from hoof action and hedging by livestock and wildlife. The small exclosure would be approximately 1/16th of an acre in size and will be left in place until aspen and willow regeneration within the wetted zone is complete and saplings are above hedge height. These treatment areas are required to be rested from livestock use for two growing seasons per the 2008 Sage Steppe Restoration Strategy FEIS. See map 10.4

4. **Divine Spring Campground:**

This project would develop a low impact seasonal use campground. The area where the proposed campground occurs has a stream with associated riparian habitat running through it along with heavy recreational use levels related to camping and hunting activities. Camping is concentrated both on and adjacent to the riparian area. The proposed campground would include the installation of: up to 10 designated camp sites with up to 10 new steel or stone fire rings, installation of informational signage, and construction of two "H" frame braces that would be used by recreationists to hang camping supplies and game. A buck and rail fence exclosure would also be constructed at a spring within the camping area to reduce cattle and recreational disturbance. The exclosure would be approximately 20' x 20'. Three to seven picnic tables will also be installed throughout the camping area. See map 10.5

5. **Temporary Permit to gather into Meadows:**

Livestock grazing would be permitted in 5 separate fenced pastures or fields. Cattle numbers and periods of use would vary from several days up to 2 weeks in early spring and during the months of July and September, as shown in Table 2.1. Grazing would be permitted annually under a TNR. See map 10.6 for pasture/field locations. A small portion of fence would be removed and realigned in the Mare field. See map 10.8 for fence removal and realignment.

Table 2.1. Proposed Grazing Use on Fenced Fields

Home Camp Allotment Proposed Use on Fenced Fields			
Field/Pasture	Period of Use	Cattle numbers	AUMs
*Hart Camp	7/1 - 7/10	100-200	33 - 66
*Boulder	7/1 - 7/14	200 - 375	66 - 123
Boulder	9/1 - 9/15	150 - 250	74 - 123
Home Camp	9/1 - 9/15	400 - 500	197 - 247
Mare	9/1 - 9/15	400 - 500	197 - 247
**Rye Grass (2013)	3/28 - 4/4	535	70
**Rye Grass (2013)	4/12 - 4/17	535	88
Rye Grass	9/13 - 9/20	800 - 1000	100
* During this period the pastures will be "flash grazed" i.e. high intensity - short duration grazing as per Technical Review Team (TRT) recommendations.			
**Pasture would be managed for trailing or gathering, actual use dates would vary; but limited to 3 days per authorization during this period.			
Resource Objective: a utilization criteria for the fields are a 6-8 inch stubble height as measured at key areas. Cattle must be removed when utilization criteria is met.			

The Mare, Boulder, Home Camp, Rye Grass and Hart Camp fields' stubble height criteria would be applied to riparian meadow habitats within the fields to ensure nesting and foraging habitat conditions are adequate for sage grouse, neotropical and migratory birds that use the meadows. Key riparian areas would be designated to measure stubble height utilization. Minimum stubble height criteria would be no less than 8 inches residual stubble height for all species, with an exception in the Mare field. The minimum stubble height criteria in the Mare field would be 6 inches on the key species Nebraska sedge (*Carex nebraskensis)*; this measurement would be taken along the greenline of the spring brook within this pasture. Fifty measurements per key site would be taken to calculate stubble height. Twenty-five measurements would be taken from the center of the transect heading north and twenty-five measurements would be taken from the center of the transect heading south. As a term and condition of the TNR authorization, if the minimum stubble height criteria are exceeded, the authorized BLM officer would reduce authorized Animal Unit Months (AUMs) the next season by 10% or would not authorize TNR the following grazing season. Additionally, the permittee(s) would be required to monitor the stubble height requirement and remove livestock off of the meadows prior to exceeding the minimum stubble heights. The permittee(s) would also notify BLM if the minimum stubble height is reached and livestock were removed during the authorization period. Long term grazing use on the fields and other acquired lands would be evaluated and authorized through the grazing permit renewal process, expected to occur after 2013.

6. **Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

This project entails four separate juniper reduction projects including three riparian and aspen sites and one upland site within the Corral Allotment. Site #1 is a riparian corridor aspen stand approximating 7 acres. The juniper reduction project which encompasses this aspen stand is approximately 54 acres. Site #2 is also a riparian corridor aspen stand approximating 5.5 acres. The juniper reduction project which encompasses this aspen stand is approximately 28 acres. Both of these stands are encroached by juniper and regeneration and growth of younger aspen age classes are being suppressed by increasing juniper canopy cover.

These projects are designed to improve aspen health and vigor and improve wildlife habitat for species known to use aspen stands including many migratory birds and mule deer. The treatments would consist of hand cutting juniper using chainsaws. Within the aspen and riparian zone, juniper would be cut and piled to facilitate aspen suckering and regeneration in open spaces. Trees outside of the riparian zone would be lopped and scattered and left in place. Piles can then be burned at a later date. Crews would build a minimum of 5 piles per aspen stand that are sufficiently large (10ftx10ft minimum size and preferably larger) that would be left and not burned to provide quail and small mammal habitat.

The Corral Allotment riparian restoration project (site #3) is a 23 acre juniper reduction project designed to improve riparian health and hydrologic function. The riparian system within the Project Area is a small spring brook that is created by small springs typical of a wetland environment. Juniper has encroached within the riparian zone due to lack of fire in the area. As the riparian zone has decreased, upland species including *Poa* sp., cheatgrass, mustard, and juniper have encroached into the riparian area. This project would be implemented by hand crews with chainsaws with access on existing roads. Within the riparian zone juniper would be cut and piled for burning at a later date. A minimum of three habitat piles would be left within the riparian habitat for small mammal and quail habitat. Outside of the riparian area, juniper would be lopped and scattered and left in place.

The sage-steppe restoration Project Area (site #4) is in upland sagebrush habitat and has been invaded by juniper. The total acreage of the project is approximately 1,148 acres. This Project Area is depicted in Map 10.9. This Project Area is estimated to be in Phase II juniper sites where the upper juniper canopy and the shrub/herbaceous understory are both influencing ecological processes. For juniper Phase descriptions see Table 3.14, Phases of Juniper Woodland Succession. These Project Areas would be treated by hand-crews using chainsaws. Access would be on existing roads and overland foot travel. No new roads would be made and staging areas would exist in previous disturbed areas. Juniper would be cut and left on site. Felled juniper would be limbed down to a height of 4 feet. After falling, juniper will be burned as needed to remove biomass created from the cut to facilitate regrowth of the understory. Prescribed burning would only occur once a burn plan has been developed and approved by resource specialists and fire personnel and managers.

These treatment areas are required to be rested from livestock use for two growing seasons per the 2008 Sage Steppe Restoration Strategy FEIS.

2.2. Alternative 2 – Projects and Trailing Authorization, No TNR Grazing Authorization

This alternative contains a focus on protection and restoration. Alternative 2 would include the same specific projects as described for the Proposed Action (Projects 1-4, 6) to achieve resource protection and restoration goals, but temporary grazing authorizations (Project 5), would not be allowed. Grazing use in the fenced fields and other acquired lands would be analyzed and evaluated during the grazing permit renewal process. However, this alternative would continue to allow the Rye Grass and Mare fields to be used as a trailing route to adjoining pastures in the Home Camp Allotment. Authorizations for trailing use would be issued consistent with BLM's grazing regulations and policies.

2.3. Alternative 3 – No Action

Under this alternative no projects would be implemented on the newly acquired lands. This alternative would not include specific projects to achieve resource goals outlined in this alternative. Grazing use would not be authorized in the fenced fields.

2.4. Alternatives Considered but Dismissed from Further Analysis

The traditional use of these pastures was grazing until the forage in the meadows was depleted. Traditional use of fenced pastures (i.e. before BLM acquisition) for project 5 (authorization of TNR AUMs) was considered but dismissed from analysis due to traditional use not being consistent with the reasons for acquisition and not meeting wildlife and riparian goals outlined in the 2009 Home Camp acquisition EA, Instruction Memorandum No. 2012-043 (Greater Sage-Grouse Interim Management Policies and Procedures) and the 2008 SURPRISE RMP.

During the consultation and coordination process, the Home Camp Allotment permittees requested that the Pinto Springs Riparian exclosure fence be redesigned to minimize potential impacts to cattle movement as they drift from the spring ranges to the summer ranges. The permittees were also concerned that cattle would not travel around the proposed fence layout in certain locations due the rocky terrain. Following further review by the Surprise Field Office staff,

the fence design as proposed was necessary to protect cultural resources, and that the permittee fence realignment would cause negative impacts to culture resources from livestock trailing, therefore this fence design was dismissed from further consideration.

Chapter 3. ENVIRONMENTAL ANALYSIS

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The affected environment is described below followed by the environmental consequences for each resource.

The interdisciplinary review has concluded that the following resources are not affected by the proposed action and other action alternatives.

- Areas of Critical Environmental Concern
- Environmental Justice
- Prime and Unique Farmlands
- Waste, Hazardous and Solid
- Wild and Scenic Rivers
- Global Climate Change
- Air Quality
- Floodplains
- Native American Religious Concerns
- Paleontological Resources
- Prime and Unique Farmlands
- Threatened or Endangered Species
- Unusual Plant Assemblages
- Waste, Hazardous and Solid
- Wild Horse and Burro Herd Management Areas
- Geology and Minerals

Table 3.1. Resources Potentially Affected by Implementation of the Proposed Action and Supplemental Authorities to be Considered

Resource Issue Area	SupplementalAu-thority	Not Present	Present Not Affected	Present and Affected	Comments
Areas of Critical Environmental Concern (ACECs)		X			There are no ACECs located within the Project Area. Analyses of the potential for the Proposed Action to result in environmental effects related to Cultural Resources are presented in **Section 3.1**

Cultural Resources	National Historic Preservation Act, as amended (16 USC 470)			X	Analyses of the potential for the Proposed Action to result in environmental effects related to Cultural Resources are presented in **Section 3.1**.
Environmental Justice	E.O. 12898, "Environmental Justice" February 11, 1994	X			Implementation of the Proposed Action would not disproportion-ately affect low income or minor-ity populations.
	Essential Fish Habitat Magnuson-Stevens Act Provision: Essential Fish Habitat (EFH): Final Rule (50 CFR Part 600; 67 FR 2376, January 17, 2002)	X			There is no Essential Fish Habitat located within the Project Area.
Farmlands, Prime and Unique		X			There are no Prime or Unique farmlands located within the Project Area. Relevant discussion pertaining to Grazing Lands is included within **Section 3.3**.
Floodplains	E.O. 11988, as amended, Floodplain Management, 5/24/77	X			There are no FEMA-mapped 100- or 500-year floodplains within the Project Area.
Invasive, Non-native Species				X	Analyses of the potential for the Proposed Action to result in environmental effects related to Invasive Species are presented in **Section 3.4**.

Global Climate Change				X	Analyses of the potential for the Proposed Action to result in environmental effects related to Global Climate Change are presented in **Section 3.16**
Livestock Management				X	Analyses of the potential for the Proposed Action to result in environmental effects related to Grazing Lands are presented in **Section 3.3**.
Native American Religious Concerns	American Indian Religious Freedom Act of 1978 (42 USC 1996)	X			Based on June 18, 2011 consultation between BLM and the Summit Lake Paiute Tribe, and the decline to participate from the fort Bidwell Tribe, Native American Religious Concerns are not present in the Project Area.
Recreation				X	Analyses of the potential for the Proposed Action to result in environmental effects related to Recreation are presented in **Section 3.5**
Social and Economic Values				X	Implementation of the Proposed Action would result in effects to Social and/or Economic Values that are present in **Section 3.6.**

Soils				X	Analyses of the potential for the Proposed Action to result in environmental effects related to Soils are presented in **Section 3.7**.
Visual Resource Management				X	Analyses of the potential for the Proposed Action to result in environmental effects related to Visual Resources are presented in **Section 3.15**.
Wastes, Hazardous or Solid	Resource Conservation and Recovery Act of 1976 (43 USC 6901 et seq.) Comprehensive Environmental Repose Compensation, and Liability Act of 1980, as amended (43 USC 9615)	X			Implementation of the Proposed Action would not result in hazards materials/waste exposure to people or the environment, nor would implementation result in effects related to solid waste.
Water Quality	Safe Drinking Water Act, as amended (43 USC 300f et seq.) Clean Water Act of 1977 (33 USC 1251 et seq.)			X	Implementation of the Proposed Action would not affect ground water. Analyses of the potential for the Proposed Action to result in environmental effects related to Water Quality are presented in **Section 3.8**.
Wetlands /Riparian Zones	E.O. 11990 Protection of Wetlands 5/24/77			X	Analyses of the potential for the Proposed Action to result in environmental effects related to Wetlands are presented in **Section 3.9**.
Wild and Scenic Rivers	Wild and Scenic Rivers Act, as amended (16 USC 1271)	X			There are no designated Wild and Scenic rivers within the Project Area.

Wilderness (lands with wilderness characteristics)	Federal Land Policy and Management Act of 1976 (43 USC 1701 et seq.); Wilderness Act of 1964 (16 USC 1131 et seq.)			X	Analyses of the potential for the Proposed Action to result in environmental effects related to Wilderness Study Areas **Section 3.10**.
Wild Horse and Burros		X			Wild Horse and Burro Herd Management Areas are not located within the cumulative effects area.
Wildlife and Threatened/ Endangered Wildlife Species	Endangered Species Act of 1983, as amended (16 USC 1531) E.O. 131186, "Responsibilities of Federal Agencies to Protect Migratory Birds" January 10, 2001			X	There are no known federally-listed species in the Project Area. Analyses of the potential for the Proposed Action to result in environmental effects related to Wildlife are presented in **Section 3.11**.
Vegetation and Threatened/ Endangered Vegetation Species	Endangered Species Act of 1983, as amended (16 USC 1531)			X	Analyses of the potential for the Proposed Action to result in environmental effects related to Vegetation are presented in **Section 3.12**.

3.1. Cultural Resources

A. Affected Environment

The consideration of cultural resources is a critical component of Bureau of Land Management practices on Public Lands in the Surprise Field Office. Cultural resources are locations or objects of human activity, occupation, or use. These resources include archaeological; historic; architectural sites, structures, and places with important public and scientific values; and locations of traditional cultural or religious importance to specific social or cultural groups.

Cultural resources discussed in this section include districts, sites, buildings, structures, and objects listed on or eligible to the National Register of Historic Places (NRHP). The cultural resource component of the affected environment is covered by several legislative authorities including Section 106 of the National Historic Preservation Act of 1966 as amended (NHPA), the

Archaeological Resources Protection Act (ARPA), the American Indian Religious Freedom Act and Executive Order (E.O.) 13007, and the Native American Grave Protection and

Repatriation Act (NAGPRA). Cultural resources within the Proposed Action also fall under purview of the State Protocol Agreements between BLM Nevada and Nevada SHPO (2009c), and BLM California and California and Nevada SHPO (2007).

The Area of Potential Effect (APE) for cultural resources encompasses the surface area and depths to which the Proposed Action and facilities operation could disturb cultural resources. It is extended to an indirect APE to include any sites, buildings, districts, or historic properties that could be indirectly affected by the Proposed Action and its visual effects.

The Home Camp Acquired Lands Projects and Authorizations are located within Washoe County, Nevada, approximately 15 miles east of Cedarville, California. Ethnographically, this area was part of the territory of the Northern Paiute. Historically, this area has been used for sheep and cattle grazing by Euro-Americans. Cultural resource inventories in the vicinity of the Project Area indicate that the area was used by prehistoric people for resource procurement activities. In addition, seasonal, temporary campsites were established for the purposes of procuring tool stone material, game, and plant resources. Historic resources are associated with livestock grazing activities and early homesteading.

The Northern Paiute, comprising 22 bands occupied a vast territory which was bounded on the west, for some 600 miles, by the western edge and/or the crest of the Sierra Nevada and the watershed separating the Pit and Klamath rivers. These peoples speak dialects of the Northern Paiute language, one of the several closely related Numic languages which are spoken across the Great Basin (Fowler and Liljeblad 1986:435). The Northern Paiute were hunting-gathering bands that generally traveled seasonal rounds in small family groups subsisting on a variety of plant foods, insects, small game, and fish. Game animals available to Native Americans in the planning area included antelope, rabbits, bighorn sheep, mule deer, and a variety of small mammals, reptiles, and birds. Lahontan cutthroat trout was procured at nearby Summit Lake. Antelope and rabbits were often hunted communally. Seeds and roots were the primary plant foods gathered. Plant and animal products were also used for clothing, shelter, and other functional and ceremonial articles. Medicinal plants were used for healing purposes. Obsidian sources are abundant in the Project Area.

Historically, land use in this region has been largely dominated by cattle and sheep ranching and farming, with limited mining activity and military development. Historic archaeological sites include homesteads and refuse scatters, and arborglyphs.

Cultural Resource Inventory

Class II and III cultural resource inventories have been conducted within the Home Camp Allotment since the 1970s. The archaeological inventories have resulted in the recordation of 123 previously unidentified archaeological sites. 118 of the 123 sites are prehistoric Native American sites, two sites are associated with historic Euro-American use, and three sites are a combination of prehistoric/historic. The types of sites represented within the Project Area are tool stone quarries and reduction areas, prehistoric camp sites, which include rock features, petroglyphs, historic homesteads and refuse scatters, and arborglyphs. Although none of the cultural resource sites have been formally evaluated for their eligibility to the National Register of Historic Places (NRHP), many of the sites appear to have elements which qualify them as eligible to the NRHP under criterion d (the site contains information that would contribute to our

understanding of human history or prehistory). Because a formal determination of National Register eligibility has not been made for most of the sites, the Bureau of Land Management assumes that all sites are eligible.

Determination of National Register eligibility is critical to this assessment and can only be provided by the federal lead agency, the BLM Surprise Field Office, with concurrence from the Nevada and California SHPO. If a cultural resource (site, building, or district) is eligible to the NRHP, then it is a historic property warranting protection, avoidance, or mitigation. If a cultural resource is unevaluated for the NRHP, it would be managed as if eligible until a determination can be made. If a cultural resource is ineligible for the NRHP, no further mitigation is warranted.

In 2011 and 2012, the BLM Surprise Field Office conducted Cultural Resources Inventories within the Proposed Project Area. The projects comprised a Class III inventory covering 648 acres of public lands including all Project Areas and portions of all gathering fields. As a result of the cultural resource investigations, a total of 6 new sites were documented. Of the 6 sites documented, 5 are recommended eligible for listing on the NRHP. The remaining cultural site is recommended ineligible.

B. Environmental Consequences

Proposed Projects: Findings and effects

1. **Alternative 1 and 2: Boulder Reservoir Recreational Enhancement Project:**

There are no cultural resources that are potentially NRHP eligible within the proposed project location. Therefore there would be no impact to cultural resources.

Alternative 3 - No Action: Boulder Reservoir Recreational Enhancement Project:

There are no cultural resources that are potentially NRHP eligible within the proposed project location.

2. **Alternative 1 and 2: Pinto Springs Riparian Protection and Habitat Enhancement Project:**

There are three cultural resources within the proposed project location. All of these sites are eligible for listing on the NRHP. If the proposed project is constructed all of the known cultural resources would have increased protection from grazing impacts.

Alternative 3 - No Action: Pinto Springs Riparian Protection and Habitat Enhancement Project:

Under Alternative 3, the Pinto Springs fence would not be constructed and heavy cattle use would continue unabated. The types of impacts would be expected to occur include: trailing, which would be likely to displace and/or break artifacts, and denude vegetation thereby destabilizing the soil causing erosion; wallowing, which would be likely to cause subsurface disturbance to cultural resources containing buried deposits thereby compromising stratigraphic integrity of a site; and trampling, which would be likely to cause artifact displacement and breakage.

3. **Alternative 1 and 2: Divine Springs Aspen Stand Habitat Enhancement Project:**

If the proposed project is implemented the management actions proposed by this EA would result in increased ground disturbance, soil erosion, or access to sites. Hand thinning within sites

and implementation of other avoidance measures outlined in the Standard Resource Protection Measures (SRPMs) would reduce or mitigate adverse effects to cultural resources located within the Project Area. Vegetation removal could increase recreational access to sites, leaving them vulnerable to various types of vandalism including artifact collecting and degradation from off-highway vehicle (OHV) access. The Proposed Action could contribute to negative impacts to cultural resources. However, implementation of the proposed mitigation measures would reduce or eliminate these effects.

Alternative 3 - No Action: Divine Springs Aspen Stand Habitat Enhancement Project:

Under Alternative 3, proposed vegetative treatments would not be implemented, and BLM management actions proposed by this EA would therefore not result in increased ground disturbance, soil erosion, or access to sites. Wildland fires would have the potential to result in vegetation loss, bare soil and increased erosion potentials, as well as increased exposure of sites and artifacts, access to sites, and the additional potential to damage surface artifacts. Treatment methods which could damage cultural resources as described under the Proposed Action would not occur, which would benefit the resource. However, removal of heavy fuel from cultural resource sites through juniper harvesting and prescribed burning would also not occur under this alternative, which could affect cultural resources in the event of a natural or human caused fire. BLM fire history information indicates that there have been seven naturally caused wildfires within the Project Area in the past 50 years. Therefore, it is expected that the area would be subjected to wildfire in the future. High intensity fires have the ability to damage and/or destroy both historic and prehistoric archaeological sites. The use of heavy equipment for fire suppression activities have the potential to impact cultural sites by displacing surface artifacts and destroying site integrity. Hand lines can also impact cultural resources sites by disturbing surface artifacts and damaging archaeological features.

4. **Alternative 1 and 2: Divine Spring Campground:**

There are no cultural resources that are potentially NRHP eligible within the proposed project location. Therefore there would be no impact to cultural resources.

Alternative 3 - No Action: Divine Spring Campground:

There are no cultural resources that are potentially NRHP eligible within the proposed project location. Therefore there would be no impact to cultural resources.

5. **Alternative 1: Temporary Permit to gather into Meadows:**

Under the Proposed Action, cultural resource sites have the potential to be affected by cattle grazing. Sites that are located in areas where cattle tend to congregate are most vulnerable to livestock impacts. Areas of congregation tend to occur at both developed and undeveloped watering locations, salting locations, along fence lines, and in areas where shade is provided. The types of impacts that can occur are: trailing, which can displace and/or break artifacts, and denude vegetation thereby destabilizing the soil causing erosion; wallowing, which causes subsurface disturbance to cultural resources containing buried deposits thereby compromising stratigraphic integrity of a site; and trampling, which causes artifact displacement and breakage. Under the Proposed Management potential impacts to cultural resources, such as trailing, wallowing, etc., could continue to occur from range management activities. However, implementation of the proposed grazing management and utilization limits would reduce or eliminate these effects by ensuring adequate ground cover is present to limit negative impacts.

Alternative 2 – Projects and Trailing Authorization; No TNR

Under this alternative a temporary authorization would not be allowed for gathering into the two fields. However, trailing would be allowed through Rye Grass and Mare fields for 1 day intervals, therefore there would be limited impacts to cultural resources from range management activities.

Alternative 3 – No Action

Under this alternative a temporary authorization would not be allowed for gathering into the two fields. Under this alternative there would be no impacts to cultural resources from range management activities.

6. **Alternative 1 and 2: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

If this project was implemented, BLM management actions proposed by this EA would result in increased ground disturbance, soil erosion, or access to sites. Hand thinning within sites and implementation of other avoidance measures outlined in the Standard Resource Protection Measures (SRPMs) would reduce or mitigate adverse effects to cultural resources located within the Project Area. Vegetation removal could increase recreational access to sites, leaving them vulnerable to various types of vandalism including artifact collecting and degradation from off-highway vehicle (OHV) access. The Proposed Action could contribute to negative impacts to cultural resources. However, implementation of the proposed mitigation measures would reduce or eliminate these effects.

Alternative 3 - No Action: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:

Under Alternative 3, proposed vegetative treatments would not be implemented, and BLM management actions proposed by this EA would therefore not result in increased ground disturbance, soil erosion, or access to sites. Wildland fires would have the potential to result in vegetation loss, bare soil and increased erosion potentials, as well as increased exposure of sites and artifacts, access to sites, and the additional potential to damage surface artifacts. Treatment methods which could damage cultural resources as described under the Proposed Action would not occur, which would benefit the resource. However, removal of heavy fuel from cultural resource sites through juniper harvesting and prescribed burning would also not occur under this alternative, which could affect cultural resources in the event of a natural or human caused fire. BLM fire history information indicates that there have been seven naturally caused wildfires within the Project Area in the past 50 years. Therefore, it is expected that the area would be subjected to wildfire in the future. High intensity fires have the ability to damage and/or destroy both historic and prehistoric archaeological sites. The use of heavy equipment for fire suppression activities have the potential to impact cultural sites by displacing surface artifacts and destroying site integrity. Hand lines can also impact cultural resources sites by disturbing surface artifacts and damaging archaeological features.

3.2. Livestock Grazing Management

A. Affected Environment

The Home Camp acquired lands lie within the 146,048 acre Home Camp Allotment.

The four grazing permits issued for the Home Camp Allotment are managed under the revised Allotment Management Plan and grazing decision of September 2001(revised AMP). Current authorized livestock use is for 700 cattle from April 1 to 15; 1828 cattle from April 16 to August 31 and 915 cattle from September 1 to 15 for a total 9,088 AUMs of active use. The four permittees of the Home Camp Allotment were the previous owners of the acquired lands.

Since the land acquisition, grazing use on the fenced fields has been authorized as trailing use in April, July and September. Cattle are trailed from base ranches in Surprise Valley to the allotment via two different routes. Three permittees have ranches located near Eagleville, and trail through Hays Canyon to the turnout pastures. Because of long trailing distances, cattle are held overnight in the Rye Grass field then trailed the following day to the turnout areas or pasture. One permittee' s base ranch is located near Lake City, and therefore trails cattle to and from the allotment on county roads in Modoc and Washoe Co (road #'s 18, 8A, and 34) over a 2-3 day period.

Under the current management plan, most of the cattle that are trailed to the allotment are turned out in two seeding fields (Crabapple and Antelope) for the purpose of deferring grazing use on the native ranges. From the seeding fields, livestock are turned out into the low elevation pasture on the eastern side of the allotment, beginning about April 15 through July 7. There are two smaller use areas (Hays and Bregar) on the west side that are also used early, from April to July. This aspect of the revised AMP is not affected by the proposed action or the alternatives. Livestock are gathered from these pastures and lower eastside pastures and moved into the high elevation Boulder Mountain Pasture between July 1 and 15. Generally all the cattle gathered from the lower eastside pastures need access through the acquired lands. The Hart Camp field is one of the acquired parcels that are used to gather into before cattle are trailed to the Boulder Mountain Pasture. Cattle remain in the Boulder Mountain Pasture from about July 7 - September 15. By September 1, approximately half of the cattle are gathered and removed from the allotment. The remaining cattle are gathered from the Boulder Mountain Pasture by September 15th, and then trailed off the allotment through the Rye Grass, Mare, and Boulder fields.

Prior to the land acquisition, cattle were gathered and herded to the Mare, Boulder, Rye Grass and Home Camp fields, and other private lands at various times during the year, but these lands were used primarily for gathering cattle to and from the Boulder Mountain Pasture. During the late season following cattle removal from the allotment, cattle were also kept in the fields until the forage was fully utilized. These areas all depicted in Map 10.6 & 10.7

B. Environmental Consequences

***RMP Objectives*:**

- Maintain livestock grazing within 49 allotments on 1,445,443 acres.
- Areas burned by wild or prescribed fire would be rested from livestock grazing for a minimum of two growing seasons.
- Maintain 5,500 acres of existing livestock exclosures. Meadows and aspen stands of significant value to wildlife will receive priority for additional livestock exclusion. When fencing natural water sources, water would be provided outside fences for livestock, wildlife, and wild horses.
- The needs of wildlife and wild horses would be considered in water developments for livestock grazing. Water would be retained and provided at ground level in all livestock water

developments. Natural riparian habitat, and a substantial portion of the surrounding cover, would be protected for wildlife use where water is developed from natural sources.

Management Actions:

- Coordinate grazing use with other programs to avoid impacts to resources.
- Grazing authorizations will be consistent with all applicable laws and statues.
- Grazing permits and monitoring on the Home camp allotment are ongoing and an updated Land Health Determination is expected to be completed after 2013.
- Land term grazing management on acquired would be addressed in concurrence with the grazing permit renewal process.

Proposed Projects: Findings and effects

1. **Alternative 1 and 2: Boulder Reservoir Recreational Enhancement Project:**

Constructing the recreation facilities, associated fences, stock water pipelines, troughs, placement of two cattleguards, would increase permittees annual maintenance costs for these projects but current cattle management would continue in the vicinity of Boulder Reservoir. Water would still be available from the pipelines and troughs for livestock. The realignment of fences around the Boulder field requires approximately ½ mile of new fence and removal of approximately 1 mile of old fence. Fencing maintenance would need to occur annually once the project is completed. Cattle movements around Boulder Reservoir would be slightly altered from the traditional patterns, but water would still available near the reservoir at the new troughs; however it would be imperative that the pipeline system is maintained and functional for proper grazing management. The project would continue to facilitate livestock management.

Alternative 3 - No Action: Boulder Reservoir Recreational Enhancement Project:

Under Alterative 3, no recreation facilities would be built and recreational opportunities would not be improved or enhanced. No facilities would be available for the public and recreational use of the reservoir would remain dispersed and unimproved. The no action alternative would have no effect on the cattle operation, as stock water would continue to be available at Boulder Reservoir and potential conflicts with recreating members of the public around the reservoir could still occur. Not constructing the recreation facilities, including associated fences, stock water pipelines, troughs and placement of cattleguards would not increase permittees annual maintenance costs and would simplify grazing operations for the permittees. Current cattle usage and cattle management in the vicinity of Boulder Reservoir would continue.

2. **Alternative 1 and 2: Pinto Springs Riparian Protection and Habitat Enhancement Project:**

Under Alternatives 1 and 2, the 137 acre exclosure fence to manage the riparian habitat around Pinto Springs would be built, along with 2 new cattleguards, and a proposed pipeline and trough. Pinto Springs is an important water source and access point along with the existing road for cattle movement between the springs and summer ranges. The new fencing would impact cattle use in the vicinity of the Pinto Springs by changing cattle distribution patterns and movement as cattle drift from the lower elevation ranges to summers ranges. Typically cattle water at Pinto Springs then tend to travel along the existing unimproved road. Cattle are also herded by Pinto Springs

from the southeastern side of the allotment, to the summer range (Boulder Pasture) and the Harris Field; the fences would therefore impede cattle and somewhat reroute their movements. Cattle trailing would still need to occur through the Pinto Spring area, but cattle would need to be directly herded through or around the new exclosure. Fencing issues associated with vehicle access through the fenced area would be reduced by installation of the cattleguards to promote access through the fenced area without opening and closing gates. The maintenance of an existing pipeline and associated trough on the eastern side of the exclosure and maintenance of the proposed pipeline on the western side of the exclosure would be critical for livestock management. If one or both pipelines fail there would not be any water available for livestock in the vicinity of Pinto Springs. Water would still be available when cattle are in the Harris field. There would be increased permittee costs associated with maintenance of the project; however it is difficult to quantify these costs. The reduction of grazing use within the exclosure is expected to be negligible given the overall size of allotment acreage.

Alternative 3 - No Action: Pinto Springs Riparian Protection and Habitat Enhancement Project:

The 137 acre exclosure fence to manage the riparian habitat around Pinto Springs would not be built, and the placement of cattleguards and proposed pipeline would not be necessary. Not building the fence would allow unimpeded access to the riparian area by cattle that use the riparian for water and forage. There would not be the additional costs associated with construction and maintenance of the projects.

3. **Alternative 1 and 2: Divine Springs Aspen Stand Habitat Enhancement Project:**

The acreage of junipers proposed for treatment under this alternative is relatively small when compared with the large amount of juniper acreage within the allotment; nevertheless juniper woodlands can create difficulties in gathering and managing livestock, as cattle are often hidden within the junipers. Cattle also often tend to break away from the group as they are herded and return to the junipers while the operator returns to gather the remaining cattle. Consequently, the operator would be spending less time gathering stray cattle. While the project would improve forage conditions by increasing grass production over-time, the overall amount of increase is expected to be negligible given the size of allotment acreage. There would be increased herding and moving of livestock to avoid the treatment area, and to meet the two growing season rest requirement.

Alternative 3 - No Action: Divine Springs Aspen Stand Habitat Enhancement Project

Not implementing the Divine Springs Aspen Stand enhancement project would not affect livestock management on the allotment. There would be slightly less forage production, but given the small size of the project in comparison with the allotment acreage this will be negligible. Current grazing management and use would be unchanged.

4. **Alternative 1 and 2: Divine Spring Campground:**

Constructing the Divine Springs campground would slightly increase length of fence and improvements in the allotment, and could slightly increase conflicts between recreation users as livestock trail along roadways to water and foraging areas. Livestock would tend to avoid the campground area during high visitation periods, which would change utilization patterns as cattle move to other areas for forage and water. Otherwise, the project is likely to have little to no effect on livestock management for the allotment.

Alternative 3 - No Action: Divine Spring Campground:

Not constructing the Divine Springs campground would have little to no effect on livestock management in the allotment. There would be fewer improvements in the allotment, but grazing management and use would be unchanged from the current operation.

5. **Alternative 1: Temporary Permit to gather into Meadows:**

The Proposed Action would incorporate the TNR authorized on fenced fields into the yearly deferred rotation grazing strategy for the allotment. In late March or early April, the Rye Grass field would be used for approximately 2 days as an over-night stop for cattle as they are trailed to the eastside turnout pastures. When cattle are scheduled to be moved to the deferred (Boulder) pasture, the 5 fields would be used for trailing and gathering; then holding cattle for several days, possibly up to two weeks. This facilitates more efficient livestock management within the allotment, by pushing smaller groups of cattle and strays into the fields prior to moving larger groups of cattle to next scheduled pasture for use or off the allotment. At the end of the season, four fields would be used to facilitate livestock management by gathering and holding cattle to trail off allotment. Overall, the proposed actions are necessary for animal husbandry, pasture management, and for cattle turnout and removal from the allotment.

The stubble height criteria for the fields that contain riparian resources would necessitate vigilant effort from the permittees to monitor the utilization levels and remove cattle in a timely manner. The stubble height criteria are intended to assist with overall livestock management on the allotment in a manner that is consistent with safeguarding other resources values. The results of grazing use authorized as TNR, along with actual use, utilization, climatic and other information would assist BLM in developing stocking rates and other management options for the acquired lands in the future. These management options would be addressed in the permit renewal process.

The Boulder Reservoir field and the Mare field would be used for gathering purposes for no longer than two weeks in the months of July and September. The Rye Grass field would be authorized for trailing during the spring of 2012. Riparian areas in the Boulder Reservoir field and the Mare field were both rated at Properly Functioning Condition (PFC) in 2011. This PFC rating is expected to continue under the proposed action. Prior to the acquisition both of these fields were used solely for grazing. The proposed action represents a considerable decrease in potential impacts to resources.

Long term livestock management of the acquired lands under a 10-year permit would be addressed during the grazing permit renewal process. This traditional use continued until the acquisition.

Alternative 2: Projects and Trailing Authorization; No TNR

Under this alternative gathering into the fenced fields would not be authorized; however, trailing would be allowed for the minimum number of days necessary to cross a specific field under current BLM grazing regulations and policy; otherwise no grazing would be authorized in the fields. This alternative would continue to allow trailing through the Rye Grass and Mare fields for 1 day intervals, on designed routes to adjoining pastures or locations in the Home Camp Allotment. Trailing would not be allowed in the Hart Camp, Home Camp, and Boulder fields under this alternative. TNR grazing authorizations would not be issued to the four Home Camp Allotment permittees. Livestock would still be managed under the 2001 grazing decision.

Alternative 3: No Action

The impacts of the no action alternative would create hardships for the permittees,

because of the additional herding and gathering needed to move cattle relatively long distances in small groups without a central gathering location. Cattle would begin to drift into other areas as they are gathered and trailed. The increased effort to control cattle movements would be substantial and the time necessary to remove cattle from a particular location would be extended. The permittees would not be able to concentrate cattle in a central location for moving to the next pasture; and gathering and removing a permittee's cattle herd from the allotment would be difficult. No grazing activities would be permitted on the acquired lands. Future use of the acquired lands would be otherwise provided for in the new allotment management plan and grazing permit renewal EA when completed.

6. **Alternative 1 and 2: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

Implementation of juniper reduction within aspen and riparian areas would increase the size and width of riparian areas as more water becomes available within the riparian zone. Juniper reduction on the uplands would maintain or increase grass, forb, and shrub composition in the long term. If this project was implemented, riparian and aspen health and cover would increase, leading to increased suckering and multiple age classes of aspen. Increased vegetation cover from native species would increase forage production for livestock grazing. The Corral allotment enhancement area would require two growing seasons of rest, which requires that the permittees conduct additional riding and herding to comply with this requirement. Since grazing in the Corral Allotment Enhancement Area normally occurs after the growing season, the rest requirement actually would be effectively the first year following completion of the project.

Alternative 3 - No Action: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:

Under Alternative 3 - No Action, juniper cuts would not be implemented within the aspen and riparian habitats in the Corral Allotment. Juniper would continue to increase in density and would out-compete grasses and woody vegetation that should occur within moister riparian type sites. Over time, bare ground would increase as vegetation community health declines. This area would become less productive and potentially less forage would be available for livestock grazing.

3.3. Invasive/Non-Native Species

A. Affected Environment

Weeds are defined in this EA as plants that are exotic or non-native plants. Invasive plants are introduced species that can thrive in areas beyond their natural range of dispersal. These plants are characteristically adaptable, aggressive, and have a high reproductive capacity. Their vigor combined with a lack of natural enemies often leads to outbreak populations. Non-native weeds have the ability to out-compete and replace native plants, often creating their own monotypic plant community. Uncontrolled weed infestations result in decreased native vegetation diversity, reductions in forage and wildlife habitat. Once exotic weeds become established it can be extremely difficult to eradicate them, these weeds are often classified as "A" rated. Currently the highest priority for treatment and eradiation are "A" rated weeds.

The 2010 and 2011 field inspections and road corridor surveys revealed that cheatgrass, an invasive species, is a common understory species occurring in lower elevation upland sites in

areas with a heavy amount of disturbance. Also, several thistles, primarily Bull-thistle (non-A rated) were found on the wet and stringer meadows at the upper elevations. No other non-native or invasive weeds are known to occur on the acquired lands.

B. Environmental Consequences

Objective: Pursuant to Executive Order 13112, preventative action would be taken to limit the opportunities for the introduction or establishment of invasive, non-native plant species within the management area.

Management Actions: The following prevention measures would be incorporated in all contracts and activities.

- Road side trees shall be maintained to the extent feasible so as to provide sufficient shade to prevent establishment of sun-loving invasive weeds.
- All heavy equipment and vehicles contracted to conduct project activities shall be inspected and cleaned of any reproductive plant parts prior to entry onto BLM public lands.
- Any fill material obtained to be imported into any project site will be inspected and determined to be weed free.
- Should any invasive, non-native weeds become established on any project site(s) following soil disturbing activities, the BLM project inspector shall notify the field office invasive weed program coordinator so that immediate eradication actions can be coordinated.

Proposed Projects: Findings and effects

1. **Alternative 1 and 2: Boulder Reservoir Recreational Enhancement Project:**

Increased recreational use could increase the likelihood of introduction of noxious weeds however due to the number of personnel visiting the site, detection would most likely occur before a large number of plants establish and eradication would occur upon detection. Improvements in vegetation communities in and around the reservoir would reduce the possibility of noxious weed invasion as plant communities would be more likely to resist exotic plant establishment and invasion. Excluding cattle from the reservoir and the spring source would reduce another vector of seed dispersal and would slightly reduce the possibility of noxious weed establishment.

Alternative 3 - No Action: Boulder Reservoir Recreational Enhancement Project:

Under Alterative 3, the Boulder Reservoir project would not be implemented and the possibility of invasive species invasion would continue due to heavy cattle use at the reservoir and no re-vegetation efforts occurring in and around the reservoir. Bare ground would remain evident around the reservoir and open areas for invasion would remain around the reservoir.

2. **Alternative 1 and 2: Pinto Springs Riparian Protection and Habitat Enhancement Project:**

Bull thistle is a common riparian noxious weed that is present at Pinto Springs. Bull thistle thrives in heavily grazed riparian areas, especially where a nitrogen surplus occurs. The Pinto Springs area is currently heavily grazed with excessive bare ground and is vulnerable to invasion. If the project was implemented, riparian vegetation health and vigor would increase and bare ground would decrease, resulting in less likelihood of exotic plant invasion. Fencing would also increase

the effectiveness of weed treatments due to no possibility of seed shatter and spread from cattle and no possibility of cattle hoof action imbedding seeds into a suitable microclimate for seed germination. Seed spread and germination would still occur through other natural mechanisms however impacts from cattle would be non-existent.

Alternative 3 - No Action: Pinto Springs Riparian Protection and Habitat Enhancement Project:

Under Alternative 3, the Pinto Springs fence would not be constructed and heavy cattle use would continue unabated. Bare ground and disturbance would remain at high levels and would favor invasive species that thrive in colonizing new areas of disturbance. Bull thistle would expand due to heavy grazing and would continue to colonize areas where desirable plants are heavily utilized. In the long term, riparian health would decline and would favor invasive species establishment.

3. **Alternative 1 and 2: Divine Springs Aspen Stand Habitat Enhancement Project:**

If this project was implemented, riparian and aspen health and cover would increase, leading to increased suckering and multiple age classes of aspen. Increased vegetation cover from native species would reduce the possibility of noxious weed invasion. Crews implementing the projects could potentially serve as a noxious weed dispersal mechanism through seeds being caught in clothing and equipment and being spread through the Project Area. This possibility would be reduced through SOPs and mitigation measures.

Alternative 3 - No Action: Divine Springs Aspen Stand Habitat Enhancement Project:

Under Alternative 3 juniper cuts would not be implemented within the aspen stand. Juniper would continue to increase in density and out-compete vegetation that should occur within moister riparian type sites. Over time bare ground would increase and as vegetation community health declines, the site would become more prone to noxious weed invasion. In the long term, shifts in plant community composition would favor invasive species that receive no grazing pressure and have successful life strategies of colonizing areas with open and available resources and nutrients.

4. **Alternative 1 and 2: Divine Spring Campground:**

If implemented, this project would slightly reduce the possibility of noxious weed invasion by focusing camping and dispersed recreation on previously disturbed areas and reducing the number of people camping on undisturbed areas. Disturbed areas where camping has historically occurred in the area are generally not suitable places for noxious weed invasion due to lack of water and heavily compacted soils from vehicle use that preclude germination and establishment of plants.

Alternative 3 - No Action: Divine Spring Campground:

Under Alternative 3, the campground at Divine Springs would not be built and camping would remain dispersed throughout the area. Campsites and recreation would continue at higher levels near the riparian area than under the Proposed Action and Alternative 2. This would result in higher levels of disturbance in and around the riparian area, which would favor invasion of noxious weeds and would increase the chances of noxious weed introduction near the riparian area due to increased use.

5. **Alternative 1: Temporary Permit to gather into Meadows:**

Although cattle can serve as a factor contributing to noxious weed invasion, grazing poses only a small risk if the grazing is properly timed and utilization of native plants is not excessive. Allowing TNR AUMs in fenced fields would have little effect on noxious weed invasion due to the areas proposed for grazing having dense native vegetation and little bare ground. Cattle could serve as a vector for introducing weed seed into a pasture; however available information at this time suggests that properly managed cattle grazing posed only a slight risk. Utilization limits within fenced pastures would ensure grazing use is not excessive and would reduce the possibility of weed invasion.

Alternative 2 – Projects and Trailing Authorization; No TNR

Although cattle can serve as a factor contributing to noxious weed invasion, grazing poses only a small risk from trailing. Allowing trailing would have little to no effect on noxious weed invasion due to the short time period cattle move through a pasture and trailing generally occurring near roads and very low utilization levels. Therefore, no negative impacts relating to noxious weeds are expected to occur from trailing.

Alternative 3 – No Action

Under Alternative 3, grazing would not be allowed in fenced meadows. Disturbance would be non-existent and cattle would not serve as a potential vector for noxious weed spread. Alternative 3 would have no negative effects related to noxious weed establishment and invasion.

6. **Alternative 1 and 2: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

Implementation of juniper reduction within aspen and riparian areas would increase the size and width of riparian areas as more water becomes available within the riparian zone, thereby reducing the ability of upland noxious weed species to invade the riparian zone. If this project was implemented, riparian and aspen health and cover would increase, leading to increased suckering and multiple age classes of aspen. Increased vegetation cover from native species would reduce the possibly of noxious weed invasion within the riparian zone. Crews implementing the projects could potentially serve as a noxious weed dispersal mechanism through seeds being caught in clothing and equipment and being spread through the Project Area. This possibility would be reduced through SOP's and mitigation measures. Overall, this project would have a slight benefit to reducing the possibility of invasive species establishment.

Alternative 3 - No Action: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:

Under Alternative 3, juniper cuts would not be implemented within the aspen and riparian habitats within the Corral Allotment. Juniper would continue to increase in density and out-compete vegetation that should occur within moister riparian type sites. Over time bare ground would increase and as vegetation community health declines, the site would become more prone to noxious weed invasion. In the long term, shifts in plant community composition would favor invasive species that receive no grazing pressure and have successful life strategies of colonizing areas with available resources; especially as aspen recruitment is reduced and the aspen stands shift from multiple age classes to single age class stands. This would have a slight overall negative effect relating to spread of noxious weeds.

3.4. Recreation

A. Affected Environment

The primary recreation use in and around the acquired lands is wildlife viewing, hunting, fishing, and camping. Rockhounding, photography, mountain biking, hiking, and OHV/pleasure driving also occurs to lesser degrees. Camping is generally associated with hunting activity and usually occurs during the fall. Hunting demand for big game in Nevada is high, as documented by the number of big game applications in Nevada that far exceeds the quota for big game tags that NDOW allots. As population growth continues in California and Nevada, it is expected that demand for big game hunting and other recreational pursuits is going to continue to increase. Home Camp acquired lands have many high value resources associated with recreation, including prime habitat for big game hunting and Boulder Reservoir, which is a popular reservoir for fishing and camping. Abundant wildlife and a diverse landscape provide the public with opportunities for wildlife viewing and photography among other uses.

B. Environmental Consequences

Objective: Provide appropriate recreation opportunities, experiences, and benefits for visitors. Anticipated activities include vehicle touring, hiking, mountain biking, horseback riding, hunting, sightseeing, bird watching, and overnight camping.

Specific management-oriented objectives are:

- Maintain and improve appropriate road and trail access.
- Ensure a quality visitor experience and enjoyment of natural and cultural resources through enhanced signing, interpretation, education, and information.
- Ensure the public health, safety, protection, and security of visitors by providing well maintained and accessible facilities and an enforcement presence. Facility developments would be rustic in appearance, blending in with the natural environment to the maximum extent practicable.
- Minimize user conflicts through facility design and spatial separation of user types.
- Ensure that natural and cultural resource values are protected from visitor impacts by establishing use regulations, educating visitors regarding resource values and proper use, and conducting monitoring.

Proposed Projects: Findings and effects for Projects/Authorizations 1–6

1. **Alternative 1 and 2: Boulder Reservoir Recreational Enhancement Project:**

This project would have an immediate benefit to recreation as facilities including a vault toilet, campfire rings, and picnic tables would be provided that are not currently available. Improvements in access would facilitate a greater number of recreational opportunities and would provide amenities that are currently not available. Concentrating recreational use to designated areas and providing information on site regarding stewardship of public lands would improve the quality of lands surrounding the recreation site and increase the recreational experience. Visitors would not have the freedom to camp unrestricted; this would have a slight negative impact to some visitors who would prefer unrestricted and dispersed camping. Fencing the reservoir and

camping area and then installing cattleguards would eliminate cattle use and allow the vegetation around the reservoir to recover, slightly improving wildlife use and subsequently wildlife viewing opportunities at the reservoir. Fencing cattle out of the reservoir would eliminate conflicts with cattle watering and visitors at the reservoir. Dredging the reservoir and installing the spillway would have short term impacts related to construction of the spillway and draining and dredging the reservoir. The reservoir would be administratively closed during construction activities; this would have a short-term impact on fishing and recreation. In the long term increased recreational opportunities would be realized due to increases in reservoir depth and improved fish habitat due to deeper water and reduced sediment resulting in higher quality fishing opportunities for the public. The dam would be protected during high flow events due to a spillway being installed and safely moving excess water out of the reservoir, protecting the recreation site into the future.

Alternative 3 - No Action: Boulder Reservoir Recreational Enhancement Project:

Under Alternative 3, no recreation facilities would be built and recreational opportunities for the public would not be improved or enhanced. Cattle would continue to use the reservoir and could conflict with recreating members of the public around the reservoir. No facilities would be available for the public and recreational use of the reservoir would remain dispersed and unimproved. The reservoir would not be dredged and would remain shallower than current conditions with higher sediment in the reservoir, negatively impacting fishing opportunities. The spillway would not be installed and the dam could potentially breach again during high flows, resulting in closure and reconstruction of the dam. Overall, Alternative 3 would have a slight negative impact related to recreational opportunities.

2. **Alternative 1 and 2: Pinto Springs Riparian Protection and Habitat Enhancement Project:**

This project would facilitate improvements in wildlife and riparian habitat, along with cultural resource protection by protecting the site from cultural impacts. Improvements in wildlife habitat would increase hunting opportunities and wildlife viewing opportunities in the vicinity of the 137 acre project due to increases in wildlife use of the treated areas. The protection of cultural resources will ensure that these valuable resources are available for recreational public research and enjoyment into the future. Fencing issues associated with vehicle access through the fenced area will be reduced by installation of two cattleguards to promote access through the fenced area without opening and closing gates. Overall, this project would have a slight benefit relating to recreation.

Alternative 3 - No Action: Pinto Springs Riparian Protection and Habitat Enhancement Project:

Under Alternative 3, the fence around Pinto Springs would not be built and wildlife habitat would not improve, negatively affecting hunting and wildlife viewing opportunities due to heavy cattle use within the riparian zone. Not building the fence would allow unimpeded access to the riparian area, which is often favored by sportsmen and wildlife viewers. Cultural resources would continue to be impacted by heavy cattle use and their information and enjoyment by the public and academia for historical and research purposes would be threatened in the long term as cattle impacts would continue to damage these sensitive resources. Overall, this alternative would have a slight negative effect relating to recreation.

3. **Alternative 1 and 2: Divine Springs Aspen Stand Habitat Enhancement Project:**

This project would facilitate improvements in wildlife and riparian habitat. Improvements in wildlife habitat will increase hunting opportunities and wildlife viewing opportunities. These opportunities would increase due to the visibility and increased amounts of forage and habitat for wildlife to utilize. Fencing the small spring would eliminate cattle use and allow the aspen and riparian vegetation around the spring to recover. Improvements in willow and aspen communities would ensure these important and limited habitats are available for wildlife into the future and would provide improvements in hunting opportunities in the general area. Overall, this project would have a slight benefit relating to recreation.

4. **Alternative 3 - No Action: Divine Springs Aspen Stand Habitat Enhancement Project:**

Under Alternative 3, the juniper reduction and wildlife habitat improvement would not occur. This would negatively affect hunting and wildlife viewing opportunities due to continued heavy cattle use within the riparian zone. Not building the buck and rail fence around the spring would allow unimpeded access to the riparian area; resulting in continued impacts by cattle. The health of these resources for recreational enjoyment would be threatened in the long term as cattle impacts would continue to damage these sensitive resources. Overall, this project would have a slight negative impact relating to recreation.

Alternative 1 and 2: Divine Spring Campground:

- Develop 7-10 small vehicle pull-in campsites along the creek and road below Divine Spring. Each site would hold up to 2 vehicles, and fire rings would be installed at each site.
- Develop 2 interpretive signs that would explain: location map, campsite and rules.
- Develop and construct out of natural and wood materials 2 “H” frame braces that would be used by recreationist to hang camping supplies and game.

The development of this campground would enhance the recreational opportunities on BLM lands by providing facilities for camping and visiting the area. Visitors would not however, have the freedom to camp unrestricted; this would have a slight negative impact to some visitors who would prefer unrestricted and dispersed camping. The proposed action would have an overall positive effect on recreation.

Alternative 3 - No Action: Divine Spring Campground:

Under Alternative 3, the Divine Springs Campground would not be built and recreation would remain dispersed. No facilities for camping would be built and no improvements in recreational opportunities in this area would occur. Overall, not implementing this project would have a slight negative effect on recreation.

5. **Alternative 1: Temporary Permit to gather into Meadows:**

Authorization of TNR AUMs would have little effect on recreational opportunities due to the small amount of time that is spent in each pasture and utilization limits put in place to ensure pastures are not overgrazed. Wildlife viewing, hunting, and sightseeing opportunities would be slightly impacted when cattle are in pastures due to the potential conflicts that exist between cattle in fenced pastures and recreational users such as photographing wildlife.

Alternative 2 – Projects and Trailing Authorization; No TNR

Under this alternative, a temporary authorization would not be allowed for gathering into the two fields. However, trailing would be authorized in the Rye Grass and Mare fields for 1 day intervals. Some conflict could occur between recreationists and cattle however this impact is expected to be negligible given the short period of time cattle are trailing through the area.

Alternative 3 – No Action

Under this alternative, a temporary authorization would not be allowed for gathering into the fields. No grazing activities would be allowed on the acquired lands until a new allotment management plan and grazing permit renewal EA is completed. This alternative would have no impact on recreation within the fenced meadows.

6. **Alternative 1 and 2: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

This project would improve wildlife and riparian habitat within important habitat for a myriad of wildlife species. Improvements in wildlife habitat would increase hunting opportunities and wildlife viewing opportunities by increasing use of these areas by wildlife. Improvements in willow and aspen communities would ensure these important and limited habitats are available for wildlife into the future and would provide for hunting opportunities in the general area. Direct impacts to recreation would be short, approximately 1-2 weeks, as crews are implementing the proposed juniper reductions within aspen and riparian areas. Overall, this project would slightly benefit recreation.

Alternative 3 - No Action: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:

Under Alternative 3, the juniper reduction and wildlife habitat improvement would not occur. This would negatively affecting hunting and wildlife viewing opportunities due to no improvements in wildlife habitat that species in the general area commonly use. Short term disturbance would not occur under this alternative. Overall, this alternative would have negative impacts in the long term due to no improvements in special habitat types e.g. aspen and riparian that focuses the majority of recreational opportunities in the Project Area which are related to wildlife enjoyment.

3.5. Social and Economic Values

A. Affected Environment

The Surprise Valley is a rural community with a strong commitment to its surrounding resources. The Surprise Valley has two primary bases to its local economy; traditional cattle ranching and agriculture and tourism. Many ranches in the area have been in operation for several generations and rely on livestock sales for their income. Local agri-business derives income from related goods and services as well. The local economy also depends on tourism and outdoor recreationist that use the services while they are recreating on the surrounding public lands. These recreationists include: campers, hunters, fisherman, photographers, hikers and OHV users. The local community relies heavily on these two sources to drive their economy. One index for measuring demand for outdoor recreational opportunities in the general area is big game hunting tag demands. The demand for recreational opportunities relating to outdoor pursuits on public lands is evident by the very high demand for a limited number of big game tags in the general area.

B. Environmental Consequences

Proposed Projects: Findings and effects for Projects/Authorizations 1–6

1. **Alternative 1 and 2: Boulder Reservoir Recreational Enhancement Project:**

This project would bring more recreationists to the area due to improvements in recreational opportunities, which would in turn positively affect the economy. The enhancement of this project would have no negative effects on the social and economic values in the Surprise Valley. The project would have no net effects on the grazing economy because current grazing use levels and management plan would be unchanged. Permittees would have increased maintenance costs associated with the new fences and water developments.

Alternative 3 - No Action: Boulder Reservoir Recreational Enhancement Project:

Under Alternative 3, the project would not occur. This could negatively affect recreational opportunities in the area. With the project not being implemented the use of the area could decrease due to the continued degradation to the area. Some people in turn would not come back or plan future trips to the areas since it lacks established improvements. The lack of established recreation areas on BLM lands could slightly negatively affect the long term use and tourism of the Surprise Valley. There would not be any effects on the local grazing economy, as current permittee livestock levels and management would continue unchanged.

2. **Alternative 1 and 2: Pinto Springs Riparian Protection and Habitat Enhancement Project:**

Under Alternative 1 and 2 the project would have no negative effects on the social and economic values in the Surprise Valley. This project would improve opportunities for hunters and visitors and enhance the hunter and visitor experience in the area since it would enhance the habitat and wildlife viewing possibilities. The maintenance of an existing pipeline and associated trough on the eastern side of the exclosure and maintenance of the proposed pipeline on the western side of the exclosure would be critical for livestock management. If one or both pipelines fail there would not be any water available for livestock in the vicinity of Pinto Springs. Water would still be available when cattle are in the Harris field. There would be increased costs associated with maintenance of the project; however it is difficult to quantity these costs. The reduction of grazing use within the exclosure is expected to be negligible given the overall size of allotment acreage. The proposed action would maintain current permitted use levels and management. Meeting land health standards would help ensure the long term sustainability of the grazing operations on public lands.

Alternative 3 - No Action: Pinto Springs Riparian Protection and Habitat Enhancement Project:

Under Alternative 3, the project would not occur. This could negatively affect recreational opportunities in the area associated with hunting and wildlife viewing. With the project not being implemented, the habitat values would continue to decrease and potentially decrease wildlife viewing areas for the public. This could negatively affect the long term use and tourism of the Surprise Valley. Not implementing the project would have no effects on the grazing economy because current management and permittee operating cost would be unchanged.

3. **Alternative 1 and 2: Divine Springs Aspen Stand Habitat Enhancement Project:**

The implementation of this project would have no negative effects on the social and economic values in Surprise Valley. This project would improve opportunities for hunters and visitors and

enhance the hunter and visitor experience in the area since it would enhance the habitat and wildlife viewing possibilities. This project is not expected to effects any effects on the local grazing economy. Current permitted levels and livestock management would not change. There could be a slight increase in available forage conditions on the allotment.

Alternative 3 - No Action: Divine Springs Aspen Stand Habitat Enhancement Project

Under Alternative 3, the project would not occur. This could negatively affect recreational opportunities in the area. With the project not being implemented the habitat would continue decrease and potentially decrease wildlife viewing areas for the public. This could negatively affect the long term use and tourism of the Surprise Valley. There would no short-term effects on the local grazing economy from this alternative; however the loss of forage would decrease over time.

4. **Alternative 1 and 2: Divine Spring Campground:**

The implementation of this project would have no negative effects on the social and economic values in the Surprise Valley. This project would bring more recreationists to the area and in turn positively affect the economy. Implementing this project is not expected to affect livestock management or impact the permittee operating costs.

Alternative 3 - No Action: Divine Spring Campground

Under Alternative 3, the project would not occur. This could negatively affect recreational opportunities in the area. With the project not being implemented the use of the area could decrease due to the continued degradation to the area. There would be no effects to livestock grazing or management of the allotment.

5. **Alternative 1: Temporary Permit to gather into Meadows**

Authorizing TNR grazing facilitates more efficient livestock management by assisting the permittees ability to comply with the Home Camp Allotment management decisions. Once cattle are turned out they become scattered over a large area, and then are gathered and herded at predetermined time frames according the management plans. Often cattle are gathered and herded in smaller groups, until all the strays gathered into the fields prior to moving larger groups of cattle to next scheduled pasture for use or off the allotment. At the end of the season, four fields (not including Hart Camp) would be used to facilitate livestock management by gathering and holding cattle to trail off allotment. Overall, the proposed actions are necessary for animal husbandry, pasture management, and for cattle turnout and removal from the allotment. There would be higher fixed operating cost for monitoring and maintaining new range improvements included in the proposed action.

Alternative 2 - Projects and Trailing Authorization; No TNR

Alternative 2 would have a negative effect on social and economic values because ranching practices related to cattle turnout and livestock management on the allotment would increase substantially. The current method of issuing trailing authorizations on the fenced fields may not be consistent with future BLM policy and regulations. Therefore, relying on TNR AUMs may not feasible economically, due to the possibility of not receiving TNR AUMs, or any trailing authorization in any given year. It would be difficult for the operator to plan their annual operation without the ability to use the fenced fields for gathering and trailing. The costs associated with management of allotment would increase. Also, there would be increased costs associated with

the loss of forage and increased costs associated with handling livestock; however it is difficult to quantify those costs. This alternative would create a hardship for the operators, since they would have to change their overall operation because of the loss of the fields.

Alternative 3 – No Action

The impacts of not grazing the acquired lands would create hardships for the permittees

by increasing their time and effort to control cattle movements, and to move cattle between pastures and use areas, as required under the current management decisions. Removal of cattle at end of grazing season would also be challenging without the use of the fenced field for central gathering location to concentrate cattle prior for herding off the allotment. Cattle performance would be deceased as there is likely to be additional stress on cattle during the gathering and herding process. The fenced fields are necessary performing general animal husbandry activities, such as sorting, and branding. There would be increased costs to the permittees due to loss of forage with in the fenced fields. While all the economic impacts would be substantial, such as loss net revenue for the calves sold, the costs are were not determined. Future use of the acquired lands would be addressed in the future grazing permit renewal process.

6. **Alternative 1 and 2: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

This project would have no negative effects on the social and economic values in the Surprise Valley. This project would enhance the hunter and visitor experience in the area since it would enhance the habitat and wildlife viewing possibilities. The project would improve forage conditions on the allotment, which could maintain the current permitted grazing use levels on the allotment, and potentially have a positive economic effect on the local grazing economy.

Alternative 3 - No Action: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:

Under Alternative 3, the project would not occur. This could negatively affect recreational opportunities in the area. With the project not being implemented the habitat would continue to decrease and potentially decrease wildlife viewing areas for the public. This could negatively affect the long term use and tourism of the Surprise Valley. Not implementing this alternative would reduce forage projection over time; however, livestock would be authorized in the Project Area. The loss of forage would require the permittees to obtained forage from other sources, which is likely to be substantially higher.

3.6. Soils

A. Affected Environment

The soil classification for the allotment is contained in the Soil Survey of Surprise Valley-Home Camp Area, California and Nevada, published in 2006. Soils in the Project Area are generally derived from pyroclastic and extrusive volcanic rocks. Numerous soil associations are found on the Home Camp Allotment, and ecological site potential varies with soil type. Allotment wide roughly 42% of the allotment is comprised of soils associated with low sagebrush communities; 21% is comprised of mountain big sagebrush/bitterbrush/fescue and aspen communities; 17% is comprised of Wyoming or basin big sagebrush/wheatgrass/needlegrass/or wildrye communities, and about 7% is considered barren.

Within the fenced fields, soils generally consist of volcanic ash and alluviums derived from volcanic rocks, and are often lacustrine deposits. Typical ecological sites include loamy fan, wet meadow, dry floodplain in the valley bottoms, and loamy soils on the side slopes. Indications are that the majority of upland ecological sites and riparian areas support communities capable of reaching their site potential and contain adequate organic matter for site protection and function.

The primary soil series that support low sagebrush include Devada, Tinpan, and Ninemile. Common soils supporting big sagebrush include Hart Camp, Westbutte, Ashtre and Tusune; Wyoming sagebrush sites are often located on the Hangrock, Saraph and Tuffo soils. Soils that support basin wildrye, and riparian plants are Emagert, Wetvit, and Vitrixerantic series.

The lack of ground cover, litter and standing residual vegetation is a concern on some juniper sites. Included are south facing slopes in Hays Canyon, and slopes adjacent to the upper reaches of the Divine/Onion Spring drainage. Juniper encroachment is resulting in the loss of more desirable vegetation, accelerating surface and rill erosion in Hays Canyon, while current livestock grazing is impacting the riparian and uplands around the Divine Spring and Pinto Spring drainages, primarily through trampling and trailing. Also of concern is the lack of plant vigor, species diversity, productivity, litter and organic matter on other riparian areas within the allotment.

B. Environmental Consequences

Objectives:

- Livestock grazing would be managed to promote healthy watersheds as evident by productive soils, natural hydrologic function, biological integrity, and the preservation of biological crusts.
- Employ bio-engineering projects to improve soil condition and achieve 'Proper Functioning Condition' (PFC).

Proposed Projects: Findings and effects for Projects/Authorizations 1–6

1. **Alternative 1 and 2: Boulder Reservoir Recreational Enhancement Project:**

Implementation of the exclosures would provide rest on the riparian areas associated with the reservoir. The size of the Boulder field would be reduced slightly with the fence realignment, but the effects to the riparian soils would be unchanged. Cattle would continue to trail along newly constructed fences and exclosures. Soils at or adjacent to the water troughs would be impacted by livestock concentrations. Soils within the recreational area would continue to be impacted by vehicle and foot traffic. Overall, the soils associated with the riparian area at Boulder Reservoir are expected to improve and no net change in soil impacts are expected on the uplands.

Alternative 3 - No Action: Boulder Reservoir Recreational Enhancement Project:

Boulder Reservoir is as important water source when cattle are turned out during the early season. Compaction from cattle would still occur along the edge of the reservoir. Recreation use would continue in the vicinity of the reservoir and vehicle traffic would continue to compact soils. Overall, this Alternative is expected to have a slight negative impact related to soils.

2. **Alternative 1 and 2: Pinto Springs Riparian Protection and Habitat Enhancement Project:** The Proposed Action is expected to have positive effects on upland soils.

Implementation of this project would provide rest on the riparian areas. Rest would allow key forage species to complete growth cycles which would result in increased cover, litter and soil organic matter.

Alternative 3 - No Action: Pinto Springs Riparian Protection and Habitat Enhancement Project:

Current livestock grazing practices are influencing the Pinto Spring riparian area through repeated early season livestock use without the benefit of adequate rest. Topographically, Pinto Springs is located at a major access point for the southern side of the allotment. Cattle tend to trail through the springs, and there is also a road that goes through the springs. Cattle tend to concentrate around the watering sites as well as concentrating use on the remaining deep rooted native perennial grasses and any palatable woody species. The condition of the riparian area is not expected to improve under the current management plan. Future management of Pinto Springs riparian area would be addressed during the permit renewal process. Overall, this Alternative would have a slight negative impact relating to soils within the Project Area.

3. **Alternative 1 and 2: Divine Springs Aspen Stand Habitat Enhancement Project:**

The proposed juniper treatments in the Hays Canyon Pasture would improve soil health and the condition of the vegetation on treated sites by increasing the diversity of native species and increasing soil cover, nutrient cycling, and infiltration. In addition, cut juniper may be used to disrupt cattle trailing patterns decreasing the amount of soil compaction, surface runoff and improve soil health and vegetation conditions, especially on the south facing slopes.

Alternative 3 - No Action: Divine Springs Aspen Stand Habitat Enhancement Project

Not implementing juniper treatments associated with the Divine Springs Aspen Stand Habitat Enhancement project would result in continued surface and rill erosion, especially on south facing slopes where desirable plants are mostly absent due to the heavy juniper canopy cover. Juniper encroachment is also would be expected to continue to increase on north facing slopes, leading to declining soil health and vegetation condition over the long term.

4. **Alternative 1 and 2: Divine Spring Campground:**

Soil disturbance from livestock management and the trampling action would likely continue in the vicinity of Divine Spring Campground. Soil compaction and loss of vegetative cover from vehicle and foot traffic would occur in the vicinity of the campground. These actions would negatively affect soil resources by increasing soil erosion, and water runoff.

Alternative 3 - No Action: Divine Spring Campground:

Soil disturbance from livestock management and the trampling action would likely continue in the vicinity of Divine Spring. There would not be an increase of soil compaction and loss of vegetative cover from vehicle and foot traffic because the campground would not be built. The overall affects to soil resources are expected to be neutral.

5. **Alternative 1: Temporary Permit to gather into Meadows:**

The proposed action allows for deferred and short duration grazing in the five fields. Compared to the past use, this management is expected to improve soil conditions by allowing increased residual vegetation and litter for soil protection and function. In the long term, there is potential for

the continued restoration of deep-rooted grasses on the uplands and for the vegetative community to advance towards potential natural community as described in the ecological site descriptions in all the Project Areas. Increased vegetative cover, both litter and standing crop would reduce the potential for soil erosion. Implementation of the stubble height criteria would help ensure minimal cattle impacts to soil disturbance/erosion, and is intended to increase sod-forming vegetation in riparian areas which would help protect soils from compaction, bank shearing and erosion. This coupled with attainment of use objectives which would increase cover and residual litter should result in more protection for soils over the current system in the long term. However, minor soil compaction from cattle would still be expected near water sources within the fields.

The Hart Camp field would be used in early July as a gathering and holding field but would otherwise be rested from grazing use. The other four fields would be used in early July and September when the upland soils would also be dry and trampling would not be a concern. This pattern of use on the upland soils and grazing after seed ripe for grasses would improve plant vigor and increase litter, improving soil conditions in the short term. The riparian areas within all fenced fields would have adequate time for regrowth after July 15. The stubble height criteria would allow for adequate litter cover to protect the soil following cattle removal in the fall.

The ecological sites associated with the soils in the Rye Grass field include Loamy 8-10", Loamy 10-12", Loamy Fan 8-10", and the dry flood plain site. These soils tend to be coarse textured and less impacted by trailing and grazing use in late March or early April; therefore, impacts from temporary use and trailing would be minimal.

Alternative 2: Projects and Trailing Authorization; No TNR

Under this alternative, temporary authorizations would not be allowed for gathering into the five fields. Minimal trailing would be authorized in the Rye Grass and Mare fields consistent with current BLM regulations and policy. Utilization objectives would not be necessary for this duration of use. No grazing activities would be allowed on the acquired lands until a new allotment management plan and grazing permit renewal EA is completed. Under this alternative resource degradation would not occur and soil stability would improve. Soil health and the condition of the vegetation community improvement would be slightly enhanced when compared with the proposed action. Organic matter would increase but would not be incorporated into the soil at the same rate as the proposed action, since there would be little hoof action under this alternative. In the long term, litter buildup would increase and soil protection would be greater than for the proposed action.

Alternative 3 - No Action:

Grazing use in the fenced fields would not be authorized under the No Action Alternative. As a result of no livestock grazing, vegetative matter would increase but would not be incorporated into the soil as fast as the proposed action, since there would be no hoof action under this alternative. In the long term, litter buildup and soil protection would be slightly greater than for the proposed action, and similar to Alternative 2.

6. **Alternative 1 and 2: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

The proposed juniper treatments in the Corral Allotment Aspen Stand would improve soil health and the condition of the vegetation on treated sites by increasing the diversity of native species and increasing soil cover, nutrient cycling, and infiltration. In addition, juniper may disrupt cattle

trailing patterns decreasing the amount of soil compaction, surface runoff and improve soil health and vegetation conditions, especially on the south facing slopes. Soil health would also improve for much of the allotment as cover and infiltration increase, surface runoff and erosion is reduced, and nutrient cycling improves. The short time frames for grazing that reduce livestock concentrations, coupled with attainment of use objectives which increase cover and residual litter, should result in more protection for soils over the current system in the long term.

Alternative 3 - No Action: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:

Not implementing juniper treatments associated with the Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement project would result in surface and rill erosion, especially on south facing slopes where desirable plants would be replaced by juniper woodland canopy cover. Juniper encroachment would be expected to continue to increase on north facing slopes, leading to declining soil health and vegetation condition over the long term.

3.7. Water Quality, Surface and Ground Water

A. Affected Environment

There is no groundwater pumping associated with acquired lands; therefore there will be not impacts to ground water resources.

The Home Camp acquired lands lie within the Massacre watershed with waters that flow north towards Boulder Lake and Massacre Lake and waters that flow south into the Wall Canyon watershed. There are numerous flowing streams and riparian/wetland areas within the acquired lands. Surface water within the acquired lands is associated with three situations: 1) water from springs that support small meadow systems (lentic systems); 2) small creeks and streams fed by large springs or irrigation reservoirs; and 3) water captured in small stock ponds. No water sources within the acquired or surrounding lands have been listed for exceeding State water quality standards.

Water quality has been indirectly evaluated at key riparian areas. See Table 3.2 in the Riparian/Wetland section for areas that were assessed for water quality by the Interdisciplinary Team. Seven stream reaches have been evaluated for functionality within acquired lands. The functionality protocols include evaluation of water quality indicators. The evaluated stream reaches include streams that are perennial and streams with intermittent flows. Pinto Springs and Home Camp meadows are all perennial streams and make up the largest stream systems within acquired lands. Home Camp meadows and other stream systems that were rated at PFC are hydrologically stable with a large number of rocks and cobbles to armor the systems as well as adequate herbaceous and woody (willows and aspen) vegetative components. Mountain View Creek, Pinto Springs and the smaller stream systems that were not at PFC were mostly due to down cutting and hoof action on stream edges associated with cattle grazing. These systems appear to be within water quality parameters based on vegetation composition, bank cover and shading, water conditions, and animal usage of the waterways.

Eight lentic sites were assessed for water quality by the Interdisciplinary Team. Lentic sites such as springs are in poorer condition compared to stream systems and many of the smaller unfenced sites show impacts from livestock use. Hoof action at many of the smaller riparian sites is having

a negative impact on water quality, specifically in the form of increased sediment loads, higher water temperatures, and fecal coliform.

There are several small stock ponds within the acquired lands that hold water during a portion of each year. From a water quality standpoint the beneficial use is considered livestock grazing. Based upon the requirements of the land health standards (LHS) for water quality, the water quality is consistent with the intended use of these sites.

B. Environmental Consequences

Objective: Manage waterways for beneficial uses including wildlife, fisheries, recreation, and livestock. Ensure management actions will not result in exceeding state water quality standards.

Proposed Projects: Findings and effects for Projects/Authorizations 1–6

1. **Alternative 1 and 2: Boulder Reservoir Recreational Enhancement Project:**

Under the proposed action water quality would improve as recreational use was concentrated on previously disturbed areas away from the reservoir, reducing sediment input slightly. Excluding cattle would decrease fecal coliform and improve water quality as a potential source of impairment would be reduced. Improvements in vegetation in and around the reservoir would reduce sediment input and total dissolved solids. Dredging the reservoir would increase water holding capacity, lower water temperatures, and increase dissolved oxygen due to lower water temperatures. Short term negative impacts to water quality would occur due to dredging; however these impacts are expected to be slight due to the short duration of the dredging operation (1 season) and an overall long-term increase in water quality once the project is completed.

Alternative 3 - No Action: Boulder Reservoir Recreational Enhancement Project:

Under Alternative 3 - No Action, the Boulder Reservoir project would not be implemented and cattle and recreational impacts to the water body would continue unabated. Livestock trampling and defecation in the waterway and human trampling and dispersed disturbance associated with camping would continue along the watershed and would negatively impact water quality. Dredging would not occur under Alternative 3 - No Action and water temperatures and improvements in dissolved oxygen levels would not occur due to shallow reservoir depths. Under this alternative, no short term impacts to water quality would occur as a result of dredging. Overall, Alternative 3 would have a continued negative impact to water quality.

2. **Alternative 1 and 2: Pinto Springs Riparian Protection and Habitat Enhancement Project:**

The water quality at Pinto Springs would greatly improve as excessive cattle impacts were reduced and riparian vegetation was allowed to recover. Fecal coliform within the waterway would effectively be reduced and sediment transport in the system would be greatly reduced as riparian vegetation began to colonize bare areas and trap sediment in the waterway. In the long term, average summer temperatures would become cooler as overhanging riparian vegetation shaded water and improvements in hydrology and hydric soils would reduce the effects of evapotranspiration and solar radiation during the dry summer months. Overall, the proposed action would have a slight positive effect on water quality.

Alternative 3 - No Action: Pinto Springs Riparian Protection and Habitat Enhancement Project:

Under Alternative 3, the Pinto Springs project would not be implemented and cattle impacts to the water body would continue unabated. Livestock trampling and defecation in the waterway would continue along the watershed and would negatively impact water quality. Vegetation would not improve due to high use levels which would negatively impact hydrologic function. Water temperatures under this alternative would remain higher than under Alternative 1 and 2 due to higher use levels not allowing vegetation to overhang over the water and shade water during hot summer days. Overall, this alternative would have negative impacts to water quality within the Pinto Springs waterway.

3. **Alternative 1 and 2: Divine Springs Aspen Stand Habitat Enhancement Project:**

Hydrologic function within the waterway would be improved as juniper densities were reduced and more water became available for riparian obligate and facultative plant species. Increases in ground cover would reduce impacts associated with loss of ground cover; primarily erosion and excessive sediment input into the waterway. Burning piles near the riparian zone could potentially serve as a source of contamination from ash blowing into the water however the effect would be slight due to the small nature of the project and implementation of BMP's that are outlined in an approved burn plan.

Alternative 3 - No Action: Divine Springs Aspen Stand Habitat Enhancement Project:

Under Alternative 3, the Divine Springs Aspen Stand Habitat Enhancement Project would not be implemented and juniper encroachment into the aspen and riparian area would continue unabated. Water flows within the Project Area would not improve due to high levels of juniper competition for limited water and sunlight resources. Available water within the riparian area would be less under this alternative than under Alternative 1 and 2 due to deep rooted juniper trees acquiring copious amounts of water from the waterway. Overall, this alternative would have slight negative impacts to water quality within the waterway.

4. **Alternative 1 and 2: Divine Spring Campground:**

Water quality would be slightly improved within the watershed surrounding the camping area as recreational use would be confined to previously disturbed areas and camping within the riparian zone would be reduced. This would reduce the amount of disturbance near the water body and would increase riparian vegetation and reduce sediment input into the system. This project would have no negative effects related to water quality.

Alternative 3 - No Action: Divine Spring Campground:

Under Alternative 3, the Divine Spring Campground would not be implemented and water quality would slightly decline compared to Alterative 1 and 2 due to camping not being confined to previously disturbed areas and camping within the riparian zone. This would allow for disturbance near the water body to continue and would decrease riparian vegetation and increase sediment input into the system. Alternative 3 would have slight negative effects related to water quality.

5. **Alternative 1: Temporary Permit to gather into Meadows:**

Water quality would be slightly reduced as cattle impacts would occur within waterways associated with wet meadows; these impacts include trampling and fecal coliform input into waterways. This proposed use would be less than traditional use before the BLM acquisition and would not result in any water quality parameters being exceeded. Implementation of utilization

limits would ensure waterways would not be significantly impaired. Overall, this alternative would have neutral to slightly positive impacts related to water quality.

Alternative 2 – Projects and Trailing Authorization; No TNR:

Water quality effects would be slight under this alternative as cattle impacts would occur within waterways for only short periods of time. This use would be for only a short period of time and would not result in any water quality parameters being exceeded. Overall, this alternative would have positive impacts related to water quality.

Alternative 3 – No Action

Under this alternative a temporary authorization would not be allowed for gathering into the two fields. No grazing activities will be allowed on the acquired lands until a new allotment management plan and grazing permit renewal EA is completed, therefore there would be no impacts related to water quality.

6. **Alternative 1 and 2: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

Hydrologic function within the waterway would be improved as juniper densities were reduced and more water became available for riparian obligate and facultative species including aspen and willow species. Increases in ground cover would reduce impacts associated with loss of ground cover; primarily erosion and excessive sediment input into the waterway. Burning piles near the riparian zone could potentially serve as a source of contamination from ash blowing into the water however the effect would be slight due to the small nature of the project and implementation of BMP's that are outlined in an approved burn plan.

Alternative 3 - No Action: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:

Under this alternative, the Corral Allotment Riparian and Aspen projects would not be implemented. Hydrologic function within the waterway would not be improved because juniper densities would not be reduced and less water would be available for riparian obligate and facultative species including aspen and willow species. This would cause continued decreases in ground cover and would increase impacts associated with loss of ground cover; primarily erosion and excessive sediment input into the waterway. Burning piles near the riparian zone would not occur and therefore would have no impact on water quality from burning operations. Overall, water quality impacts under this alternative would be slight to negligible.

3.8. Wetlands and Riparian Zones

A. Affected Environment

The BLM evaluated the condition and health of riparian and wetland sites on acquired lands using Riparian Functional Assessments in 2010 and 2011. Riparian Functional Assessments are utilized as a qualitative method for assessing the condition of riparian and wetland areas. The term "Proper Functioning Condition" (PFC) is used to describe both the assessment process, and a defined, on-the-ground condition of a riparian area. The on-the-ground condition termed PFC refers to how well the physical processes are functioning. PFC is a state of resiliency that will allow a riparian area to hold together during high flow events with a high degree of reliability.

Two types of riparian and wetland areas exist within the allotment: lotic and lentic. Lotic systems are associated with flowing streams, while lentic systems are associated with meadows, springs, lakes and wetlands. The assessment of these sites was done following the guidance and checklist provided in BLM Technical References 1737-15 (Lotic systems) and 1737-16 (Lentic systems).

Wetlands and riparian areas prior to the mid-1980s were considered "sacrifice areas" which were expected to be used severely in order to achieve proper use of the uplands. As a result, wetlands and riparian areas did not receive management emphasis except in relation to their ability to provide needed water for domestic animal use.

In 1991 the BLM implemented the "Riparian – Wetland Initiative" for the 1990s which, for the first time, established national goals and objectives for management of riparian and wetland resources on BLM administered public lands. Chief among these objectives was the mandate that 75 percent or more are in proper functioning condition by 1997. Since the launching of this initiative, the BLM has provided management focus on achieving this goal, and many areas were improved. Some areas continue to not achieve the goal of properly functioning condition. Livestock use is one of the activities which can negatively impact wetlands and riparian areas. As riparian zones decline, riparian vegetation is less capable of dissipating energy and filtering sediment. Erosion increases and water storage capacity is reduced. In the Home Camp acquired lands, most fenced riparian areas are properly functioning however a portion of unfenced riparian wetland sites have not met PFC conditions and are not making progress towards meeting PFC conditions.

Condition of Riparian/Wetland Sites within Home Camp Acquired Lands:

Riparian/wetland areas within the Home Camp acquired lands are diverse and consist of numerous seeps and springs, streams, large meadow systems, and large reservoirs. In general, fenced riparian areas are in better condition than unfenced riparian areas due to a greater ability of livestock operators to control livestock movements and the amount of grazing and subsequent hoof action and mechanical alteration of soils. Fenced riparian areas are also generally larger in size and encompass larger quantities of water and wetland habitat. Most fenced areas within acquired lands have vigorous vegetation and slight levels of soil alteration and erosion. These areas are generally at or progressing towards PFC. Unfenced riparian areas are generally stream systems or small spring/seeps. These areas are often subject to more livestock use per acre than larger fenced sites and within acquired lands these areas are in poorer conditions than the fenced riparian/wetlands. Common issues at these riparian sites included excessive erosion, mechanical alteration of soils, and high utilization levels.

Riparian/wetlands are important for providing water for beneficial uses, filtering sediment, and storing water. Riparian/wetland areas are also important plant communities for wildlife and provide an oasis for wildlife and plant communities; additionally portions of riparian areas within acquired lands provide important upstream habitat for sage-grouse, a BLM sensitive species. Many of the riparian communities within acquired lands also have aspen and willow species within the riparian zone; these species provide important soil retention properties and provide important forage and nesting habitat for a myriad of wildlife. The BLM sampled 15 riparian/wetland sites within acquired lands to assess conditions and the rating are shown below in Table 3.2.

Table 3.2. Riparian Functional Assessments within Home Camp Acquired Lands

Riparian/ Spring name	Pasture	Assoc. develop.	Development Functional	Rating 2010 and 2011	Size Assessed (ac)	Length Assessed(ft)	Comments
Spring 1	Corral	N	N/A	FAR	6 acres		

Spring 2	Corral	Y	N	FAR	4 acres		
Aspen Spring 1	Mare	Y	N	PFC		.5 miles	Stockpond at top trapping majority of water
Near Indian Pole Camp (lentic)	Boulder Mtn	N	N/A	FAR	6		
Near Indian Pole Camp (lotic)	Boulder Mtn	stockpond	Y	FAR		1400	Heavy use on willows
Near Indian Pole Camp (springhead)	Boulder Mtn	stockpond	Y	not rated	1.7		
Mountain-view section 1	Boulder Mtn	road	N/A	FAR		.5 miles	downcutting
Mountain-view section 2	Boulder Mtn	N	N/A	non-functional		1200 feet	downcutting
Pinto Springs (lotic)	Grass Lake	valve boxes	Y	FAR		2000	
Pinto Springs (lentic)	Grass Lake	valve boxes	Y	FAR	0.5		
Boulder Field	Grass Lake	N	N	PFC	110 Acres	N/A	Excellent condition
Home Camp Meadows (top)	Corral	N	N/A	PFC	50 acres	N/A	Excellent condition
Home Camp Meadows (lotic)	Corral	Y	N	PFC		.4 miles	Excellent condition
Unnamed creek (Reach 1 below Divine Sp	Mountain	N	N/A	PFC		.46 miles	Rock armored channel
Pinto Springs Reach 2(below Harris Holding Field)	Grass Lake	N	N	non-functional	4.5 acres	N/A	excessive soil loss

B. Environmental Consequences

Objective: Improve wetland and riparian areas to provide riparian habitat for a myriad of species and improve functionality of riparian systems to achieve or make progress towards PFC conditions.

Proposed Projects: Findings and effects

1. **Alternative 1 and 2: Boulder Reservoir Recreational Enhancement Project:**

This project would protect a large riparian wetland area by excluding cattle use and concentrating recreational activities on previously disturbed areas. This project would increase riparian vegetation in and around the reservoir, which would provide for slightly less erosion and sediment

into the watershed and slightly cooler water temperatures in the long term as riparian vegetation shades the water's edge, creating a microclimate for aquatic organisms. Short term impacts to riparian vegetation would occur during dredging however these impacts are expected to slight due to re-vegetation occurring within a couple growing seasons. Overall, this project would have a slight benefit to riparian habitats.

Alternative 3 - No Action: Boulder Reservoir Recreational Enhancement Project:

Under Alternative 3, the Boulder Reservoir Recreational Enhancement Project would not be implemented and improvements in riparian condition would not occur due to excessive cattle use and camping occurring throughout the area. Cattle trampling and mechanical alteration of soils would occur on wet hydric soils and camping would continue at or near the water edge, potentially impacting sensitive soils and vegetation. Under Alternative 3 - No Action riparian degradation would continue unabated.

2. **Alternative 1 and 2: Pinto Springs Riparian Protection and Habitat Enhancement Project:**

This project would protect riparian wetland habitat from excessive cattle use, which is causing erosion, loss of riparian width and size, and mechanical alteration of soils. If completed, this project would protect riparian wetland habitat and would relieve pressure associated with cattle grazing that is causing riparian damage. The riparian area at Pinto Springs would begin to effectively trap sediment due to increases in riparian vegetation. Vegetation diversity and hydrologic function would improve in the long term as riparian communities expanded and improvements in hydric soils and vegetation trapped water for longer periods of time. Overall this project would have a net benefit to riparian/wetland resources.

Alternative 3 - No Action: Pinto Springs Riparian Protection and Habitat Enhancement Project:

Under Alternative 3, the Pinto Springs Riparian Protection and Habitat Enhancement Project would not be implemented and improvements in riparian condition would not occur due to excessive cattle use throughout the spring area. Cattle trampling and mechanical alteration of soils would continue to occur on wet hydric soils. Damage would continue within the riparian zone and cattle would continue to impact already degraded soils and vegetation. Erosion, loss of riparian width and size, and mechanical alteration of soils would continue unabated and Reach 1 would move towards Non-functional status while Reach 2, which was rated as Non-functional, would remain in that condition and would not improve. Vegetation diversity and hydrologic function would continue to decline in the long term as riparian communities shrank in size and riparian zones began to dewater. Overall this project would have a negative impact to riparian/wetland resources.

3. **Alternative 1 and 2: Divine Springs Aspen Stand Habitat Enhancement Project:**

Improvements in aspen health and removing juniper that is invading riparian zones would increase resiliency of riparian areas as vegetation expanded and the amount of bare soil is reduced. Water infiltration and hydrologic function would be increased as riparian vegetation communities increased in size and extent. Riparian habitat would improve in the long term as aspen communities expanded and reached their full extent. Increased hydrologic function would increase the chances that water was available during drought years and summer months. This would provide an overall benefit to the riparian resources within the Project Area.

Alternative 3 - No Action: Divine Springs Aspen Stand Habitat Enhancement Project:

Under Alternative 3, the Divine Springs Aspen Stand Habitat Enhancement Project would not be implemented and improvements in riparian condition would not occur due to juniper encroachment continuing within the riparian zone. Vegetation diversity and hydrologic function would continue to decline in the long term as riparian communities shrank in size and riparian zones began to dewater as juniper continued to encroach into the riparian zone, outcompeting riparian and aspen vegetation and increasing bare ground and erosion. Surface flows would continue to be reduced and soil moisture within the riparian zone would decline as juniper density increased unabated.

4. **Alternative 1 and 2: Divine Spring Campground:**

Any impacts to riparian areas within the proposed Divine Springs campground would be slight. Riparian conditions may be slightly improved within the watershed surrounding the camping area as recreational use would be confined to previously disturbed areas and camping within the riparian zone would be reduced. This would reduce the amount of disturbance near the water body and would increase riparian vegetation in and around the stream and riparian area. This project would have negligible effects related to riparian/wetlands.

Alternative 3 - No Action: Divine Spring Campground:

Any impacts to riparian areas within the proposed Divine Springs campground under Alternative 3 would be slight. Riparian conditions may slightly decline within the watershed surrounding the camping area as recreational use would not be confined to previously disturbed areas and camping within the riparian zone would not be reduced. This would potentially increase the amount of disturbance near the water body and could decrease riparian vegetation in and around the stream and riparian area. This project would have slight to negligible effects related to riparian/wetlands.

5. **Alternative 1 and 2: Temporary Permit to gather into Meadows:**

Impacts to riparian areas associated with authorizing TNR AUMs would primarily be related to cattle trampling of moist hydric soils and removal of riparian vegetation. Traditional uses before BLM acquisition emphasized removal of vegetation until forage runs low did not provide for improvements in vegetation community diversity and favors plants with lower nutritional value. Improvements in plant communities would occur under the proposed action compared to past use due to less grazing use. Hummocking of riparian soils and mechanical alteration was a concern within the meadow pastures however the majority of hoof action within the meadows has begun to heal and repair and under Alternative 1 and 2 these areas would continue to improve due to less grazing than traditional use. Residual grass cover would improve under the proposed action as more vegetation would be available to trap sediment and slow water movement during high flow events. The lack of grazing in the past two years within the meadows after BLM acquisition has led to excessive decadent vegetation that can eventually lead to mat meadows conditions. This is a concern within the Mare and Boulder fields due to lack of grazing removing old vegetation and allowing new green growth to develop. Allowing TNR AUMs would ensure decadent growth is removed on a yearly basis. Implementation of utilization limits will ensure that issues with plant community diversity and lack of residual grass cover were addressed. Overall, authorizing TNR AUMs with utilization limits will have only minor effects to riparian conditions related to soil alteration within fenced pastures.

Alternative 2 - Projects and Trailing Authorization; No TNR:

Under this alternative, a temporary authorization would not be allowed for gathering into the fields. No grazing activities would be allowed on the acquired lands until a new allotment management plan and grazing permit renewal EA is completed. Trailing would occur but would be only for a short duration; therefore impacts related to riparian/wetlands would be negligible. Over the long term, if the meadows were not grazed, riparian health and vigor would decline due to excessive amounts of decedent vegetation and riparian areas would move towards mat dominated systems with lesser amounts of new green growth and plant regeneration. Overall, this alternative would have a neutral impact to riparian areas in the long term.

Alternative 3 – No Action

Under this alternative, a temporary authorization would not be allowed for gathering into the fields. No grazing activities would be allowed on the acquired lands until a new allotment management plan and grazing permit renewal EA is completed therefore no short term impacts related to riparian/wetlands would occur. Over the long term, if the meadows were not grazed, riparian health and vigor would decline due to excessive amounts of decedent vegetation and riparian areas would move towards mat dominated systems with lesser amounts of new green growth and plant regeneration. Overall, this alternative would have a neutral impact to riparian areas in the long term.

6. **Alternative 1 and 2: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

Implementation of juniper reduction projects within aspen and riparian communities in acquired lands within the Corral allotment would facilitate improvements in aspen health by removing juniper that is invading riparian zones. These actions would increase resiliency of riparian areas as vegetation expanded and the amount of bare soil is reduced. Water infiltration and hydrologic function would be increased as riparian vegetation communities increased in size and extent. Riparian habitat would improve in the long term as aspen communities expanded and reached their full extent. Increased hydrologic function would assure that water was available during drought years and summer months. Recruiting of younger age classes of aspen will improve riparian conditions due to less bare ground within the transition zone between riparian and upland areas. Removing the broken trough from the riparian area at Spring 2 would have a slight improvement in riparian conditions due to lack of cattle congregating on the riparian area. Although it appears that the trough has provided little water for several years, removing the trough would ensure that it would not be repaired or replaced and associated riparian degradation would not occur in the future. Future developments would require NEPA analysis and would not be located in the riparian area.

Alternative 3 - No Action: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:

Under Alternative 3, the Corral Allotment Aspen and Riparian Projects would not be implemented and improvements in riparian condition would not occur due to juniper encroachment continuing within the riparian zone. Vegetation diversity and hydrologic function would continue to decline in the long term as riparian communities shrank in size and riparian zones began to dewater as juniper continued to encroach into the riparian zone; outcompeting riparian and aspen vegetation and increasing bare ground and erosion. Surface flows would continue to be reduced and soil moisture within the riparian zone would decline as juniper densities increased unabated. Aspen communities would begin to be replaced by juniper communities and riparian obligate plant species would be replaced by facultative upland species if juniper densities were allowed to

continue to increase. Overall, this alternative would have a negative impact to riparian/aspen habitats.

3.9. Wilderness, Wilderness Study Areas, and Lands with Wilderness Characteristics

A. Affected Environment

None of the Home Camp acquired lands are within or adjacent to designated wilderness areas. Portions of the Home Camp acquired lands are within or adjacent to the Wall Canyon Wilderness Study Area (WSA). Approximately 550 acres of the acquired lands within the Home Camp land acquisition lie within the WSA. Approximately 5000 acres lie adjacent to the WSA and 9274 acres of the acquisition do not lie within or adjacent to the WSA.

All BLM lands, including those in the Project Area, were inventoried for wilderness characteristics in 1979 as directed under the Federal Land Policy and Management Act of 1976 (FLPMA). Under section 603 of FLPMA, lands found to have wilderness characteristics in the original 1979 inventory were designated as either Wilderness Areas (WAs) or Wilderness Study Areas (WSAs). Under a 2003 settlement agreement between the Department of Interior and State of Utah, the BLM agreed that it has no authority to establish new WSAs. However, under section 201 of FLPMA, the BLM is required to maintain current inventories of all public land resources, including wilderness characteristics. The wilderness characteristics inventory for lands within the Project Area was updated in 2009 as required under section 201 of FLPMA.

Wilderness characteristics are assessed using several screening criteria. Listed in order, they include; size, natural condition, outstanding opportunities for solitude or for primitive and unconfined recreation, and special or supplemental values (not required).

The Surprise Field Office wilderness inventory was conducted in 1979 and 1980 in accordance with BLM's Wilderness Study Policy: Policies, Criteria and Guidelines for Conducting Wilderness Studies on Public Lands (47 CFR 5098-5122). This inventory identified 6 Wilderness Inventory Units (CA-020-917, CA-020-904, CA-020-804, CA-020-805, CA-020-817, CA-020-808) that the Home Camp Allotment and portions of Home Camp acquired lands included as a part of this analysis. Unit CA-020-805 in the1979 and 1980 inventory was designated as the Wall Canyon WSA. The portion of the allotment that was not previously designated as WSA was re-inventoried in 2009 and 2012.

For Home camp acquired lands, the 2009 and 2012 wilderness characteristics inventories involved 6 units, with the inventory results described below.

1. Divine Peak- CA-NO-07-100- This 4,942 acre unit was found to have wilderness characteristics including naturalness, opportunities to solitude, primitive and unconfined recreation and supplemental values relating to wildlife and cultural resources. This unit is exempt from the size requirement due to the unit being adjacent to the Wall Canyon WSA.

2. Boulder- CA-NO-07-101- A portion of this 8,286 acre unit has wilderness characteristics excluding portions on the east side of the unit around Boulder Reservoir and the numerous private buildings that exist in the general area. Portions of the acquired lands around the private buildings at the Mare pasture were found to not have wilderness characteristics due to buildings, fences, routes, and livestock facilities. The portions of the unit that

had wilderness characteristics had all of the characteristics except for the outstanding opportunities for primitive and unconfined recreation.

3. Hays Range North- CA-NO-07-102- This 71,538 acre unit had wilderness characteristics including naturalness, opportunities to solitude, primitive and unconfined recreation and supplemental values relating to wildlife and cultural resources.

1. Hays Range South- CA-NO-07-104- this 54,845 acre unit had wilderness characteristics including naturalness, opportunities to solitude, primitive and unconfined recreation and supplemental values relating to wildlife and cultural resources.

4. Button Brush- CA-NO-07-103- This 19,270 acre unit did not have wilderness characteristics due to lack of outstanding opportunities for solitude or a primitive and unconfined type of recreation. This unit did have supplemental values related to wildlife and cultural resources.

5. Pinto Springs CA-NO-07- 105- this 18,803 acre unit did not have wilderness characteristics due to lack of outstanding opportunities for solitude and/or primitive or unconfined recreation. This unit did have supplemental values related to wildlife and cultural resources.

B. Environmental Consequences

Objective: Manage lands with wilderness characteristics to be consistent with FLPMA and other applicable authorities.

Management Actions: the BLM will consider the wilderness characteristics of public lands when undertaking land use planning and authorizations.

Proposed Projects: Findings and effects

1. **Alternative 1 and 2: Boulder Reservoir Recreational Enhancement Project:**

The Boulder Reservoir project is within the Boulder inventory unit however this project lies within the portion of the unit that was found to not have wilderness characteristics due to developments, a major recreation site, houses, and roads. Therefore implementation of the project would not affect wilderness characteristics.

Alternative 3 - No Action: Boulder Reservoir Recreational Enhancement Project:

The Boulder Reservoir project is within the Boulder inventory unit however this project lies within the portion of the unit that was found to not have wilderness characteristics due to developments, a major recreation site, houses, and roads. Therefore there would be no impacts to wilderness characteristics under Alternative 3.

2. **Alternative 1 and 2: Pinto Springs Riparian Protection and Habitat Enhancement Project:**

The majority of the Pinto Springs project is within the Pinto Springs inventory unit, with a small portion of the project being in the WSA. This WSA's west border is the road passing through Pinto Springs, with the majority of the project being on the east side of the road. The Pinto Springs unit was found to lack wilderness characteristics. Therefore, impacts relating to wilderness characteristics will be discussed in relation to potential impacts to the WSA.

The natural condition of the riparian site within the WSA would be improved by protecting the riparian zone for high levels of cattle use, erosion, and excessive bare ground. This would ensure that the Project Area appears natural to the casual observer. Supplemental values would also be improved and protected from further degradation by ensuring habitat is available for wildlife and species have adequate riparian habitat for completion of life cycles. Supplemental values relating to cultural resources at the site would be protected and would ensure that no adverse impacts occur to the sites within the Project Area. A fence would cross approximately 200 feet of the WSA however impacts to the WSA would be slight to negligible due to a fence already existing within the WSA, project design methods that ensure as little fence as possible is within the WSA, and the fence topographically placed to not be immediately noticeable to the casual observer. The spring-box that would be installed within the fenced spring would have negligible effects to the WSA due to camouflaging of the spring-box, placement of the spring box as close to the ground as possible, and vigorous riparian vegetation covering and hiding the spring-box to visitors. The 1 ½ inch pipeline would be buried and would not be visible; the ground disturbance associated with the pipeline would re-vegetate within one growing season and would be virtually undetectable to the casual observer. Overall, the proposed action of building an exclosure to protect values relating to riparian, cultural, and wildlife resources and developing off-site water would have positive impacts to the WSA due to improvements in natural conditions and protection of supplemental values. The proposed action would be substantially unnoticeable in the WSA as a whole and would not result in impairment of wilderness characteristics.

Alternative 3 - No Action: Pinto Springs Riparian Protection and Habitat Enhancement Project:

Under this alternative, the project would not be implemented. Therefore, there would no short term effects to lands with wilderness characteristics or the Wall Canyon WSA. In the long term, supplemental values and natural conditions would be negatively affected by damages to native plant communities from excessive use and continued damage to the resources that wildlife species depend on in the area. There are numerous cultural resources within the Project Area and these resources would continue to become negatively impacted in the long term due to no protective measures being applied to the sites within the area. Overall, this would have a slight negative impact to the Wall Canyon WSA.

3. **Alternative 1 and 2: Divine Springs Aspen Stand Habitat Enhancement Project:**

The Divine Springs Aspen Stand Habitat Enhancement Project is located within the Boulder inventory unit. Portions of this unit had wilderness characteristics including the portion where this project is located. Under the proposed action, invasive juniper would be hand cut to restore aspen and riparian vegetation communities. Portions of the decadent willows would be burned and portions of the cut juniper would be piled and burned. The proposed action would protect and enhance natural conditions and improve wildlife habitat for a myriad of species within the area. Wildlife in the Boulder unit, especially mule deer, is important for supplemental values and for primitive and unconfined recreation associated with big game hunting. Some visual impacts would occur as a result of cutting juniper; however the impacts would be short and impacts will be slight to negligible within three years as juniper needles fall off and the juniper skeletons shrink to the ground. Improvements in growth of grass species and aspen and riparian communities would further reduce the visual impacts associated with trees that were cut. Juniper piles that are burned would also reduce visual impacts. In the long term, juniper trees not piled and burned would decompose naturally. Overall, this project would have a neutral to slightly positive impact to lands with wilderness characteristics.

Alternative 3 - No Action: Divine Springs Aspen Stand Habitat Enhancement Project

Under this alternative, the project would not be implemented. Therefore, there would no short term impacts to lands with wilderness characteristics. In the long term, important plant communities would continue to degrade and there would be slight negative impacts to the naturalness of the area and slight negative impacts related to decrease recreational opportunities associated with big game due to decreases in habitat suitability in the area.

4. **Alternative 1 and 2: Divine Spring Campground:**

The Divine Springs campground is located within the Boulder inventory unit. Portions of this unit had wilderness characteristics including the portion where this project is located. Under the proposed action, dispersed camping sites that already occur would be improved from their current condition. Camping use in this area is already high, especially during big game hunting season. Improving these camping opportunities by installing fire rings, game hanging stations, and picnic tables would protect natural stream conditions nearby by reducing camping within the riparian area and would enhance the Outstanding Opportunities for Primitive and Unconfined Recreation that exist within this unit related to hunting, hiking, and bird watching.

Alternative 3 - No Action: Divine Spring Campground:

Under this alternative, the project would not be implemented. Therefore, there would be no direct impacts to lands with wilderness characteristics; however Outstanding Opportunities for Primitive and Unconfined Recreation would not be improved.

5. **Alternative 1: Temporary Permit to gather into Meadows:**

Under Alternative 1, grazing would be authorized in fenced meadows on an annual basis. Grazing would occur in the Boulder and Buttonbrush inventory units. The Buttonbrush unit was found to not have wilderness characteristics and therefore will not be discussed further. A portion of the Boulder unit does have wilderness characteristics, specifically portions of the Mare pasture. Grazing has been a historic use of acquired lands and adjacent lands within the Home Camp allotment. Grazing within the lands with wilderness characteristics will have little to no effects on lands with wilderness characteristics due to the short duration that cattle are in fenced meadows and the implementation of riparian utilization limits that will ensure native plant communities remain intact and naturalness of the area is not negatively impacted. Cattle grazing is expected to have no effect on Outstanding Opportunities for Primitive and Unconfined Recreation due to the short duration of grazing and grazing limitations that ensure recreation and wilderness characteristic goals outlined in the RMP are met.

Alternative 2 - Projects and Trailing Authorization; No TNR:

Under this alternative a temporary authorization would not be allowed for gathering into the fields. No grazing activities would be allowed on the acquired lands until a new allotment management plan and grazing permit renewal EA is completed. Trailing would be allowed but would be only for the purposes of moving cattle across the pastures. Therefore, there would be no negative impacts to lands with wilderness characteristics.

Alternative 3 – No Action

Under this alternative a temporary authorization would not be allowed for gathering into the fields. No grazing activities would be allowed on the acquired lands until a new allotment

management plan and grazing permit renewal EA is completed. Therefore, there would be no impacts to lands with wilderness characteristics.

6. **Alternative 1 and 2: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

The Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Projects are located within the Boulder inventory unit. Portions of this unit had wilderness characteristics including the portion where this project is located. Under the proposed action, invasive juniper would be hand cut to restore aspen, riparian and sage steppe vegetation communities. The proposed action would protect and enhance natural conditions and improve wildlife habitat for a myriad of species within the area. Wildlife in the Boulder unit, especially mule deer and sage-grouse, are important supplemental values for primitive and unconfined recreation associated with hunting. Some visual impacts would occur as a result of cutting juniper; however the impacts would be short and slight to negligible within three years as juniper needles fall off and the juniper skeletons shrink to the ground. Improvements in growth of grass species and aspen and riparian communities will further reduce the visual impacts associated with trees that were cut. Juniper piles that are burned would also reduce visual impacts. In the long term, juniper trees not piled and burned would decompose naturally. Juniper trees in upland sage-steppe communities would be cut and limbed to 4 feet in height to reduce visual impacts. This project overall is expected to improve wilderness characteristics relating to primitive and unconfined recreation and supplemental values.

Alternative 3 - No Action: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:

Under this alternative, the project would not be implemented. Therefore, there would no short term impacts to lands with wilderness characteristics. In the long term, important plant communities would continue to degrade and there would be slight negative impacts to the naturalness of the area and slight negative impacts related to decreases in recreational opportunities associated with big game due to decreases in habitat suitability in the area.

3.10. Wildlife, Including Migratory Birds and Threatened and Endangered Species

A. Affected Environment

For the purposes of this analysis, wildlife is discussed generally at the allotment level due to the majority of wildlife species moving across acquired lands and onto other BLM lands throughout the seasons and in completion of a species life cycle. Impacts to wildlife species from implementation of projects will be discussed at both the project level and allotment level.

Threatened and Endangered Species

There are no federally listed or proposed for listing wildlife species which are known to use the Home Camp Allotment.

Carson wandering skipper: Potential suitable habitat for the Carson wandering skipper (*Pseudocopaeodes eunus obscurus*), a federally endangered butterfly, has been identified within the Surprise Field Office boundary; however, soils analysis indicates that there is no habitat

within the Home Camp Allotment ,therefore Carson wandering skipper will not be discussed further in this EA.

Candidate Species

In March 2010, the USFWS announced its listing decision for the Greater sage-grouse (*Centrocercus urophasianus*) as "warranted but precluded". Candidate species designation means the USFWS has sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list, but issuance is precluded by higher priority listing actions. At this time the species is officially considered a Candidate Species, but does not receive statutory protection under the Endangered Species Act (ESA). Individual states continue to be responsible for managing the birds. "Candidate species and their habitats are managed as Bureau sensitive species", (BLM Manual 6840, December 2008). The Greater sage-grouse is discussed under BLM Sensitive Species, below.

California and BLM Sensitive Species

California bighorn sheep

Data from the Nevada Department of Wildlife (NDOW) and BLM observations and unpublished records indicate that a portion of public land in the Home Camp Allotment lies within the distribution of California bighorn sheep (*Ovis canadensis californiana*) habitat. Habitat for bighorn includes steep rocky terrain for escape cover and bedding opportunities adjacent to open vegetation for foraging and water. Due to predation issues, higher quality bighorn sheep habitat (e.g. steep areas) generally contains drinking water within ¼ mile. This species can be found in diverse habitats including big and low sagebrush, juniper woodland edges, perennial grasslands and bitterbrush. This species prefers low growing vegetation to better spot predators. Much of the Home Camp Allotment supports the suitable characteristics of California bighorn sheep habitat, most importantly, steep rocky terrain for escape cover. Occupied and potential habitat constitutes 62% of the entire Home Camp and Corral Allotments, as shown in Table 3.3 below. The Home Camp and Corral Allotments lie within NDOW Hunt Units 012 and 013. Population dynamics and recruitment rate information for the 012 unit are found in the Nevada Department of Wildlife's 2009-2010 Big Game Status Report available at http://www.ndow.org/hunt/resources/population/index.shtm.

Table 3.3. Occupied and Potential Bighorn Sheep Habitat within the Home Camp Allotment

Allotment	Mountain Name	Herd Name	Occupancy	Acres in Home Camp	Habitat
Home Camp	Calico Mountains	Calicos/High Rock	Occupied	17585.43	Year-round
Home Camp	Hart Mtn.	Hart Mtn.	Potential	18619.07	Potential
Home Camp		Grassy Cn.	Potential	2302.37	Potential
Home Camp	Hays Canyon Range	Hays Canyon	Occupied	21957.66	Year-round
Corral &Home Camp	Hays Canyon Range (South)	Mountain View Creek	Potential	33303.94	Potential
Total Sum				93768.47	
Percentage of allotment				62%	

Note

Data from Nevada Department of Wildlife.

Pygmy rabbit

A 2006 survey detected pygmy rabbit (*Brachylagus idahoensis*) in many locations throughout the Home Camp Allotment (Larrucea, 2006). Pygmy rabbit are dependent on sagebrush, primarily big sagebrush (*Artemisia tridentata*), located in deeper soils and burrows are almost always under sagebrush and only rarely in the open. Soil types where burrows are found can be loamy to ashy and burrows are generally found greater than 72 cm (20 in) deep. In Oregon, overall shrub cover at pygmy rabbit sites averaged 28.8% and ranged from 21.0-36.2%. According to the species field report for the Ruby Pipeline, 60.0 percent of sites in Nevada exhibited 26–50 percent canopy cover. Larrucea and Brussard (2008) surveyed the historic range of pygmy rabbits in Nevada and California, and found a greater probability of occupancy by pygmy rabbits at sites with low (or no) understory. Throughout the Home Camp Allotment there are large inclusions of habitat that have the combination of soils and vegetation that have previously been identified as suitable habitat for pygmy rabbits. Subsequent field visits by the BLM after the 2006 Larrucea survey detected pygmy rabbits and/or suitable habitat in many areas. Table 3.4below; provides an estimate of acres within the Home Camp Allotment and Corral Allotments that could potentially support pygmy rabbit burrow systems based on soils.

Table 3.4. Potential Pygmy Rabbit Habitat within the Home Camp and Corral Allotments

ACRES	Habitat Type
532.5	Combination of big sagebrush and herbaceous vegetation
104.13	Combination of big sagebrush and mountain mahogany
1117.36	Combination of big sagebrush, low sagebrush, and mountain mahogany
10459.4	Mountain big sagebrush
54569	Combination of big sagebrush and low sagebrush
66782.39	Total Sum

Note

The designation of habitat types is based on soil mapping units containing suitable vegetation and habitat requirements.

Private lands are included in these acreages.

Greater sage-grouse

On BLM lands of the Surprise Field Office, historic and active sage-grouse (*Centrocercus urophasianus*) strutting grounds known as “leks” are located primarily in open, low sagebrush habitats. Leks are areas where males display for breeding females. Early work estimated that most females nested within 2 miles of leks; however recent studies indicate that females may nest up to 4 miles away or further depending on surrounding habitat conditions (Knick and Connelly 2011). At least one radio collared female sage-grouse on the Surprise Field Office successfully nested 9 miles from the lek she was captured on. Although many nests have been found in lower quality habitats (i.e. rabbitbrush dominated habitats or habitats with lack of perennial grasses and nesting cover) these are almost always unsuccessful due to nest abandonment and predation.

Sage-grouse nest on the ground, most often under taller sagebrush cover (15-38% shrub canopy; 36 -79 cm shrub height) such as the “big” sagebrush types and Wyoming sagebrush (Connelly, 2000). Successful nesting habitat generally contains taller grass cover in association with this sagebrush (Connelly, 2000) although there is some variability across the range of sage-grouse. Sage-grouse utilize sagebrush stands as both winter and nesting habitat. Sage-grouse feed on

sagebrush buds and forbs throughout much of the year, especially early spring through fall. Peak egg-laying and incubation varies from late March through April, with re-nesting stretching into early July. Brood-rearing habitats are wet meadow and riparian areas where the young can find abundant insects which are critical to their diets during the first few weeks of life. Estimated summer home range is 2.5 – 7 km2 (618-1,730 ac) (Connelly, 2000). Forbs are important food sources for brood rearing and pre-nesting hens.

During field visits within the acquired lands, sage-grouse sign was found around many riparian areas and on upland sites, indicating use of these areas by sage-grouse. Within the Home Camp Allotment there are 5 known active lek locations. Sage-grouse populations also exist within surrounding allotments. See Table 3.5 & 3.6 below for trends of leks that lie within the Home Camp Allotment.

Sage-grouse populations are monitored and recovery efforts coordinated in geographic areas referred to as Population Management Units (PMU). Within PMUs leks are often grouped into complexes to estimate sage grouse trends within a geographic area. Not all lek complexes included in the tables below lie completely within the administrative units of the complex. High and low population trends are similar annually to the adjacent Sheldon National Wildlife Refuge (NWR). Consistent counts of bird attendance at leks have only occurred since 2002 on the Surprise Field Office and since about 1990 for the Sheldon National Wildlife Refuge (NWR). Survey numbers show that sage-grouse populations peaked between 2004-2007 for both the Surprise Field Office and the Sheldon NWR. Leks within the Home Camp Allotment are tracked within the Vya PMU and the Massacre PMU. The Bald Mountain complex on Sheldon NWR is tracked within the Sheldon PMU. Lek count numbers generally declined on both the Surprise Field Office and the Sheldon NWR in 2008, and then increased in 2009. Data from 2009 indicates that both the Sheldon and Vya PMU chick/hen ratios are above the estimated ratio of 2.25 chicks per hen needed to sustain or increase population numbers in those PMUs. The 2009 data for the Massacre PMU was 2.16, slightly below the estimated needed ratio; the Washoe County ratio was 2.54 in 2009.

Table 3.5. Lek Attendance at the Bald Mountain Lek, 2004 – 2009

Lek Name	Status	2004	2005	2006	2007	2008	2009	Average
Bald Mountain	Active	161	210	149	113	35	52	161

Note

Source: NDOW Unpublished Data. **Table 3.5shows the lek counts by year for the Bald Mountain Lek, located in the Sheldon National Wildlife refuge, within the Sheldon PMU. Seven other leks in this complex are no longer counted due to low numbers or inactivity at those leks.**

Table 3.6. Lek Count Attendance in the Home Camp Allotment

Lek Name	PMU	2004	2005	2006	2007	2008	2009	2010
Flycatcher West # 21	Massacre	0	48	44	91	54	68	69
Fern Point # 67	Massacre	8	7	14	9	3	7	7
Boulder Lake (Reservoir) # 54	Massacre	28	NC	20	26	11	0	2

West Boulder Flat (New 2007)	Massacre				15	12	19	5
Boulder Flat # 31	Massacre	5	2	2	0	4	1	5

Golden eagle

Golden eagles, a BLM sensitive species, regularly forage within the Home Camp Allotment and locally utilize cliffs for nesting. An early study from central California showed that mammals made up 77 percent of golden eagle diets (specifically ground squirrels, jackrabbits, and black-tailed deer fawns), although there was also an assortment of birds (including turkey vulture), snakes, and a few fish (Carnie 1954). Golden Eagles are found within the Home Camp and Corral Allotments and raptors are commonly observed throughout the allotment. There are 2 known raptor nesting areas within the allotment.

Ungulates

Pronghorn antelope

Pronghorn antelope (*Antilocapra americana*), or pronghorn, can be found throughout the Home Camp Allotment yearlong, and are known to kid in open expanses near playa lakes and low sagebrush habitats (BLM Surprise Field Office). Low sagebrush habitats are the most frequented habitats throughout the year by pronghorn antelope. Most of the Home Camp Allotment is occupied by pronghorn antelope seasonally. Pronghorn prefer open rangelands that support a variety of vegetative types. Predation issues are generally considered to be the reason why pronghorn are not typically found in heavier cover types. Areas with low shrubs typify summer habitat with a diversity of native grasses and forbs (Gregg *et. al.* 2001). Vegetative heights where pronghorn are found can vary; however 10-18 inches has been reported for pronghorn in grassland and shrub steppe communities (Yoakum 2004). Pronghorn do not appear to be dependent on open water if there is sufficient moisture in the vegetation (Reynolds 1984, O'Gara 1978). Although forbs are an important component of pronghorn diet, browse is the dominant food ingested (Pyshora 1977). As for all big game species, forbs are preferred forage and contribute a high amount of protein and minerals to the diet of pronghorn antelope. Within the Home Camp Allotment, meadows are especially important summer habitats for pronghorn populations. Meadows provide succulent, high quality forage and water during the hot summer months.

Mule deer

Mule deer (*Odocoileus hemionus*) use occurs throughout the year in the Home Camp Allotment. Areas of the allotment where the vegetation consists primarily of low sagebrush and associated grasses and forbs are often avoided because of the lack of hiding cover and thermal cover. Within the allotment, there are interconnected expanses of heavier shrub cover and tree cover that are seasonally used by mule deer. Areas within the allotment where a mixture of Wyoming, mountain, and big sagebrush exist are typically the areas where mule deer use is concentrated (although mule deer are observed in all sagebrush habitats), with most mule deer seeking higher elevation areas in the summer months. To aid in thermoregulation, deer utilize various topographic aspects, south in the winter and north in the summer. Heavy shrub and tree cover also aids in thermoregulation. Deer are generally classified as browsers, with shrubs and forbs making up the bulk of their annual diet. Aspen-riparian habitats within the allotment are especially important for mule deer populations, as they provide both thermal cover and forage

for mule deer. Aspen habitats also create edge habitat, which mule deer are adapted to. Edge habitat is especially important in the sage-steppe ecosystem because it provided multiple habitat types within one geographic location. Grasses are generally only consumed early in the spring when they are still green and higher in total digestible nutrients. The diet of mule deer is quite varied and the importance of various classes of forage plants varies by season; however sagebrush and bitterbrush are important components throughout the year.

Population information for mule deer, pronghorn antelope, and bighorn sheep

The Home Camp Allotment is located in the NDOW Hunt Units 012 and 013, with the entire allotment situated in Nevada. NDOW collects data based on hunt units and not on allotment basis, and reports pooled information for big game from several units together. Mule deer data (see link below) for Units 011-015 indicate that mule deer numbers vary from trending down to slightly increasing for the various mule deer populations in northwestern Nevada. The adjacent Unit 033, the Sheldon Refuge, is also experiencing continued low recruitment levels. Mule deer are known to seasonally migrate between BLM managed lands (within Hunt Units 011, 012, 013, and 014) and the Sheldon Refuge and important migratory corridors and transition habitats for mule deer exist within the allotment. Pronghorn populations in Hunt Units 011 and 015 are expected to continue increasing trends while those populations within Hunt Units 012, 013, and 014 are expected to remain static. According to NDOW, big game animals are experiencing declines due to drought condition (7 of the last 10 years) effects on vegetation and competition with wild horses for limited forage and water resources. Despite the effects of drought, Hunt Unit 012 shows a slight upward trend in bighorn sheep numbers. NDOW does not track bighorn in Unit 011 although they exist within the 011 Unit. Source:

http://www.ndow.org/about/pubs/index.shtm#general.

Rocky Mountain Elk

Established Rocky Mountain Elk populations (*Cervus elaphus*) are not known to exist within the Home Camp Allotment, although small isolated sightings of elk have been observed within the 012 Hunt unit by NDOW biologist (Chris Hampson, personal communication). Habitat within the Home Camp Allotment is conducive for elk populations to thrive and expand; however dispersal into the area has to first occur. Current elk populations west of the allotment and in the nearby Warner Mountains have likely not reached population levels where dispersal of elk herds is regularly occurring. Current migratory patterns and behavioral habitats of current elk populations make it unlikely that they will use the allotment for long periods of time; therefore elk will not be discussed further in this EA.

Other Native Wildlife Species

Other species known to occupy within the Home Camp Allotment include black-tailed jackrabbit, ground squirrel, badger, lizards, coyote, raven, northern harrier and various songbirds. Data points from survey blocks conducted by the Great Basin Bird Observatory within the Surprise Field Office indicate that several sage-steppe obligate birds besides Greater sage-grouse are likely to be found within the allotment. These include Brewer's sparrow, sage thrasher, and sage sparrow. These birds require a mix of open, patchy sagebrush, tall sagebrush, and grass cover for nesting and foraging. Active rodent burrows and ant hills were found during field tours.

Known aquatic species that exist within the Home Camp Allotment include speckled dace, rainbow trout, and various aquatic insects. Many naturally occurring wetlands and riparian areas

within the Home Camp Allotment only have seasonal flows and are incapable of supporting cold water fish species e.g. salmonids. Temperatures and total dissolved solids in many bodies of water within the allotment are above the upper limit for most fresh water teleost fish. Boulder Reservoir is a local fishery system that supports rainbow trout and is regularly planted by NDOW. Mountain View creek supports the Wall Canyon sucker and speckled dace.

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 Home Camp Allotment are characterized by sagebrush species, primarily Wyoming sagebrush, mountain big sagebrush, basin big sagebrush, and low sagebrush, although other sagebrush species exist within the allotment. Migratory birds associated with these vegetative communities may include:

- black-throated sparrow (*Amphispiza bilineata*),
- Brewer's blackbird (*Euphagus cyanocephalus*),
- Brewer's sparrow (*Spizella breweri*),
- 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*).

Most of these species require a diversity of plant structure and herbaceous understory. High levels of plant species diversity provides habitat for nesting, foraging and cover for a variety of species. Woodland species such as juniper offer nesting and foraging opportunities for many of these species. Riparian areas with a woody riparian plant species component are important habitats for some migratory bird species as they provide important foraging and nesting habitats. Riparian areas also serve as important transition habitats for a variety of species between seasons and are often heavily used during summer months. Habitat components for many of these species are available in small habitat patches throughout the allotment.

Migratory birds often use pit reservoirs and large riparian areas and meadows within the allotment. Species that are often observed include:

- mallard (*Anas platyrhynchos*),
- gadwall (*Anas strepera*),
- American widgeon (*Anas americana*),
- common goldeneye (*Bucephala clangula*),
- Killdeer (*Charadrius vociferus*),
- Snipe (*Gallinago gallinago)* and
- Other migratory birds commonly seen in wetland-marsh environments.

West Nile Virus:

West Nile virus is known to exist in both Washoe and Modoc Counties; however, there have been few confirmed cases and no measurable impacts to native wildlife within the Surprise Field Office boundaries. West Nile virus is not known to occur in the Project Area.

Although mosquitoes exist throughout the field office area, the distance between water sources appears to aid in reducing mosquito populations and most large concentrations of mosquitoes generally only occur in larger riparian areas. The recent Federal Register publication pertaining to sage-grouse states "…a complex set of environmental and biotic conditions that support the West Nile virus cycle must coincide for an outbreak to occur. Currently the annual patchy distribution of the disease is keeping the impacts at a minimum" (Federal Register 2010, at page 13970). More information on West Nile Virus in Modoc and Washoe county is available at: http://www.westnile.ca.gov/ and at http://www.co.washoe.nv.us/health/ehs/vector/wnvFact.html.

B. Environmental Consequences

Objective: Manage wildlife and wetland habitats to ensure habitat is capable of supporting a myriad of terrestrial and aquatic wildlife species through completion of life cycles.

Proposed Projects: Findings and effects

1. **Alternative 1 and 2: Boulder Reservoir Recreational Enhancement Project:**

The Boulder Reservoir Recreational Enhancement Project would benefit both terrestrial and aquatic wildlife as a result of increased vegetation in and around the reservoir that would result from excluding cattle use including migratory birds and trout. Water temperature would be slightly reduced and sediment input would be slightly reduced in the long term as riparian vegetation became more vigorous and shaded water and trapped sediment, benefiting trout and other aquatic organisms. More hiding cover and nesting cover would be available around the reservoir, benefiting bird species commonly found around riparian areas including sage-grouse and migratory birds. Fencing around the spring would have a slight negative impact to birds due to the potential of fence strikes but would be mitigated by installing fence markers. Big game, including antelope and mule deer will occasionally use the reservoir although use is generally uncommon due to the presence of humans and traffic associated with recreation. The bottom wire would be smooth wire to facilitate pronghorn crossing. Dredging the reservoir and installing a spillway would have short term impacts on trout and other species using the reservoir due to the water levels being very low resulting in fish mortality. This will only be a short term impact due to NDOW planting the reservoir with fish once the reservoir has re-filled. In the long term, fish

habitat and the fish population would be improved due to increases in habitat quality caused by lower water temperatures and more DO due to increased depth. West Nile virus is not known to occur within the Project Area and increasing water depth would result in decreased shallow water mosquito habitat, therefore the impacts relating to this disease would be slightly positive.

Alternative 3 - No Action: Boulder Reservoir Recreational Enhancement Project:

Under Alternative 3, the Boulder Reservoir Recreational Enhancement Project would not be implemented. Increased vegetation for wildlife in and around the reservoir would not occur because cattle would not be excluded; this would negatively impact some migratory bird species. Water temperature would remain the same or slightly increase and sediment input would remain the same or slightly increase in the long term due to lack of vigorous riparian vegetation. Lack of vigorous riparian vegetation would not effectively shade water and trap sediment, negatively impacting trout and other aquatic organisms. Less hiding cover and nesting cover would be available around the reservoir with Alternative 3 compared to Alternative 1 and 2, negatively impacting bird species commonly found around riparian areas. Under Alternative 3, fencing around the reservoir would not occur and there would be no impact to birds due to the potential of fence strikes. Big game would also not be impacted by fencing. Not dredging the reservoir would have no short term impacts on wildlife and fish. In the long term, fish habitat would be not improved due to the decreasing depth of sediments as they continue to accumulate in the reservoir. Overall, this would have a slight negative impact to wildlife.

West Nile virus is not known to occur within the Project Area although not increasing water depth would result in continued shallow water mosquito habitat; therefore the impacts relating to this disease would be negative.

2. **Alternative 1 and 2: Pinto Springs Riparian Protection and Habitat Enhancement Project:**

The Pinto Springs Riparian Protection and Habitat Enhancement Project would provide a benefit to a myriad of wildlife species including sage-grouse, pygmy rabbit, mule deer, pronghorn, chukar, migratory birds, raptors, and other ground and near ground nesting birds by reducing cattle impacts within the riparian area. Reduced cattle impacts would ensure adequate vegetation is present within the riparian zone for forage for big game and nesting and hiding cover for migratory bird species. If the fence was implemented, pygmy rabbit burrows and habitat would not be directly impacted by cattle. Riparian areas are also considered crucial for sage-grouse broods due to insect and forb requirements during the first few weeks of life. Improvements in riparian function would increase habitat suitability for sage-grouse broods. Some negative impacts are associated with fencing, specifically big game crossing and fence strikes from low flying birds such as sage-grouse. These impacts would be reduced by installing a smooth wire 18-20 inches on the bottom of the fence to facilitate antelope crossing and installing fence markers to reduce fence strikes. Overall, this project would have a positive impact for pygmy rabbit, sage-grouse, migratory birds, and big game. West Nile virus is not known to occur within the Project Area, although off-site water could increase mosquito habitat. Given the large amount of existing water within the Pinto Springs area, the increase in mosquito habitat would be negligible.

Alternative 3 - No Action: Pinto Springs Riparian Protection and Habitat Enhancement Project:

Under Alternative 3, the Pinto Springs Riparian Protection and Habitat Enhancement Project would not be implemented. Increased vegetation for wildlife in and around the riparian area

would not occur because cattle would not be excluded, resulting in negative impacts to a myriad of species including sage-grouse, pygmy rabbit, mule deer, pronghorn, chukar, migratory birds, raptors, and other ground and near ground nesting birds. Less hiding cover and nesting cover would be available around the riparian area with Alternative 3 - No Action compared to Alternative 1 and 2, negatively impacting bird species commonly found around riparian areas, including sage-grouse broods. Cattle impacts would continue unabated and adequate vegetation would not be present within the riparian zone for forage for mule deer and antelope and nesting and hiding cover for migratory bird species. Pygmy rabbit burrows and habitat could be trampled or directly impacted by cattle under Alternative 3. Decreases in riparian function would decrease habitat suitability in the long term, resulting in less plant diversity and available forage for wildlife species commonly found in riparian areas. Under Alternative 3, fencing around Pinto Springs would not occur and there would be no impact to birds from potential of fence strikes. Big game would also not be impacted by fencing. Overall, this alternative would have a negative impact to wildlife species commonly found in the Pinto Springs area, including sage-grouse. West Nile virus is not known to occur within the Project Area, however given the large amount of existing water within the Pinto Springs area, the increase in mosquito habitat would be negligible.

3. **Alternative 1 and 2: Divine Springs Aspen Stand Habitat Enhancement Project:**

Under Alternative 1 and 2 this habitat enhancement project would increase the density of aspen within the wetted riparian area and would promote aspen suckering and regeneration by opening up canopy space within the stand and removing juniper that are competing with aspen for sunlight and water. This would improve aspen habitat conditions for migratory birds, raptors, and mule deer that use the area for hiding cover and forage. Fencing the small spring using buck and rail fencing would ensure that the aspen that is currently being hedged by livestock would grow above hedge height and provide a source of aspen for regeneration of the area resulting in increased forage and hiding cover for big game. In the long term, improvements in aspen stand density and different age classes would improve nesting habitat for bird species, especially raptors, which commonly use aspen stands for nesting. Overall, this alternative would benefit multiple migratory bird species, raptors, and mule deer. Overall, this alternative would have neutral impacts to wildlife. This alternative is not expected to have impacts from West Nile Virus due to no expected changes to mosquito habitat.

Alternative 3 - No Action: Divine Springs Aspen Stand Habitat Enhancement Project

Under Alternative 3, the Divine Springs Aspen Stand Habitat Enhancement Project would not be implemented. Increased riparian and aspen vegetation for wildlife in and around the proposed fenced riparian area would not occur because cattle would not be excluded. Less hiding cover and nesting cover for migratory birds and raptors would be available around the riparian area with Alternative 3 compared to Alternative 1 and 2. This would negatively impact many bird species commonly found around riparian areas due to not excluding cattle from the spring or removing invasive juniper. Improvements in riparian function and aspen health would not occur and habitat suitability for mule deer, including foraging and hiding cover would continue to decline. Overall, this alternative would have neutral impacts to wildlife. This alternative is not expected to have impacts from West Nile Virus due to no expected changes to mosquito habitat.

4. **Alternative 1 and 2: Divine Spring Campground:**

The Divine Springs campground would have little to no effect on native wildlife within the Project Area. The area around the campsites are already disturbed and are currently providing little wildlife habitat to any species. Concentrating use within previously disturbed areas and

limiting use within the riparian area would slightly benefit wildlife, especially raptors and songbirds that were observed during field visits, due to lessening direct disturbance from camping and allow riparian vegetation to recover from recreational use associated with camping. Overall, this alternative would have neutral impacts to wildlife. This alternative is not expected to have impacts from West Nile Virus due to no expected changes to mosquito habitat.

Alternative 3 - No Action: Divine Spring Campground:

Under Alternative 3, The Divine Springs campground would not be built and there would be little to no effect on native wildlife within the Project Area. The area around the campsites are already disturbed and are currently providing little wildlife habitat to any species. Concentrating use within previously disturbed areas and limiting use within the riparian area would not occur, slightly negatively impacting wildlife. Short term displacement of wildlife during the heavier camping periods would occur and would be dispersed throughout the area. Overall, this alternative would have neutral impacts to wildlife. This alternative is not expected to have impacts from West Nile Virus due to no expected changes to mosquito habitat.

5. **Alternative 1: Temporary Permit to gather into Meadows:**

Authorizing TNR AUMs within fenced meadows would have both negative and positive benefits to wildlife species commonly associated with riparian wet meadow habitats. Cattle would directly remove vegetation through grazing that would otherwise be available for nesting, hiding and foraging for a myriad of species including sage grouse and neotropical migratory birds. This use would be lessened by implementation of riparian utilization limits that would ensure adequate forage and residual grass cover is left for wildlife species that depend on meadow systems. Cattle use could also directly impact broods of birds, especially sage grouse through competition for forbs and disturbance from grazing cattle. This would be mitigated by duration, timing, and season of use restrictions and utilization limits. The slight to moderate levels of cattle grazing under the proposed grazing schedule would benefit plant community biodiversity by removing dead and decadent plant material, ensuring mat meadows conditions do not develop and opening up spaces within meadows for new plant growth. This would benefit migratory birds and sage-grouse broods which forage on new green growth, insects, and forb species. Overall, this alternative would have neutral impacts to wildlife. This alternative is not expected to have impacts from West Nile Virus due to no expected changes to mosquito habitat.

Alternative 2 - Projects and Trailing Authorization; No TNR:

Under this alternative a temporary authorization will not be allowed for gathering into the fields. Trailing will occur through pastures but due to the short duration of trailing the impacts to wildlife would only be short term disturbance and movements of wildlife as a result of moving cattle. No long term impacts are expected and the overall impacts are expected to be negligible. Overall, this alternative would have neutral impacts to wildlife. This alternative is not expected to have impacts from West Nile Virus due to no expected changes to mosquito habitat.

Alternative 3 – No Action

Under this alternative a temporary authorization will not be allowed for gathering into the two fields. No grazing activities will be allowed on the acquired lands until a new allotment management plan and grazing permit renewal EA is completed therefore no short term impacts relating to wildlife are expected under this alternative. In the long term, mat meadows conditions would develop from lack of grazing and plant vigor, forb production and productivity would

decline, resulting in declines in habitat suitability for migratory birds and sage-grouse broods. Overall, this alternative would have neutral impacts to wildlife. This alternative is not expected to have impacts from West Nile Virus due to no expected changes to mosquito habitat.

6. **Alternative 1 and 2: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

This Project Area is commonly used by a myriad of wildlife species including mule deer, tree and cavity nesting birds including raptors and owls, amphibians, and migratory birds. Current aspen conditions are not producing habitat capable of supporting a diversity of wildlife primarily due to lack of younger age classes and overall decreases in aspen stand density. Under Alternative 1 and 2 invasive juniper would be removed and the density of aspen within the wetted riparian area would increase. This would benefit migratory birds and big game that depend on aspen habitats for hiding cover due to increased stand density. Nesting cover for migratory birds and raptors would increase as aspen densities increased. Riparian habitats associated with these projects would improve as more water was available for plant communities resulting in improved habitat conditions for a myriad of species associated with riparian habitat. Rodents, jackrabbits, and amphibians would experience localized population increases as habitat conditions within the treated area improved. This would also benefit terrestrial predators such as coyotes and bobcats that frequent riparian/aspen zones. Aerial predators such as raptors would also experience increased foraging success in these habitats as prey populations locally increased.

Upland areas treated would benefit from increases in perennial grass and shrubs. This will improve nesting cover for ground and near ground nesting birds, including migratory birds and sage-grouse. Raptor predation of sage-grouse could be slightly reduced due to less available perch sites. Forage conditions of shrubs and forbs will improve as juniper competition with these species are reduced, this will benefit mule deer and bighorn sheep that could occasionally use this area. Some short term disturbance would occur during implementation due to noise and personnel at the site completing the project. This would cause some species such as mule deer to temporarily move from the area. This is expected to be slight due to seasonal restrictions on treatment times to minimize impacts to nesting birds and the short period of time it will take to complete the cutting. Overall, this project would benefit a myriad of wildlife species that frequent aspen/riparian habitats and sagebrush habitats. Overall, this alternative would have neutral impacts to wildlife. This alternative is not expected to have impacts from West Nile Virus due to no expected changes to mosquito habitat.

Alternative 3 - No Action: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:

Under Alternative 3, the Corral Allotment aspen and riparian projects would not be implemented. Increased riparian and aspen vegetation for migratory birds, raptors, and mule deer in and around the aspen and riparian habitats would not improve due to juniper removal not occurring within the aspen and riparian areas. If left untreated, juniper canopy cover and density is expected to increase to a point where the shrub and herbaceous understory are lost and these sites cross ecological thresholds and transition into juniper woodlands or annual grasslands. These upland habitats would decrease in suitability for many species including sage-grouse, which use these areas for nesting habitat and will abandon these sites when juniper densities become too high. Less hiding cover and nesting cover would be available around the riparian areas with Alternative 3 compared to Alternative 1 and 2 due to juniper canopy cover restricting new plant growth. This would negatively impact bird species including raptors and migratory birds commonly found around

riparian areas. Improvements in riparian function and aspen health would not occur and habitat suitability for big game, including foraging and hiding cover would continue to decline. Upland habitats would decline in quality as forage species such as sagebrush and perennial forbs decline in abundance, negatively impacting mule deer. Juniper densities would also increase to a point where any bighorn sheep use of the area would become unlikely to occur. Overall, Alternative 3 would have negative effects for a myriad of wildlife species. Overall, this alternative would have neutral impacts to wildlife. This alternative is not expected to have impacts from West Nile Virus due to no expected changes to mosquito habitat.

3.11. Vegetation/Threatened and Endangered Species

A. Affected Environment

Threatened and Endangered Species:

Two special status plants are known to exist within Home Camp acquired lands; however no field observations or monitoring data indicate that these species exist within proposed Project Areas.

Phacelia inundata, Playa Phacelia is an annual, dicot plant, about 4"-16" tall with yellow, bell-shaped flowers. The current population trends for the plant is unknown. The range of the plant is Humboldt and Washoe counties, Nevada; but is also found in CA and OR. Elevations generally range from 5030-5640 feet (1533-1719 meters) and grows in alkali playas and seasonally inundated areas with clay soils." It is generally considered aquatic or wetland-dependent in Nevada.

Eriogonum prociduum, Prostrate Buckwheat is in the buckwheat family. The plant is a perennial herb that forms low mats of leaves. It has erect flowering stems bearing rounded clusters of yellow flowers rise 5-15 cm above the leaf mats. The plant blooms May-July. The population trend of this plant is unknown although surveys in Nevada are largely complete. This plant is typically found in elevations ranging from 4600-8320 feet. Typical habitat is basalt flows and occasionally on barren volcanic tuff. The surrounding associated vegetation cover is generally low in stature.

Vegetation:

Some of the plant communities that exist within the Home Camp acquired lands have been altered by human activities e.g. brush-beating, irrigation and past impacts to vegetation communities such as livestock grazing have caused some plant communities within the acquired lands to change from the potential natural community. The potential natural community within some areas will never be recognized without extensive restoration activities due to crossing ecological thresholds. Some upland plant communities within the acquired lands have lost their deep rooted perennial bunchgrass component e.g. Thurber's needlegrass, basin wildrye, bluebunch wheatgrass and have crossed an ecological threshold where species such as Poa and bottlebrush squirreltail species now dominate the site. Juniper encroachment is also an issue within the acquired lands, especially in aspen stands and higher elevation mountain big sagebrush communities. Although juniper is native in these ecosystems, the amount of juniper found throughout the acquired lands is more than expected according to the ecological site descriptions. Juniper encroachment has been documented throughout sagebrush-steppe communities, with a variety of factors contributing to this expansion (Miller & Rose, 1999). Scientific research has not been conclusive on the role livestock grazing has played in juniper expansion, however there is supporting evidence that juniper has had comparable encroachment in areas that are and are not grazed (Soule & Knapp,

1999). Low sagebrush sites and barren, rocky ridgelines typify natural juniper communities where fire return intervals were 250+ years; however past and current management actions, including fire suppression, has allowed juniper to encroach onto ecological sites where juniper would typical not occur or would exist in relatively low densities. Table 3.7, 3.8, 3.9 below describes potential plant communities that could exist within the acquired lands and pastures based on soils data and ecological site descriptions.

Table 3.7. Vegetation Communities in Home Camp Allotment

ACRES	Vegetation Community
0.01	Unknown
2401.91	Combination of big sagebrush and aspen
7520.35	Combination of big sagebrush and herbaceous vegetation
1104.33	Combination of big sagebrush and juniper
53130.56	Combination of big sagebrush and low sagebrush
104.13	Combination of big sagebrush and mountain mahogany
1117.36	Combination of big sagebrush, low sagebrush, and mountain mahogany
49.6	Combination of greasewood and herbaceous vegetation
645.77	Combination of low sagebrush and bitterbrush
6153.95	Combination of low sagebrush and juniper
31652.79	Combination of Wyoming big sagebrush and low sagebrush
169.72	Greasewood and Saltbrush
13666.06	Low sagebrush, including early, Lahontan, and black sagebrush and rabbitbrush
10459.4	Mountain big sagebrush
2328.59	Seasonally wet, no salt influence
4165.95	Unknown
11200.63	Wyoming big sagebrush
145871.11	TOTAL SUM

Table 3.8. Vegetation Communities in Corral Allotment

ACRES	COMMUNITY
532.5	Combination of big sagebrush and herbaceous vegetation
97.33	Combination of big sagebrush and juniper
1439.29	Combination of big sagebrush and low sagebrush
950.01	Combination of low sagebrush and juniper
194.69	Low sagebrush, including early, Lahontan, and black sagebrush and rabbitbrush
153.34	Seasonally wet, no salt influence
1302.99	Wyoming big sagebrush
4670.15	TOTAL SUM

Table 3.9. Vegetation Communities in Home Camp acquired lands

ACRES	COMMUNITY
495.06	Combination of big sagebrush and aspen
39.63	Combination of big sagebrush and bitterbrush
1644.68	Combination of big sagebrush and herbaceous vegetation
10.03	Combination of big sagebrush and juniper
4988.74	Combination of big sagebrush and low sagebrush
64.03	Combination of big sagebrush and mountain mahogany
53.71	Combination of big sagebrush, low sagebrush, and mountain mahogany
15.03	Combination of low sagebrush and bitterbrush

1554.61	Combination of low sagebrush and juniper
936.7	Combination of Wyoming big sagebrush and low sagebrush
913.95	Low sagebrush, including early, Lahontan, and black sagebrush and rabbitbrush
301.06	Mountain big sagebrush
721.9	Seasonally wet, no salt influence
636.13	Unknown
2530.41	Wyoming big sagebrush
14905.67	TOTAL SUM

The majority of the acquired lands upland vegetation communities are intact and have only minor plant community composition changes; with most of these changes being a shift from deep rooted perennial bunchgrass dominated understories to shallow rooted perennial grass dominated understories. Riparian and aspen communities make up a portion of the acquired land plant communities and are varied in their overall composition and vegetative health and vigor. These plant communities represent high value resources due to the importance for native fauna and flora. Many of the aspen stands are multi-age class stands that show vigorous root sprouts and suckering however a portion of aspen stands within the acquired lands have become single age class stands and suckering is absent. These stands are being impacted by both lack of disturbance, such as fire and excessive hedging and browsing use on suckers and saplings that are important in maintaining several age classes. Fenced riparian communities within acquired lands are also mostly intact with a diverse composition of sedges, rushes, and woody vegetation including *Rosa* and *Salix* species. Unfenced riparian communities are being impacted by livestock grazing, mechanical alteration of soils, and grazing impacts that influence plant community composition; primarily through loss of plant diversity and an increase in less desirable forage plants such as *Juncus* and other rush species.

B. Environmental Consequences

Objective:

Proposed Projects: Findings and effects

1. **Alternative 1 and 2: Boulder Reservoir Recreational Enhancement Project:**

Vegetation within the fenced area around the reservoir will improve in the short term due to exclusion of cattle grazing near the wetland zone and concentrating recreation use in previously disturbed areas. Improvements in ground cover and lack of heavy utilization will facilitate improvements in plant community composition and diversity in the long term as plant communities expand throughout the wetland and terrestrial habitats within the fenced area. No special status plants are known to occur within the Project Area.

Alternative 3 - No Action: Boulder Reservoir Recreational Enhancement Project:

Under the No Action Alternative, vegetation around the reservoir would not improve and cattle grazing and dispersed recreation use would continue to occur throughout the Project Area. Vegetation growth would not improve and ground cover would remain minimal. Heavy utilization would impede improvements in plant community composition and diversity in the long term as vegetation continued to become impacted by trampling and heavy use.

2. **Alternative 1 and 2: Pinto Springs Riparian Protection and Habitat Enhancement Project:**

Vegetation within the fenced area within the riparian zone will improve in the short term due to exclusion of cattle grazing near the wetland zone. Improvements in ground cover and lack of heavy utilization will facilitate improvements in plant community composition and diversity in the long term as plant communities expand throughout the wetland and terrestrial habitats within the fenced area. Improvements in hydrologic function and soil stability will facilitate increases in water table levels that favor riparian obligate plant species. Invasion of upland plants and riparian facultative plants will decrease in the long term as soil and water conditions improve and fewer disturbances within the riparian zone occur. Species such as Carex species (sedges) and Salix (willow) species will increase in composition and density and invading upland and riparian facultative species such as Poa and Juncus will decrease in density. No special status plant species have been found during field visits however *Phacelia inundata* could potentially exist within the Project Area based on species characteristics and soil mapping. Implementation of the proposed action would have a benefit to this species by reducing potential trampling and heavy grazing impacts.

Alternative 3 - No Action: Pinto Springs Riparian Protection and Habitat Enhancement Project:

Under Alternative 3, vegetation within the riparian zone would not improve in the short term due to heavy cattle grazing near the wetland zone. Ground cover would not improve and heavy utilization would impede improvements in plant community composition and diversity in the long term as plant communities continued to change as wetland plant communities continued to shrink in size as the riparian area continued to dewater. Improvements in hydrologic function and soil stability would not occur and continued degradation of the riparian area would favor riparian facultative plant species. Invasion of upland plants and riparian facultative plants would increase in the long term as soil and water conditions improve and disturbance remained at high levels within the riparian zone. Species such as Carex species (sedges) and Salix (willow) species would not increase in composition and density and invading upland and riparian facultative species such as Poa and Juncus would remain dominant plant species. No special status plant species have been found during field visits however *Phacelia inundata* could potentially exist within the Project Area based on species characteristics and soil mapping. The No Action Alternative could have a negative impact to this species due to the potential for trampling and heavy grazing impacts.

3. **Alternative 1 and 2: Divine Springs Aspen Stand Habitat Enhancement Project:**

Aspen plant communities would increase in composition as a result of treatment within the Project Area. Reduction in plant community competition would be decreased by removing invasive juniper from the riparian zone and would facilitate increases in recruitment of aspen saplings. Willow species that exist within the riparian zone within the Project Area would benefit from burning old decadent and dead clumps of willows and will encourage regeneration of current stands. Fencing the small spring within the Project Area would protect a small segment of a riparian plant community that is currently losing diversity due to heavier grazing of desired species (aspen and Nebraska sedge).If implemented, these species would increase in density and cover due to being protected from heavier levels of cattle grazing that is currently occurring. No special status plant species were observed during field visits and no special status plant species are expected to occur within the Project Area.

Alternative 3 - No Action: Divine Springs Aspen Stand Habitat Enhancement Project:

Under Alternative 3, the juniper treatment would not occur and aspen plant communities would not increase in composition due to invasive juniper continuing to negatively affect aspen

communities. Plant community competition would be negatively affected by not removing invasive juniper from the riparian zone and increases in recruitment of aspen saplings would not occur. Willow species that exist within the riparian zone in the Project Area would not be burned and old decadent and dead clumps of willows would not regenerate current stands. Fencing the small spring within the Project Area would not occur and the riparian plant community would continue to lose diversity due to heavier grazing of desired species (aspen and Nebraska sedge).

4. **Alternative 1 and 2: Divine Spring Campground:**

The Divine Springs campground would have little to no effect in the short term on vegetation resources within the Project Area. A small degree of protection for riparian plant communities will occur over the long term due to concentrating recreation use on previously disturbed areas and decreasing use within the wetted riparian zone.

Alternative 3 - No Action: Divine Spring Campground:

The No Action Alternative would have little to no effect in the short term on vegetation resources within the Project Area. A small degree of protection for riparian plant communities would not occur over the long term under the No Action Alternative due to concentrating recreation use throughout the area and higher levels of use within the wetted riparian zone.

5. **Alternative 1: Temporary Permit to gather into Meadows:**

Impacts to vegetation communities associated with authorizing TNR AUMs would primarily be related to cattle trampling of moist hydric soils and removal of riparian vegetation. Rating in the Mare and Boulder fields in 2011 were found to be at PFC with excellent riparian conditions; under Alternative 1 these conditions would be expected to continue due to lighter levels of grazing than had occurred in the past. Under Alternative 1, improvements in diversity and ground cover would be expected to occur due to increases in plant production and grazing favoring expansion of vegetation compared to previous use. The lack of grazing in the past two years within the meadows after BLM acquisition has led to excessive decadent vegetation that could eventually lead to mat meadows conditions. This is a concern within the Mare and Boulder Fields due to lack of grazing that removes old vegetation and allows new green growth to develop. Allowing TNR AUMs would ensure decadent growth is removed on a yearly basis. Implementation of utilization limits will ensure plant community diversity increases and favorable grazing plants such as sedges and meadow barley species increase in abundance. Additionally, lack of residual grass cover would be addressed under this alternative due to utilization limits being put in place to ensure overgrazing does not occur. Over the long term, woody species such as willow and rose species would increase in abundance under a grazing system that emphasizes vegetation community composition, adequate ground cover and utilization limits as a tool for grazing management. Overall, authorizing TNR AUMs with utilization limits would have only minor effects to vegetation communities within fenced pastures. No special status plant species were observed during field visits and no special status plant species are expected to occur within the Project Area.

Alternative 2 - Projects and Trailing Authorization; No TNR:

Under this alternative a temporary authorization would not be allowed for gathering into the fields. Trailing would occur but due to the short duration the impacts are expected to be negligible to vegetation due to very little grazing occurring within the fields.

Alternative 3 – No Action

Under this alternative a temporary authorization would not be allowed for gathering into the two fields. No grazing activities will be allowed on the acquired lands until a new allotment management plan and grazing permit renewal EA is completed, therefore there will be no short term impacts to vegetation. In the long term, meadow systems would begin to develop into mat meadow dominated communities, with less vigor and productivity of riparian plant communities.

6. **Alternative 1 and 2: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

Implementation of juniper reduction projects within aspen and riparian communities in acquired lands within the Corral allotment will facilitate improvements in aspen health by removing juniper that is invading riparian plant communities. These actions would increase resiliency of riparian areas as vegetation expanded and the amount of bare soil is reduced. Riparian vegetation communities would increase in size and extent as more water becomes available when juniper density is reduced. Riparian habitat would improve in the long term as aspen communities expanded and reached their full extent. Recruiting of younger age classes of aspen will improve riparian conditions due to less bare ground within the transition zone between riparian and upland areas. Removing the broken trough from the riparian area at Site 3 will have a slight improvement in riparian cover due to lack of cattle congregating on the riparian area. Upland sites would improve as juniper competition was decreased and the shrub and herbaceous understory began to dominate ecological processes. Sagebrush species and deep rooted perennial bunchgrasses would be expected to improve in the long term as interspaces were colonized and expanded. Overall, vegetation communities are expected to make progress towards the potential natural community, with increased diversity and resiliency of plant communities. No special status plant species were observed during field visits and no special status plant species are expected to occur within the Project Area.

Alternative 3 - No Action: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:

Under Alternative 3, implementation of juniper reduction projects within aspen and riparian communities in acquired lands would not occur. Improvements in aspen and riparian health would not occur due to juniper not being removed. Riparian vegetation would continue to decrease as juniper increases and the amount of bare soil would increase as riparian vegetation is lost. Riparian communities would continue to decline in the long term as aspen health decline and stand densities were decreased. Recruiting of younger age classes of aspen would not improve and stands would move towards single age class stands. The broken trough from the riparian area at Site 3 would not be removed and cattle could congregate on the riparian area in the future; leading to upland disturbance adapted species invading the riparian zone. Upland sites would continue to become encroached by juniper and shrub and herbaceous species would continue to decline. The upper juniper canopy would eventually dominate ecological processes and plant production and vigor would decline. Upland sites would become at risk of transitioning into juniper woodland or an annual grassland if fire occurred on encroached sites. Overall, plant community health would continue to decline, with an increased potential of crossing irreversible ecological thresholds in the future.

3.12. Lands and Realty

A. Affected Environment

The primary lands and realty functions on the Home Camp lands are rights-of-ways. The potential for rights-of-ways to be applied for on any of the acquired lands is minimal. Renewable energy applications have been filed on Home Camp lands in the past but are currently not allowed since they have not been opened up for entry. There are currently no new rights-of-ways on the Home Camp acquired lands.

B. Environmental Consequences

Proposed Projects: Findings and effects

1. **Alternative 1 and 2: Boulder Reservoir Recreational Enhancement Project:**

Implementation of this project will have little effects on lands and realty. This development of this area will cause it to be closed to energy development but due to the size of the Project Area it would have little effect. The enhancement of this project could cause the surrounding private lands to become more eligible for acquisitions or Recreation and Public Purpose (R&PP) Lease in the future.

Alternative 3 - No Action: Boulder Reservoir Recreational Enhancement Project:

Not implementing this project would have no adverse effects on Lands and Realty.

2. **Alternative 1 and 2: Pinto Springs Riparian Protection and Habitat Enhancement Project:**

Implementation of this alternative would have no adverse effects on Lands and realty.

Alternative 3 - No Action: Pinto Springs Riparian Protection and Habitat Enhancement Project:

Not implementing this project would have no adverse effects on Lands and Realty.

3. **Alternative 1 and 2: Divine Springs Aspen Stand Habitat Enhancement Project:**

Implementation of this alternative would have no adverse effects on Lands and realty.

Alternative 3 - No Action: Divine Springs Aspen Stand Habitat Enhancement Project

Not implementing this project would have no adverse effects on Lands and Realty.

4. **Alternative 1 and 2: Divine Spring Campground:**

Implementation of this project will have little effects on lands and realty. This development of this area will cause it to be closed to energy development but due to the size of the Project Area it would have little effect. The enhancement of this project could cause the surrounding private lands to become more eligible for acquisitions or Recreation and Public Purpose (R&PP) Lease in the future.

Alternative 3 - No Action: Divine Spring Campground:

Not implementing this project would have no adverse effects on Lands and Realty.

5. **Alternative 1: Temporary Permit to gather into Meadows:**

Implementation of this alternative would have no adverse effects on Lands and realty.

Alternative 2 - Projects and Trailing Authorization; No TNR:

Not implementing this alternative would have no effects on Lands and Realty.

Alternative 3 – No Action

Not implementing this would have no effects on Lands and Realty.

6. **Alternative 1 and 2: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

Implementation of this alternative would have no adverse effects on Lands and realty.

Alternative 3 - No Action: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:

Not implementing this project would have no adverse effects on Lands and Realty.

3.13. Fire and Fuels Management

A. Affected Environment

Fire and fuels resources are primarily described by vegetation and fuel type and are influenced or affected by precipitation, temperature, soils, and seasonal fluctuations. Fuel in the natural environment includes live vegetation, as well as materials such as dead branches, needles, and cones. Fire and fuels on lands within the Project Area have been influenced by active and passive management actions since prehistoric times (BLM 2007).

Fire Regime Condition Classes

Fire regimes represent an index of pre-settlement historical fire processes generated for the period from around 1500 to just prior to the mid-1800s and are described in terms of frequency and severity. As shown in Table 3.10 below, five fire regimes have been classified based on average number of years between fires combined with the severity of the fire on the dominant over story vegetation.

Table 3.10. Fire Regime Classification

Fire Regime	Frequency	Severity
I	0-35 Year Return Interval	Mixed
II	0-35 Year Return Interval	High
III	35-100+ Year Return Interval	Mixed
IV	35-100+ Year Return Interval	High
V	200+ Year Return Interval	High

Lands within the Project Area are classified mainly within the Fire Regime Classification I, III and IV and are shown in Table 3.11 below, Fire Regime I primarily represents forested lands with frequent, low intensity fires with a 0-35+ year return interval. Fire Regime III and IV primarily represent forest, shrub, and grasslands with a longer return interval ranging from 35-100+ years.

Table 3.11. Acres by Fire Regimes

Fire Regime	Acres	Percent
I 0-35 Year Return Interval Mixed Severity	2.24	Less than 1%
III 35-100+ Year Return Interval Mixed Severity	852.8	65%
IV 35-100+ Year Return Interval High Severity	453.4	35%
Sparsely Vegetated	.44	Less than 1%

Condition Classes describe the degree of departure from historical fire regimes resulting in alterations of key ecosystem components such as species composition, structural stage, stand age, and canopy closure. This departure from historical conditions may result from several factors including fire exclusion, timber harvesting, grazing, introduction and establishment of exotic plant species, insects and disease (introduced or native), or other past and present management activities (USFS 2008). Descriptions of the current Condition Classes are presented below in Table 3.12.

Table 3.12. Fire Regime Condition Class Descriptions

Condition Class	Fire Regimes	Possible Management Options
1	Fire regimes are within an historical range, and the risk of losing key ecosystem components is low. Vegetation attributes (species composition and structure) are intact and functioning within an historical range.	Where appropriate, these areas can be maintained within the historical fire regime by treatments such as fire use.
2	Fire regimes have been moderately altered from their historical range. The risk of losing key ecosystem components is moderate. Fire frequencies have departed from historical frequencies by one or more return intervals (either increased or decreased). These results in moderate changes to one or more of the following: fire size, intensity and severity, and landscape patterns. Vegetation attributes have been moderately altered from their historical range.	Where appropriate, these areas may need moderate levels of restoration treatments, such as fire use and hand or mechanical treatments, to be restored to the historical fire regime.
3	Fire regimes have been significantly altered from their historical range. The risk of losing key ecosystem components is high. Fire frequencies have departed from historical frequencies by multiple return intervals. These results in dramatic changes to one or more of the following: fire size, intensity,	Where appropriate, these areas may need high levels of restoration treatments, such as hand or mechanical treatments, before fire can be used to restore the historical fire regime.

	severity, and landscape patterns. Vegetation attributes have been significantly altered from their historical range.	

As shown below in Table 3.13 below, lands within the Project Areas are currently characterized as Condition Class 1 where fire return intervals have low departure from the natural regime of vegetative characteristics, fuels accumulations, fire frequency and severity.

Table 3.13. Project Area Acres by Condition Class

Condition Class	Home Camp Condition Classes
Condition Class 1 Low Departure	997.2 acres or 76%
Condition Class 2 Moderate Departure	311.1 acres or 24%
Condition Class 3 High Departure	.18 acres or less than 1%
Sparsely Vegetated	.36 acres or less than 1%

Approximately less than 1 percent of the Project Areas is classified as Condition Class 3, 24 percent of the Project Area is classified as Condition Class 2, and 76 percent of the Project Areas is classified as Condition Class 1. The risk of losing key components of the sage-steppe ecosystem within the majority of the Project Area is moderate to high. Normally these areas would experience low to mixed intensity wildland fire events every 0-35 years for lands classified in the Fire Regime I index, and every 35-100+ years for lands classified in the Fire Regime II index. Historic fire suppression and land management actions have resulted in juniper encroachment which has increased the risk of catastrophic wildfire. Areas classified as Condition Class 1 need treatments before they transition to a higher condition class due to no action which may already be occurring. Vegetation within the area is highly variable, but is dominated by big and low sagebrush communities and by areas of juniper woodlands.

Fire Management

According to the current Fire Management Plan the area currently designated as “full suppression.” Any wildland fires within the Project Area would be actively suppressed until controlled. The implementation of a “full suppression” management strategy over the last century has reduced the frequency of medium-sized fires and has resulted in increased fuels buildup, contributing, over time, to an increased risk of large, intense wildfire and fire-related damage, including damages to private landholdings. During high to extreme burn conditions catastrophic wildfire may result from these conditions, potentially requiring additional resources to suppress and rehabilitate fire and fire-related damages. However, the Surprise RMP states that wildland fire would be used to protect, maintain, and enhance resources and—as far as possible—be allowed to function in its natural ecological role.

Direct and Indirect Effects of Alternative 1 and 2

The Proposed Action would decrease fuel loads and could potentially reduce fire line intensities within the Project Area by reducing negative fire effects in the event of a wildfire. In addition, proposed treatment would facilitate the RMP objectives by using wildland fires to restore, maintain, and improve the ecosystem. Although dense juniper stands are somewhat fire resistant, juniper is highly intolerant of fire. With an increase in fire frequencies, through implementation

of prescribed burns, young juniper seedlings would be eradicated, and the natural fire cycle restored more quickly, resulting in smaller fires, more vigorous plant communities, and reduced rehabilitation costs. Without an understory or a seed bank, Phase III juniper woodland will likely respond to prescribed fire by transitioning into annual grassland. If applied correctly to sites with less than 30 percent canopy cover and/or less than 75 percent dead shrub cover (the upper end of Phase II Juniper Woodland Succession), positive response in perennials and shrubs can be achieved with low intensity fires (USGS 2007). Additionally, the restoration of natural fire regimes and reduction in fuel loads would reduce the probability of large, uncharacteristic wildfires. Fuel reductions would result in decreased fire size, intensity and rate of spread. Vegetation management treatments would restore diversity and seral stages within biological communities, resulting in a less homogenous landscape characterized by a diverse mosaic of vegetation types and stages, and subsequently slowing the spread of future wildfires.

Implementation of the Proposed Action is not anticipated to result in adverse effects to fire and fuels. Implementation of the Proposed Action would result in long-term moderate benefits.

Direct and Indirect Effects of Alternative 3 - No Action:

Under the No Action Alternative the potential for large uncharacteristic fires to burn onto or out of the Project Area would increase. The fuel loading would increase with the encroachment of juniper due to natural fire suppression. The fuel loading in the area would change from fine fuels to heavier woody fuels as the juniper and in some cases the brush and shrub component dominate and crowd out the grasses and forbs. This would cause a shift in a historic stand structure and a less frequent fire return interval. The fires that would occur will be of a more uncharacteristic (non-historical) and the intensity would be greater thus involving more resources, time and money to suppress and rehab.

During a study conducted by Jeanne Chambers, Research Ecologist with the USDA Forest Service Rocky Mountain Research Station, fuels loads were shown to have doubled from a Phase I to a Phase II juniper stand. The fuel load once again doubled between Phase II and III. The fuel loading in the sagebrush ecosystem now is as much as eight times greater than before tree encroachment occurred (Chambers 2008). The no action alternative would allow juniper trees to continue to encroach allowing for the risk of a high intensity uncharacteristic wild fire to occur.

Table 3.14. Phases of Juniper Woodland Succession

Characteristics (post-settlement stands)	Phase I (Early)	Phase II (Middle)	Phase III (Late)
Tree Canopy (% of maximum potential)	Open, actively expanding <10%	Actively expanding 10 to 30%	Expansion nearly stabilized >30%
Leader Growth (dominate trees) (cm/yr)	Terminal >10 Lateral >10	Terminal >10 Lateral 5 to >10	Terminal >10 Lateral <5
Crown lift* (dominant trees)	Absent	Absent	Lower limbs dying or dead where tree canopy >40%
Potential berry production	Low	Moderate to high	Low to near absent
Tree recruitment	Active	Active	Limited

Leader Growth (understory trees) (cm/yr)	Terminal >10 Lateral>8	Terminal 5 to >10 Lateral 2 to >8	Terminal <5 Lateral <2
Shrub layer	Intact	Nearly intact to significant thinning	>75% dead

Note

Crown lift is the mortality of lower tree limbs, usually due to shading by neighboring trees.

3.14. Visual Resource Management

BLM's Visual Resource Management (VRM) system provides a way to identify and evaluate scenic values to determine the appropriate levels of management. It also provides a way to analyze potential visual impacts and apply visual design techniques to ensure that surface-disturbing activities are in harmony with their surroundings. The VRM system is categorized as follows:

Class I Objective: To preserve the existing character of the landscape. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II Objective: To retain the existing character of the landscape. The level of change to the characteristic landscape should be low.

Class III Objective: To partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate.

Class IV Objective: To provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high.

A. Affected Environment

The project locations occur and class II and IV: Visual Resources in the Project Areas are generally associated with recreational activities which include: driving for pleasure, viewing landscapes, outdoor activities and watchable wildlife opportunities. Much of the area is at higher elevations and affords excellent panoramas and vistas of the adjacent higher mountain peaks and surrounding landscapes.

B. Environmental Consequences

Proposed Projects: Findings and effects

1. **Alternative 1 and 2: Boulder Reservoir Recreational Enhancement Project:**

The project falls in an area that has a Class IV objective: "To provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high." The proposed project will introduce contrasting elements of form, line, color, and texture. However since the project falls within a Class IV designation, major modification to the landscape are permissible. The visual impacts proposed such as fire rings, Vault toilet, troughs, and fence will have an impact to the visual resources however the impacts are minimal due to the proximity to other present features. Impacts from the proposed project will be negligible to VRM.

Alternative 3 - No Action: Boulder Reservoir Recreational Enhancement Project:

Not implementing this action would have no adverse effects on Visual Resources.

2. **Alternative 1 and 2: Pinto Springs Riparian Protection and Habitat Enhancement Project:**

The project falls in an area that has a Class IV objective: "To provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high." The proposed project will introduce contrasting elements of form, line, color, and texture. However since the project falls within a Class IV designation, major modification to the landscape are permissible. The visual impacts proposed such as a spring box, troughs, and fences will have an impact to the visual resources however the impacts are minimal due to the proximity to other present features and project design features that minimize visual contrast. Impacts from the proposed project will be negligible to VRM.

Alternative 3 - No Action: Pinto Springs Riparian Protection and Habitat Enhancement Project:

Not implementing this action would have no adverse effects on Visual Resources

3. **Alternative 1 and 2: Divine Springs Aspen Stand Habitat Enhancement Project:**

The project falls in an area that has a Class IV objective: "To provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high." The proposed project will introduce contrasting elements of form, line, color, and texture. However since the project falls within a Class IV designation, major modification to the landscape are permissible. The visual impacts proposed form cutting juniper will have an impact to the visual resources however the impacts are minimal due to the proximity to other present features and trees losing needles and blending into the background in a few seasons. Impacts from the proposed project will be negligible to VRM.

Alternative 3 - No Action: Divine Springs Aspen Stand Habitat Enhancement Project

Not implementing this action would have no adverse effects on Visual Resources

4. **Alternative 1 and 2: Divine Spring Campground:**

The project falls in an area that has a Class IV objective: "To provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high." The proposed project will introduce contrasting elements of form, line, color, and texture. However since the project falls within a Class IV designation, major modification to the landscape are permissible. The visual impacts proposed such as picnic tables and fire rings will have a slight impact to the visual resources however the impacts are minimal due to the proximity to other present features and the small scale of the project size. Impacts from the proposed project will be negligible to VRM.

Alternative 3 - No Action: Divine Spring Campground:

Not implementing this action would have no adverse effects on Visual Resources

5. **Alternative 1: Temporary Permit to gather into Meadows:**

The project falls in an area that has a Class IV objective: "To provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high." The proposed project will introduce contrasting elements of form, line, color, and texture. However since the project falls within a Class IV designation, major modification to the landscape are permissible. The visual impacts proposed from grazing will have a slight impact to the visual resources however the impacts are minimal due to the proximity to other present features and utilization limits that ensure excessive use does not occur. Impacts from the proposed project will be negligible to VRM.

Alternative 2 – Projects and Trailing Authorization; No TNR:

Not implementing this action would have no adverse effects on Visual Resources due to the small period of time that livestock would be moving through pastures.

Alternative 3 – No Action:

Not implementing this action would have no adverse effects on Visual Resources.

6. **Alternative 1 and 2: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

The project falls in an area that has a Class IV objective: "To provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high." The proposed project will introduce contrasting elements of form, line, color, and texture. However since the project falls within a Class IV designation, major modification to the landscape are permissible. The visual impacts proposed from cutting and burning juniper will have an impact to the visual resources however the impacts are minimal due to the proximity to other present features and juniper needles falling off in a few seasons and blending into the background, burning piles will further reduce impacts under this alternative. Impacts from the proposed project will be negligible to VRM.

Alternative 3 - No Action: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:

Not implementing this action would have no adverse effects on Visual Resources.

3.15. Global Climate Change

A. Affected Environment

Rising greenhouse gas (GHG) levels are likely contributing to global climate change. In the Project Area, climate change is typically expected to result in warmer, drier conditions and potentially more extreme weather events. Natural processes such as volcanic eruptions contribute to the increasing levels of GHGs in the atmosphere. Human activities related to the Proposed Action, recreation and livestock grazing also contribute GHGs in the form of exhaust emissions and methane.

The assessment of GHG emissions and climate change remains in its formative phase. The lack of scientific tools designed to predict climate change on regional or local scales limits the ability to quantify potential future impacts of climate change on resources in the Project Area. In addition, while the proposed action may involve some future contribution of GHGs, these

contributions would not have a noticeable or measurable effect, independently or cumulatively, on a phenomenon occurring at the global scale believed to be due to more than a century of human activities.

B. Environmental Consequences

Proposed Projects: Findings and effects

1. **Alternative 1 and 2: Boulder Reservoir Recreational Enhancement Project:**

The amount of GHG emitted by vehicle exhaust emissions and their management under the Proposed Action is unknown. However, any contribution of GHG due to this alternative is not likely to have an effect on global climate due to the minimal level of added mechanical operations.

Alternative 3 - No Action: Boulder Reservoir Recreational Enhancement Project:

The amount of GHG emitted by vehicle exhaust emissions and their management under the Alternative 3 is unknown. However, any contribution of GHG due to this alternative is not likely to have an effect on global climate.

2. **Alternative 1 and 2: Pinto Springs Riparian Protection and Habitat Enhancement Project:**

The amount of GHG emitted by vehicle exhaust emissions and their management under the Proposed Action is unknown. However, any contribution of GHG due to this alternative is not likely to have an effect on global climate.

Alternative 3 - No Action: Pinto Springs Riparian Protection and Habitat Enhancement Project:

The amount of GHG emitted by vehicle exhaust emissions and their management under Alternative 3 is unknown. However, any contribution of GHG due to this alternative is not likely to have an effect on global climate.

3. **Alternative 1 and 2: Divine Springs Aspen Stand Habitat Enhancement Project:**

The amount of GHG emitted by vehicle exhaust emissions and prescribed fire and their management under the Proposed Action is unknown. However, any contribution of GHG due to this alternative is not likely to have an effect on global climate.

Alternative 3 - No Action: Divine Springs Aspen Stand Habitat Enhancement Project

The amount of GHG emitted by vehicle exhaust emissions and their management under Alternative 3 is unknown. However, any contribution of GHG due to this alternative is not likely to have an effect on global climate.

4. **Alternative 1 and 2: Divine Spring Campground:**

The amount of GHG emitted by vehicle exhaust emissions and their management under the Proposed Action is unknown. However, any contribution of GHG due to this alternative is not likely to have an effect on global climate due to the minimal level of added mechanical operations.

Alternative 3 - No Action: Divine Spring Campground:

The amount of GHG emitted by vehicle exhaust emissions and their management under Alternative 3 is unknown. However, any contribution of GHG due to this alternative is not likely to have an effect on global climate.

5. **Alternative 1: Temporary Permit to gather into Meadows:**

The amount of GHG emitted by livestock and their management under the Proposed Action is unknown. However, any contribution of GHG due to this alternative is not likely to have an effect on global climate.

Alternative 2 – Projects and Trailing Authorization; No TNR:

The amount of GHG emitted by livestock grazing and their management under Alternative 2 is unknown. However, any contribution of GHG due to this alternative is not likely to have an effect on global climate.

Alternative 3 – No Action

The amount of GHG emitted by livestock grazing and their management under Alternative 3 is unknown. However, any contribution of GHG due to this alternative is not likely to have an effect on global climate.

6. **Alternative 1 and 2: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:**

The amount of GHG emitted by vehicle exhaust emissions and their management under the Proposed Action is unknown. However, any contribution of GHG due to this alternative is not likely to have an effect on global climate.

Alternative 3 - No Action: Corral Allotment Aspen Stand and Sage-Steppe Habitat Enhancement Project:

The amount of GHG emitted by vehicle exhaust emissions, prescribed burning and their management under Alternative 3 is unknown. However, any contribution of GHG due to this alternative is not likely to have an effect on global climate.

Chapter 4. OVERALL CUMULATIVE IMPACTS

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Surprise Resource Management Plan and Final Environmental Impact Statement, April 2008 and the Record of Decision for the Sage Steppe Ecosystem Restoration Strategy Final Environmental Impact Statement, December 2008. As such, the reader is referred to those documents for a complete assessment of overall cumulative impacts of the proposals and alternatives.

Cumulative impacts are the "incremental impacts of a proposal when added to other past, present, and reasonably foreseeable future actions, regardless of which agency or person undertakes them" (40 Code of Federal Regulations 1508.7)

Potential cumulative impacts are assessed at the resource level. The cumulative effects analysis area (CEAA) for past, present, and reasonably foreseeable future activities (RFFAs) that may generate cumulative impacts varies depending on the resource under consideration. For example, the CIAA for socioeconomics is regional in nature; therefore, the scope of activities considered is necessarily broad. In contrast, the CEAA for grazing is the area specifically associated with the Proposed Action and alternatives; therefore, the scope of potential cumulative activities considered is much narrower. Past, present, and reasonably foreseeable future actions are analyzed to the extent that they are relevant and useful in analyzing whether the reasonably foreseeable effects of the Proposed Action and Alternatives may have an additive and significant relationship to those effects.

Geographic Scope

The geographic scope of the Cumulative Effects Analysis for this EA has a number of different Cumulative Effects Assessment Area (CEAA) depending on the resource (see Map 10.12). Past and existing development in the RFFAs is organized by CEAA and includes the Home Camp and Wall Canyon West allotment CEAA, the 75% Sage Grouse Breeding Bird Densities CEAA, and the recreation and socioeconomic CEAA as described below. The Allotment and Sage Grouse CEAA encompass 376,559 acres of public lands and 14 active sage-grouse leks. There are 263 miles of fence and 603 miles of road within these CEAAs. There are 42 springs and 795 miles of stream channels (perennial and intermittent) within CEAAs. Range developments in CEAA include 106 pit reservoirs, 1 water troughs, and 21 wells. Weed invasions within the CEAA include Bull Thistle, Canada Thistle, Salt Cedar, Perennial Pepperweed, Russian Knapweed and Scotch Thistle. Although some are large cumulative effects analysis area that have been identified, actual Project Areas and any direct effects to most resources would be confined to only a few acres surrounding the Project Area.

Vegetation management includes hazardous fuel reduction treatments and habitat improvement. Juniper thinning is expected to occur throughout the CEAA in juniper encroached sage-steppe communities.

A Rangeland Health Determination, Allotment Management Plan, and grazing permit renewal process for the Home Camp Allotment is expected to be completed within the next 5 years.

A variety of projects focused on improving riparian and aspen conditions are expected to be implemented. These will likely include relocating troughs, fencing sites, improving waterways to maintain free flowing characteristics of wetland-stream systems and cutting juniper and/or aspen to rejuvenate aspen communities. Since riparian areas have been recognized as important resources on the landscape, management of riparian zones will include focusing on removing non-functional developments, including acquired fences that are not needed, maintaining existing developments, and relocating developments outside of riparian zones to reduce impacts to riparian areas.

Recreational use is expected to increase throughout the 10 year period.

Timeframe of Effects

Since the life of an EA is generally 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.

Past Actions

The Home Camp Acquisition was completed in 2010. Prior to 2010 the BLM had no management responsibility on these lands since they were private. BLM administered lands surrounding these private lands are managed for multiple-use type actions, and various acquired parcels are adjacent to the Wall Canyon wilderness study area. Livestock grazing, first primarily sheep, then cattle is believed to have occurred on the private lands for the past 100 years. Dispersed recreation also occurred on these lands prior to BLM ownership. General activities include: rock hounding, sightseeing, hunting, fishing, off-highway vehicle (OHV) use, camping, and wildlife viewing. The BLM permits non-commercial and commercial recreation events through its Special Recreation Permit program. The area is an "open and unlimited use" area for travel management. Although most vehicle use occurs on existing two-track trails and dirt roads, OHV use is permitted. Actual number of users per day or per year is not available, but the intensity of recreational use is generally concentrated near water and higher elevation terrain. Most recreation use occurs during the summer, spring and fall, and associated with hunting activities.

Present Actions

Since BLM took administration of the acquired lands, several assessments have been conducted to determine current resource conditions and possible management. Under the Proposed Action, the BLM would conduct a number of projects that would improve the existing resource and recreational conditions and aid in the future management of the lands. As described in the Proposed Actions, there is a need for these projects in the selected areas. The proposed management actions are necessary to bring springs and associated riparian areas in functional standards, increase recreational activities, and protect natural resources while allowing multiple-use actions. Under the No Action Alternative, the BLM would not implement any of these projects. Range health would continue to deteriorate on certain lands and public enjoyment of the BLM lands would not be improved.

Under the Proposed Action or Alternatives, the BLM would implement the projects and manage the newly acquired lands in the manner for which they were acquired. Resource values would improve, new recreation opportunities would come available and the land health standards would start to improve.

Reasonably Foreseeable Actions

Cattle grazing is expected to continue on the Home Camp Allotment, at roughly the same stocking levels and seasons of use as currently permitted. Periodic assessments of livestock grazing in relation to Land Health Standards could result in changes in livestock management practices, and could result in the installation of range improvements such as spring developments and addition fencing. Fencing and maintenance of temporary and permanent range improvements would continue.

The BLM will continue to monitor range health to determine the scope and timing of any future activities. Monitoring includes riparian assessments, wildlife surveys, rangeland health assessments, aspen surveys, rangeland and vegetation monitoring, and cattle compliance.

On BLM lands adjacent to the acquired lands livestock grazing is managed under the revised AMP. Future livestock management would be addressed during the grazing permit renewal, planned to start in 2013. The BLM is likely to conduct similar projects as proposed to improve land health standards in the future.

As described in Past and Present Actions, dispersed recreation is likely to continue in the future, but it is anticipated to increase due to the construction of new recreation facilities.

Sage Grouse Breeding Bird Densities CEAA

This CEAA covers approximately 376,559 acres of BLM lands; includes water, soils, vegetation resources, wildlife resources, fuels resources; and also represents the fisheries CEAA. In this CEAA there are 14 active sage-grouse leks, 42 springs, and 106 pit reservoirs.

Home Camp & Wall Canyon West Allotment Livestock CEAA

This CEAA covers approximately 184,255 acres of BLM lands; includes soils, vegetation, cultural resources, and also represents the grazing resources. In this CEAA there are 162 miles of fence, 314 miles of roads, 67 pit reservoirs, and 13 wells. Wall Canyon Allotment has 2 permittees, authorized to graze up to 520 cows for a total of 2,615 AUMs. Home Camp/Corral Allotment has 4 permittees authorized to graze up to1828 cows for a total of 9,176 AUMs.

Recreation and Socioeconomic CEAA

This CEAA covers approximately two counties, Washoe County, Nevada and Modoc County, California. This CEAA is fairly large and the BLM decided to look at the surrounding communities within a 50 mile radius of the projects. The CEAA includes approximately population of 5,000 individuals, 15 established communities and over 500,000 acres of public lands. In these communities the primary economic and recreational activities include: ranching, tourism, outdoor recreation and public services (fuel, food, and lodging).

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 affect 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 alternatives contribute to the collective impact. Inter-related resources with similar impacts have been grouped together for the cumulative impact analysis.

CULTURAL RESOURCES

Since many Great Basin prehistoric sites are surface or near surface sites, any ground disturbing activities destroy site integrity, spatial patterning and ability to determine site function. Datable organic features are either destroyed or contaminated. Previous localized grazing, range improvements, road construction/maintenance and gravel pits have caused these types of impacts to cultural resources. Grazing has probably affected a larger number of sites than is documented. Looting sometimes occurs but inadvertent actions from recreation, rock hounding and other

off-road activities affect cultural resources as well. Recreational use is expected to increase and these activities sometimes coincide with sensitive cultural resources causing displacement and mixed deposits of prehistoric/historic and modern debris. Vegetation management activities could increase the visibility of cultural sites potentially exposing them to increased looting. Inventories associated with planning for vegetation management would increase the state of knowledge concerning the local and regional cultural setting.

Cumulative Impact

1. Proposed Action

The cumulative effects of the proposed action on cultural resources should be an incremental increase in the rate of disturbance to site integrity, spatial patterning, and site function. Impacts to datable organic features would also be increased. This increase in impacts would be a result of impacts to ecological conditions over an extended period of time as concentrated grazing in sensitive riparian zones is permitted. Recreational use is expected to increase and these activities sometimes coincide with sensitive cultural resources causing displacement and mixed deposits of prehistoric/historic and modern debris. Vegetation management activities could increase the visibility of cultural sites potentially exposing them to increased looting. Inventories associated with planning for vegetation management would increase the state of knowledge concerning the local and regional cultural setting. The combination of past, present and future impacts to the cultural resources on the Home Camp Allotment is expected to be limited.

2. Alternative 2

The cumulative effects of Alternative 2 on cultural resources should be an incremental reduction in the rate of disturbance to site integrity, spatial patterning, and site function. Impacts to datable organic features would also be reduced. This reduction in impacts would be a result of the expected improvement in ecological condition over an extended period of time as concentrated grazing in sensitive riparian zones is eliminated. Recreational use is expected to increase and these activities sometimes coincide with sensitive cultural resources causing displacement and mixed deposits of prehistoric/historic and modern debris. Vegetation management activities could increase the visibility of cultural sites potentially exposing them to increased looting. Inventories associated with planning for vegetation management would increase the state of knowledge concerning the local and regional cultural setting. The combination of past, present and future impacts to the cultural resources on the Home Camp Allotment is expected to be limited.

3. Alternative 3 - No Action

The cumulative effects of Alternative 3 - No Action would have limited impacts on cultural resources. There may be negative impacts to cultural resources if the Pinto Springs Exclosure is not constructed. The exclosure would facilitate protection of three known cultural sites. The combination of past, present and future impacts to the cultural resources on the Home Camp Allotment is expected to be negative.

INVASIVE SPECIES

Impacts from Past and Present Actions

Past impacts from road maintenance, livestock grazing, agriculture, recreation OHV, and other ground disturbing activities have introduced and spread non-native species such as cheatgrass and thistles throughout the allotment. There are 6 documented different weed species within the

Allotments and Sage Grouse breeding bird density CEAA totaling 1,065 recorded plants; with perennial pepperweed being the most common, totaling 911 recorded plants. There are also other plant invasions that have occurred that are undocumented to date.

Impacts from Reasonably Foreseeable Future Actions

Future increases in recreation are likely to increase the spread of invasive species throughout the CEAA and continue the risk of introduction of new noxious weeds. Recreation that occurs on the Home Camp Allotment is likely to increase the rate of spread of invasive species along roads, trails, and in camping areas. Project development in the Home Camp Allotment has the potential to increase invasive species spread and expose the allotment to introduction of noxious weeds, however through cleaning equipment prior to use, the threat of noxious and invasive species is reduced. Vegetation treatments including juniper removal should release the native understory, making it more resilient in the event of disturbance, thereby decreasing the ability of noxious and invasive species to invade the site. Cattle use is a potential vector of noxious weed spread however the risk is generally low and has not occurred within the allotment.

Cumulative Impact

1. Proposed Action

The cumulative effects of the proposed action on weed species would be neutral to slightly positive as compared to current management. Exposure in the CEAA to increases of existing invasive, nonnative species and introduction of noxious weed species would continue, however improvements in vegetative conditions expected under this alternative would slightly reduce the potential for these species to spread. The past actions have not introduced many noxious and invasive weed species and the foreseeable actions are not expected to introduce weeds due to design measures and SOPs. Projects are expected to improve native vegetative communities, thereby reducing any spread of weeds. Therefore, the overall cumulative impact would be expected to be neutral to positive for noxious and invasive weeds.

2. Alternative 2

The cumulative effects of Alternative 2 on weed species would be neutral to slightly positive as compared to current management and would be nearly identical to the proposed action. The potential to spread noxious weeds via cattle movements would be slightly reduced under this alternative. Exposure in the allotment to increases of existing invasive, nonnative species and introduction of noxious weed species would continue due to vegetation treatments and other projects continuing, however improvements in vegetative conditions expected under this alternative would slightly reduce the potential for these species to spread. The past actions have not introduced many noxious and invasive weed species and the foreseeable actions are not expected to introduce weeds and are expected to improve native vegetative communities thereby reducing any spread of weeds. Therefore the overall cumulative impact would be expected to be neutral to positive for noxious and invasive weeds.

3. Alternative 3 - No Action

Under this alternative, the cumulative effects to weed species would be greater than under the proposed action. The lack of land treatments would not allow for rapid improvements in native vegetation, thereby increasing the chance for invasive species to spread and invade degraded plant communities. Approximately 1,500 acres of habitat would not be restored and would be more

prone to invasion. Currently noxious weeds are not wide-spread, but the exposure of the resources on the allotment to the introduction of weeds and invasive species would continue. Since no grazing is included in this alternative, this eliminates one potential vector of weed establishment. The combination of past, present and future impacts to the invasive species in the Home Camp Allotment under Current Management is expected to be slightly negative to neutral.

Wildlife Including Sage Grouse/Federally Listed Threatened and Endangered Species:

Impacts from Past and Present Actions

Minor to moderate amounts of displacement have resulted from disturbances to habitat for wildlife, including sage-grouse, associated with livestock grazing management, transportation and access management, and dispersed recreation use. There are no known federally listed threatened or endangered species in the allotment. Long term benefits to wildlife have been realized as result of stabilized or improved habitat conditions, especially riparian habitats due to changes in management of livestock and active restoration of habitats that are in degraded condition.

Impacts from Reasonably Foreseeable Future Actions

Livestock management, dispersed recreation, and transportation and access would continue displacing wildlife in areas immediately adjacent to these activities. Livestock management activities would benefit the majority of wildlife species by improving habitat conditions, water distribution and availability. Vegetation management would benefit wildlife as treatments reduce juniper competition and restore vegetative conditions and diversity. Some short term displacement of wildlife may occur during project implementation but due to the short duration of most projects the impacts would be slight. Fences would continue to be built and maintained, in areas where fences are no longer needed, fences would be removed. Fences would have both positive and negative impacts to wildlife; habitat improvement would generally occur when fences are built to control livestock and wild horse movements while the potential for fence strikes and wildlife entanglement is slightly increased.

Cumulative Impact

1. Proposed Action

Cattle grazing in upland habitats would continue to impact wildlife directly through competition for food and to some extent water, however most impacts to wildlife occurred in the past with changes in deep rooted perennial grasses and increased juniper and shrubs in the allotment. These impacts likely led to decreased numbers of some wildlife species due to forage loss and breeding habitat and increases in other wildlife species that were capable of adapting to changing environments or were more adapted to the habitat changes that occurred. Benefits in meadow/riparian habitats would be realized in the long term due to changes in grazing schedules from historic use to the new grazing schedule that emphasizes slight to moderate levels of grazing. Restoration of 1500 acres of wildlife habitat would benefit a myriad of species including sage-grouse, mule deer, pronghorn antelope, and pygmy rabbit. Approximately 10,000 feet of new fence would installed, which is less than 1% of fence within the CEAA. Fences would generally improve habitat conditions while slightly increasing the possibility of wildlife strikes and/or entanglement with fences. The combination of past, present and future impacts to the wildlife species in the Home Camp Allotment is expected to be positive.

2. Alternative 2

Cattle grazing in upland habitats would not occur under Alternative 2 so impacts to meadows within acquired lands would be minimal to non-existent. Grazing would still occur within the Home Camp Allotment and throughout the CEAA. Use would be slightly heavier on other meadows within the Home Camp Allotment since acquired meadows would continue to not be used, therefore improvements to wildlife habitat under Alternative 2 would be offset and overall benefits to wildlife would be minimal. All other projects would still occur under this alternative and 1570 acres of wildlife habitat would be restored, resulting in slight positive cumulative effects within the CEAA. The combination of past, present and future impacts to the wildlife species in the Home Camp Allotment is expected to be positive.

3. Alternative 3 - No Action

Current management and impacts from Alternative 3 - No Action related to wildlife species would be the same as Alternative 2 for cattle grazing. Acquired lands meadows would not be used while riparian areas adjacent to the meadows would continue to receive slightly higher levels of use. 1500 acres (less than 1% percentage of the CEAA) of important wildlife habitat would not be restored under this alternative. The combination of past, present and future impacts to the wildlife in the CEAA is expected to be neutral.

Social and Economic Values

Impacts from Past and Present Actions

Surprise Valley is and has always been a rural area where ranching is the dominant element of the local economy and social values still promote agricultural pursuits. The permittees of the Home Camp Allotment are small family ranches that rely on their cattle income.

Impacts from Reasonably Foreseeable Future Actions

Ranching is likely to continue to be the dominant local uses on public lands. Attention towards environmental impacts of public land uses, could result in changes to ranching practices. If ranching practices are aimed at sustaining the rangeland resources, then future continuation of local ranching is likely. As costs associated with ranching rise, the revenue from the product (calves in this case) must also rise in order for the local economy to be sustainable.

Cumulative Impact

1. Proposed Action

The proposed action would have positive effects on the local economy. The proposed action would improve the riparian and upland conditions to ensure future sustainable use even as environmental regulations and considerations change. Past actions have negatively affected ranching operations, and present conditions are unreliable; however, the reasonably foreseeable future action is expected to stabilize the permitted use on the Home Camp Allotment at a level that will be economically sustainable, therefore the overall impact is expected to be positive.

2. Alternative 2

Forage costs would increase slightly for the operators due to the loss of grazing use in the fenced fields. However, these increased costs may be temporary until the new allotment management plan is developed and implemented through the permit renewal process. Cumulatively, the

economic impacts of this alternative would be negative and but could be temporary, unless resolved during the permit renewal process.

3. Alternative 3 - No Action

The cumulative impacts of not grazing the acquired lands would create hardships for the permittees by increasing their time and effort to control cattle movements, and to move cattle between pastures and use areas, as required under the current management decisions. Removal of cattle at end of grazing season would also be challenging without the use of the fenced field for central gathering location to concentrate cattle prior for herding off the allotment. Cattle performance would be deceased as there is likely to be additional stress on cattle during the gathering and herding process. The fenced fields are necessary for performing general animal husbandry activities, such as sorting, and branding. There would be increased costs to the permittees due to loss of forage with in the fenced fields.

Recreation

Impacts from Past and Present Actions

The primary recreation use in and around the acquired lands is wildlife viewing, hunting, fishing, and camping. Rockhounding, photography, mountain biking, hiking, and OHV/pleasure driving also occurs to lesser degrees. Camping is generally associated with hunting activity and usually occurs during the fall. Hunting demand for big game in Nevada is high, as documented by the number of big game applications in Nevada far exceeds the quota for big game tags that NDOW allows.

Impacts from Reasonably Foreseeable Future Actions

As population growth continues in California and Nevada, it is expected that demand for big game hunting opportunities is going to continue to increase. Home Camp acquired lands have many high value resources associated with recreation, including prime habitat for big game hunting and Boulder Reservoir, which is a popular reservoir for fishing and camping. Abundant wildlife and a diverse landscape provide the public with opportunities for wildlife viewing and photography among other uses.

1. Proposed Action

The proposed action would have positive effects on recreational resources. The proposed action would improve the opportunities for outdoors activities due to the addition of facilities for public use. Improving habitat will in turn increase the hunting and fishing opportunities on BLM lands. The past actions have been stable but restricted due to the lands being in private ownership. The present conditions are improving since members of the public are starting to utilize the newly acquired lands. The reasonably foreseeable future action is expected to improve dramatically with new recreation facilities which will increase public participation on public lands; therefore the overall impact is expected to be positive.

2. Alternative 2

Alternative 2 would have positive effects on recreational resources and would be very similar to the proposed action. This alternative would improve the opportunities for outdoors activities due to the addition of facilities for public use. Improving habitat will in turn increase the hunting and fishing opportunities on BLM lands. The past actions have been stable but restricted due to the

lands being in private ownership. The present conditions are improving since members of the public are starting to utilize the newly acquired lands. The reasonably foreseeable future action is expected to improve dramatically with new recreation facilities which will increase public participation on public lands; therefore the overall impact is expected to be positive.

3. Alternative 3 - No Action

Due to past actions, as well as the unreliability of present conditions, the overall impact of the reasonably foreseeable future actions associated with the No Action Alternative would be slightly negative within the CEAA.

Wetlands and Riparian Zones and Water Quality

Impacts from Past and Present Actions

Wetlands and riparian areas prior to the mid-1980 were considered "sacrifice areas", areas which were expected to be used severely in order to achieve proper use of the uplands. As a result, wetlands and riparian areas did not receive management emphasis except in relation to their ability to provide needed water for domestic animal use.

In 1991 the BLM initiated the "Riparian – Wetland Initiative for the 1990's which, for the first time, established national goals and objectives for management of riparian and wetland resources on BLM administered public lands. Chief among these objectives was the mandate that 75 percent or more are in proper functioning condition by 1997. Since the launching of this initiative, the BLM has provided management focus on achieving this goal, and many areas were improved. Some areas continue to not achieve the goal of properly functioning condition. Livestock use is one of many activities which can negatively impact wetlands and riparian areas. In the recent years, BLM has taken several actions to improve riparian resources on the Home Camp Allotment and in the CEAA, including building exclosures and riparian pastures. Currently many wetlands and riparian areas are not in proper functioning condition or have an upward trend. Changes in grazing management in the future through new allotment management plans should improve riparian function as hot season grazing use is reduced and livestock distribution patterns are changed to avoid heavy riparian utilization.

Impacts from Reasonably Foreseeable Future Actions

Future activities from livestock grazing management, wild horses, dispersed recreation and transportation would continue to impact wetlands and riparian areas within the assessment area. Under all alternatives, a reduction in impacts to riparian areas from livestock grazing management would be expected with more intensive and continued adjustment. Impacts to wetland riparian areas from dispersed recreation and transportation is low, but would be expected to continue in some areas.

Cumulative Impact

1. Proposed Action

The Proposed Action is expected to improve riparian conditions, since past conditions have resulted in riparian areas that still contain the necessary riparian vegetation and the foreseeable future is expected to provide vegetation deferment and lower utilization levels that allows plants to grow and propagate. The cumulative impact of the Proposed Action would be continued long

term improvements in local riparian systems. The combination of past, present and future impacts to the riparian systems in the Home Camp Allotment is expected to be positive.

2. Alternative 2

Alternative 2 is expected to improve riparian conditions, since past conditions have resulted in riparian areas that still contain necessary riparian vegetation and the foreseeable future is expected to provide vegetation deferment and lower utilization levels to grow and propagate plants. Large meadows would not be grazed under this alternative, resulting in continued short term improvements within the affected riparian zone. These improvements overall would have little beneficial effects within the assessment area due to more use occurring on meadows adjacent to acquired lands. The cumulative impact of this alternative would be continued long term improvements in local riparian systems. The combination of past, present and future impacts to the riparian systems in the assessment area is expected to be positive.

3. Alternative 3 - No Action

Under this alternative, the cumulative impacts to wetlands and riparian areas would be greater than alternatives 1 and 2 due to no projects to improve riparian health, resulting in over 325 acres of riparian areas to continue to degrade. Meadows would not be grazed however riparian areas adjacent to these meadows would have slightly higher levels of use and control of livestock movements would be less than Alternative 1 or 2. The combination of past, present and future impacts to the riparian areas in the assessment area under Alternative 3 - No Action are expected to be slightly negative.

Rangeland Vegetation and Soils

Impacts from Past and Present Actions

Unregulated grazing prior to the Taylor Grazing Act (1934) resulted in loss of certain vegetative components in many ecosystems. Although grazing use has been managed since the 1960's, the effects of past grazing practices can still be seen in some areas. Grazing activities are now of much shorter duration and with less numbers that previously, which has allowed for annual recovery. Grazing consumes a portion of the renewable production and periods of rest allow for recovery. Grazing is one of several land uses that can impact vegetation composition. Shifts in vegetative cover, and lack of deep rooted vegetative components and lacks of litter cover can affect soil stability. In addition, the removal of fire from the sagebrush ecosystem has resulted in vegetative shifts; an increase in Western juniper populations has become quite apparent. Other impacting uses include vehicle travel and utility rights-of-ways. All of these uses would impact the vegetation and these vegetative impacts can affect soil health and stability. Past concentrations of livestock in an area when the soil is saturated may have contributed to current soil conditions in those areas.

Impacts from Reasonably Foreseeable Future Actions

Juniper thinning throughout the Home Camp Allotment is expected to maintain or improve native sagebrush ecosystems. The removal of juniper would allow for increases in sagebrush, native deep rooted grasses and forbs. The increases in the native deep rooted grasses, along with the deferred rotation schedule should promote soil stability recovery. In addition the removal of juniper would reduce fuel loading and enable fire behavior to be less extreme when the area does

experience wildfire. Less extreme fire behavior would assist the maintenance of healthy vegetative and soil components. Sagebrush obligate wildlife species also benefit from less intense fires.

1. Proposed Action

The Proposed Action is expected to improve vegetative conditions, since past actions have resulted in vegetative communities that still contain all expected native vegetative components, and the foreseeable future is expected to provide that vegetation growing season deferment to grow and propagate, the cumulative effect is expected to be positive. Due to positive impacts to vegetation, and added protection to soil resources, the combination of past, present and future actions on the soil stability is expected to be positive. Cumulative impacts from this alternative are expected to provide benefits to rangeland vegetation. Juniper reduction would allow the sagebrush ecosystem to recover much quicker than grazing management alone.

2. Alternative 2

Cumulative impacts under this alternative are expected to be similar to that of the Proposed Action. Increased vegetation material would provide protection to soil resources. The combination of present and future actions is expected to improve soil stability. Future actions from this alternative are expected to provide benefits to rangeland vegetation at a faster pace than the proposed action, since grazing use would be limited to just trailing. The beneficial future actions are expected to be positive.

3. Alternative 3 - No Action

The sites within the fenced fields that are currently altered and degraded would be allowed to recover from past overgrazing, since there would be any potential impacts from grazing. However, altered or degraded plant communities outside of the fenced fields that have experienced a loss of perennial bunchgrasses, and an increase in annual grasses, short grasses, or invasive species, resulting from past heavy livestock grazing, such as riparian areas, and in juniper woodland would not improve as result of the No Action alternative.

Livestock Management

Impacts from Past and Present Actions

Management plans were first implemented in 1960's to facilitate livestock management, also placing greater demands on the operator to move their cattle in a timely manner, conducting fence and other range improvement maintenance and ensuring cattle are only present when and where they are authorized.

In 1999, the Home Camp Allotment was assessed for conformance with the Fallback Rangeland Health Standards. This assessment concluded that the Upland Soils and Stream Health Standards were being met. However, the Standards for Riparian/Wetland Areas and Native Species were not being met, and current livestock grazing management practices were identified as a significant factor contributing to the Standards not being met. As a result, in accordance with 43 CFR 4180, grazing management was modified for the 2000 and 2001 grazing seasons with the objective of beginning progress toward achieving the Rangeland Health Standards. Results for the 2000 grazing season were mixed, supporting the need to revise the existing grazing strategy and implement a long term grazing strategy designed to make significant progress toward achieving the Rangeland Health Standards. Extensive consultation with the permittees and other interested public was considered in developing the appropriate long term management strategy

for the allotment, and the 2001 revised AMP. Prior to the Home Camp acquisition in 2009 the allotment was permitted at 91% public lands, and is currently permitted as 100% public land. The adjustment for percent public lands resulted in 180 fewer cattle being turned out on the allotment. This change did not adjust permitted AUMs active use levels or seasons of use for the permittees. Existing management of BLM land was developed in part based on historical uses intermingled acquired lands.

Impacts from Reasonably Foreseeable Future Actions

Future actions through the land-use planning process and grazing permit renewal decisions, livestock grazing permits will continue to set stocking levels that balance forage use between livestock, and other uses. The terms and conditions of livestock grazing permits are designed to allow forage resources to rest from grazing at various times of each year and to ensure that plants have adequate time for regrowth after grazing.

Rest from grazing use would be required for a minimum of two growing seasons following juniper reduction. Due to the rest requirement post treatment in juniper reduction areas, there is a possibility of the operator needing to find other arrangements for their cattle during several grazing seasons in certain pastures. With the combined past and present labor requirements, the foreseeable future is expected to require additional pasture moves yearly. Cumulative Impacts, expected to occur after 2013.

1. Proposed Action

The increase in recreation may impact the livestock operator, since recreational land users occasionally leave gates open after passing through them. This allows the cattle to move into areas where they aren't allowed, and therefore requires the livestock operator to herd their cattle back into the appropriate use area.

2. Alternative 2

Without the use of acquired lands, labor requirements would be expected to increase in the foreseeable future, therefore the cumulative effect is negative. The cumulative impacts of not grazing the acquired lands would create hardships for the permittees by increasing their time and effort to control cattle movements, and their ability to move cattle between pastures and use areas as required under the current management decisions. The fenced fields are also necessary for performing general animal husbandry activities, such as sorting, and branding. There would be increased costs to the permittees due to loss of forage within the fenced fields.

3. Alternative 3 - No Action

Impacts of not being allowed to trail and over-night cattle on acquired lands would have negative impacts of the permittees overall livestock operations. Removal of cattle at end of grazing season would also be difficult without the use of the fenced field for central gathering location to concentrate cattle prior for trailing cattle off the allotment at the end of the grazing season. Cattle performance would be deceased as there is likely to be additional stress on cattle during the gathering and herding process.

Chapter 5. CONSULTATION, COORDINATION & PREPARERS

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History of the Planning and Scoping Process

December 3, 2009- Surprise Field Office BLM signed Decision Record to acquire lands through SNPLMA, called Home Camp Acquisition.

December, 2010- BLM finishes purchasing and officially acquires Home Camp acquired lands.

2010-2011- BLM Interdisciplinary Team collects and assesses biological and cultural data within acquired lands.

June, 2011 Modoc- Washoe Environmental Stewardship Program initiated Technical Review Team (TRT) for Home Camp Acquired Lands.

September 21, 2011 TRT/BLM initiated field tour of Home Camp Allotment, including acquired lands, with the Modoc- Washoe Environmental Stewardship Program members.

September 28, 2011- Surprise BLM sends scoping letter to TRT members meet and submit recommendations for managing grazing on acquired lands.

October 20, 2011- Home Camp Allotment TRT members meet and develop recommendations for management of acquired fenced fields. These recommendations are submitted to BLM.

November 21, 2011 Public scoping of the Proposed Action via mailings to interested members of the public. A complete list of agencies, tribes, organizations and individuals is attached as chapter 7.

January 2, 2012- BLM Interdisciplinary team reviews public scoping comments and TRT comments and recommendations.

February 23, 2012- BLM sends Notice of Proposed Action (NOPA) for the Pinto Springs Project within the Wall Canyon WSA to interested parties.

March 27, 2012 - BLM staff and one Home Camp permittee visited two project sites to identify concerns brought forward through scoping.

April 16, 2012 - Surprise BLM Field Office Manager releases EA for public review and comment.

External Scoping Results

October 28, 2011- NDOW sends scoping letter and comments to Surprise BLM.

October 20, 2011- Surprise receives comment letter from Home Camp Allotment livestock permittees.

March 24, 2012- Friends of Nevada Wilderness sends scoping comments on Pinto Springs project.

Tribal Consultation

- January 7, 2012-Julie Rodman, Archaeologist, and Allen Bollschweiler, Field Manager, conducted formal government to government Tribal Consultation with the Cedarville Rancheria. The Cedarville Rancheria Paiute Tribe does not object to the Proposed Action and has not expressed any Native American concerns over the proposed projects.

- February 11, 2012-Julie Rodman, Archaeologist, and Allen Bollschweiler, Field Manager, conducted formal government to government Tribal Consultation with the Summit Lake Paiute Tribe. The Summit Lake Paiute Tribe does not object to the Proposed Action and has not expressed any Native American religious concerns.
- The Fort Bidwell Paiute Tribe declined to participate in formal Tribal Consultation.

Consultation and Coordination

- Nevada Department of Wildlife
- Informal Consultation with the Deputy State Historic Preservation Officer
- Modoc/Washoe Environmental Stewardship Program
- Home Camp Allotment Livestock permittees

Table 5.1. List of Preparers

Name	Resource/Activities	Project Role
Dan Ryan	Land and Minerals, Visual Resources, Global Climate Change, Socio-Economics, Wilderness.	EA Preparer Interdisciplinary Team
Elias Flores	Wildlife/T&E/Riparian/Wilderness	EA Preparer Interdisciplinary Team
Julie Rodman	Cultural Resources	EA Preparer Interdisciplinary Team
Steve Mathews	Range Management	EA Preparer Interdisciplinary Team
Scott Soletti	Riparian/Recreation /Wilderness/ Travel/ OHV/ Vegetation/ T&E Plants/ Water Quality /Noxious Weeds/Wildlife/T&E	EA Preparer Interdisciplinary Team
Steve Surian	Livestock Management/Soils/Socio-Economics	EA Preparer Interdisciplinary Team
Casey Boespflug	Fuels/Fire Management	EA Preparer Interdisciplinary Team

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Chapter 7. Interested Public Scoped

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Table 7.1. Table of Interested Public Scoped With:

Cassie Cockrell	Dean Cockrell	Nevada Bighorns Unlimited
Larry Johnson	US Fish & Wildlife Service	NDOW-Mark Freese & Chris Hampson
Coalition for Nevada's Wildlife	Sheldon National Wildlife Refuge	Will and Debra Cockrell
Robert Cockrell	Jim Cockrell	Nevada State Clearinghouse
Mel Belding	Center for Biological Diversity	Samuel Hough Luebben & Johnson & Barnhouse LLP
Northeast California RAC	Western Watershed Project	Mr. Warner Barlese Chairman, Summit Lake Paiute Tribe
Cedarville Rancheria	Modoc/Washoe ESP	Modoc County Fish, Game and Recreation Commission
Bill Phillips	Fort Bidwell Tribal Council	Grove Brothers
Modoc Cattlemen's Association	Friends of Nevada Wilderness	

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Chapter 8. MITIGATION MEASURES & TERMS AND CONDITIONS

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Visual Resource Management

The following mitigation measures are identified to reduce potential visual effects related to implementation of the Proposed Action and to ensure Class II VRMs are maintained within the Project Area:

Where slash occurs in the foreground of roads, dispose of slash through burning, grinding or chipping.

Locate slash in areas not visible from foreground and middle ground views along roads.

Locate temporary roads along routes that minimize cut and fill slopes.

Decommission temporary roads following treatment with boulders or other access-restricting methods to prevent public use.

Flush-cut stumps in immediate foreground (within 200 feet) adjacent to roads.

Preserve clumps of juniper scattered throughout the treatment area (5 to 10 trees per acre).

Create openings in stands of trees that are irregular and natural in appearance.

Vegetation, Including Threatened and Endangered Plant Species

The mitigation measures presented below for wildlife are proposed to also reduce potential effects to vegetation.

Wildlife; Migratory Birds; Special-Status Species (Federally-Listed, Proposed or Candidate Threatened and Endangered Species); State Protected Species; BLM Sensitive Species

The following mitigation measures are proposed to reduce potential effects to wildlife:

Leave all snags greater than 25 cm (10 inches) standing and create additional snags. This recommendation/mitigation would benefit many species including bats such as long-eared myotis.

Any active raptor nest found should be reported to the wildlife biologist and project activities ceased in the area (generally ¼ mile buffer) until surveys indicate that project activities would not disturb breeding activities.

Terms and Conditions of Temporary Non-Renewable AUMs

Listed below are additional field office Terms and Conditions currently included on all permits to ensure compliance with meeting Land Use Plan objectives and Rangeland Health Standards.

1. Grazing use offered or authorized by BLM is subject to all provisions of the grazing regulations (43 CFR Parts 4100) and other applicable law and regulation. Grazing use would be in accordance with the Rangeland Health Standards and Guidelines for California and Northwestern Nevada Final EIS approved by the Secretary of the Interior on July 13, 2000. Grazing use authorization may be modified in accordance with regulation to attain progress towards achieving rangeland health standards (subpart 4180.1 and 4180.2 Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration).

2. Salt and/or mineral supplements would be placed no closer than ¼ mile from any public water source, aspen stand, or meadow.

3. All range improvements must be maintained to standards prior to livestock turnout. All assigned fence maintenance must be completed annually, even if your permit is not activated. Failure to complete assigned fence maintenance may result in suspension of your grazing authorization.

4. TNR would be Authorized and billed prior to grazing use. Permittees are required to submit actual use reports within 15 days following the last authorized take off date for your permit. Your actual use report should be submitted no later than November 15th every year.

5. Grazing billings not paid within 30 days of receipt would be subject to an interest penalty.

6. TNR Terms and Conditions of your authorization may be modified if additional information indicates that revision is necessary to conform to 43 CFR 4180 (Rangeland Health Standards and Guidelines).

7. Grazing use authorized as TNR, may remain until the scheduled end of the use period, or until the appropriate utilization guidelines are met.

8. Annual pre-season livestock turn-out meeting would be held with permittee(s) to discuss previous year's use and document current year's grazing schedule. Livestock may not be turned out prior to this meeting, and/or without prior written approval from the authorized officer.

9. Unscheduled (late turnout or early livestock removal) maybe required, if inadequate forage production or stock water affects the permittees ability to kept cattle in the proper use area(s) and to operate under the planned schedule. TNR authorization periods of use as indicated in Table 1, (page 10) maybe adjusted to accommodation unscheduled changes on the Home Camp Allotment.

Chapter 9. SOPs for Projects Proposed under Alternative 1 and Alternative 2

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Standard Resource Protection Measures for Sage Steppe Juniper Restoration Projects

- Cultural Resource Staff will brief crew personnel on avoidance areas within a defined cutting area before project implementation occurs. (See inadvertent discovery procedures).
- Prior to project initiation, in mechanical treatment areas, all archaeological sites will be flagged with a 10 meter (11 yards) protection buffer. Flagging will be the standard BLM Northeastern California Archaeology shops' black and red striped flagging.
- All standing juniper within 20 meters (22 yards) of the toe or rim of rimrock outcroppings will be removed to prevent fire damage to rock art sites.
- Areas with high densities of identified archaeological sites will be left untreated (i.e. lithic sources, rock art, etc.).
- At this time, only hand treatment and/or prescribed fire will be utilized within National Register sites, significant (sites eligible for the National Register) sites, and unevaluated sites (which are afforded the same protection as National Register sites). This action will prevent an oasis effect where livestock can congregate and limit the creation of islands which would increase public/animal congregation. All lop and scatter materials will be removed from archaeological sites. Those sites deemed not eligible or significant may be subjected to mechanical treatment.
- Historic arborglyphs, generally found in aspen stands, will be preserved in place, will not be cut or damaged, and burnable materials will be removed from a 2 meter (6.5 foot) diameter area to avoid impacts of prescribed burning.
- All temporary roads will have a Class III survey prior to construction initiation.
- Additional mitigation measures will be put in place as needed to avoid adverse impacts to cultural resources. These mitigation measures will be based on field survey results and will be approved by the Field Office Manager before implementation occurs. These mitigation measures will be generated and approved by a qualified Archeologist and will be documented in the project file.

Cultural Resources- Inadvertent Discovery

In the event of inadvertent discovery of un-flagged and/or undocumented cultural resources during implementation of an undertaking, the following procedure shall be undertaken: Field Office Cultural Staff and the Field Office Manager shall be immediately notified by personnel responsible for project implementation. All work shall cease at the site of discovery and all other work which may damage the cultural resource shall also cease. The Field Office Cultural Staff shall make an assessment of the situation and, in consultation with the Field Office Manager, may prescribe the emergency implementation of appropriate physical and administrative conservation measures as enumerated in BLM Manual Series 8140. The Field Office Cultural Staff shall notify the SHPO, as needed, in order to develop an agreement on the appropriate course of action, and such agreement shall reflect the intent of BLM Manual Series 8140.28B. The agreement shall be memorialized in writing and documented in project files. The Field Office Cultural Staff shall document implementation of the agreed-upon steps and shall report the discovery event and the manner of its resolution in the annual accomplishment reporting required under this Protocol.

Fence Projects

1. The livestock permittees would be responsible for fence maintenance defined in a cooperative agreement excluding the Boulder Reservoir fence. Prior to final inspection all construction trash and excess debris would be removed from the public lands and disposed of at a site approved by the BLM Contracting Officer Representative or Project Inspector.

2. Fence construction activities would occur after the ground is dry.

3. Vehicles and equipment would be cleaned prior to entry to the site for fence work to prevent the spread or introduction of weeds.

4. Prior to construction, large brush will be completely removed and cleared back to 2' on either side of fence line as necessary to maintain proper fence alignment.

5. All rocks used for rock basket construction shall be gathered from the Project Area outside of cultural resource sites.

Air Quality

- All prescribed fire projects would be completed pursuant to the standards specified by the Clean Air Act and would comply with all federal, State and local air pollution requirements.

- An approved Prescribed Fire Plan would be in place prior to ignition of any prescribed fire.

- The prescribed fire burn plan would be adhered to throughout the project. Emissions would be managed by timing and atmospheric dispersal.

- Prescribed burning would be concentrated in spring (mid-April through mid-June) and fall (mid-September through mid-November) to avoid coinciding with peak summer levels of air pollutants from other human-caused activities in the area and the winter inversion potential.

- Computer modeling to assess smoke dispersion, and related smoke management techniques would be implemented where practicable.

Fire Management

- The NorCal Fire Management Plan identifies aggressive, full suppression as the strategy for fire suppression in the analysis area under conditions of severe fire intensity, especially within the WUI. However, exceptions may be made where resource objectives could safely be achieved.

- Under conditions of low fire intensity, a less aggressive suppression strategy, such as containment/confinement, would be implemented in previously identified areas likely to benefit from wildland fire use.

- Engines, aircraft, retardant, hand crews, and heavy equipment may be used for initial attack.

- The use of heavy equipment would be avoided in known NRHP-eligible sites, unless approved by the line officer.

- Local resources and contractors would be used as much as possible for suppression efforts.

Hydrology

- Minimize management activities within perennial and intermittent drainages where such activities would compromise normal watershed processes or functions.
- Entry into wet spring areas would be limited to hand treatments with chainsaws and broadcast/pile burning. During the dry summer months some access to spring areas may be allowed only after onsite inspections occur to ensure minimal impacts.
- Crossings over ephemeral stream channels would be identified by the Contracting Officer's Technical Representative (COTR) and be limited to dry, rocky and stable areas. Crossing channels with mechanized equipment would be at locations that are stable and naturally armored with rock. Stream channels would be crossed at right angles and number and width of crossings would be limited to areas that have cobble and naturally occurring rocky areas to protect the channel. A minimal amount of passes over dry stream channels would be allowed and would be monitored by the project COTR.

Soils

- Adverse effects on soil resources would be minimized through management practices and adherence to Standard 1 of the Standards and Guidelines.
- Ensure management activities result in no net loss of soil mass or productivity within the management area.
- Implement vegetation treatments on sites where undesirable invasive species are degrading the soil's ability to maintain proper function.
- Broad-scale vegetation treatment plans will specify appropriate levels of woody residue required for site protection.
- Damage to high shrink-swell soils will be prevented by limiting compacting activities to periods when soils are sufficiently dry to resist damage from the activity.
- BLM will conform to the latest California Department of Transportation (Caltrans) and Uniform Building Code standards, County General Plan seismic safety standards, County grading ordinances, and National Pollution Discharge Elimination System (NPDES) requirements.

Livestock Grazing

- Grazing use authorized by BLM is subject to all provisions of the grazing regulations (43 CFR Parts 4100) and other applicable law and regulation. Grazing use will be in accordance with the Rangeland Health Standards and Guidelines for Northeast California and Northwestern Nevada Final EIS approved by the Secretary of the Interior on July 13, 2000. Grazing use authorization may be modified in accordance with regulation to attain progress towards achieving rangeland health standards (subpart 4180.1 and 4180.2 Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration).
- Treatment units would be rested from livestock grazing for a minimum of one growing season prior to and two growing seasons following broadcast burns through adjustments in the pasture/use area grazing schedule, and herding.
- BLM would seek all opportunities to minimize the impacts on grazing permittees due to livestock removal to facilitate rest. These efforts would include but are not be limited to:

- design of projects to minimize rest on non-treated acres
- use of identified turnout areas, modified salting practices and herding to provide growing season rest in broadcast burn sites

Riparian Areas

Treatments within perennial or intermittent creeks and springs would be limited to hand treatments within the 100 foot buffer zone. Crews would use chainsaws to fall juniper trees, which would then be piled for burning at a later date.

Vegetation

- Vegetation manipulation would be prioritized to sagebrush-steppe or aspen communities with juniper encroachment, and where post treatment shrub and herbaceous communities would allow achievement of resource objectives.
- Vegetation manipulation will seek to restore natural ecosystems, establish wildfire fuel breaks, and increase forage production for livestock.
- Native juniper woodlands would be maintained within the landscape positions where they historically occurred.

Treatment Monitoring and Adjustment

A monitoring and adjustment approach would be implemented within constraints of rules and regulations, Forest Plan/Resource Management Plan, NEPA and the Sage Steppe Ecosystem Restoration Strategy. The approach would include systematic monitoring of site-specific treatments with assessments of the results being achieved to effectively make real time adjustments and corrections, within the scope of the ongoing project, if appropriate.

The project components that would be monitored would vary depending upon the type of restoration activity and site-specific conditions. The monitored components would be evaluated on a frequency that would allow for adjustments in the implementation of specific restoration activities. The monitoring and adjustment program would be focused on achieving the desired landscape conditions, based on site-specific characteristics for each treatment area.

Old Growth Juniper

Individual old growth trees in restoration areas would be identified using morphological characteristics (Miller *et al*. 2005) to identify those trees that are greater than 130 years old and preserve them for their many social and ecological values. These characteristics would include:

- Rounded or unsymmetrical tops that may be sparse and contain dead limbs.
- Deeply furrowed, fibrous bark on the trunk that is reddish in color.
- Branches near the base of the tree that may be very large and covered with fruticose lichens.
- Limited terminal leader growth on branches in the upper 25 percent of the canopy.

Special-Status Plants

- Manage all special-status species habitats or occurrences (populations) so that BLM actions do not contribute to the need to list these species as federally threatened or endangered.
- Site specific management of all special-status species habitats and occurrences (populations) would be in accordance with conservation plans, recovery plans, habitat management plans, conservation recommendations, and best management practices, as appropriate for the species.
- Allow for no more than 20 percent (by plant species) elimination of occupied habitat and no greater than 20 percent total decrease in any plant species occurrence, except as directed in biological assessments, biological evaluations, habitat management plans, and conservation strategies/species management guides for specific species.
- Reduce or eliminate impacts to special-status species and their habitat when conducting ground disturbing activities.

Special-Status Plant species within the Project Area would be identified flagged and would not be disturbed with any treatment activities. Buffer zone sizes around sensitive plant sites would be identified at the discretion of the botanist. BLM requirements for special-status plant management are found in BLM Manual Handbook 6840-1, *Special Status Plant Management*, 1996.

Wildlife

- Retain vegetation buffers for wildlife cover at water sources, wetlands, and riparian sites.
- Limited Operation Periods (LOPs) and buffer zones would be implemented as necessary to reduce disturbances to wildlife.
- Close and rehabilitate cherry stem and temporary project roads where feasible to reduce disturbances to wildlife.
- Implement habitat treatments so that they do not conflict with the life history of resident species.

Ungulates

- Implement seasonal protection measures and buffer zones as appropriate for permitted activities.
- Reduce invasive juniper where it threatens meadow systems and quaking aspen stands.

Sagebrush-Obligate and Associated Species

- Locally developed conservation strategies or plans developed for sage-grouse, pygmy rabbit, burrowing owl and other special-status species would be used to identify high-priority treatment and fire suppression areas.
- Implement juniper reduction to enhance sagebrush ecosystems; focus on providing diverse composition and age classes of shrubs and healthy understory vegetation.
- Restore natural; disturbance processes through forest and woodland thinning and prescribed fire burn projects.
- To the extent possible, utilize local native plants and seeds in seeding, restoration and rehabilitation projects, in accordance with BLM California's Native Seed Policy.

Other Native Wildlife Species

- Protect known raptor nesting trees from removal during project activities.
- Manage migratory birds in accordance with the Migratory Bird Treaty Act and Migratory Bird Executive order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*.

Federal State and BLM Listed Terrestrial and Aquatic Species

- Follow management guidelines within applicable biological opinions and conservation strategies.
- Implement seasonal protection measures and buffer zones as appropriate for permitted activities.

Currently there are no known federally threatened or endangered species known within or adjacent to the Project Area. If, during the implementation of the Proposed Action, threatened, endangered, BLM Sensitive species, or other species of interest are found, then areas of important or necessary habitat in the Project Area would be identified, flagged and protected from project activities in coordination with the Surprise wildlife biologist. Project activities may be subject to seasonal restriction dates and buffer zones to protect specific wildlife species and their habitats. Project activities would be implemented consistent with the local Conservation Strategy for Sage-Grouse (*Centrocercus urophasianus*) and the Sagebrush Ecosystems within the Vya and Massacre Population Management Units.

Noxious Weed Species

- All vegetation manipulation areas will be managed following treatment to ensure that noxious and invasive weeds do not become established.
- All hay, straw, or mulch used on BLM-administered lands must be certified as free from noxious weed seed.

Newly discovered populations of noxious weed species would be mapped and treated using management techniques outlined in Surprise Integrated Weed Management EA. To minimize the potential spread of noxious weed species the equipment associated with the Proposed Action would be pressure washed prior to engaging in project activities and before transport to new work areas.

Equipment operators and project inspectors would be provided with a noxious weed identification guide for species that are known to occur in northeast California. If a noxious weed site is discovered, project activities should cease and the Noxious Weed Coordinator notified of the occurrence. Project activities should not resume in the area until treatments and prevention procedures are in place.

Recreation

To the extent possible, roads that provide access to developed recreation sites for safety concerns would be used minimally. If necessary to use them for treatment activities, these roads would be avoided during weekends.

Areas where undeveloped hunting campsites occur would be excluded from treatment. Buffer zones would be established around these areas to maintain aesthetic values and would be

coordinated with Surprise recreation manager. Hand treatment in these areas would include use of chainsaws to thin juniper densities and hand pile construction. Slash piles would be burned during winter months.

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Chapter 10. Maps

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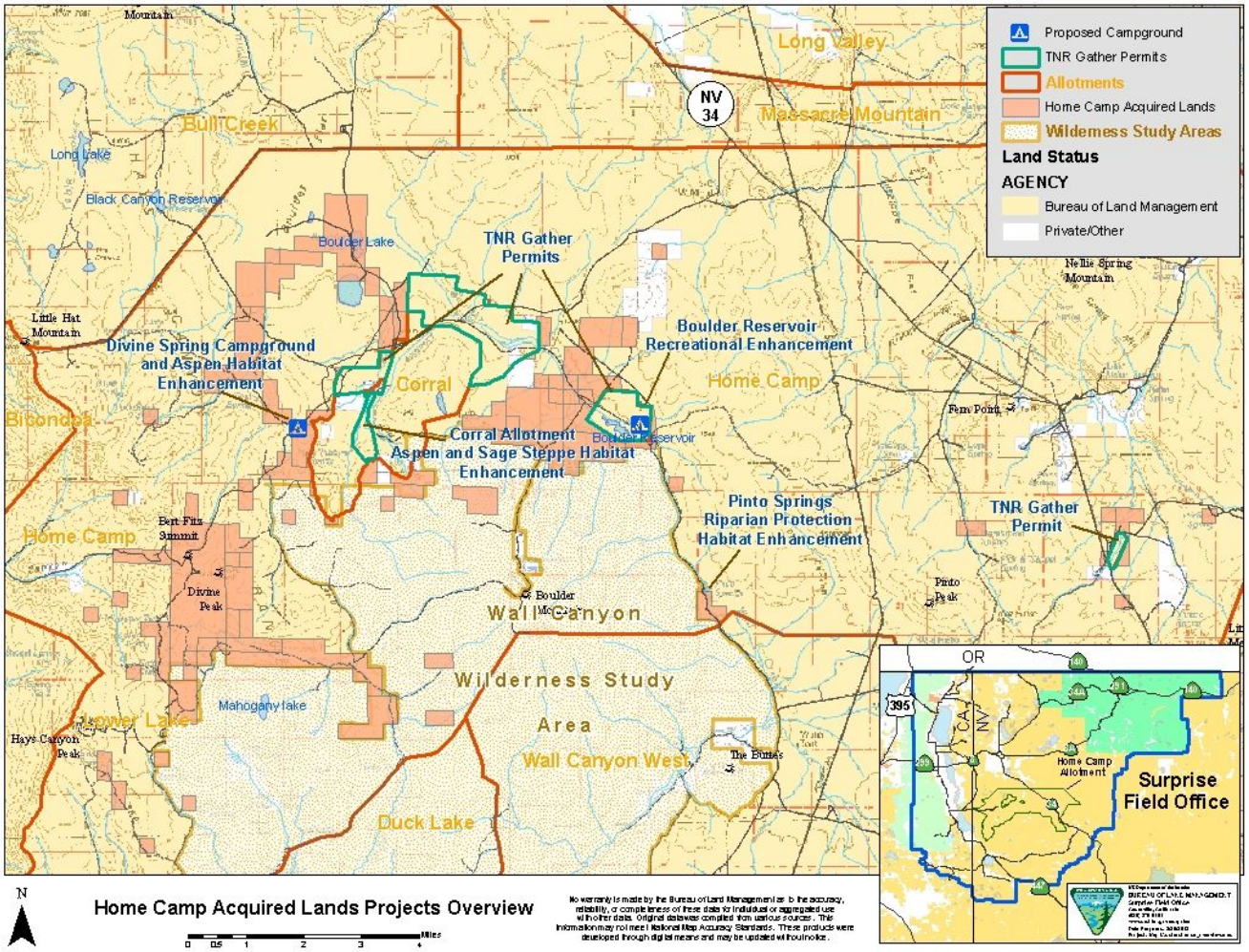
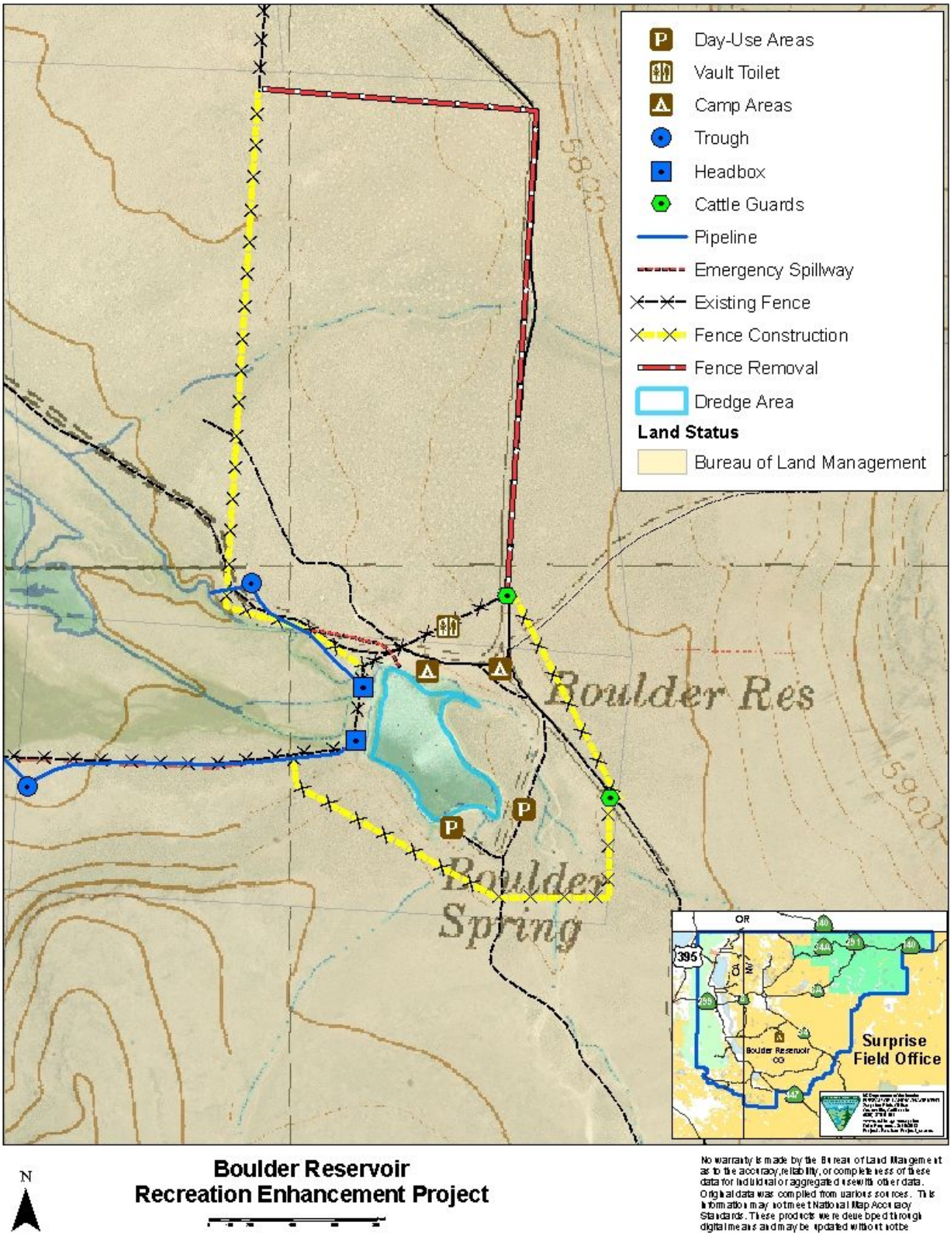
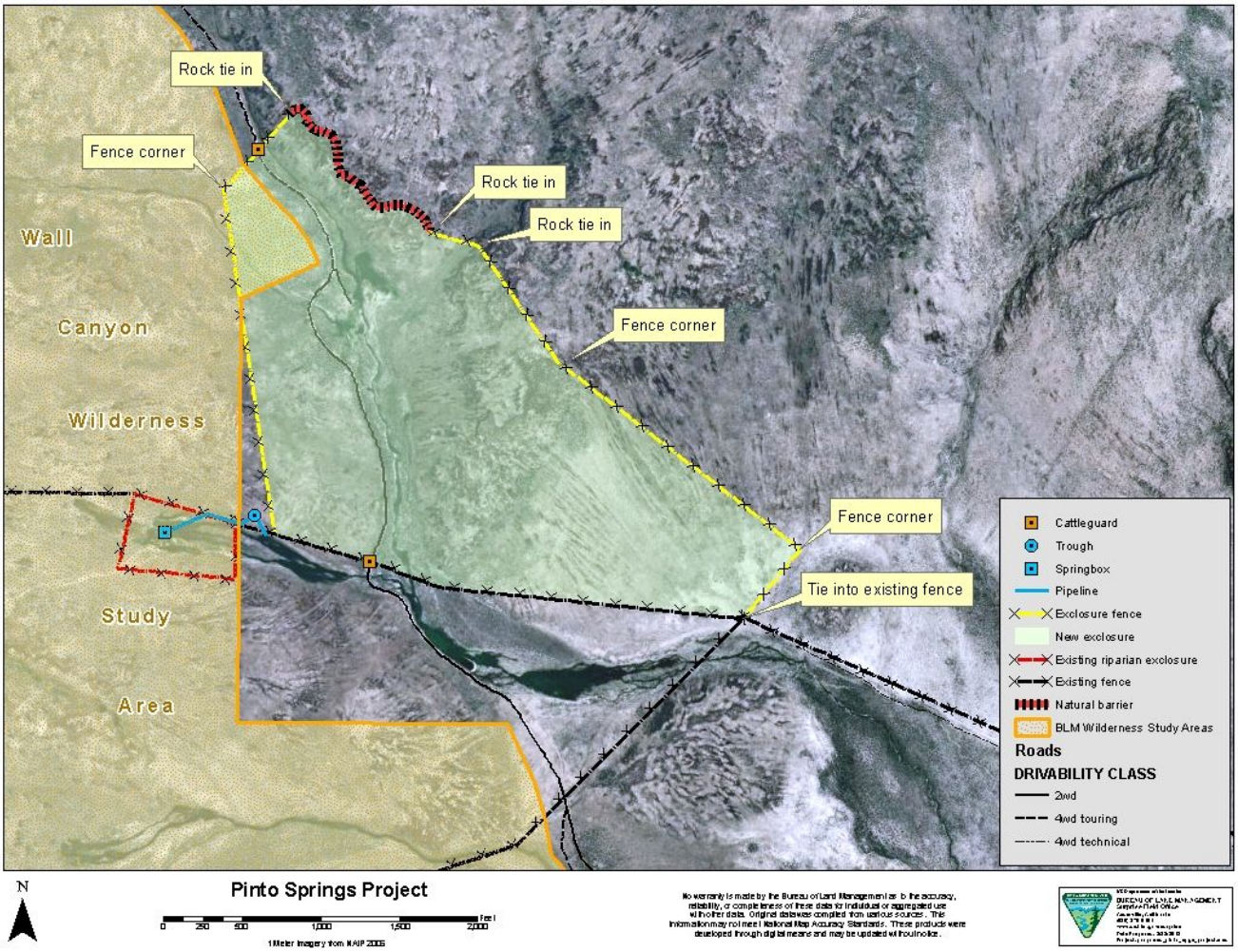


Map 10.1. Home Camp Acquired Lands Projects Overview

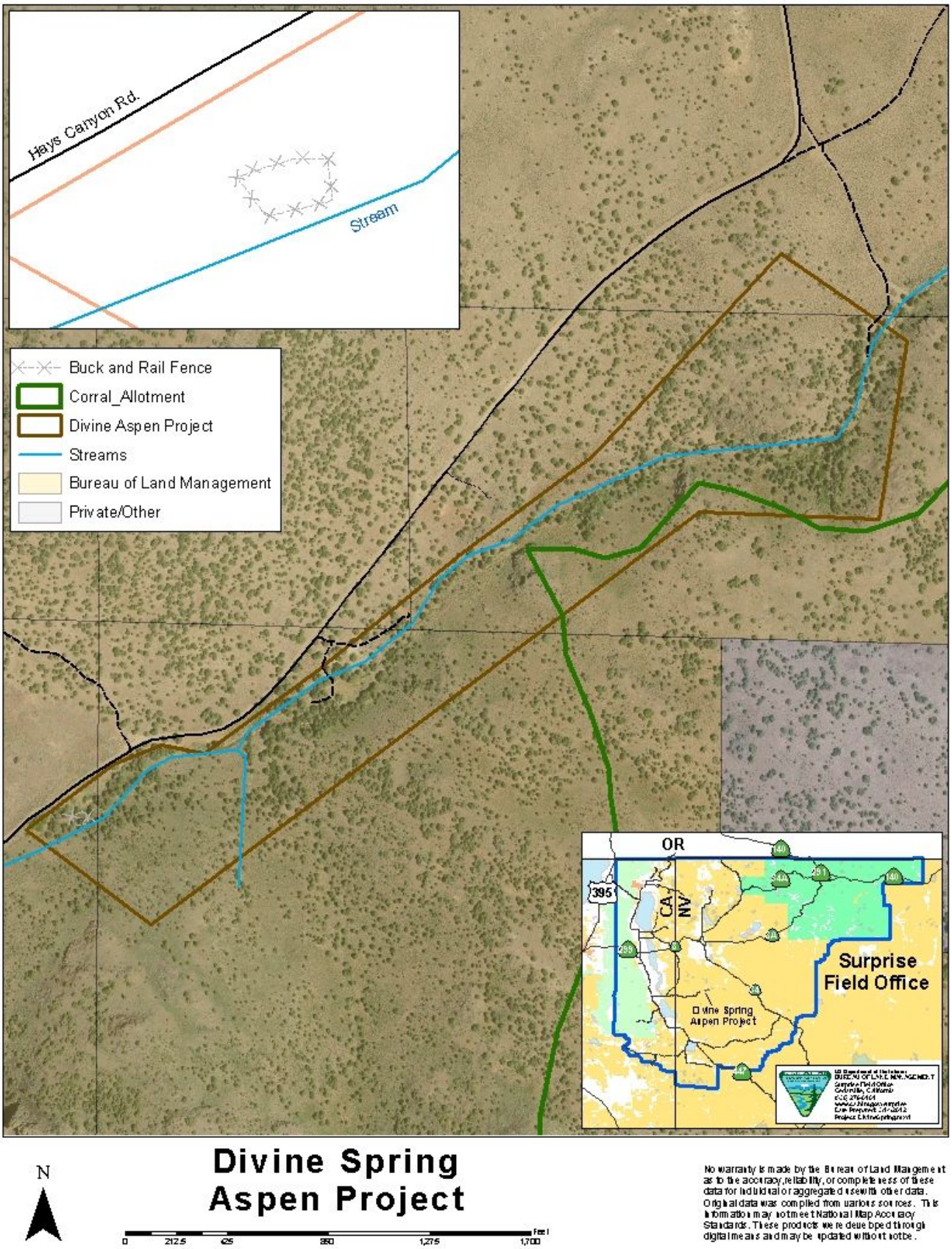


Map 10.2. Boulder Reservoir Recreation Enhancement Project

Chapter 10 Maps *Date prepared: April 17, 2012*

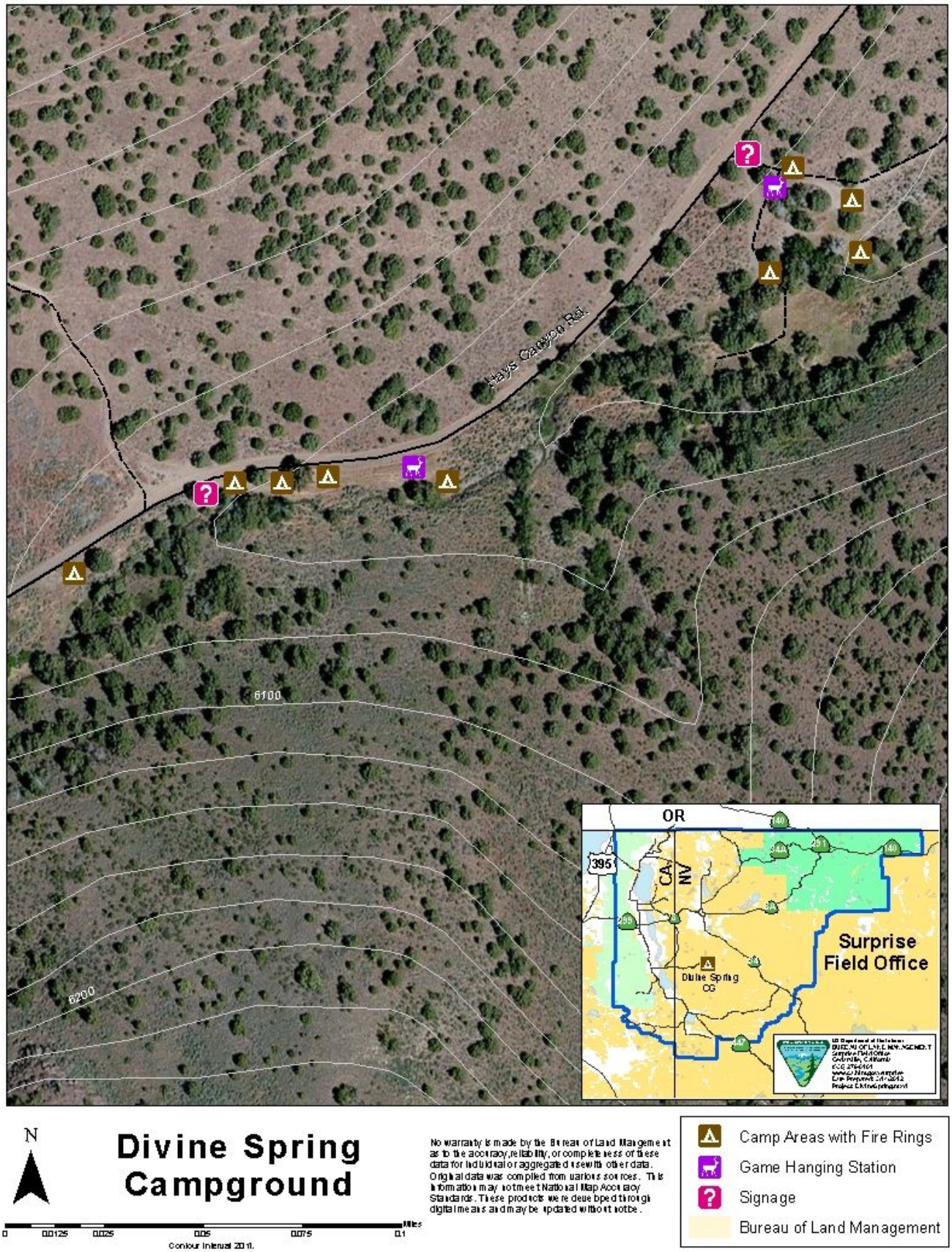


Map 10.3. Pinto Springs Project



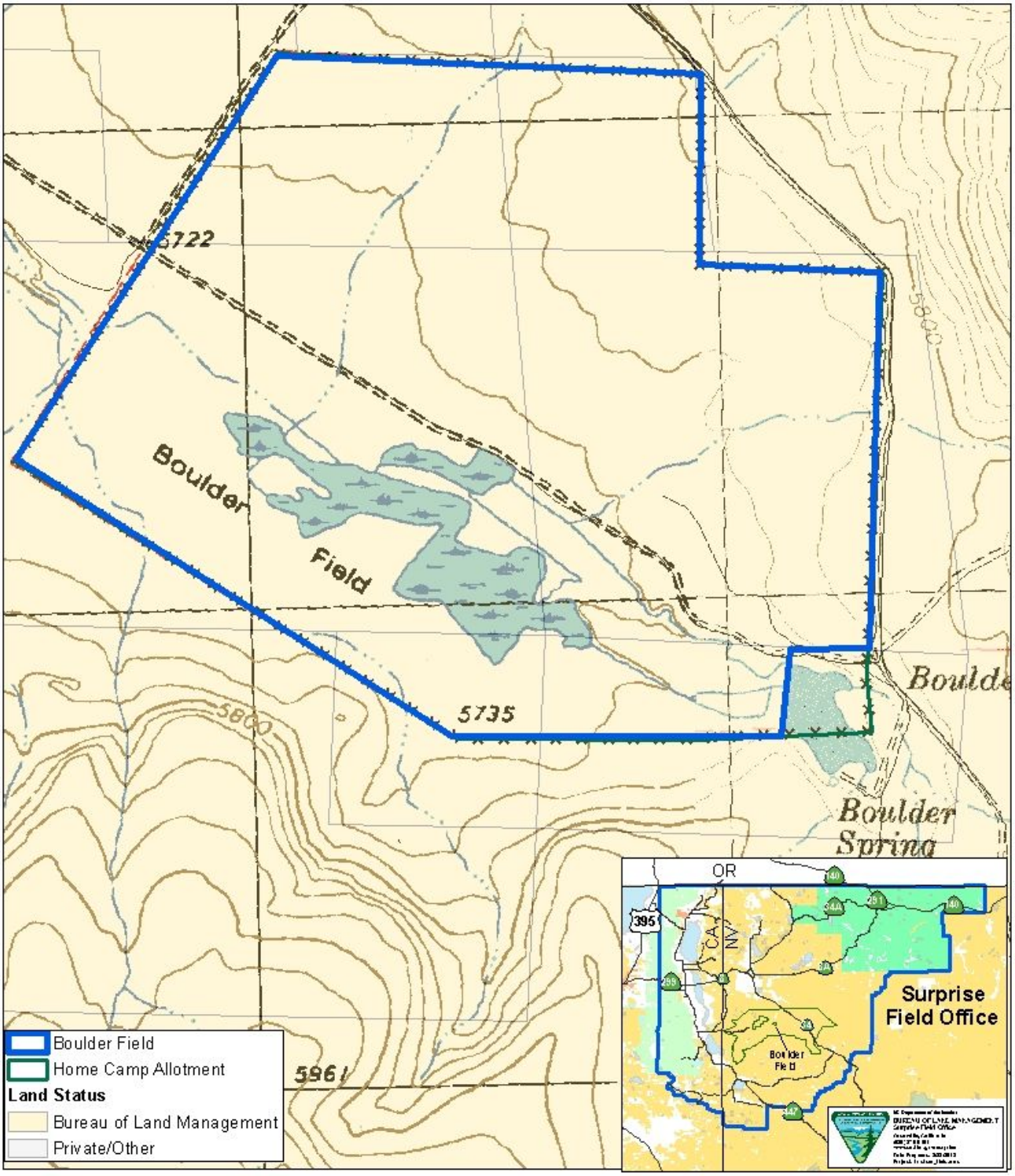
Map 10.4. Divine Spring Aspen Project

Chapter 10 Maps *Date prepared: April 17, 2012*



Map 10.5. Divine Spring Campground

Date prepared: April 17, 2012



N

Boulder Field Temporary Grazing Authorization

0 0.05 0.1 0.2 0.3 0.4 Miles

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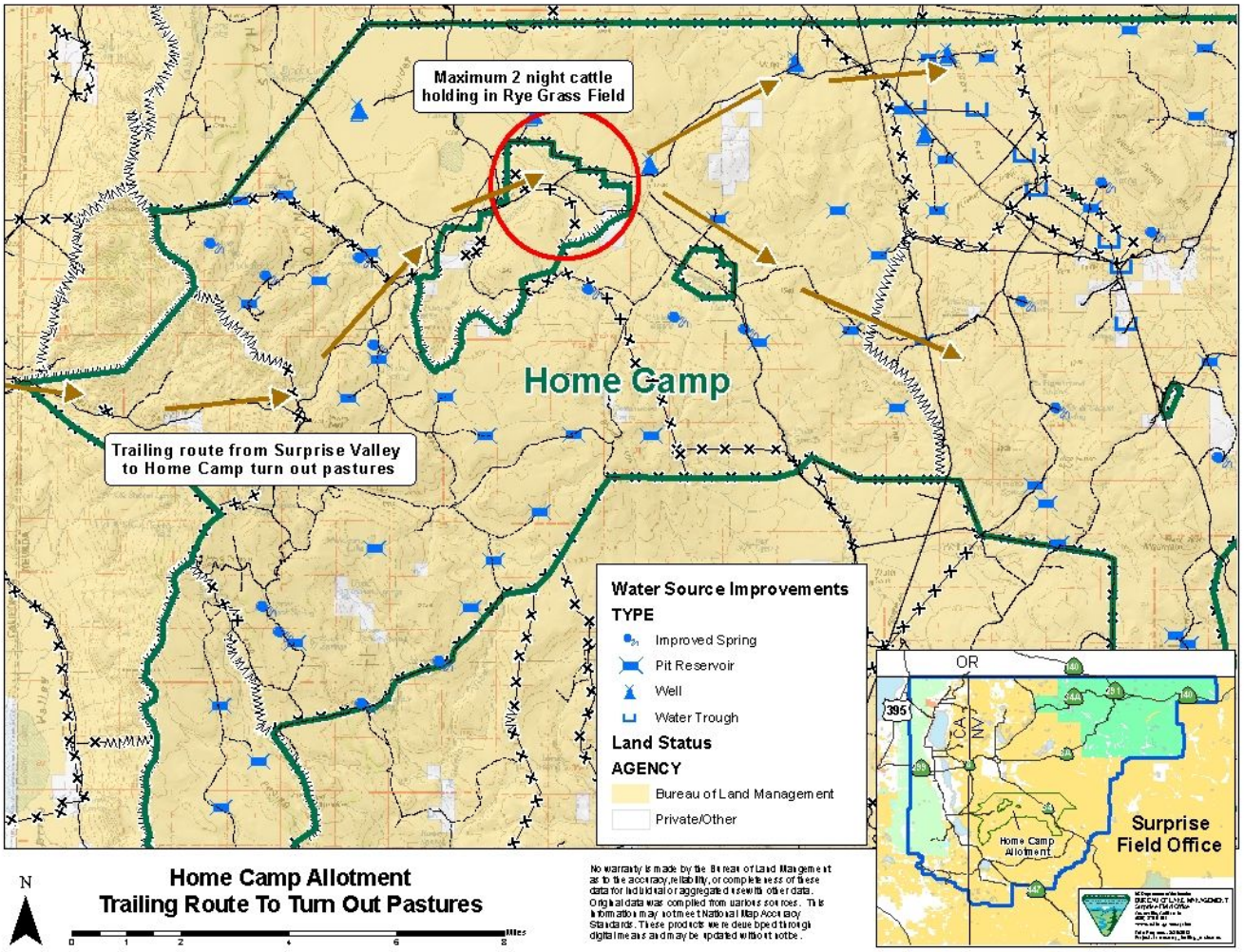
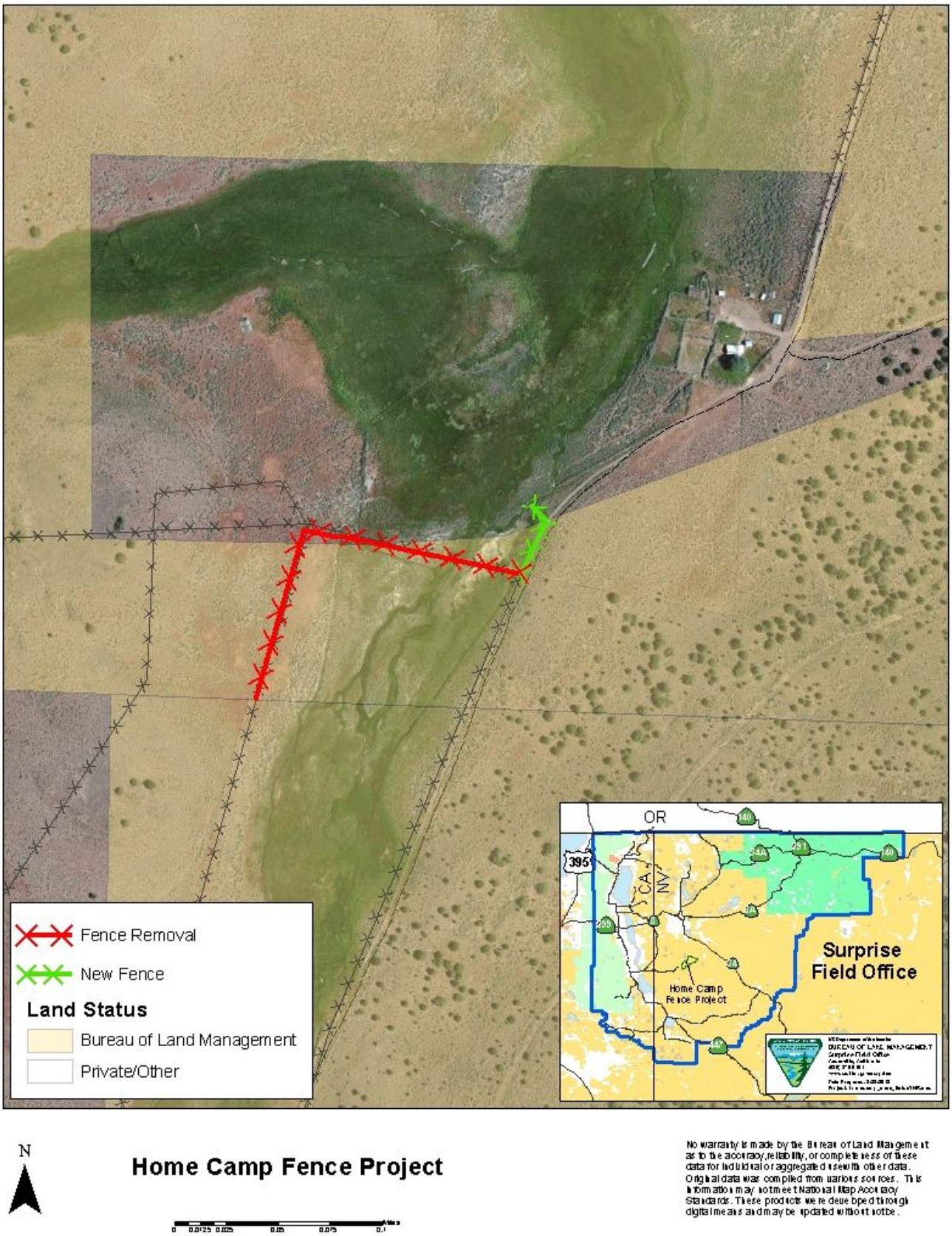
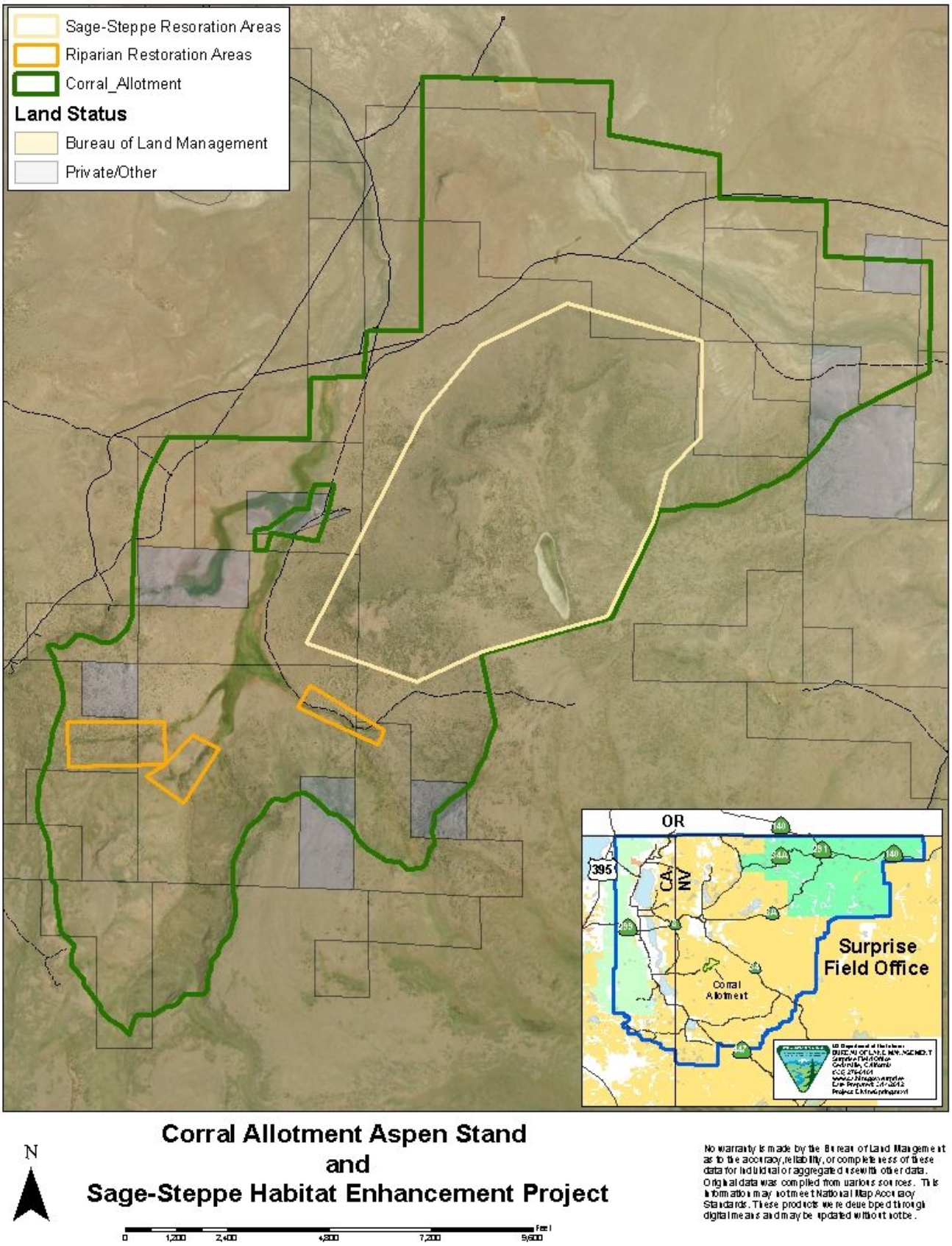


Map 10.7. Home Camp Allotment Trailing Route



Map 10.8. Home Camp Fence Project



Map 10.9. Corral Allotment Aspen Stand & Sage-Steppe Enhancement Project

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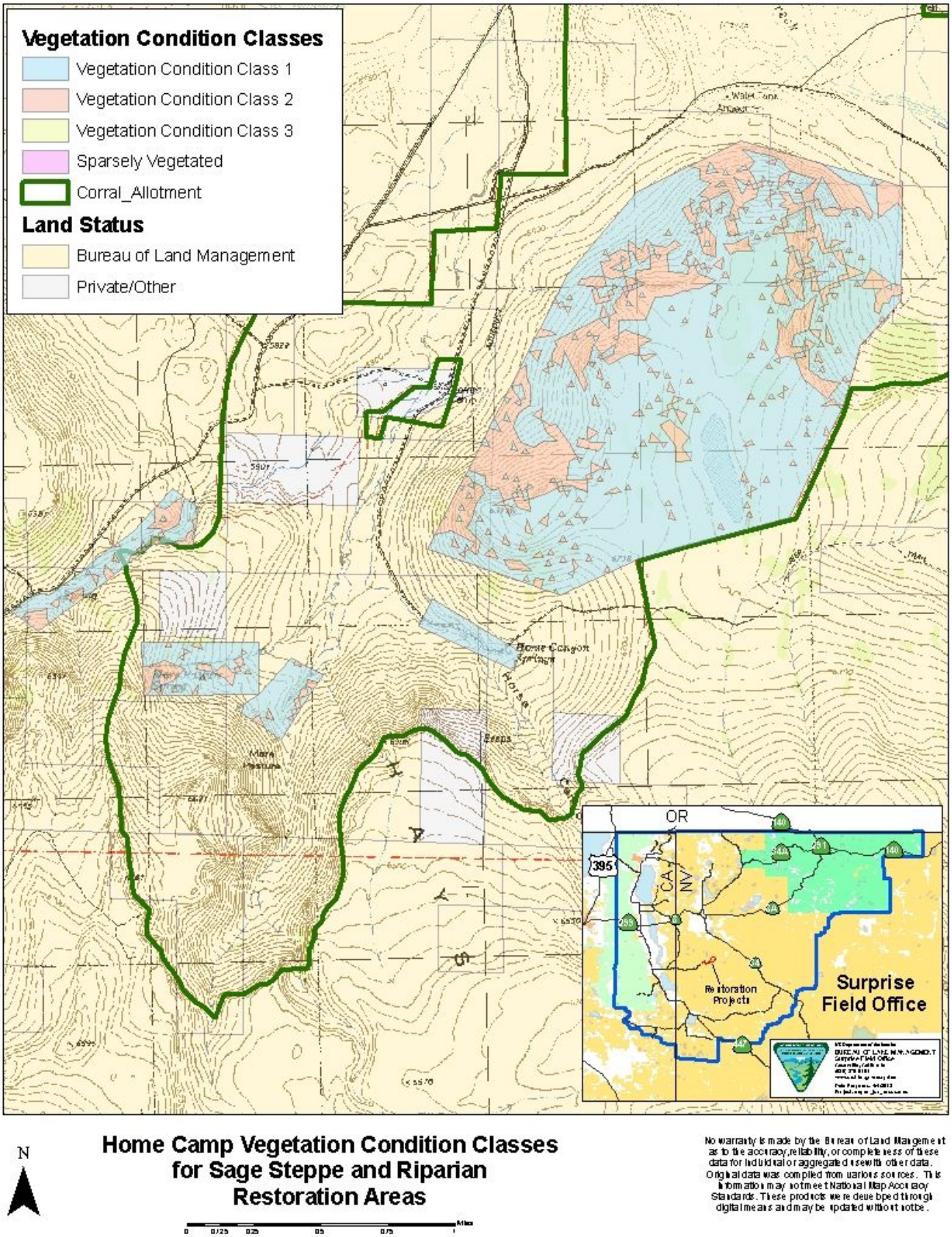
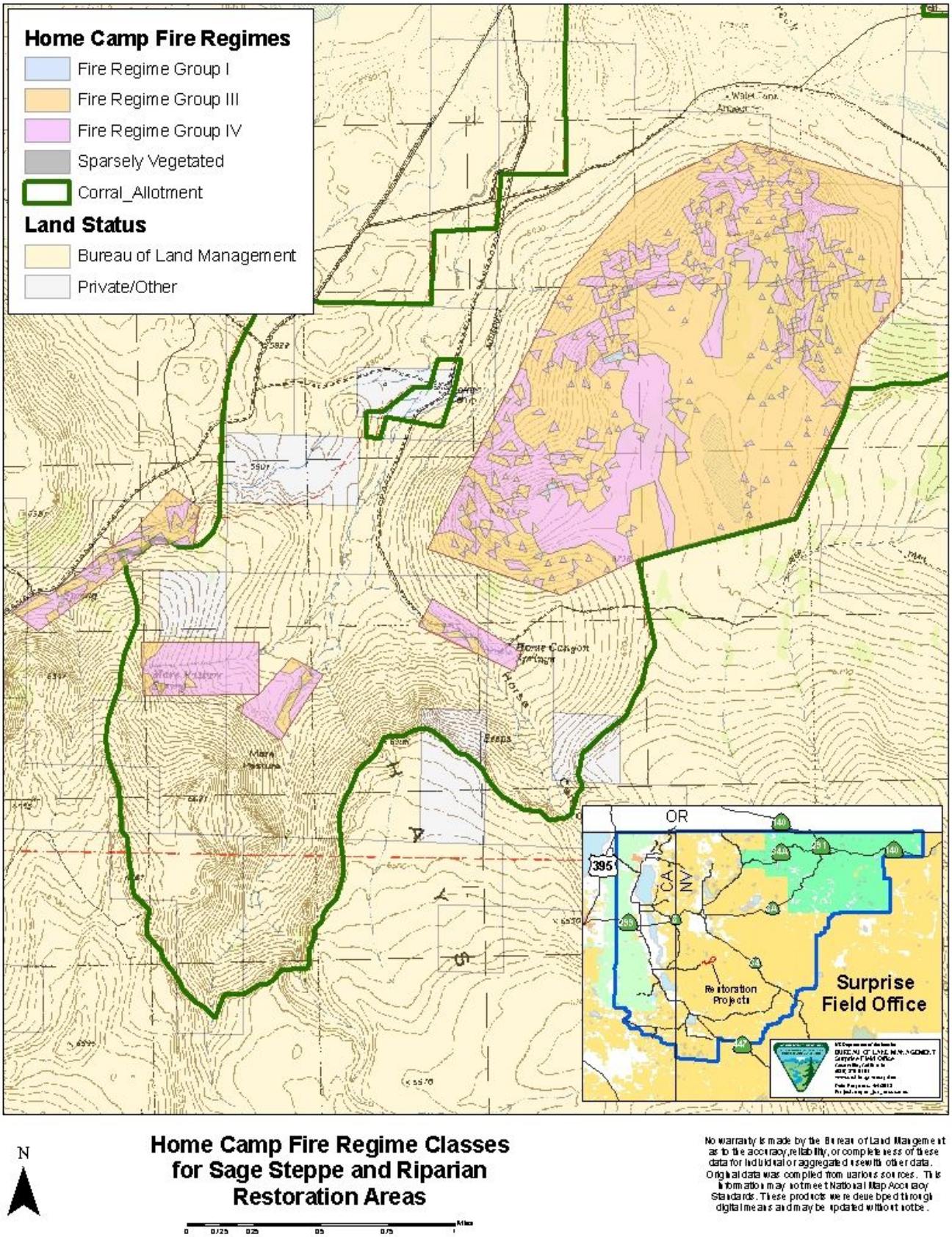
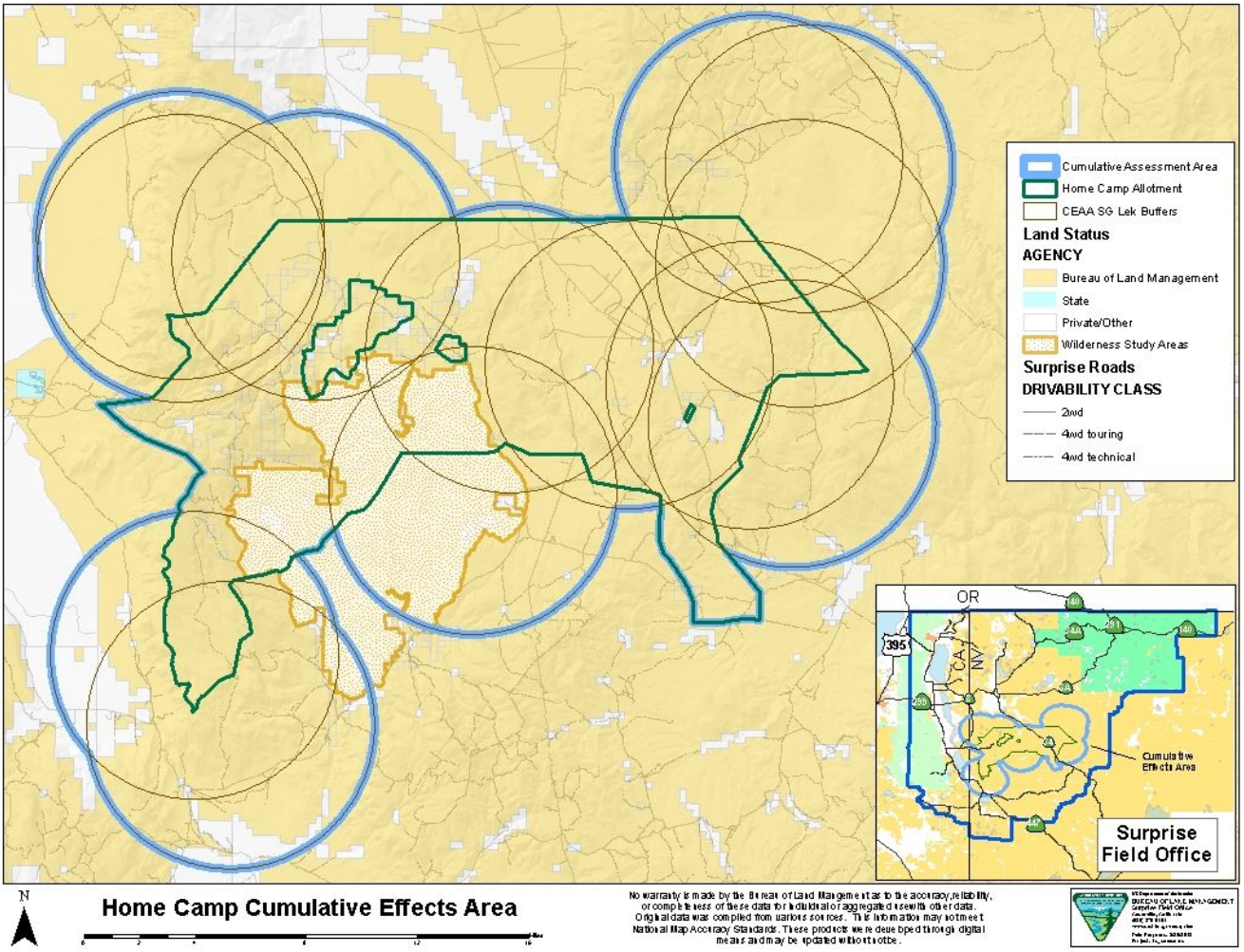


Map 10.10. Vegetation Condition Classes



Map 10.11. Fire Regime Classes

Date prepared: April 17, 2012



Map 10.12. Cumulative Effects Assessment Area