

**U.S. Department of the Interior
Bureau of Land Management**

**Preliminary Environmental Assessment
DOI-BLM-NV-L010-2013-0034-EA
September 2013**

**MT. HAMILTON LLC
ROAD USE AND ROAD IMPROVEMENT RIGHT-OF-WAY
PROJECT**

Location:

White Pine County, Nevada

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Mt. Hamilton LLC
Road Use and Road Improvement Right-of-Way Project

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1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze the Mt. Hamilton LLC (MHLLC) proposal relative to the Road Use and Road Improvement Right-of-Way (ROW) Project (Project). The EA is a site-specific analysis of potential impacts that could result with the implementation of a proposed action or alternatives to the proposed action. The EA assists the Bureau of Land Management (BLM) in project planning and ensuring compliance with the National Environmental Policy Act of 1969 (NEPA), and in making a determination as to whether any “significant” impacts could result from the analyzed actions. “Significance” is defined by NEPA and is found in Chapter 40 of the Code of Federal Regulations (CFR) §1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of “Finding of No Significant Impact” (FONSI).

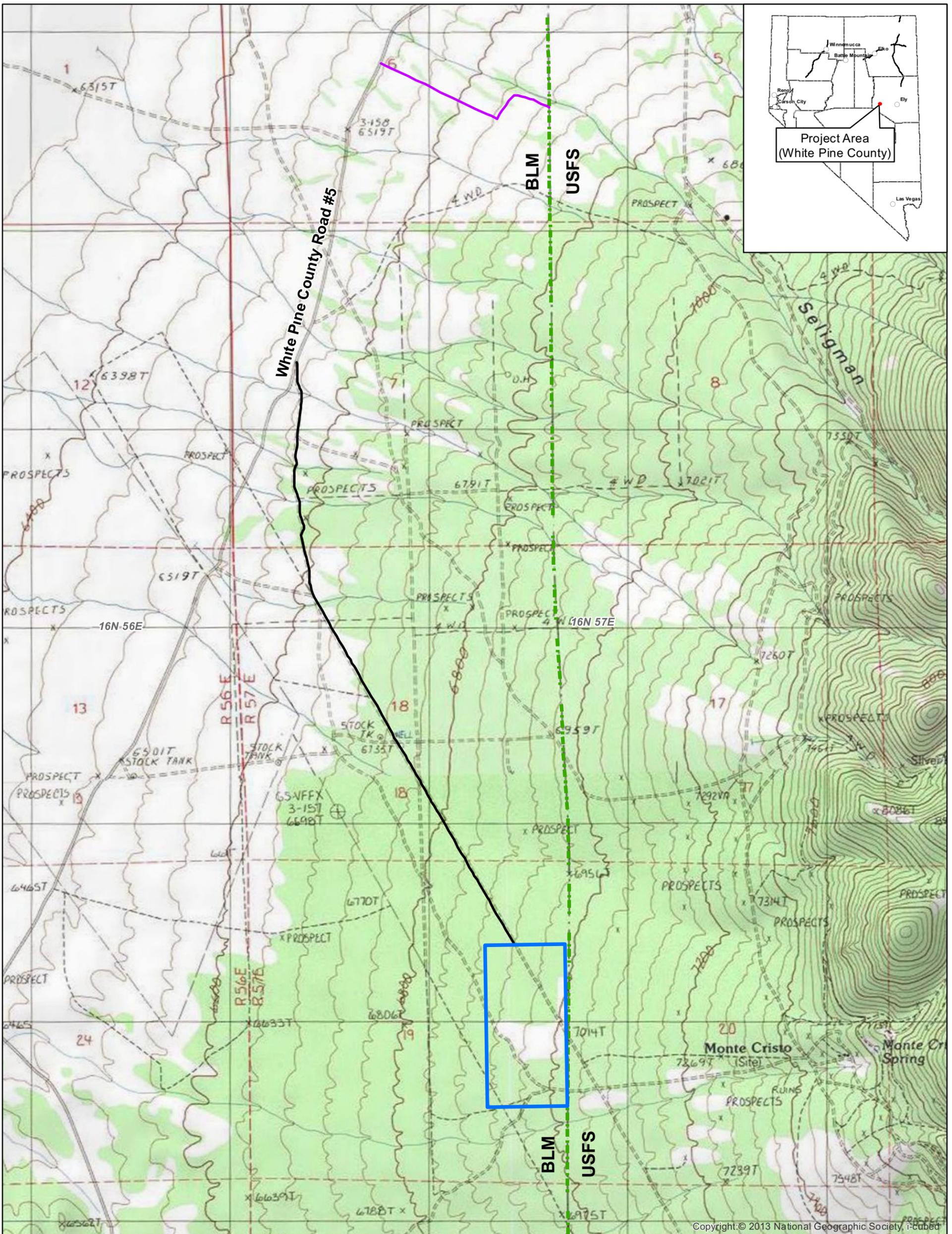
This document is tiered to the *Ely Proposed Resource Management Plan/Final Environmental Impact Statement* (RMP/FEIS) released in November 2007. Should a determination be made that implementation of the proposed or alternative actions would not result in “significant environmental impacts” or “significant environmental impacts beyond those already addressed in the RMP/FEIS,” a FONSI would be prepared to document that determination, and a Decision Record issued providing the rationale for approving the chosen alternative.

1.1 Background

MHLLC has requested a ROW grant from the BLM for the following activities:

- Upgrade by widening and maintaining approximately two linear miles (10,639 feet) of existing road on BLM-administered land to a running surface width of 24 feet and a disturbance width of 32 feet (Southern Road Segment) (approximately 7.8 acres), with a proposed ROW width of 32 feet; and
- Improvement and maintenance of approximately 3,220 feet of existing road on BLM-administered land with a proposed disturbance area of 2.4 acres (Northern Road Segment), with a proposed ROW width of 100 feet. This road segment connects White Pine County Road 5 to National Forest System (NFS) lands managed by the United States Forest Service (USFS) (Figure 1.1.1) (Proposed Action).

This EA has been prepared in compliance with the NEPA to examine the effects of the issuance of a ROW for the Project. The proposed ROWs would be used for improved, permanent, and year-round access to MHLLC’s private property and mining claims on NFS lands, and the Southern Road Segment would serve as the primary access for MHLLC to access its private parcel.



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Explanation

- Northern Road Segment
- Southern Road Segment
- - - US Forest Service Boundary
- Mt. Hamilton LLC Private Parcel



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**ROAD USE AND ROAD IMPROVEMENT
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**Project Location and
Property Ownership**

Figure 1.1.1

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In June 2012, the Road Use and Road Improvement Project Plan of Development (POD) (Appendix 1) was submitted with a complete BLM Form SF-299 (1/2006) Application for Transportation and Utility Systems and Facilities on Federal Lands (Appendix 2).

The proponent's objective is the construction and operation of the Southern Road Segment to provide improved, permanent, and year-round access to MHLCC's private property and to serve as the primary access for MHLCC to access its private parcel. The improvement and maintenance of the Northern Road Segment would provide permanent, year-round access to MHLCC's mining claims on NFS lands and private land. MHLCC is currently authorized by the USFS to conduct mineral exploration activities and baseline data collection activities within the Centennial and Seligman parcels on its mining claims. The ROWs would initially serve to accommodate currently authorized activities on NFS lands. Should these exploration activities be successful in supporting the development of mineral resources, then the improved roads would be required to accommodate increased vehicle traffic.

1.2 Purpose of the Proposed Action

The BLM's purpose of the action is to provide the proponent access to their private land located in section 19, T16N, R57E, and to provide access to the proponent's mining claims located in sections 5, 8, 9, 15 through 17, and 20 through 22, T16N, R57E, with legal access across public land managed by the BLM.

1.3 Need for the Proposed Action

The need for the action is established by BLM's responsibility under the Federal Land Policy and Management Act of 1976 (FLPMA) to respond to a request for a ROW grant for legal access to private land and legal access to mining claims.

1.4 Conformance with BLM Land Use Plan(s)

The Proposed Action described in this EA is in conformance with the BLM Ely District's Record of Decision (ROD) and Approved RMP (BLM 2008a), which states that ROWs and other land uses are recognized as major uses of the public lands and are authorized pursuant to sections 302 and 501 of the FLPMA, and meet public, local, state, and federal agency needs for use authorizations such as ROWs, permits, leases, and easements while avoiding or minimizing adverse impacts to other resource values.

1.5 Relationship to Statutes, Regulations, or other Plans

Authorized ROWs on BLM-administered land are granted through the FLPMA, BLM ROW Regulations at 43 CFR 2800, and the BLM Manual MS-2800 through MS-2809. BLM ROW policy is extracted and implemented from these regulations.

1.6 Identification of Issues

While many issues may arise during scoping, not all of the issues raised warrant analysis.

Issues raised through scoping are analyzed if:

- Analysis of the issue is necessary to make a reasoned choice between alternatives;
- The issue is significant (an issue associated with a significant direct, indirect, or cumulative impact, or where analysis is necessary to determine the significance of impacts); or
- If there is a disagreement about the best way to use a resource, or resolve an unwanted resource condition, or potentially significant effects of a proposed action or alternative.

Internal scoping was conducted by an interdisciplinary team that analyzed the potential consequences of the Proposed Action. Potential impacts to the following resources/concerns were evaluated in accordance with criteria listed above to determine if detailed analysis was required. Consideration of some of these items is to ensure compliance with laws, statutes or executive orders that impose certain requirements upon all federal actions. Other items are relevant to the management of public lands in general and to the Ely District BLM in particular.

Table 1.6-1: Summary of Supplemental Authorities and Other Elements of the Human Environment

Resource/Concern	Issue(s) Analyzed? (Y/N)	Rationale for Dismissal from Detailed Analysis or Issue(s) Requiring Detailed Analysis
Air Quality	N	There would be temporary increased particulate matter (dust) resulting from the Proposed Action primarily from construction activities. The affected area is not within an area of non-attainment or areas where total suspended particulates or other criteria pollutants exceed Nevada air quality standards. Direct, indirect, or cumulative impacts would not approach a level of significance. Detailed analysis is not required.
Areas of Critical Environmental Concern	N	Not present.
Cultural Resources	N	For the Southern Road Segment of the Project; a Class III cultural resources inventory was conducted (8111 NV 04-012-2022(P)) and no sites eligible for the National Register of Historic Places (NRHP) were identified. Although the water tank feature identified during the survey is not considered eligible to the National Register of Historic Places, it will be avoided by project design. For the Northern Road Segment portion of the Project, the BLM has accepted the 1988 cultural resources inventory report and has indicated there are no

Resource/Concern	Issue(s) Analyzed? (Y/N)	Rationale for Dismissal from Detailed Analysis or Issue(s) Requiring Detailed Analysis
		properties eligible to the National Register of Historic Places therefore there are no cultural resources concerns. Measures are included in the Project for unanticipated discoveries of cultural sites in accordance with the State Protocol Agreement (BLM and NSHPO 2012). Further analysis is not required.
Forest Health	N	The Project does not meet Healthy Forests and Rangeland Act criteria.
Migratory Birds, including bald and golden eagles	Y	Migratory bird habitat is present within the Project area and subject to disturbance. This resource is further analyzed in the EA.
Native American Religious Concerns	N	No issues have been identified.
United States Fish and Wildlife Service (USFWS) Listed or proposed for listing Threatened or Endangered Species or critical habitat	N	Not known to be present.
Wastes, hazardous or solid	N	The Project would involve the use of diesel fuel, gasoline, and lubricating grease for the construction, operation, and maintenance of both road segments. The usage of the roads would also include the transport of hazardous materials. The Project would be required to comply with all federal, state, and local laws and regulations regarding the use and spills of hazardous substances, as well as transport. Solid waste would be removed and transported to an authorized off-site landfill facility. Portable toilets would be used while the construction crew is on site. Protection measures have been incorporated into the Project design standards to reduce any impacts to hazardous or solid wastes. No further analysis is required.
Water Quality, Drinking/Ground (Water Resources, Water Rights)	N	Best Management Practices (BMPs) would be utilized to reduce any impacts from erosion and sedimentation. No impacts to surface or ground water quality are anticipated from the Proposed Action. In addition, water resources or water rights would not be affected. No further analysis is required.
Environmental Justice	N	No minority or low-income groups would be disproportionately affected by health or environmental effects. No further analysis is required.

Resource/Concern	Issue(s) Analyzed? (Y/N)	Rationale for Dismissal from Detailed Analysis or Issue(s) Requiring Detailed Analysis
Floodplains	N	Not present.
Farmlands, Prime and Unique	N	Not present.
Wetlands/Riparian Zones	N	Not present.
Invasive, Nonnative Species	Y	The Project has the potential to introduce or spread invasive and nonnative species. Prevention measures are included in the Proposed Action. Further analyzed in the EA. Noxious weeds were not identified in the Project Area during 2012 and 2013 field surveys.
Wilderness/WSA	N	Not present.
Human Health and Public Safety	N	The Project may use herbicides to eradicate weeds for the Project; however, Executive Order (EO) 13045, "Protection of Children from Environmental Health Risks and Safety Risks," would not apply to this Project as there would be no children at the site. There would be negligible impacts to public access to the area during construction activities. No further analysis is required.
Wild and Scenic Rivers	N	Not present.
Special Status Animal Species, other than those listed or proposed by the United States Fish and Wildlife Service (USFWS) as Threatened or Endangered.	Y	BLM sensitive species have been identified in the Project Area. This resource is further analyzed in the EA.
Special Status Plant Species, other than those listed or proposed by the USFWS as Threatened or Endangered.	N	There are no special status plant species that have the potential to occur or were observed in the Project area. No further analysis is required.
Fish and Wildlife	Y	Potential direct and indirect impacts to wildlife and wildlife habitat could occur. This resource is further analyzed in the EA.
Wild Horses	Y	The Project Area is located within the Pancake Herd Management Area (HMA). This resource is further analyzed in the EA.
Soils	Y	Soils would be temporarily disturbed during construction of the Project. This resource is further analyzed in the EA.
Visual Resources	N	The Project Area is within Visual Resource Management Class IV. The Project would meet Class IV objectives, and no additional impacts are anticipated from the Project. No further analysis is required.

Resource/Concern	Issue(s) Analyzed? (Y/N)	Rationale for Dismissal from Detailed Analysis or Issue(s) Requiring Detailed Analysis
Livestock Grazing	N	The Project Area is located within the Monte Cristo Grazing Allotment (0614). This allotment is permitted for 245 cattle from June 21 to September 18 for 725 active animal unit months (AUMs). The loss of key grazing forage would be minimal; therefore, the active AUMs would not have to be adjusted as a result of the Project. An historic livestock watering tank and associated water pipeline occur along the southern portion of the Project in the northeast (NE) ¼ of the southwest (SW) ¼ of Township 16 North, Range 57 East (T16N, R57E). An environmental protection measure has been included in the Project that states that MHLLC would avoid the water tank with its Project design, and replace the associated pipeline. No further analysis is required.
Lands and Realty	N	Land is managed for multi-use. The Proposed Action is within the scope of the current land use designation. The land use designation is not changed by the Proposed Action. No further analysis is required.
Lands with Wilderness Characteristics	N	Not present.
Recreation	N	The Proposed Action would not have an impact to the dispersed recreation opportunities within the Project Area and vicinity as the road segments would remain open for use. No further analysis is required.
Fire Management	N	The Proposed Action would not have an impact on fire management in the region.
Social Values and Economics	Y	The Proposed Action may have indirect impacts on economics in the vicinity of the Proposed Action. This resource is further analyzed in the EA.
Paleontological Resources	N	There are no known paleontological resources in the Project Area. A protection measure is included in the Proposed Action for unanticipated discoveries. No further analysis is required.
Geology/Mineral Resources	N	Gravel from a gravel pit located on private land in section 19 or 20, T16N, R57E, would be used for road construction and maintenance. The impact is negligible due to the abundance and availability of gravel in the vicinity of the Project Area. No further analysis is required.
Vegetative Resources	Y	The Proposed Action would have an impact on the vegetation present in the Project Area. This resource is further analyzed in the EA.

2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION

2.1 Introduction

The previous chapter presented the purpose and need of the proposed Project, as well as the relevant issues, i.e., those elements that could be affected by the implementation of the proposed Project. In order to meet the purpose and need of the proposed Project in a way that resolves the issues, the BLM has developed a range of action alternatives. These alternatives, as well as a no action alternative, are presented below. The potential environmental impacts, or consequences, resulting from the implementation of each alternative are then analyzed in Chapter 3 for each of the identified issues.

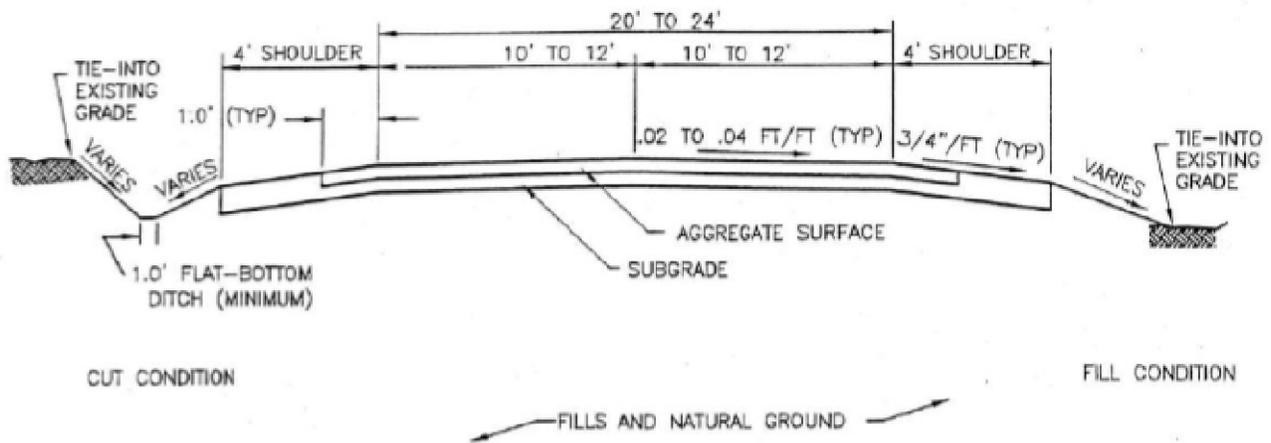
2.2 Alternative A - Proposed Action

MHLLC proposes two separate activities as part of the Proposed Action: 1) upgrade through widening and maintaining a two-mile segment of existing road (Southern Road Segment); and 2) improvement and maintenance of approximately 2.4 acres of a separate, existing road (Northern Road Segment). The permanent ROW requested for the Southern Road Segment is 32 feet wide. The estimated length of the road to be widened is approximately 10,639 feet (two miles) approximately 17 feet in width, and would follow an existing road footprint through BLM-administered land (Figure 1.1.1). An illustration of the proposed road design is shown in Figure 2.2.1, which is consistent with the BLM Roads Design Handbook (BLM 2011a). The road widening activities associated with the Southern Road Segment would result in a total surface disturbance of approximately 7.8 acres. The permanent ROW requested for the Northern Road Segment is approximately 3,220 feet in length, with a width of 100 feet. The entire road length is located on BLM-administered land (Figure 1.1.1). The road improvement disturbance activities associated with the Northern Road Segment total approximately 2.4 acres (Figure 2.2.2).

2.2.1 Southern Road Segment

The construction and operation of the Southern Road Segment would provide improved, permanent, and year-round access to MHLLC's private parcel as well as the Centennial-Seligman Mine (CSM) Project. The existing road is unimproved, with an average width of 15 feet. The widened road is needed to safely accommodate highway trucks with adequate width to support two-way traffic.

The widened road would have an aggregate surface, a 24-foot running width, and a four-foot shoulder on either side (Figure 2.2.1). The tie into existing grade on the downslope side may vary up to eight feet depending on the local side slope. Surfacing would be required to provide all-weather access and reduce dust emissions. Aggregate size, type, amount, and application method would meet specifications referenced in the BLM Roads Design Handbook (BLM 2011a). Subgrade analysis may be required to determine load-bearing capacities.



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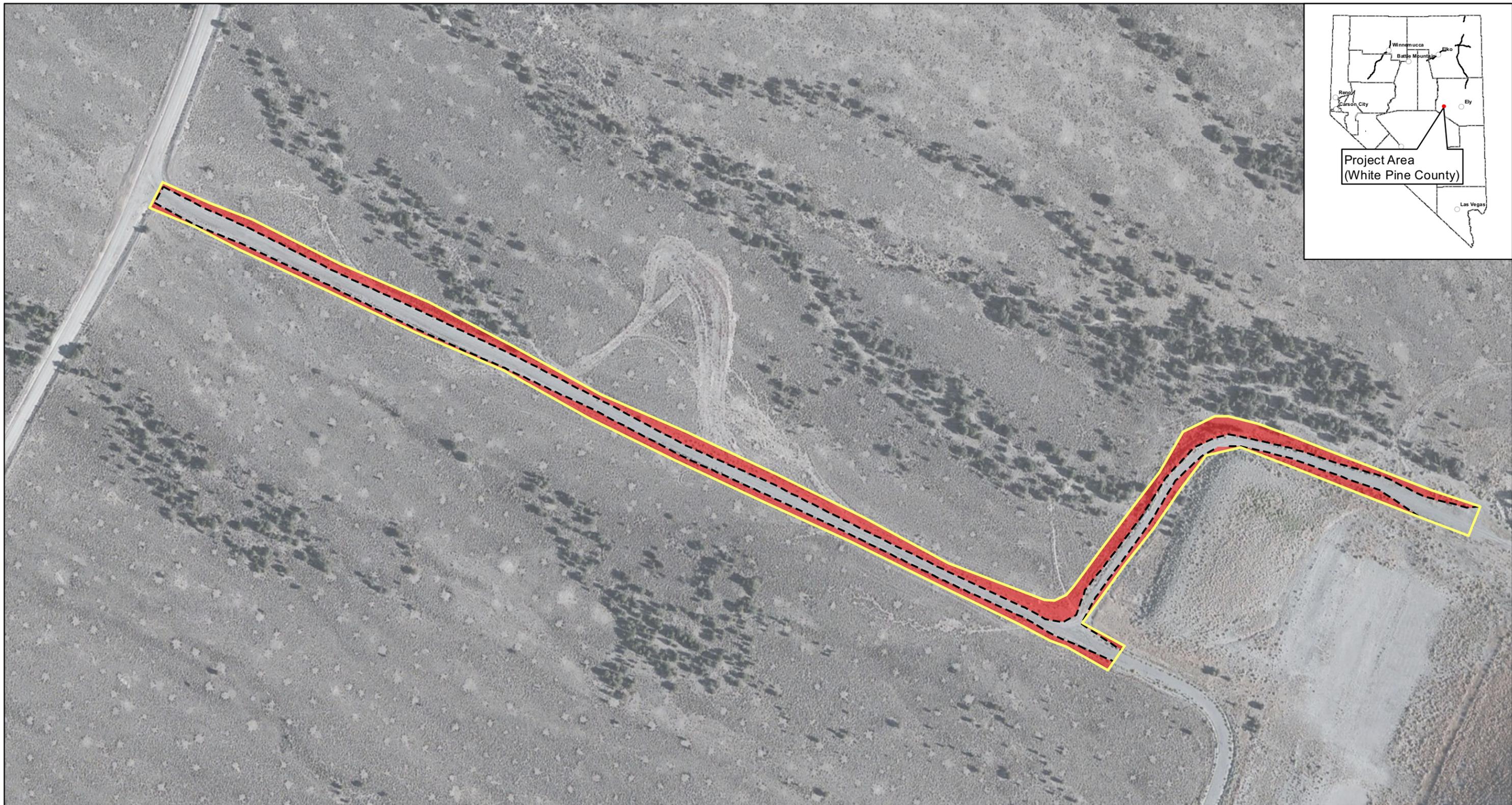
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**Southern Road Segment
Proposed Road Design**

Figure 2.2.1

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Explanation

- Proposed Disturbance Area
- Maximum Proposed Disturbance Limit
- Edge of Existing Road

T16N, R57E, Sec. 6

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Northern Road Segment
Proposed Disturbance Area

Figure 2.2.2

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Drainage ditches would be constructed along the roadway, as necessary. In areas where drainage ditches are not necessary, the improved road would tie into the up-slope existing grade. If the BLM determines that culverts, bridges, or low water crossings are necessary, MHLLC would coordinate with the BLM to develop design and construction specifications which comply with the BLM Roads Design Handbook (BLM 2011a) prior to construction. It is not anticipated that borrow areas for fill and removal of waste materials would be required on BLM-administered land.

The estimated type and volume of traffic on the Southern Road Segment is as follows for the initial 18 to 24 months of use:

- Up to two drill rigs (approximately 33 gross tons each) – one to two round trips each per month during spring, summer, and fall;
- One 4,000-gallon drill support water truck – approximately two round trips per day for a period of up to four months during the spring, summer, or fall months;
- Up to four drill support pick-up trucks (approximately 6.5 gross tons each) – approximately eight round trips each per day for a period of up to four months during the spring, summer, or fall months;
- Up to 20 3.5-ton or 4.5-ton pickup trucks or other light vehicles – up to 40 round trips per day;
- One 4,000-gallon water truck for dust suppression – up to eight round trips per day;
- One 16-ton grader for road maintenance – up to one round trip per day;
- One 35-ton bulldozer for road maintenance – up to one round trip per day; and
- Flatbed trucks and trailers (between 40 to 64.5 gross tons each) – approximately 15 round trips per day for a period of eight to ten months during the spring, summer, and fall months.

The estimated type and volume of traffic on the ROW is as follows for the remaining life of the Project, or in conjunction with the life of the CSM Project:

- Up to two drill rigs (approximately 33 gross tons each) – one to two round trips each per month during spring, summer, and fall;
- One 4,000-gallon drill support water truck – approximately two round trips per day for a period of up to four months during the spring, summer, or fall months;
- Up to four drill support pick-up trucks – approximately eight round trips per day for a period of up to four months during the spring, summer, or fall months;
- Up to 20 3.5-ton or 4.5-ton light vehicles, including cars, pickup trucks, and vans – up to 40 round trips per day;
- One 4,000-gallon water truck for dust suppression – up to eight round trips per day;
- One 29-ton grader for road maintenance – up to one round trip per day;
- One 53-ton or 73-ton bulldozer for road maintenance – up to one trip per day; and

- Flatbed trucks and trailers (between 40 to 64.5 gross tons each) – approximately ten round trips per day, year round.

2.2.2 Northern Road Segment

The Northern Road Segment has a current average running width of 38 feet, with a six-foot shoulder on either side of the running surface. The improvements required for the Northern Road Segment include widening in several distinct areas for a total disturbance of approximately 2.4 acres, as well as maintenance to replace culverts, smooth ruts and potholes, and reestablish water bars or centerline crowns for surface water and erosion control. Improvement and maintenance of this road segment would provide permanent, year-round access to MHLIC's mining claims on NFS lands and private land. MHLIC is currently authorized by the USFS to conduct mineral exploration activities and baseline collection activities on the existing mining claims and private land controlled by MHLIC. The proposed ROW would initially serve to accommodate currently authorized activities on NFS lands. Should these exploration activities be successful in supporting development of mineral resources, then the road would be required to accommodate increased vehicle traffic.

The estimated type and volume of traffic on the Northern Road Segment is as follows for the initial 18 to 24 months of use:

- Up to two drill rigs (approximately 33 gross tons each) – one to two round trips each per month during spring, summer or fall months;
- One 4,000-gallon drill support water truck – approximately two round trips per day for a period of up to four months during the spring, summer, or fall months;
- Up to four drill support pick-up trucks (approximately 6.5 gross tons each) – approximately eight round trips per day for a period of four months during the spring, summer, or fall months;
- Up to ten 3.5-ton or 4.5-ton light vehicles, including cars, pick-up trucks, and vans – up to 25 round trips per day;
- One 4,000-gallon water truck for dust suppression – up to eight round trips per day;
- One 16-ton grader for road maintenance – up to one round trip per day;
- One 35-ton bulldozer for road maintenance – up to one round trip per day; and
- Flatbed trucks and trailers (between 40 to 64.5 gross tons each) – approximately ten round trips per day, year round.

The annual estimated type and volume of traffic on the Northern Road Segment is as follows for the life of the CSM Project:

- Up to two drill rigs (approximately 33 gross tons each) – one to two round trips each per month during spring, summer, or fall months;
- One 4,000-gallon drill support water truck – approximately two round trips per day for a period of up to six months during the spring, summer, or fall months;

- Up to four drill support pick-up trucks (approximately 6.5 gross tons each) – approximately eight round trips per day for a period of six months during the spring, summer, or fall months;
- Up to 20 3.5-ton, 4.5-ton, or 6.5-ton light vehicles, including cars, pick-up trucks, and vans – up to 40 round trips per day;
- One 4,000-gallon water truck for dust suppression – up to eight trips per day;
- One 29-ton grader for road maintenance – up to one round trip per day;
- One 53-ton or 73-ton bulldozer for road maintenance – up to one round trip per day; and
- Flatbed trucks and trailers (between 40 to 64.5 gross tons each) – approximately five round trips per day, year round.

2.2.3 Location and Access

The Southern Road Segment is located in Sections 7, 18, and 19, T16N, R57E, Mount Diablo Base and Meridian (MDB&M), and the Northern Road Segment is located in Section 6, T16N, R57E, MDB&M, White Pine County, Nevada (Figure 1.1.1) (Project Area). Both existing roads are located entirely on the National System of Public Lands (NSPL), administered by the BLM. Specific ROW location information can be found in Table 2.2-1. The Project would be accessed via US Highway 50 (U.S. 50), then south on White Pine County Road 5.

Table 2.2-1: Legal Description of Road Segments

Road Segment	Township/Range	Section Number	Aliquot Part
Southern	T16N, R57E	7	NW ¼, SW ¼
		18	NW ¼, SW ¼, SE ¼
		19	NE ¼
Northern	T16N, R57E	6	NE ¼

NW = northwest; NE = northeast; SW = southwest; SE = southeast

2.2.4 Project Construction, Operation, and Maintenance

2.2.4.1 Pre-Construction Activities

Surveying

Before construction surveying begins, required permits to survey on BLM-administered lands would be obtained, if necessary. Prior to construction, MHLLC would stake the centerline of the Southern Road Segment and flag the construction limits. The exact centerline would be chosen to best implement the proposed road design criteria discussed below. The proposed disturbance limits for the Northern Road Segment would also be staked and flagged prior to construction activities.

Construction Specifications

If required by the BLM, MHLLC would develop a set of site-specific construction specifications in cooperation with the BLM prior to construction. The design and construction specifications would be custom tailored for site-specific conditions by qualified technical staff and engineers. MHLLC would ensure that all aspects of the construction specifications comply with the BLM Roads Design Handbook (BLM 2011a).

Pre-Construction Meeting

MHLLC would contact the BLM Authorized Officer, or his/her designee, at least ten days prior to commencing construction and/or any surface disturbing activities. A pre-construction meeting would be scheduled with the BLM and MHLLC prior to commencing construction and/or surface disturbing activities on both road segments. MHLLC personnel and contractors' representatives involved with the construction and/or any surface disturbing activities associated with the Project would attend this meeting to review the stipulations of the BLM ROW grant including stipulations of the POD and other documents, as determined by the BLM.

MHLLC would not initiate any construction or other surface disturbing activities on either road segment until after the Notice to Proceed (Form 2800-15) is issued by the BLM Authorizing Officer or his/her designee.

2.2.4.2 Construction Activities

MHLLC would conduct all construction activities within the authorized limits of the ROWs. MHLLC would construct both road segments in strict conformity with the POD, as approved, and made part of the grant. Any relocation, additional construction, or use that is not in accordance with the approved POD, would not be initiated without the prior written approval of the Authorized Officer or his/her designee.

2.2.4.3 Construction Procedures

It is anticipated that construction would take approximately four to six weeks, and is expected to begin fall 2013.

Construction activities would include the following main elements and activities:

- Clear vegetation outside of the existing roadways;
- Widen and grade the existing roadways only within the approved ROWs;
- Replace the segment of a water tank discharge pipe affected by road widening activities associated with the Southern Road Segment, located under the road, with a 1.5-inch nominal galvanized steel pipe or similar high-density polyethylene pipe;
- Lay down subgrade and aggregate surface material;

- Complete final grading and drainage improvements; and
- Implement rehabilitation activities.

Typical equipment and vehicles needed for construction are listed in Table 2.2-2.

Table 2.2-2: Major Equipment Used During Construction

Equipment	Use
One 16-ton Grader	Road grading
One 26-ton Dump Truck	Load and unload material
One 12-ton Roller	Road compaction
One 35-ton Bulldozer	Vegetation clearing, initial grading, and reclamation
One 4,000-gallon water truck	Dust suppression
One nine-ton loader/backhoe	Culvert installation
Up to five 60-ton commercial motor vehicles (lowboy tractor trailer or equivalent)	Haul equipment and supplies
One 20-ton feller/skidder	Tree and firewood gathering

As noted above, construction activities would include the removal of natural vegetation from the undisturbed areas within the ROWs outside of the existing road disturbance. Vegetation would be disposed of and/or salvaged according to BLM specifications.

2.2.4.4 Temporary Use Area

Construction activities to improve the Southern Road Segment would require a temporary use area to facilitate the staging of construction equipment and miscellaneous construction supplies and tools. The temporary use area would be located on MHLIC's private land. The Project would not require the construction of permanent structures, but temporary sheds may be located in the temporary use area to store equipment, supplies, and tools.

2.2.4.5 Dust Control

A BLM-approved dust suppressant and/or water would be used during construction activities to minimize fugitive dust to the extent practicable. Additionally, prudent vehicle speeds would be maintained to minimize fugitive dust created by travel.

2.2.4.6 Erosion and Sediment Control Measures

Project construction activities would follow site-specific soil erosion and sediment control measures. These measures would be developed in cooperation with the BLM prior to construction activities and would comply with BLM regulations. No construction activities would occur until approved sediment and erosion control measures have been installed.

2.2.4.7 Safety

MHLLC would be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work, including giving notices, erecting and maintaining all safeguards and complying with all laws, ordinances, regulations, codes and lawful orders of any public agency. MHLLC would maintain a safety program in connection with construction activities. The safety program would include safety training, elimination of unsafe conditions, and weekly tool box safety meetings.

Public access would be restricted in the construction area to protect the public in accordance with federal laws and regulations. This would be accomplished through the posting of signs to alert the public of road construction activities. All signs would meet BLM standards and approval.

2.2.4.8 Solid Waste

The construction areas, temporary use area, and access roads would be kept in an orderly condition throughout the period of construction. A minimal amount of general refuse associated with work operations would be created. All refuse generated during the Project would be removed and disposed of in an authorized off-site landfill facility, consistent with applicable regulations. No refuse would be disposed of or left on site. Portable chemical toilets would be used during the time the construction crew is on site.

2.2.4.9 Hazardous Materials

All construction, operation, and maintenance activities would comply with all applicable federal, state, and local laws and regulations regarding the use of hazardous substances. MHLLC would be responsible for maintaining compliance with all applicable laws and regulations.

Hazardous substances utilized at the Project during construction would include diesel fuel, gasoline, and lubricating grease. Diesel fuel and gasoline would be stored in fuel delivery systems (i.e., manufacturer installed gas tanks) on construction equipment and support vehicles. Stationary fuel storage tanks, including the appropriate liners and spill prevention, in compliance with Nevada Division of Environmental Protection (NDEP) regulations, may be located on private land during construction. Lubricating grease would be transported by support vehicles and may be stored in the temporary use area.

Diesel fuel would be transported in a truck-bed mounted external tank and in internal vehicle fuel tanks. Gasoline would be transported in hand-held containers and in internal vehicle fuel tanks. All containers of hazardous substances would be labeled and handled in accordance with Nevada Department of Transportation regulations. Petroleum-based products or chemicals would be hauled to an approved site for disposal, as necessary.

In the event that a reportable amount of hazardous or regulated materials is spilled, measures would be taken to control the spill and the BLM, the NDEP, and the Emergency Response Hotline would be notified, as required. Any hazardous substance

spills would be cleaned up immediately and any resulting waste would be transferred off site in accordance with all applicable local, state, and federal regulations. Contract construction crews would maintain spill kits on site for use in case of a spill.

2.2.4.10 Equipment Refueling

MHLLC would implement standard refueling procedures for heavy equipment that is used during construction activities. This equipment would be refueled in place.

2.2.5 Rehabilitation/Reclamation

Disturbance outside of the ROWs are not anticipated. However, in the event that incidental disturbance outside of the ROWs does occur, MHLLC would reclaim any disturbance outside of the ROWs to pre-construction conditions. The BLM Authorized Officer would be notified of disturbance activities outside of the ROWs prior to reclamation activities. A BLM-approved certified weed-free seed mix would be developed based on known soil and vegetative conditions, and would be selected to establish a plant community that would support the post-construction land use. The mix would be designed to promote plant species that can exist in the environment of eastern Nevada, are proven species for revegetation, or are native species found in the plant communities prior to disturbance.

Reclamation for incidental disturbance outside of the ROWs would include recontouring of impacted areas to match the surrounding terrain. Following recontouring, any disturbed areas outside of the ROWs would be seeded with a BLM-approved certified weed-free seed mix at the appropriate time of year and at an application rate for optimum seed sprouting and plant growth. The seeding would be completed using a broadcast method and then raked, or as otherwise directed by the BLM. Seeded areas would be monitored for stability and revegetation success according to BLM specifications. Any salvaged vegetation would be planted according to BLM specifications.

Should site-specific design and construction specifications for crossing ephemeral drainages be required by the BLM, the road crossings would be constructed in compliance with the BLM Roads Design Handbook (BLM 2011a). Any incidental disturbance within the drainages outside of the ROWs would be re-shaped to approach the pre-construction contours. The resulting channels outside of the ROWs would be of the same capacity as up and downstream reaches and would be constructed to prevent erosion by use of surface stabilization techniques (rip-rap, weed-free straw bales) where necessary, and ultimately revegetated.

2.2.6 Post-Construction Activities

Following construction, MHLLC would maintain both road segments, as necessary. Routine road maintenance would include smoothing ruts, filling holes with fill material, grading, snow plowing, and maintaining drainage ditches. MHLLC would also utilize a BLM-approved dust suppressant and/or water to control fugitive dust to the extent practicable during maintenance.

MHLLC would be responsible for weed control within the ROWs, and would consult with the BLM for acceptable weed control methods prior to treatments. If any incidental disturbance occurs outside of the ROWs during construction, MHLLC would monitor reclamation of these areas until accepted by the BLM.

2.2.7 Environmental Protection Measures

As part of the Proposed Action, MHLLC has committed to the following environmental protection measures to prevent environmental degradation during construction, operation, and reclamation activities of the Project. These environmental protection measures are divided into eight categories: Air Quality; Cultural and Paleontological Resources; Fire Protection; Migratory Birds; Noxious Weeds, Invasive and Nonnative Species; Soils; Wastes, hazardous or solid; and Wildlife.

2.2.7.1 Air Quality

- During Project construction, the disturbed soil would be wetted, chemically treated, or treated by other means satisfactory to the Authorized Officer, sufficiently in order to effectively reduce airborne dust and reduce soil erosion. A regular maintenance program would include, but is not limited to, soil stabilization and reapplication of dust abatement methods as necessary. Additionally, prudent vehicle speeds would be maintained to minimize fugitive dust created by travel;
- Construction and maintenance activities would be conducted to minimize disturbance to vegetation;
- All disturbed areas not required for maintenance would be permanently reclaimed using methods approved by the BLM;
- All construction vehicle movement outside the ROWs would be restricted to the extent practicable;
- All requirements of those entities having jurisdiction over air quality matters would be adhered to and any permits needed for construction activities would be obtained. Open burning of construction trash would not occur; and
- All Project personnel and contractors would be educated on the dust control plan for the Project.

2.2.7.2 Fire Protection Plan

- All federal, state, and county laws, ordinances, rules, and regulations, which pertain to prevention, pre-suppression, and suppression of fires, would be strictly adhered to. All personnel would be advised of their responsibilities under the applicable fire laws and regulations. It would be the responsibility of MHLLC to notify the Ely Interagency Communications Center at (775) 289-1925 and the Ely

District Fire Officer at (775) 289-9395, if a Project-related fire occurs within or adjacent to the construction area;

- Fire extinguishers would be available in the construction area. Water from a water truck that may be used for construction and dust control would be available for firefighting; and
- MHLLC would take aggressive action to prevent and suppress fires on and adjacent to the construction area, and would utilize its workers and equipment on the Project for fighting fires within the construction area.

2.2.7.3 Cultural Resources

- Cultural resources would continue to be considered during post-EA phases of the POD implementation. Any cultural resources (historic or prehistoric site or object) discovered by MHLLC, or any person working on their behalf on public lands, would be immediately reported to the BLM Authorized Officer. The Contractor would ensure that activities associated with the Project within 100 meters of the discovery are properly protected, until the BLM Authorized Officer issues a Notice to Proceed (BLM and NSHPO 2012). An evaluation of the discovery would be made by the BLM Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. MHLLC would be responsible for the cost of evaluation. The BLM Authorized Officer would make any decision regarding suitable mitigation measures after consulting with SHPO. MHLLC would be responsible for the resultant mitigation costs; and
- Prior to construction, Project personnel would be instructed on the protection of cultural resources.

2.2.7.4 Livestock Grazing

- During construction activities, MHLLC would avoid a historic livestock watering tank and replace the associated water pipeline located along the Southern Road Segment of the Project in the NE ¼ of the SW ¼ of T16N, R57E.

2.2.7.5 Migratory Birds

- Prior to surface disturbance being conducted during the avian breeding season (April 1 through July 31), MHLLC would provide a wildlife biologist to conduct a migratory bird nest survey of active working areas within the Project Area to verify that no nesting birds would be affected. The migratory bird nest survey would be conducted by an established protocol approved by the Wildlife Biologist in the BLM Egan Field Office. During the period from April 1 through May 15, all ground disturbing activities would be completed within fourteen days of the date on which the bird nest survey was performed. If activities begin or last more

than fourteen days from the date of the most recent bird nest survey, another bird nest survey would be performed to ensure that no nests are disturbed and that no take of migratory birds occurs. A single migratory bird nest survey would be performed without the fourteen day time restriction for project activities occurring between May 15 and July 31 as most migratory bird species would have completed their nest building activities by then. If nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material, transporting food) is observed, a protective buffer would be delineated, as identified in the procedures outlined in Appendix 3, and the buffer area avoided to prevent destruction or disturbance to nests until they are no longer active.

2.2.7.6 Noxious Weeds, Invasive and Nonnative Species

- If noxious weeds are encountered within the construction area, mitigation measures would be instituted in consultation with the BLM weed specialist. ROW monitoring and weed abatement following construction would be conducted as required by the BLM. To avoid the spread of noxious weeds, invasive and nonnative species, all vehicles brought in from out of the area would go through high pressure washing of the undercarriages at a commercial carwash prior to arriving on site and before being used on the Project.

2.2.7.7 Paleontological Resources

- Pursuant to 43 CFR 3809.420(b)(8)(ii), MHLLC would notify the BLM Authorized Officer, by telephone, and with written confirmation, immediately upon the discovery of paleontological resources that are discovered as a result of surface disturbing activities. The item(s) or condition(s) would be left intact and immediately brought to the attention of the BLM. Further pursuant to 43 CFR 10.4 (c) and (d), the operator would immediately stop all activities in the vicinity of the discovery and not commence again for 30 days or when notified to proceed by the BLM Authorized Officer. If significant paleontological resources are found, avoidance, recordation, and data recovery would be required.

2.2.7.8 Soils

- To minimize erosion from storm water runoff, access roads would be maintained consistent with the BMPs applicable to development roads. BLM BMPs for storm water would be followed, as applicable.

2.2.7.9 Special Status Species

- In order to mitigate for the permanent loss of Preliminary Priority Habitat (PPH) for greater sage-grouse by the road widening activities, MHLLC would agree to an off-site mitigation ratio of three acres to every one acre loss of PPH, and would include the clearing of piñon-juniper within an approximate nine acre area at a location determined by the BLM.

2.2.7.10 Wastes, hazardous or solid

- All construction vehicles would be maintained in accordance with the manufacturers' recommendations. All vehicles would be inspected for leaks prior to entering the jobsite. All discovered leaks would be contained with a bucket of absorbent materials until repairs can be made;
- Pursuant to 43 CFR 8365.1-1(b)(3), no sewage, petroleum products, or refuse would be dumped from any trailer or vehicle;
- Hazardous material storage, equipment refueling, and equipment repair would be conducted at least 100 feet away from ephemeral drainages;
- Spilled materials of any type would be cleaned up immediately. A shovel and spill kit would be maintained on site at all times to respond to spills;
- If a spill of a petroleum constituent is considered to meet the reportable quantity per the NDEP's guidelines (greater than 25 gallons or greater than three cubic yards of impacted material or any quantity if released into a waterway), or a reportable quantity for hazardous waste is released based on Environmental Protection Agency (EPA) guidelines established under Title III List of Lists (40 CFR Part 302, Table 302.4), the NDEP would be notified within 24 hours, and the appropriate remedial actions and confirmation sampling would be conducted under direction of the NDEP;
- All sanitary wastes would be collected in portable, self-contained toilets at the construction staging area and other construction operation areas and managed in accordance with local requirements; and
- All solid wastes would be disposed of in a state, federal, or local designated site.

2.2.7.11 Wildlife

- Following Project construction, areas of disturbed land no longer required for operations would be reclaimed as required by the BLM to promote the reestablishment of native plant and wildlife habitat.

2.3 Centennial-Seligman Mining Project

Based on recent exploration and development data, MHLLC has submitted a proposed mine plan of operations for the CSM Project to the USFS east of the Project. This mine plan includes approximately 432 acres of disturbance associated with new and existing mining operations and new exploration drilling operations. All disturbance associated with the mine plan is located on NFS lands.

Elements of the proposed mine plan of operations include the following:

- Two open pits;
- Waste rock disposal area;
- Ore stockpile and crushing facility with generators;
- Transfer of ore off site for processing via underground conveyance;
- Mine operations office and truck shop facilities;
- Access and haul roads;
- Powerlines;
- Water supply well and associated infrastructure including pipelines; and
- Exploration drill roads, pads, and laydown areas.

The Proposed Action is a not a connected action to the CSM Project. Pursuant to the BLM NEPA Handbook, “connected actions are those actions that are “closely related” and “should be discussed” in the same NEPA document (40 CFR 1508.25 (a)(1)). Actions are connected if they automatically trigger other actions that may require an EIS; cannot or will not proceed unless other actions are taken previously or simultaneously; or if the actions are interdependent parts of a larger action and depend upon the larger action for their justification (40 CFR 1508.25 (a) (i, ii, iii)). Connected actions are limited to actions that are currently proposed (ripe for decision).” Although the two road segments are proposed to support the CSM project in the future, both road segments would also be needed to support future exploration activities and to provide access to private lands and would be needed even if the CSM project were not approved. The USFS is currently determining potential impacts of implementation of the CSM Project in a separate environmental document.

2.4 Alternative B - No Action Alternative

In accordance with BLM NEPA guidelines H-1790-1, Chapter V (BLM 2008b), this EA evaluates the No Action Alternative, which is a reasonable alternative to the Proposed Action. The objective of the No Action Alternative is to describe the environmental consequences that would result if the Proposed Action were not implemented. The No Action Alternative forms the baseline from which the impacts of the Proposed Action can be measured. Under the No Action Alternative, the BLM would not grant the ROWs for both road segments and neither of the roads would be widened or improved, but would continue to be used at their current width. The Northern Road Segment would continue to provide access to the CSM Project east of the Project Area on USFS lands.

2.5 Alternatives Considered, but Eliminated from Further Analysis

No other alternatives to the Proposed Action were suggested that would meet the purpose and need of the Proposed Action.

3.0 AFFECTED ENVIRONMENT/ENVIRONMENTAL IMPACTS

3.1 Introduction

This chapter presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) of the impact area.

3.2 General Setting

The Project is located on the western flank of Mount Hamilton in the White Pine Mountain Range. The range is approximately 51 miles long from Beck Pass in the north to Currant Pass in the south. The Duckwater tribal lands and the northern arm of Railroad Valley are located to the southwest of the Project. Jakes Valley and the northern portion of the White River Valley lie to the east, and the Horse and Grant Ranges lie to the south.

Elevations in the Project Area range between 6,520 to 7,120 feet above mean sea level (amsl). The area is drained by numerous ephemeral drainages which originate in the mountain blocks and flow into alluvial fans.

The Project Area is characterized by gently sloping terrain within a valley bottom and is vegetated by a piñon-juniper woodland community. The climate is arid, characterized by warm, dry summers and moderately cold, dry winters. The average annual precipitation is approximately nine inches and tends to peak in April in the form of rain. The mean annual low temperature at Moorman Ranch, which is located approximately 13 miles northeast of the Project Area is 10.6 degrees Fahrenheit (°F) and the mean annual high temperature is 88.1 °F (Western Regional Climate Center [WRCC] 2012).

3.3 Resources/Concerns Analyzed

3.3.1 Invasive and Nonnative Species

The analysis area for invasive and nonnative species is the approximate 250-foot buffer area around the centerline of the existing roads, as identified in the 2012 biological survey conducted for the Southern Road Segment (Enviroscientists, Inc. [Enviroscientists] 2013a), and the 2013 biological survey conducted for the Northern Road Segment (Enviroscientists 2013b).

3.3.1.1 Affected Environment

The BLM defines "noxious weed" as "any plant growing where it is not wanted. Legally, a noxious weed is any plant designated by a federal, state or county government as injurious to public health, agriculture, recreation, wildlife or property." A noxious weed is also commonly defined as a plant that grows out of place and is "competitive, persistent, and pernicious." The BLM's primary focus is "providing adequate capability to detect and treat smaller weed infestations in high-risk areas before they have a chance

to spread." Noxious weed control would be based on a program of "...prevention, early detection, and rapid response" (BLM 2013a).

Animal and plant species designated as pests are generally species that are injurious to agricultural and nursery interests or vectors of diseases, which may be transmissible and injurious to humans.

An "invasive species" is defined as a species that is nonnative to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health (EO 13112). Invasive, nonnative species are species that are highly competitive, highly aggressive, and spread easily. They include plants designated as noxious and animals designated as pests by federal or state law.

The Nevada Department of Agriculture maintains a Nevada Noxious Weed List which identifies types of noxious weeds in Nevada.

The following invasive and Nevada noxious weeds have been documented within the Ely BLM District: black henbane (*Hyoscyamus niger*); bull thistle (*Cirsium vulgare*); Canada thistle (*Cirsium arvense*); Dalmatian toadflax (*Linaria dalmatica*); diffuse knapweed (*Centaurea diffusa*); Dyer's woad (*Isatis tinctoria*); hoary cress (*Lepidium draba*); Johnson grass (*Sorghum halepense*); leafy spurge (*Euphorbia esula*); musk thistle (*Carduus nutans*); puncturevine (*Tribulus terrestris*); poison hemlock (*Conium maculatum*); Russian knapweed (*Acrptilon repens*); Sahara mustard (*Brassica tournefortii*); salt cedar (*amarix spp.*); Scotch thistle (*Onopordum acanthium*); spotted knapweed (*Centaurea stoebe*); squarrose knapweed (*Centaurea squarrosa*); tall whitetop (*Lepidium latifolium*); tree of heaven (*Ailanthus altissima*); water hemlock (*Cicuta maculate*); and yellow toadflax (*Linaria vulgaris*) (BLM 2009).

The following nonnative, invasive weeds are known to occur within the Ely District: bur buttercup (*Ceratocephala testiculata*); cheatgrass (*Bromus tectorum*); common burdock (*Arctium minus*); common mullein (*Verbascum thapsus*); field bindweed (*Convolvulus arvensis*); filaree (*Erodium cicutarium*); halogeton (*Halogeton glomeratus*); horehound (*Marrubium vulgare*); kochia (*Kochia scoparia*); red brome (*Bromus rubens*); ripgut brome (*Bromus diandrus*); Russian olive (*Elaeagnus angustifolia*); Russian thistle (*Salsola kali*); Siberian elm (*Ulmus pumila*); tumble mustard (*Sysimbrium altissimum*); and yellow salsify (*Tragopogon dubius*) (BLM 2009).

Noxious weed species were not detected in the Southern Road Segment of the Project Area during 2012 field surveys (Enviroscientists 2013). Nonnative, invasive species observed in the Southern Road Segment of the Project Area include pinnate tansy mustard (*Descurainia pinnata*), pale madwort (*Allysum alyssoides*) and cheatgrass. These species were primarily observed in previously disturbed areas intermixed with native species and no monocultures were observed within the Southern Road Segment of the Project Area (Enviroscientists 2013a). Noxious weeds were also not detected during the 2013 botanical surveys for the Northern Road Segment. The following invasive and nonnative species were observed during the Northern Road Segment surveys: cheatgrass;

common mullein; desert madwort (*Alyssum desertorum*); prickly lettuce (*Lactuca serriola*); prickly Russian thistle (*Salsola tragus*); saltlover (*Halogeton glomeratus*); and yellow salsify.

3.3.1.2 Impact Analysis

Proposed Action

Surface disturbance activities associated with the Proposed Action may have the potential to facilitate the introduction or establishment of invasive, nonnative species, and noxious weeds. These impacts would be minimized based on implementation of the rehabilitation/reclamation measures outlined in Section 2.3 and the environmental protection measures in Section 2.5.

No Action Alternative

Under the No Action Alternative, the ROWs would not be authorized; however, activities associated with travel and maintenance of the existing roads would continue. The Project Area would still be susceptible to the introduction of noxious weeds, invasive, and nonnative species from vehicular travel within the Project Area. The impacts associated with the No Action Alternative would be similar but proportionally less than those associated with the Proposed Action.

3.3.2 Migratory Birds, including Bald and Golden Eagles

The analysis area for migratory birds for the Southern Road Segment, including bald and golden eagles, is a five-mile buffer around the centerline of the existing road, as identified in the 2012 biological survey conducted for the Project (Enviroscientists 2013a). The analysis area for migratory birds for the Northern Road Segment is a four-mile buffer around the centerline of the existing road (Enviroscientists 2013b).

3.3.2.1 Affected Environment

"Migratory bird" means any bird listed in 50 CFR 10.13. All native birds commonly found in the U.S., with the exception of native resident game birds, are protected under the Migratory Bird Treaty Act of 1918 (MBTA). The MBTA prohibits the taking of migratory birds, their parts, nests, eggs, and nestlings without a permit. EO 13186, signed January 10, 2001, directs federal agencies to protect migratory birds by integrating bird conservation principles, measures, and practices.

Additional direction comes from the Memorandum of Understanding (MOU) between the BLM and the USFWS, signed January 17, 2010. The purpose of this MOU is to strengthen migratory bird conservation through enhanced collaboration between the BLM and the USFWS, in coordination with state, tribal, and local governments. The MOU identifies management practices that impact populations of high priority migratory bird

species, including nesting, migration, or over-wintering habitats on public lands and develops management objectives or recommendations that avoid or minimize these impacts.

Bald and Golden Eagles

Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) are protected by the MBTA (as amended) and the Bald and Golden Eagle Protection Act of 1940 (as amended), both of which prohibit the take of migratory birds, their parts, nests, eggs, and nestlings without a permit.

The Nevada Department of Wildlife (NDOW) identified two golden eagle nests within ten miles of the Southern Road Segment (NDOW 2011), and five golden eagle nests within ten miles of the Northern Road Segment (NDOW 2013). The 2012 and 2013 biological surveys identified golden eagle nesting habitat approximately two to 2.5 miles southwest of the Project Area. There are no cliffs representing golden eagle nesting habitat in the Project Area (Enviroscientists 2013a and 2013b).

Migratory Birds

The Project Area is dominated by piñon-juniper and sagebrush vegetation. According to the Great Basin Bird Observatory (GBBO), migratory bird species associated with areas characterized by piñon-juniper include the following: ferruginous hawk (*Buteo regalis*); common poorwill (*Phalaenoptilus nuttallii*); gray flycatcher (*Empidonax wrightii*); gray vireo (*Vireo vicinior*); pinyon jay (*Gymnorhinus cyanocephalus*); Virginia's warbler (*Oreothylpus virginiae*); green-tailed towhee (*Pipilo chlorurus*); and black-chinned sparrow (*Spizella atrogularis*). Additionally, the juniper titmouse (*Baeolophus ridgewayi*) and the black-throated gray warbler (*Dendroica nigrescens*) serve as indicator species for the piñon-juniper vegetation community. The following are priority bird species associated with sagebrush vegetation: Swainson's hawk (*Buteo swainsoni*); ferruginous hawk; golden eagle; prairie falcon (*Falco mexicanus*); burrowing owl (*Athene cunicularia*); common poorwill; gray flycatcher; sage thrasher (*Oreoscoptes montanus*); Brewer's sparrow (*Spizella breweri*); and sage sparrow (*Amphispiza belli*) (GBBO 2010).

During April and May 2012 wildlife field surveys, the following migratory bird species were detected in the Southern Road Segment of the Project Area: blue-grey gnatcatcher (*Polioptila caerulea*), chipping sparrow (*Spizella passerina*), common raven (*Corvus corax*), ferruginous hawk, horned lark (*Eremophila alpestris*), spotted towhee (*Pipilo maculatus*), and western meadowlark (*Sturnella neglecta*) (Enviroscientists 2013a). Ferruginous hawk was the only BLM sensitive species identified during the 2012 field surveys. Ferruginous hawk is also identified as an NDOW species of special concern. During June 2013 field surveys for the Northern Road Segment, the following migratory birds were observed: American kestrel (*Falco sparverius*); black-throated sparrow (*Amphispiza bilineata*); loggerhead shrike (*Lanius ludovicianus*); long-eared owl (*Asio otus*); mountain bluebird (*Sialia currucoides*); mountain chickadee (*Poecile gambeli*); Northern harrier (*Circus cyaneus*); Northern mockingbird (*Mimus polyglottos*); and

Townsend's solitaire (*Myadestes townsendii*). Loggerhead shrike was the only BLM sensitive species identified during the 2013 field surveys.

The NDOW has directly observed bald eagle, burrowing owl (*Athene cunicularia*), flammulated owl (*Otus flammeolus*), ferruginous hawk, golden eagle, and northern goshawk in the vicinity of the Project Area (NDOW 2011; NDOW 2013a).

Sensitive Species

Ferruginous hawk

Ferruginous hawks use sagebrush, piñon-juniper woodland and salt desert scrub habitats year-round in northern Nevada. Ferruginous hawks in Nevada prefer landscapes where human presence is minimal, and they are generally more sensitive to nest disturbances than most other raptors. Primary diet consists of jackrabbits and cottontails. Nests are often found as stick platforms on isolated trees, ledges, poles and off the ground (GBBO 2010). Suitable habitat of piñon-juniper woodland is present throughout the Project Area. A ferruginous hawk was observed within the vicinity of the Southern Road Segment during 2012 field surveys.

Loggerhead Shrike

Loggerhead shrikes are primarily found in open country with scattered trees and shrubs, savanna, desert scrub, and open woodland. Loggerhead shrikes nest in shrubs or small trees. This species preys on large insects, small birds, lizards, frogs, and rodents (NDOW 2013b). A loggerhead shrike was observed within the vicinity of the Northern Road Segment during 2013 field surveys.

3.3.2.2 Impact Analysis

Proposed Action

Impacts to migratory birds, including golden eagles, may include temporary displacement of foraging habitat during construction activities and loss of a small amount of habitat due to road widening. No impacts to nesting birds would be expected since nesting surveys would be conducted for any disturbance activities occurring during the nesting season April 1st through July 31st, and appropriate protection measures implemented for any nests found. Potential indirect impacts would occur as a result of vegetation removal and activities associated with the Proposed Action. Migratory birds present during construction activities and road usage would experience temporary displacement, resulting in a temporary spatial redistribution of individuals or habitat-use patterns within the Project Area. Such redistribution would not have a long-term effect because undisturbed and suitable habitat exists in the vicinity of the Project Area.

No Action Alternative

Under the No Action Alternative, the ROWs would not be authorized; however, activities associated with travel and maintenance of the existing roads would continue. Migratory birds, including bald and golden eagles, would experience temporary and short-term displacement as a result of these activities; however, there would be no additional habitat loss. The impacts to migratory birds, including golden eagles, associated with the No Action Alternative would be similar but proportionally less than those associated with the Proposed Action.

3.3.3 Social Values and Economics

The analysis area for social values and economics is White Pine and Eureka Counties, Nevada and the Duckwater Reservation, located approximately 30 miles southeast of the Project Area.

3.3.3.1 Affected Environment

The Project Area is located in White Pine County, approximately 40 miles southeast of Eureka, Nevada, on White Pine County Road 5. White Pine County is located in east central Nevada and encompasses approximately 8,897 square miles. The State of Utah borders the county to the east. Elko, Eureka, Nye and Lincoln counties border White Pine County to the north, west, southwest, and south, respectively. U.S. 50 traverses White Pine County in an east-west direction.

The total population of White Pine County in 2012 was estimated to be 10,042 (U.S. Census Bureau 2013a). The median household income in White Pine County in 2011 was \$52,014, with mining being identified as a major employment sector (Department of Employment, Training, and Rehabilitation [DETR] 2013). The population in Ely, the only incorporated city and county seat, in 2011 was 4,069 (White Pine County 2013). Ely is considered a regional commercial center and is home to several restaurants and retail establishments and provides a variety of lodging and recreational opportunities.

The total population in Eureka County in 2012 was estimated to be 2,001 (U.S. Census Bureau 2013b). The median household income in Eureka County in 2011 was \$58,985, with mining also being identified as a major employment sector similar to White Pine County (DETR 2013). The population in the Town of Eureka, the largest town in Eureka County and county seat, in 2010 was 610 (U.S. Census Bureau 2013c). The Town of Eureka provides several dining, retail, and lodging opportunities.

The economy of White Pine County is based on major industries including mining, state and local government services, and tourism. White Pine County is home to gold, copper, and other types of mining. Tourism is also a large part of the County's economy due to gaming and a variety of recreational opportunities. The economy of Eureka County is primarily based on gold mining and local government services.

The Duckwater Reservation, home of the Duckwater Shoshone Tribe, is located approximately 30 miles southeast of the Project Area in Nye County and encompasses approximately 3,850 acres. In the 2010 Census, the population of the Duckwater Reservation was 156 (U.S. Census Bureau 2013d). Agriculture plays a large role on the reservation, mainly with the growing of grasses and alfalfa. The reservation also contributes to the local economy by providing seedlings of native plant species to the local mines for use in reclamation activities, and operating a trucking company that provides construction and hauling services outside the reservation (Great Basin Heritage Area Partnership 2011).

3.3.3.2 Impact Analysis

Proposed Action

Under the Proposed Action, road widening activities would be conducted by up to five existing MHLLC employees or contractors for a temporary period of up to four weeks. Maintenance of the road would be conducted by existing MHLLC employees or contractors. Most of these employees currently reside in Ely, Nevada.

The employment rates in White Pine County are not anticipated to change as a result of the Project, as existing MHLLC employees or contractors that currently live and contribute to the economy of the area would be constructing and maintaining the road. Direct impacts to social values and economics are anticipated to be minimal. Indirect impacts from the road widening activities could occur as they would provide access to the Wheeler Ridge Exploration Project and CSM Project sites, which would result in an increase of approximately 92 workers in the area and the increased need for public services. Direct impacts from these projects to social values and economics would be discussed in their respective NEPA documents.

No Action Alternative

Under the No Action Alternative, the ROWs would not be authorized; however, activities associated with travel and maintenance of the existing roads would continue. Under the No Action Alternative, the roads would not be widened; therefore, impacts from the Proposed Action would not occur. MHLLC's contribution to the local economy would continue at current levels.

3.3.4 Soils

The impacts from the Proposed Action on soils are based on the proposed disturbance footprints of both road segments.

3.3.4.1 Affected Environment

The information for soils in the Project Area was primarily obtained from the United States Department of Agriculture, Natural Resources Conservation Service (NRCS). The

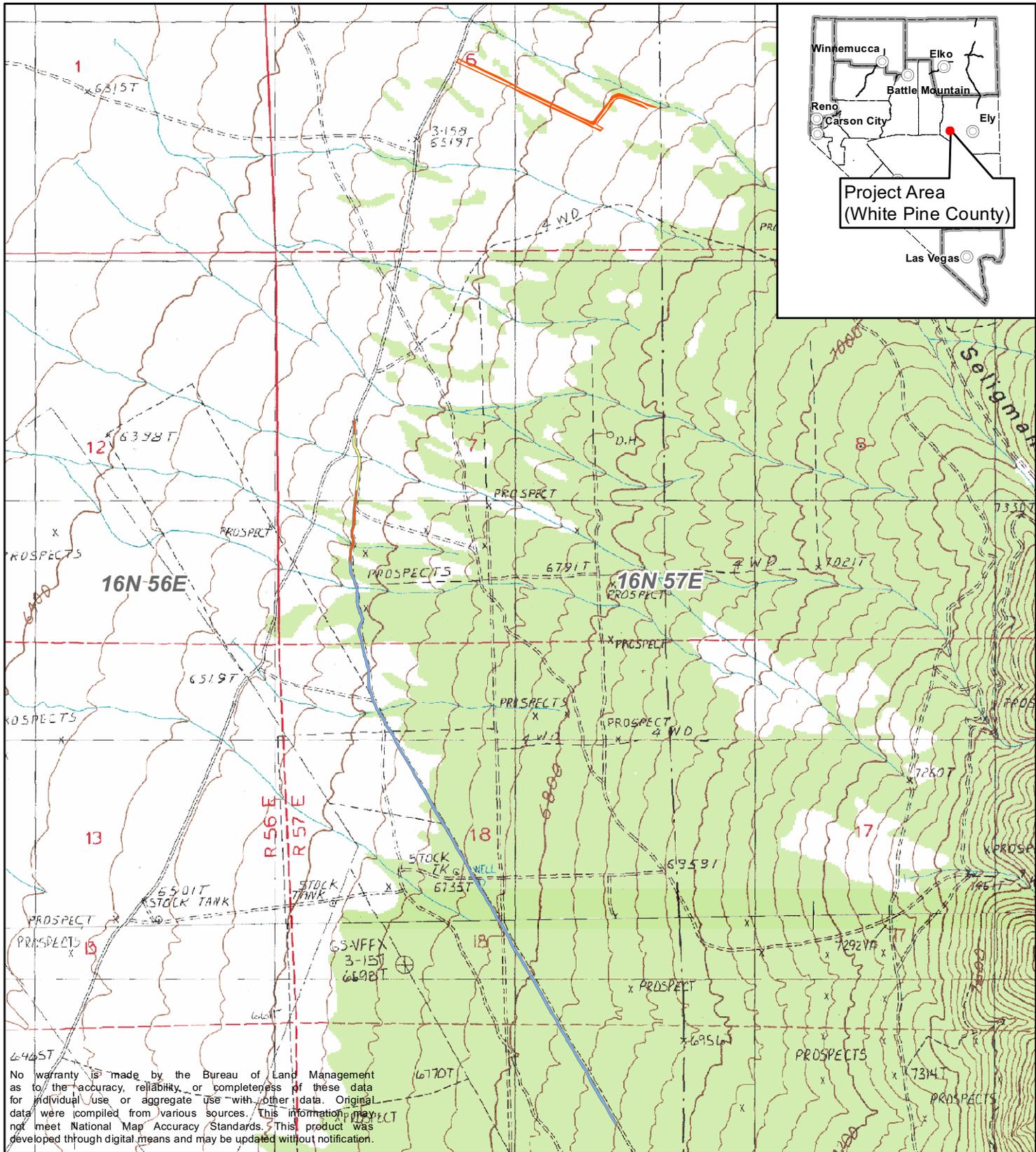
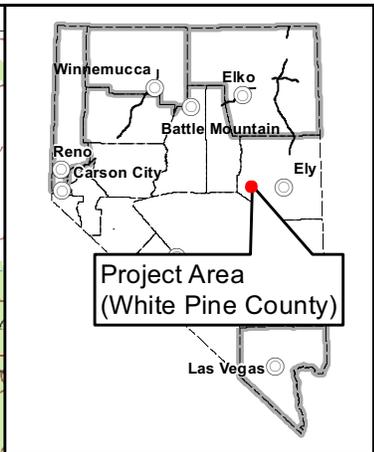
soils within the Project Area are typical of rangeland and consist of well-drained soils formed in alluvium derived from limestone and dolomite, mixed rocks, mixed rocks with a thin loess mantle high in volcanic ash, and volcanic rocks formed on fan remnants, fan aprons, partial bellenas, and fan piedmont remnants (NRCS 2013). The soil mapping units within the Project Area are shown on Figure 3.3.4 and listed in Table 3.3-1.

The soils in the Project Area can be characterized as gravelly loam, very gravelly loam, very fine sandy loam, and gravelly sandy loam. Soil erosion hazards by water and wind are likely to be slight. A summary of the three soil associations that can be found in the Project Area is shown in Table 3.3-1.

Table 3.3-1: Summary of Soil Mapping Units and Characteristics

Mapping Unit	Soil Series	Acres in the Project Area	Soil Depth in Inches to Restrictive Feature	Profile Soil Texture	Hydrological Characteristics	Soil Erosion Hazard	
						By Water	By Wind
Northern Road Segment							
Palinor-Urmafot (283)	Palinor	2.4	14-20 (Duripan)	Very gravelly loam	Well drained; moderate permeability	Slight	Slight
	Urmafot		9-20 (Duripan)	Gravelly loam	Well drained; moderate permeability	Slight	Slight
Southern Road Segment							
Palinor-Urmafot (283)	Palinor	0.86	14-20 (Duripan)	Very gravelly loam	Well drained; moderate permeability	Slight	Slight
	Urmafot		9-20 (Duripan)	Gravelly loam	Well drained; moderate permeability	Slight	Slight
Shabliss-Yody (450)	Shabliss	0.57	10-20 (Duripan)	Very fine Sandy Loam	Well drained; high rapid permeability	Slight	Slight
	Yody		30-40 (Duripan)	Gravelly sandy loam	Well drained; high rapid permeability	Slight	Slight
Belmill (360)	Belmill	6.37	N/A	Gravelly loam	Well drained; moderate permeability	Slight	Slight

N/A = not available
Source: NRCS 2013



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Explanation

- NRCS Soil Survey nv780**
- 283, Palinor-Urmafot association
 - 360, Belmill association
 - 450, Shabliss-Yody association



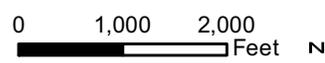
ELY DISTRICT OFFICE
Egan Field Office
702 N. Industrial Way
Ely, Nevada 89301

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RIGHT-OF-WAY PROJECT

Soil Types within the Project Area

Figure 3.3.4

09/10/2013



3.3.4.2 Impact Analysis

Proposed Action

Project-related activities could contribute to soil and wind erosion and soil compaction over the approximate four-week long construction phase and utilization period of the road. Native soils present in the Project Area would be covered with gravel, increasing infiltration of precipitation. Environmental protection measures identified in Section 2.5 include the use of BMPs to reduce impacts from soil erosion resulting from surface water runoff. In addition, the road would be sprayed with water or chemically treated or altered to also help reduce potential soil erosion. Soils would also be left rough in areas of temporary construction disturbance to help reduce potential wind erosion.

No Action Alternative

Under the No Action Alternative, the ROWs would not be authorized; however, activities associated with travel and maintenance of the existing roads would continue. Motorized vehicle traffic under the No Action Alternative could result in soil compaction and potential erosion. These impacts would be temporary and short-term. The impacts to soils associated with the No Action Alternative would be similar but proportionally less than those associated with the Proposed Action.

3.3.5 Special Status Wildlife Species

The analysis area for special status wildlife species is the approximate 250-foot buffer area around the centerline of both road segments, as identified in the 2012 biological survey conducted for the Southern Road Segment (Enviroscientists 2013a), and the 2013 biological survey conducted for the Northern Road Segment (Enviroscientists 2013b).

3.3.5.1 Affected Environment

BLM policy for management of special status species is in the BLM Manual Section 6840. Special status species include the following:

- Federally Threatened or Endangered Species: Any species that the USFWS has listed as an endangered or threatened species under the Endangered Species Act of 1973, as amended (ESA) throughout all or a significant portion of its range;
- Proposed Threatened or Endangered Species: Any species that the USFWS has proposed for listing as a federally endangered or threatened species under the ESA;
- Candidate Species: Plant and animal taxa that are under consideration for possible listing as threatened or endangered under the ESA;

- BLM Sensitive Species: 1) Species that are currently under status review by the USFWS; 2) Species whose numbers are declining so rapidly that federal listing may become necessary; 3) Species with typically small and widely dispersed populations; or 4) Species that inhabit ecological refugia or other specialized or unique habitats; and
- State of Nevada Listed Species: State-protected animals that have been determined to meet BLM's Manual 6840 policy definition.

Nevada BLM policy is to provide State of Nevada listed species and Nevada BLM sensitive species with the same level of protection as is provided to candidate species in BLM Manual 6840.06C. Per wording in Table IIa in BLM Information Bulletin No. NV-2003-097, Nevada protected animals that meet BLM's 6840 policy definition are those species of animals occurring on BLM-managed lands in Nevada that are: 1) 'protected' under authority of the Nevada Administrative Code; 2) have been determined to meet BLM's policy definition of "listing by a state in a category implying potential endangerment or extinction;" and 3) are not already included as federally listed, proposed, or candidate species.

The USFWS, the Nevada Natural Heritage Program (NNHP), and the NDOW were contacted to obtain a list of threatened and endangered and sensitive species that have the potential to occur within the Project Area (USFWS 2011; USFWS 2013; NNHP 2011; NNHP 2013; NDOW 2011; NDOW 2013). In addition, the BLM Sensitive Species List, which includes threatened and endangered species, was evaluated for the potential of species on those lists to occur in the Project Area. Information from the NNHP, the NDOW, and the USFWS indicate that no federally threatened or endangered plant or animal species have the potential to occur within the Project Area.

Special status plant surveys were conducted for the Southern Road Segment on May 29, 2012, and for the Northern Road Segment on June 26, 2013, by Enviroscientists. Wildlife field surveys were conducted by qualified Enviroscientists biologists in the survey area April 4 and 26, 2012, May 29, 2012, and June 29, 2013. Enviroscientists conducted a biological assessment of the survey area, which included potential sensitive species habitat. Prior to conducting field surveys, Enviroscientists reviewed available literature and corresponded with resource agencies to identify potential biological resources and special status species that have the potential to occur within the survey area. The survey assessment included the following: a vegetation community assessment and species inventory; a general wildlife habitat assessment and species inventory; a greater sage-grouse (*Centrocercus urophasianus*) survey and habitat assessment; a pygmy rabbit (*Brachylagus idahoensis*) survey and habitat assessment; and a migratory bird and raptor survey including an assessment of potential golden eagle or bald eagle habitat (Enviroscientists 2013a and 2013b).

Potential habitat exists for starveling milkvetch (*Astragalus jejunus* var. *jejunus*), dwarf peppergrass (*Lepidium nanum*), and rayless tansy aster (*Machaeranthera grindelioides* var. *depressa*), all NNHP watch species, throughout the Project Area. Stalked

whitlowcress has the potential to occur in the vicinity of the Southern Road Segment. None of these species were observed during field surveys, and no BLM special status plant species were observed. Based on the results of the biological survey and habitat assessment, BLM sensitive or special status wildlife species that were determined to have the potential to utilize the Project Area include: pygmy rabbit; greater sage-grouse; Townsend's big-eared bat (*Corynorhinus townsendii*); and long-legged myotis (*Myotis volans*). Migratory birds, including special status bird species and bald and golden eagles, are discussed in Section 3.3.2.

BLM Sensitive Wildlife Species

The NDOW identified potential habitat for pygmy rabbit and greater sage-grouse, both BLM sensitive species, within the Project Area (NDOW 2011; NDOW 2013). No suitable habitat for pygmy rabbit or their sign were observed in the wildlife survey area during 2012 and 2013 field surveys (Enviroscientists 2013a and 2013b). The NNHP identified the potential occurrence of Townsend's big-eared bat habitat and the long-legged myotis adjacent to the Project Area (NNHP 2011; NNHP 2013). No Townsend's big-eared bat or long-legged myotis were observed in the vicinity of the Project Area during 2012 and 2013 field surveys (Enviroscientists 2013a and 2013b).

Greater sage-grouse

In response to a request for identification of federally-listed and candidate species in the Project Area, the USFWS, in a letter dated May 9, 2011, stated that the greater sage-grouse, a candidate species, has the potential to occur in the Project Area (USFWS 2011; USFWS 2013). In addition to federally listed species (i.e., protected by the ESA) and candidate species discussed above, the BLM also protects special status species by policy (BLM 2008b).

Current management direction for the greater sage-grouse can be found in Instruction Memorandum (IM) 2012-043 and IM 2012-044. IM 2012-043, *Greater Sage-Grouse Interim Management Policies and Procedures*, provides interim policies and procedures to the BLM to be applied to ongoing and proposed authorizations that affect greater sage-grouse, while long-term permanent measures are being developed (BLM 2011b). IM 2012-044, *BLM National Greater Sage-Grouse Land Use Planning Strategy*, provides direction to the BLM for the consideration of conservation measures, identified in *A Report on National Greater Sage-Grouse Conservation Measures prepared by the Sage-Grouse National Technical Team*, to apply during the land use planning process (BLM 2011c). The NDOW has recently mapped greater sage-grouse habitat in Nevada to support these IMs and published a Habitat Characterization Map in March 2012. The BLM used this NDOW map to create a map identifying PPH and Preliminary General Habitat (PGH) on BLM-administered lands. According to this map, the big sagebrush shrubland community in the Newark Valley west of the Project Area is greater sage-grouse PPH. The PPH habitat includes a small portion of the Southern Road Segment, and all but 0.1 acre of the Northern Road Segment of the Project Area. On August 10, 2012, the BLM Nevada State Office issued IM NV-2012-058, which provides

clarity on how to implement mapping and management protocols outlined in IM 2012-043 and IM 2012-044 (BLM 2012).

Greater sage-grouse is a candidate species for listing under the ESA and on March 23, 2010, the USFWS's 12-month review of the species determined that the species warrants the protection under the ESA. The listing of the greater sage-grouse at this time is precluded by the need to address higher priority species, and the State and BLM are responsible for management of the species.

Greater sage-grouse, an upland game bird, is largely dependent on sagebrush for nesting and brood rearing and feed almost exclusively on sagebrush leaves during the winter. They are known to occur in foothills, plains, and mountain slopes where sagebrush meadows and aspens are in close proximity. Dense sagebrush overstory and an herbaceous understory of grasses are important to provide shade and security, and both new herbaceous growth and residual cover are important in the understory. Greater sage-grouse have specific habitat requirements to carry out their life cycle functions. Early spring habitat or breeding sites called "leks" are usually situated on ridge tops or grassy areas surrounded by a substantial brush and herbaceous component (Schroeder et al. 1999). Leks have less herbaceous and shrub cover than surrounding areas. In early spring, males gather in leks where they strut to attract females.

Late spring habitat or nesting sites are located in thick cover in sagebrush habitat beneath sagebrush or older shrubs. Nests are situated on the ground in shallow depressions with an average distance between nest sites and nearest leks of 0.7 mile to 3.9 miles; however, females may move greater than 12.4 miles from a lek to nest (NatureServe 2012).

Early brood rearing habitat may be relatively open with approximately 14 percent canopy cover of sagebrush and abundant forbs, which attract insects to feed young chicks. Denser sagebrush is often on the periphery to provide shelter from predators. Late brood rearing habitat includes sagebrush vegetation with plants that are more succulent and have a perennial water source nearby such as meadows with streams (NatureServe 2012).

Fall habitat consists mainly of sagebrush as a result of frost killing the forbs and grasses. In the winter, males and females separate into different groups. Fall movements to winter ranges are typically slow. The winter habitat consists of sagebrush that has approximately 15 percent canopy cover and is approximately 18 inches in height (Schroeder et al. 1999). The territory of this species ranges from the mid-west to the western United States.

According to data provided by the NDOW for the baseline biology studies conducted for the Project, there is no core breeding habitat for greater sage-grouse in the Project Area. The entire Project Area is considered as nesting habitat. The entire Northern Road Segment portion of the Project Area is located within summer and winter habitat. The northern portions of the Southern Road Segment of the Project Area are within summer and winter greater sage-grouse habitat (NDOW 2011). In addition, a 2013 response from NDOW indicated that the Project Area primarily consists of Essential/Irreplaceable Habitat and Unsuitable Habitat. Habitat of Moderate Importance and Low Value Habitat/Transitional Range also occurs in the vicinity of the Project Area (NDOW 2013).

3.0 AFFECTED ENVIRONMENT/ENVIRONMENTAL IMPACTS

Piñon-juniper covered approximately 50 percent of the proposed disturbance area associated with the Southern Road Segment, and was intermixed with sagebrush. Sagebrush covered approximately 92 percent of the proposed disturbance area associated with the Northern Road Segment.

According to lek site location data provided in a response letter from the NDOW dated May 3, 2011, there was one known lek site, the Hoppe Spring W lek with an Unknown status, located within three miles of the Southern Road Segment (NDOW 2011). Field surveys conducted in April 2012 identified one male greater sage-grouse 0.75 mile west of the Project Area. A lek survey was conducted for the Hoppe Spring W lek on April 4 and 26, 2012. One male greater sage-grouse was observed roosting near the lek on the afternoon of April 3, 2012. A male greater sage-grouse was flushed from a dense patch of sagebrush approximately 500 feet north of the lek during a survey prior to the lek surveys of April 4 and 26, 2012. No greater sage-grouse or their sign were observed on the lek during lek surveys on April 4 and 26, 2012 (Enviroscientists 2013a). According to a response letter from the NDOW dated July 8, 2013, there were six known lek sites identified within four miles of the Northern Road Segment. The status of the Hoppe Spring W lek changed from Unknown in 2011 to Inactive in 2013. The Emigrant and Monte Cristo lek sites were listed as Inactive. The Emigrant W lek site was listed as Unknown. The Seligman Canyon W and South Newark Valley 2 lek sites were listed as Active (NDOW 2013), but are both located approximately 3.5 miles from the Northern Road Segment. The Emigrant and Emigrant W lek sites were surveyed by Enviroscientists on May 9, 2013. No greater sage-grouse were observed on or within the vicinity of the Emigrant and Emigrant W lek sites. No sounds of displaying males were heard during the surveys. No fresh or old sign was detected in the vicinity of the lek sites (Enviroscientists 2013b). The NDOW was scheduled to survey the remainder of the sites; however, no survey results have been released.

3.3.5.2 Impact Analysis

Proposed Action

The NDOW and NNHP identified several special status wildlife species that would have the potential to occur within the Project Area. As a result of the 2012 biological survey, the ferruginous hawk was identified to occur within the Southern Road Segment of the Project Area. The 2013 surveys identified the loggerhead shrike in the Northern Road Segment of the Project Area. The Proposed Action includes an environmental protection measure to reclaim and reestablish native vegetation in all disturbed wildlife habitat within the Project Area as a result of construction activities. No long-term impacts to sensitive raptor, bird and wildlife habitat are likely to occur, and the Proposed Action would have minimal and short-term temporary impacts on sensitive raptors, bird and wildlife species as a result of construction activities and usage of the ROW.

Greater sage-grouse, a BLM sensitive and upland game bird species, are known to occur adjacent to the Project Area. Greater sage-grouse winter and summer habitat occurs throughout the Northern Road Segment, and a small portion of the Southern Road

Segment within the Project Area. In addition, Project-related surface disturbing activities would result in the removal of approximately a little over half of the PPH associated with the Southern Road Segment proposed disturbance area, and approximately 96 percent of the PPH associated with the Northern Road Segment proposed disturbance area. According to 2012 field surveys, most of the Southern Road Segment proposed disturbance area was identified as having a greater presence of piñon-juniper canopy cover instead of sagebrush habitat. Field verification by the BLM of the Southern Road Segment occurred on May 9, 2013. This field survey conducted by the BLM indicated that the majority of the 4.3 acres identified as PPH on the NDOW habitat maps consisted mostly of piñon-juniper interspersed with sagebrush. This determination would reduce the potential impacts of the loss of PPH from approximately 4.3 acres to approximately 0.7 acre. The Northern Road Segment proposed disturbance area contains approximately 2.3 acres of PPH, and has been identified primarily as sagebrush during 2013 field surveys. There are areas identified as piñon-juniper within the 100-foot ROW area, but the proposed disturbance would not affect these areas; therefore, the PPH acreage for the Northern Road Segment cannot be reduced thereby reducing the off-site mitigation acreage. The environmental protection measure shown in Section 2.2.7.7 mitigates for this loss of PPH by establishing an off-site mitigation area of approximately nine acres that MHLCC would clear of piñon-juniper at a location to be determined by the BLM.

No Action Alternative

Under the No Action Alternative, the ROWs would not be authorized; however, activities associated with travel and maintenance of the existing roads would continue. The No Action Alternative could include an unknown level of disturbance to the Project Area. Motorized vehicle traffic under the No Action Alternative could cause sporadic dispersion to special status species. These impacts would be temporary and short-term. Impacts to special status species as a result of the No Action Alternative would be similar, but proportionally less than the Proposed Action.

3.3.6 Vegetation

The impacts from the Proposed Action on vegetation are analyzed specifically to the proposed disturbance footprints of both road segments.

3.3.6.1 Affected Environment

The Project is located within the Intermountain Region, Great Basin Division, Central Great Basin Section floristic zone. This region is characterized by elevated valleys and mountains of sandstone, siltstone, and shale derived from volcanic rock. The Central Great Basin Section floristic zone is large and diverse, covering approximately 30,250 square miles (Cronquist et al 1972).

Vegetation located within the Southern Road Segment consists of the piñon-juniper woodland community in areas not already disturbed by an existing road. Vegetation located in the Northern Road Segment proposed disturbance area consists primarily of sagebrush.

The piñon-juniper community occupies approximately four acres of the Southern Road Segment that would be cleared as a result of construction activities. The dominant species in the overstory are single-leaf piñon pine (*Pinus monophylla*), Utah juniper (*Juniperus osteosperma*), Wyoming big sagebrush (*Artemisia tridentata* spp. *wyomingensis*) and to a lesser extent yellow rabbitbrush (*Chrysothamnus viscidiflorus*) and bitterbrush (*Purshia tridentata*). Prickly pear cactus (*Opuntia polyacantha*) and mountain ball cactus (*Pediocactus simpsonii*) were noted in the dryer rocky soils within this community.

Forbs observed in the Southern Road Segment included the following: pale madwort (*Allysum desertorum*); littleleaf pussytoes (*Antennaria microphylla*); Torrey's milkvetch (*Astragalus calycosus* var. *calycosus*); Humboldt River milkvetch (*Astragalus iodanthus*); arrowleaf balsamroot (*Balsamorhiza sagittata*); Holboel's rockcress (*Boechera holboelii*); desert candle (*Caulanthus inflatus*); Douglas's dustymaiden (*Chaenactis douglasii*); taper-tip hawksbeard (*Crepis acuminatus*); rough-seed cryptanth (*Cryptantha flaviculata*); shaggy fleabane (*Erigeron pumulis*); whitewooly buckwheat (*Eriogonum ochrocephalum*); umbrella desert buckwheat (*Eriogonum umbellatum*); desert frasera (*Frasera albomarginata*); prickly phlox (*Leptodactylon pungens*); silvery lupine (*Lupinus argenteus*); clustered broomrape (*Orobanche fasciculata*); Palmer's penstemon (*Penstemon palmeri* var. *palmeri*); stemless mock goldenweed (*Stenotus acaulis*); meadow deathcamus (*Zigadenus paniculatus*); orange globemallow (*Sphaeralcea munroana*); wooly milkvetch (*Astragalus purshii*); rayless tansy aster; Indian paintbrush (*Castilleja angustifolia*); spiny phlox (*Phlox hoodii*); desert evening primrose (*Oenothera caespitosa*); and small wirelettuce (*Stephanomeria exigua*). Grasses observed included the following: Indian ricegrass (*Achnatherum hymenoides*); crested wheatgrass (*Agropyron cristatum*); cheatgrass; bottlebrush squirreltail (*Elymus elymoides*); Idaho fescue (*Festuca idahoensis*); basin wildrye (*Leymus cinereus*); and Sandberg bluegrass (*Poa secunda*).

The sagebrush community occupies approximately 2.2 acres of the Northern Road Segment that would be cleared as a result of construction activities. Black sagebrush (*Artemisia nova*) was the dominant species in this community. Other prominent species included the following: Utah juniper; winterfat (*Krascheninnikovia lanata*); broom snakeweed (*Gutierrezia sarothrae*); Sandberg bluegrass; squirreltail; and needle-and-thread (*Hesperostipa comate* ssp. *comate*).

Other plant species observed within the Northern Road Segment BSA included the following: fourwing saltbush (*Atriplex canescens*); common mullein; curlycup gumweed (*Grindelia squarrosa*); desert frasera; desert madwort; desert paintbrush (*Castilleja angustifolia* var. *dubia*); Douglas' dustymaiden; dwarf lousewort (*Pedicularis centranthera*); forage kochia (*Bassia prostrata*); granite prickly phlox (*Linanthus pungens*); hoary tansyaster (*Machaeranthera canescens*); horehound; Lewis flax (*Linum lewisii*); lobeleaf groundsel (*Packera multilobata*); longleaf phlox (*Phlox longifolia*); Palmer's penstemon; prickly lettuce; prickly Russian thistle; roughseed cryptantha (*Cryptantha flavoculata*); saltlover; spiny phlox; sulphur-flower buckwheat (*Eriogonum umbellatum*); tapertip hawksbeard (*Crepis acuminata*); thickstem wild cabbage (*Caulanthus crassicaulis*); western tansymustard (*Descurainia pinnata*); woollypod

milkvetch (*Astragalus purshii*); yellow salsify; cheatgrass; crested wheatgrass; intermediate wheatgrass (*Thinopyrum intermedium*); and western wheatgrass (*Pascopyrum smithii*).

3.3.6.2 Impact Analysis

Proposed Action

The Proposed Action would impact approximately four acres of piñon pine and juniper trees, and associated shrubs, grasses, and forbs in the Southern Road Segment proposed disturbance area, and approximately 2.2 acres of sagebrush and associated shrubs, grasses, and forbs in the Northern Road Segment proposed disturbance area. Any piñon-juniper cut down by either chainsaw, feller-buncher, bulldozer, or wheel-loader, would be limbed, stacked, and made available for firewood cutting. Disturbance outside of the ROWs are not anticipated; however, MHLLC would reclaim any disturbance outside of the ROWs to pre-condition standards in the event of incidental disturbance. Environmental protection measures outlined in Section 2.5 describe the protection of vegetation during construction in newly disturbed temporary work areas by salvaging soil and distributing and contouring evenly over the surface of the disturbed area after construction completion.

No Action Alternative

Under the No Action Alternative, the ROWs would not be authorized; however, activities associated with travel and maintenance of the existing roads would continue. Impacts to vegetation could result from accidental travel or maintenance activities occurring outside the existing road. The impacts to vegetation associated with the No Action Alternative would be similar but proportionally less than those associated with the Proposed Action.

3.3.7 Wildlife

The analysis area for general wildlife species is the approximate 250-foot buffer area around the centerline of both road segments, as identified in the 2012 biological survey conducted for the Southern Road Segment (Enviroscientists 2013a), and the 2013 biological survey conducted for the Northern Road Segment (Enviroscientists 2013b).

3.3.7.1 Affected Environment

General Wildlife

Terrestrial wildlife resources in the Project Area are typical of the northern Great Basin. A wide variety of wildlife species common to the Great Basin ecosystem have the potential to utilize the Project Area. The Project Area is located along existing roads, with approximately four acres of disturbance to be created with road widening activities associated with the Southern Road Segment, and approximately 2.4 acres of disturbance

to be created with road improvement activities associated with the Northern Road Segment.

General wildlife species observed or detected during 2012 field surveys for the Southern Road Segment include the following: sagebrush lizard (*Sceloporus graciosus*); short horned lizard (*Phrynosoma hernandesi*); western fence lizard (*Sceloporus occidentalis*); western skink (*Eumeces skiltonianus*); American badger (*Taxidea taxus*); black-tailed jackrabbit (*Lepus californicus*); least chipmunk (*Tamias minimus*); coyote (*Canis latrans*); deer mouse (*Peromyscus maniculatus*); desert cottontail (*Sylvilagus audobonii*); and white-tailed antelope ground squirrel (*Ammospermophilus leucurus*). The 2013 field surveys for the Northern Road Segment detected the following general wildlife species: black-tailed jackrabbit; desert cottontail; least chipmunk; and woodrat (*Neotoma* spp.).

Big Game Species

Three big game species, pronghorn antelope (*Antilocapra americana*), elk (*Cervus canadensis*), and mule deer (*Odocoileus hemionus*) were detected in the Southern Road Segment. Mule deer were observed and scat was found for elk and pronghorn antelope within the Southern Road Segment of the Project Area. Mule deer scat was observed during field surveys for the Northern Road Segment. Elk, pronghorn antelope, and mule deer have general habitat within the Project Area.

Game Birds

No game birds or their sign were detected in the Project Area during the 2012 and 2013 surveys.

3.3.7.2 Impact Analysis

Proposed Action

Impacts to wildlife species may include temporary displacement of suitable habitats during construction activities and a small amount of habitat loss due to road widening activities for the Southern Road Segment. Environmental Protection Measures outlined in Section 2.5 would minimize any potential disturbance outside of the ROW.

No Action Alternative

Under the No Action Alternative, the ROWs would not be authorized; however, activities associated with travel and maintenance of the existing roads would continue. Wildlife would experience temporary and short-term displacement as a result of these activities. The impacts to wildlife associated with the No Action Alternative would be similar but proportionally less than those associated with the Proposed Action.

3.3.8 Wild Horses

The analysis area for wild horses is the Pancake HMA.

3.3.8.1 Affected Environment

The Egan RMP (BLM 1987) designated the Monte Cristo and Sand Springs East HMAs for the long-term management of wild horses. These HMAs were later combined into the Pancake HMA in the August 2008 Ely District ROD and Approved RMP due to the interchange between the two HMAs. The Pancake HMA is nearly identical in size and shape to the original HMAs representing where wild horses were located in 1971. The Pancake HMA is approximately 855,000 acres and has an Appropriate Management Level (AML) range between 240 to 493 wild horses. The AML range was established through prior decision-making processes and reaffirmed through the ROD and Approved RMP. The current estimated population is approximately 1,081 wild horses.

3.3.8.2 Impact Analysis

Proposed Action

Approximately 10.2 acres of the 855,000-acre HMA would be disturbed by the Project, which equals approximately 0.001 percent of the HMA. There are no perennial water sources located within the Project Area that provide regular sources of drinking water. Several intermittent drainages traverse the Project Area in a northeast-southwest trend. Wild horses would most likely be temporarily drawn away from the Project Area due to the noise resulting from construction and maintenance activities and vehicle travel. Based on the small amount of surface disturbance to be created by the Proposed Action and the lack of suitable drinking water sources, impacts to wild horses would be minimized.

No Action Alternative

Under the No Action Alternative, the ROWs would not be authorized; however, activities associated with travel and maintenance of the existing roads would continue. Wild horses would experience temporary and short-term displacement as a result of these activities. The impacts to wild horses associated with the No Action Alternative would be similar but proportionally less than those associated with the Proposed Action.

4.0 CUMULATIVE IMPACTS

4.1 Introduction

As required under the NEPA and the regulations implementing the NEPA, this section analyzes potential cumulative impacts from past, present, and reasonably foreseeable future actions (RFFAs) combined with the Proposed Action within the area analyzed for impacts in Chapter 3 specific to the resources for which cumulative impacts may be anticipated. A cumulative impact is defined as “the impact which results from the incremental impact of the action, decision, or project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7).

This chapter addresses those cumulative effects on the environmental resources in the Cumulative Effects Study Area (CESA) which could result from the implementation of the Proposed Action and No Action Alternative. The extent of the CESA would vary with each resource, based on the geographic or biologic limits of that resource. As a result, the list of projects considered under the cumulative analysis may vary according to the resource being considered. In addition, the length of time for cumulative effects analysis would vary according to the duration of impacts from the Proposed Action on the particular resource.

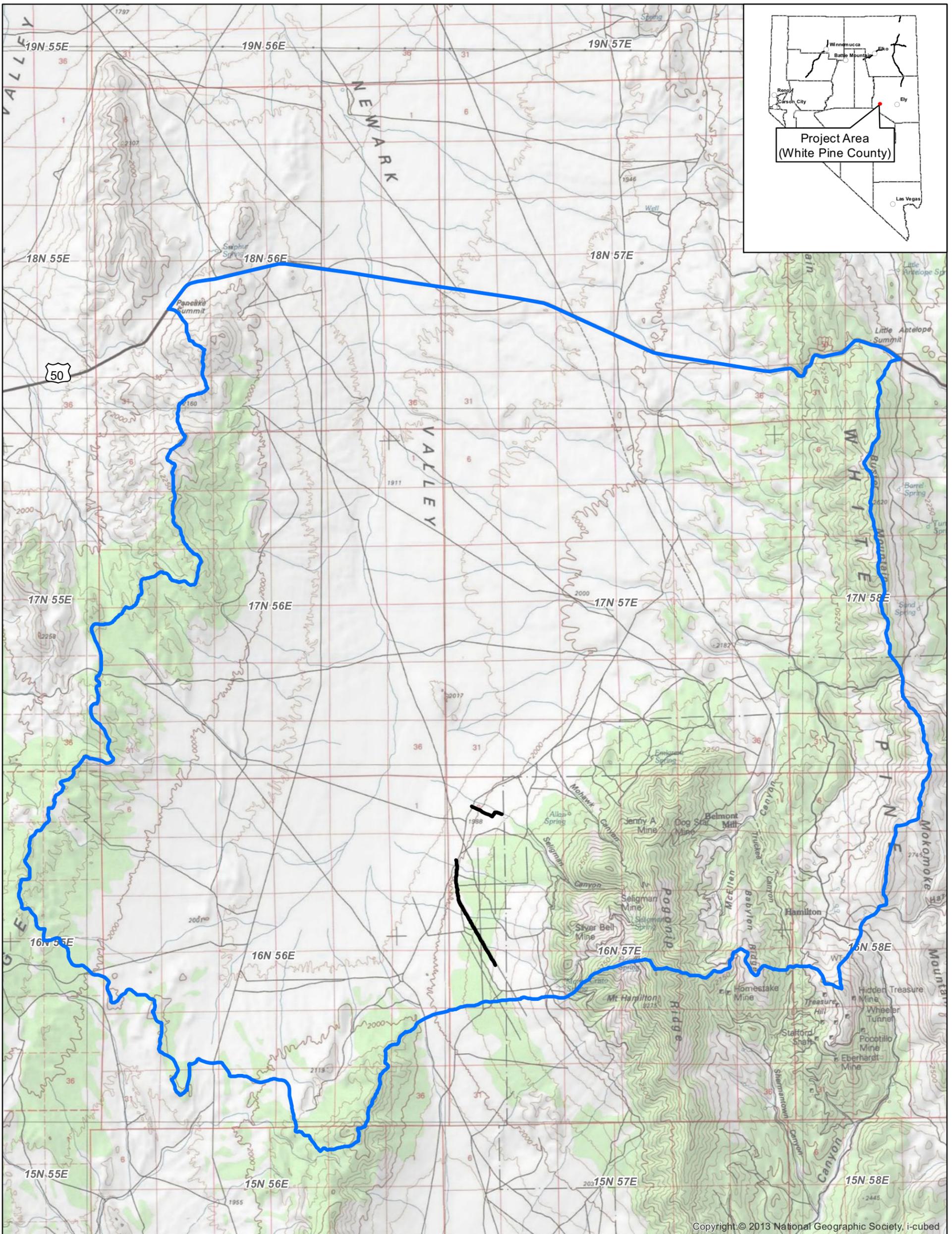
4.2 Analysis Areas

The geographic area considered for the analysis of cumulative effects reflects each evaluated environmental resource and the potential area of impact. A portion of the McEllen Canyon HUC 5 Watershed, separated by US 50, is used to analyze the cumulative impacts to invasive, nonnative species, soils, and vegetation in this EA, and is approximately 105,054 acres in size (Figure 4.2.1). Hunt Unit 131 is used to analyze the cumulative impacts to migratory birds, special status species, and wildlife, and is approximately 998,040 acres in size (Figure 4.2.2). Eureka and White Pine Counties and the Duckwater Reservation are used to analyze the cumulative impacts to social values and economics (Figure 4.2.3), and total approximately 8,371,284 acres. The Pancake HMA is used to analyze the cumulative impacts to wild horses and is approximately 855,000 acres in size (Figure 4.2.4).

4.3 Past, Present, and Reasonably Foreseeable Future Actions

4.3.1 Past and Present Actions

The primary past and present actions that would have affected and affect the resources analyzed in the CESAs include the following: wildlife and game habitat management; livestock grazing; wildland fires; dispersed recreation; ROW construction and management; and mineral exploration and mining.



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Explanation

- Project Area
- Vegetation CESA (CESA for Invasive and Nonnative Species, Soils, and Vegetation)



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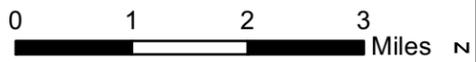
**ROAD USE AND ROAD IMPROVEMENT
RIGHT-OF-WAY PROJECT**

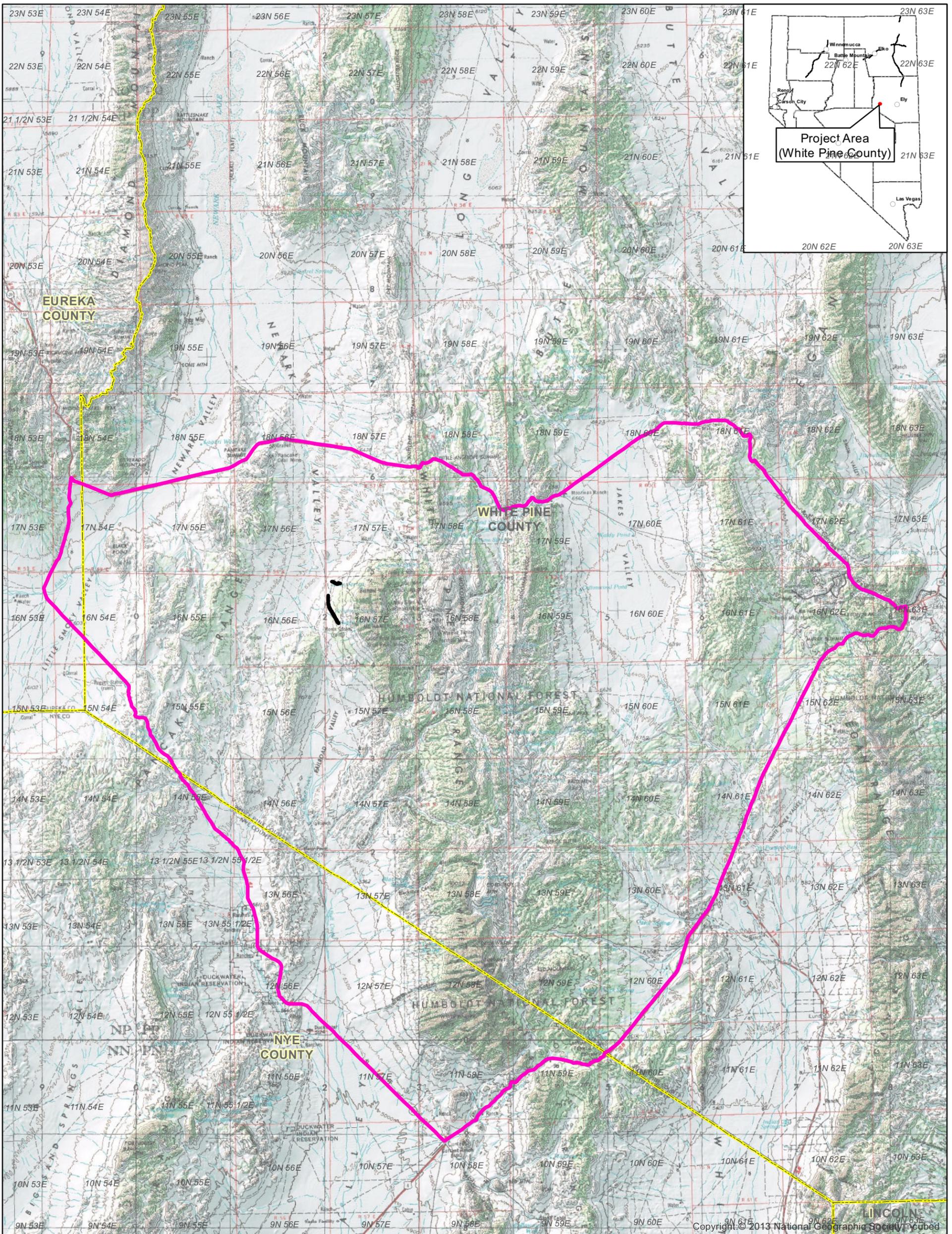
Vegetation CESA

Figure 4.2.1

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Explanation

- Project Area
- Wildlife CESA (CESA for Special Status Species, General Wildlife, Migratory Birds)



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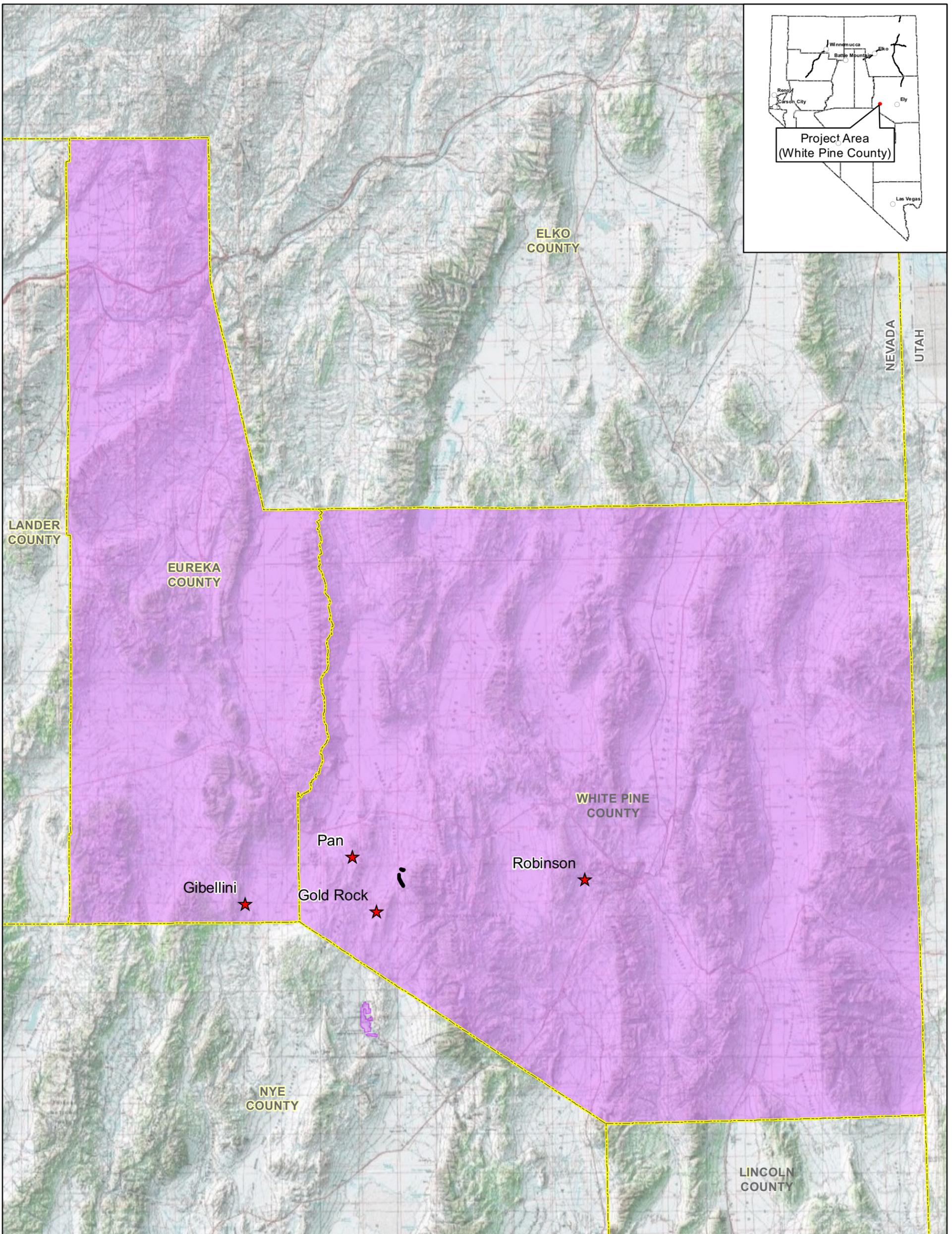
Wildlife CESA

Figure 4.2.2

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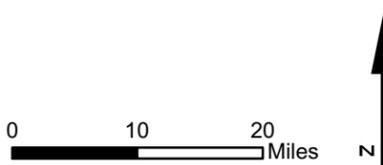
Explanation

-  Project Area
-  Social Values and Economics CESA
-  County
-  Mines

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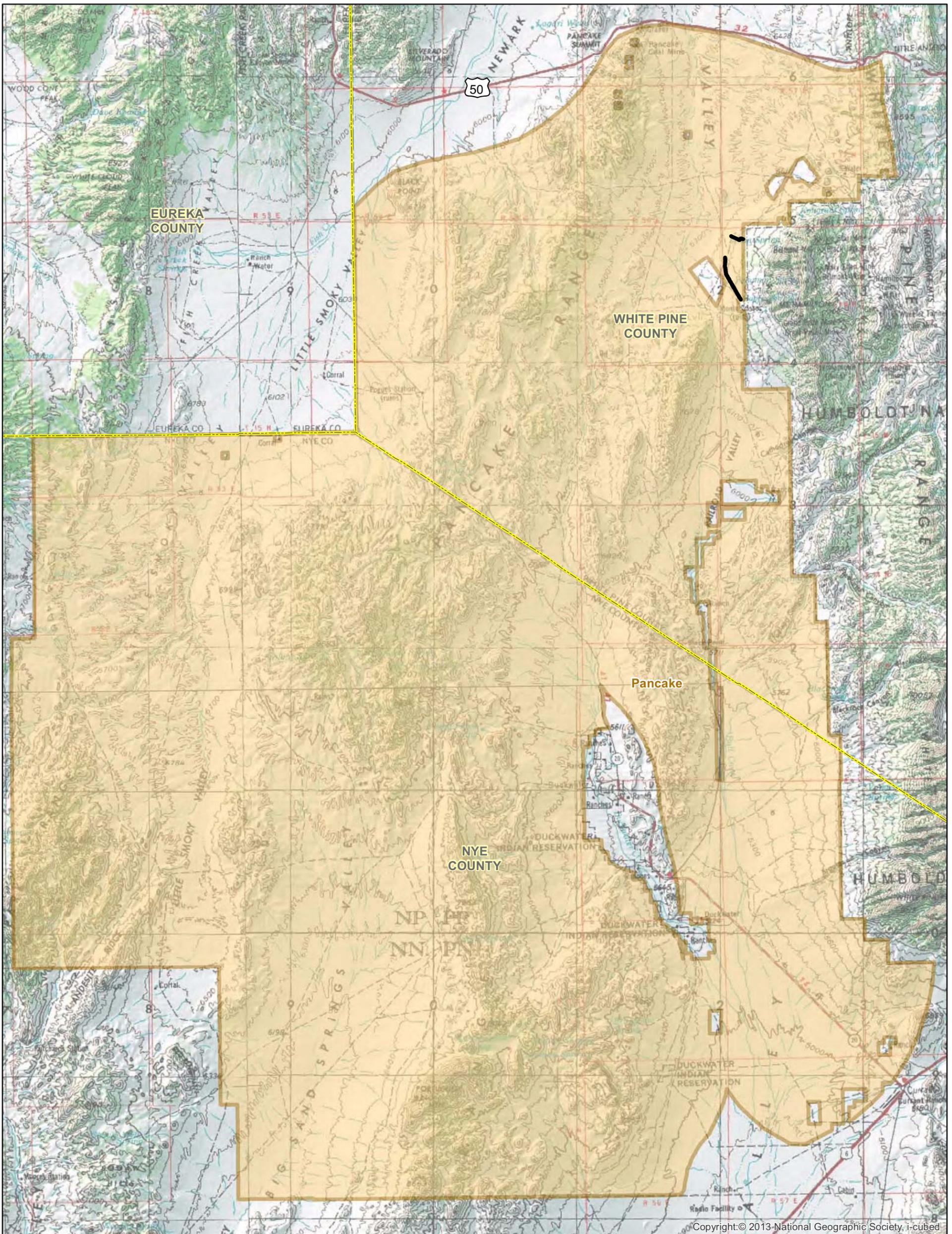
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Social Values and Economics CESA

Figure 4.2.3

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Explanation

-  Project Area
-  Wild Horses CESA



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Wild Horses CESA

Figure 4.2.4

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4.3.1.1 Wildlife and Game Habitat Management

Research and management of big game and wildlife are undertaken by the NDOW and BLM, and may include modification to existing habitat and rangeland facilities. NDOW Hunt Unit 131 is the Wildlife CESA, and completely encompasses the Vegetation CESA. Portions of NDOW Hunt Units 131, 145, 163, and 164 are included in the Wild Horses CESA, which would be impacted by wildlife and game habitat management activities.

4.3.1.2 Livestock Grazing

Portions of six BLM grazing allotments are located within the Vegetation CESA, portions of six allotments are located within the Wild Horses CESA, and portions of 20 allotments are located within the Wildlife CESA. The allotments that are located within each CESA are shown in Table 4.3-1. In addition to the following BLM grazing allotments, the three CESAs include portions of the USFS Monte Cristo Wild Horse Territory.

Table 4.3-1: Allotment Acreage in the CESAs

Grazing Allotment	Vegetation CESA	Wild Horses CESA	Wildlife CESA
Badger Springs			X
Butterfield			
Copper Flat			X
Dark Peak			X
Douglas Canyon			X
Duckwater	X	X	X
Evans		X	X
Fish Creek Ranch			X
Giroux Wash			X
Hicks Station			
Indian Jake			X
McQueen Flat			X
Monte Cristo	X	X	X
Moorman Ranch	X		X
Newark	X	X	X
Preston			X
Sand Springs West			
Silverado			X
Six Mile	X	X	X
Snowball Ranch			
South Pancake	X	X	X
Thirty Mile Spring			X
Tom Plain			X
West Schell Bench			X

4.3.1.3 Dispersed Recreation

Dispersed recreation, such as hunting, hiking, mountain biking, horseback riding, camping, off-highway vehicle travel, and rock collecting occurs throughout all the CESAs.

4.3.1.4 Rights-of-Way

The BLM's Land & Mineral Legacy Rehost 2000 System (LR2000) database was used to query the various types of ROWs that have been authorized or constructed within the three CESAs by section, township, and range, and include the following: roads and highways; railroads; wind energy development; telecommunication facilities; power transmission facilities; communication sites; water and irrigation facilities; pipelines; and other ROWs (BLM 2013b). The acreage of surface disturbance associated with these ROWs cannot be precisely quantified; however, it is assumed that these types of ROWs and the construction and maintenance associated with these facilities would create a level of surface disturbance that would contribute to cumulative impacts to various resources. In addition, certain types of ROWs can fragment habitat or create barriers or hazards for wildlife passage. The LR2000 database was queried on March 14, 2013, for the three CESAs; therefore, any newly approved ROWs that have been added to the LR2000 database after March 14, 2013, are not included in the analysis. The approximate acreage of each ROW within each CESA is listed in Table 4.3-2.

Table 4.3-2: Past and Present ROW Acreages in the CESAs

ROW Type	Vegetation CESA	Wild Horses CESA	Wildlife CESA
Roads and Highways	3,649	5,335	13,102
Railroad Facilities	0	0	172
Telecommunications	961	1,019	1,648
Communication Sites	1	9	224
Power Transmission	0	920	21,643
Irrigation/Water Facilities and Pipelines	0	203	420
Wind Energy Facilities	0	0	32,489
Other	0	1	21
Total	4,611	7,487	69,719

4.3.1.5 Mineral Exploration and Mining

The LR2000 database was used to query the past and present mineral exploration or mining activities (authorized and closed Notices, and authorized and closed plans of operation) as well as mineral material disposal sites that have been issued within the CESAs by section, township, and range and include the following: closed and authorized plans of operation, closed and authorized Notices, community pits, and mineral material disposal sites (BLM 2013b). The LR2000 database was queried on June 26, 2013, for the

three CESAs; therefore, any newly approved mineral exploration or mining plans or Notices that have been added to the LR2000 database after June 26, 2013, are not included in the analysis. The approximate acreage of each mineral exploration or mining activity within each CESA is listed in Table 4.3-3.

Table 4.3-3: Past and Present Mineral Disturbance Acreages in the CESAs

Disturbance Type	Vegetation CESA	Wild Horses CESA	Wildlife CESA
Authorized Notices	1	9	3
Closed Notices	35	70	95
Authorized Plans	367	367	7,234
Closed Plans	19	130	130
Community Pits	0	0	15
Mineral Material Disposal Sites	480	580	1,791
Total	902	1,156	9,268

4.3.2 Reasonably Foreseeable Future Actions

Activities/events that would continue to occur in the Vegetation CESA include the following: wildlife and game habitat management; livestock grazing; dispersed recreation; ROW construction and management; mineral exploration and mining; and wildland fires. Reasonably foreseeable future actions (RFFAs) in the Vegetation CESA include approximately one acre of a pending ROW project, and approximately 6,987 acres of pending mineral exploration and mining activities, which include the Pan Mine Project, and the Gold Rock Mine Project.

Activities/events that would continue to occur in the Wild Horses CESA include the following: wildlife and game habitat management; livestock grazing; dispersed recreation; ROW construction and management; mineral exploration and mining; and wildland fires. RFFAs in the Wild Horses CESA include approximately 85 acres of pending ROW projects, and approximately 6,987 acres of mineral exploration and mining activities, which include the Pan Mine Project, and the Gold Rock Mine Project.

Activities/events that would continue to occur in the Wildlife CESA include the following: wildlife and game habitat management; livestock grazing; dispersed recreation; ROW construction and management; mineral exploration and mining; and wildland fires. RFFAs in the Wildlife CESA include approximately 310 acres of pending ROW projects, and approximately 6,987 acres of mineral exploration and mining activities, which include the Pan Mine Project, and the Gold Rock Mine Project.

4.4 Cumulative Impact Analysis

4.4.1 Invasive, Nonnative Species

The CESA for vegetation is the Vegetation CESA, which encompasses approximately 105,054 acres, and is shown on Figure 4.2.1.

Past and present actions: Past and present actions with impacts created from noxious weeds, invasive, and nonnative species could have included and may currently include livestock grazing, dispersed recreation, utility and other ROW management and maintenance, mineral exploration, and mining. These actions could have disturbed vegetation and soils creating an opportunity for invasive plant colonization and the introduction of noxious weed, invasive or nonnative species seeds. There are no specific data to quantify impacts from noxious weeds, invasive and nonnative species that resulted from livestock grazing or dispersed recreation.

Authorized or closed mineral exploration and mining Notices or plans of operation, as well as mineral material disposal sites total approximately 902 acres (approximately 0.9 percent of the CESA) of surface disturbance. ROWs, including roads and highways, total approximately 4,611 acres within the Vegetation CESA that had the potential to introduce invasive and nonnative species. Livestock grazing and associated management could have also contributed to the spread of invasive and nonnative species. The past and present actions that are quantifiable have disturbed approximately 5,513 acres or approximately five percent of the CESA.

RFFAs: Potential impacts from invasive and nonnative species as a result of livestock grazing, dispersed recreation, mineral exploration, mining, utility and other ROW management and maintenance, or loss of native vegetation associated with potential wildland fires are expected to continue. There are no specific data to quantify impacts from invasive and nonnative species as a result of livestock grazing, dispersed recreation, or wildland fires. There are approximately 6,987 acres of disturbance from pending minerals projects in the Vegetation CESA, and approximately one acre of a pending ROW project.

Cumulative Impacts: The Proposed Action would impact approximately 0.007 percent of the CESA (105,054 acres). Quantifiable past and present actions and RFFA disturbance in the Vegetation CESA is approximately 12,501 acres, which is an impact to approximately 11.9 percent of the total Vegetation CESA. Based on the above analysis and findings, direct incremental impacts from invasive and nonnative species as a result of the Proposed Action, when combined with the impacts from the past and present actions and RFFAs, are expected to be minimal, due to the presence of potential mining projects with access on County Road 5 that could bring noxious weeds, invasive and nonnative species to the area, including the CSM Project and the Gold Rock Mine Project. Direct impacts from noxious weeds, invasive and nonnative species as a result of those projects would be discussed in their respective NEPA documents.

4.4.2 Migratory Birds

The CESA for migratory birds is the Wildlife CESA, which encompasses approximately 998,040 acres, and is shown on Figure 4.2.2.

Past and Present Actions: Past and present actions that could have impacted and may be currently impacting migratory birds and their habitat include livestock grazing, wildlife and game habitat management, wildland fires, dispersed recreation, utility and other ROW management and maintenance, mineral exploration, and mining. Impacts to migratory birds and their habitat have resulted from the following: 1) indirect impacts from the destruction of habitat associated with building roads and clearing vegetation; 2) indirect impacts from the disruption from human presence or noise from drill rigs, water trucks and four-wheel drive pickups; and 3) direct impacts or harm to migratory birds that result from the removal of trees and shrubs containing viable nests or ground nests destroyed by construction or ranching equipment. There are no specific data that quantify impacts to migratory birds and their habitat as a result of livestock grazing or recreation. However, impacts to migratory birds and their habitat from grazing include trampling of vegetation or nesting areas near streams, springs, or riparian areas within the Wildlife CESA. Impacts to migratory birds and their habitat from recreation activities include destruction of native vegetation or nesting areas from off-road vehicles that traveled off of established roadways.

Historic fires (1981 – 2012) have burned approximately 7,671 acres in the Wildlife CESA (approximately 0.8 percent of the CESA). Authorized or closed mineral exploration and mining Notices or plans of operation, community pits, and mineral material disposal sites total approximately 9,268 acres (approximately 0.9 percent of the CESA) of surface disturbance. ROWs, including roads and highways, total approximately 69,719 acres within the Wildlife CESA that had the potential to create surface disturbance and disturb migratory bird habitat and vegetation. The CESA is also comprised of the NDOW Hunt Unit 131, which had the potential to create noise and disturbance to migratory birds, or remove or alter habitat. Livestock grazing and associated management could have contributed to the spread of noxious weeds, invasive and nonnative species, which could have had an indirect effect on migratory birds. The past and present actions that are quantifiable have disturbed approximately 86,658 acres or approximately 8.7 percent of the CESA.

RFFAs: Potential impacts to migratory birds and their habitat from livestock grazing, wildlife and game habitat management, dispersed recreation, mineral exploration, mining, utility and other ROW management and maintenance, or loss of native vegetation associated with potential wildland fires could occur. There are no specific data to quantify impacts to migratory birds or their habitat as a result of livestock grazing, wildlife and game habitat management, dispersed recreation, or potential wildland fires within the CESA. There are approximately 310 acres of disturbance for pending ROWs and approximately 6,987 acres of disturbance for pending minerals projects reported in LR2000 in the Wildlife CESA. These pending projects are all required to incorporate

protection measures for migratory birds and therefore, are not expected to directly harm migratory birds, but may result in habitat removal or alteration.

Cumulative Impacts: The Proposed Action would impact approximately 0.0008 percent of the CESA (998,040 acres). Quantifiable past and present actions and RFFA disturbance in the Wildlife CESA is approximately 93,955 acres, which is an impact to approximately 9.4 percent of the total Wildlife CESA. However, based on the above analysis and findings, incremental impacts to migratory birds and their habitat as a result of the Proposed Action, when combined with the impacts from the past and present actions and RFFAs, are expected to be minimal. However, the road widening activities could result in indirect cumulative impacts to the loss of migratory bird habitat by allowing access to the CSM Project site resulting in additional surface disturbance in the vicinity of the Project Area. Direct impacts from the CSM Project would be discussed in a separate NEPA document.

4.4.3 Social Values and Economics

The CESA for social values and economics is the Social Values and Economics CESA, which encompasses approximately 8,371,284 acres, and is shown on Figure 4.2.3.

Past and Present Actions: Past and present actions that have impacted or are currently impacting social values and economics include livestock grazing/rangeland management, wildland fires, dispersed recreation, utility and other ROW management and maintenance, and mineral exploration and mining activities. Impacts to social values and economics from these activities include increased population, increased demand for public services, increased employment opportunities, increased revenues within the CESA, and increased expenditures by the communities within the CESA. The extent of these impacts varies with the type of activity and has not been quantified; however, the majority of the impacts from past and present activities are considered to be part of the existing social and economic climate within the CESA. Mining projects play an important role in the social and economic climate in the CESA. Some of the major existing and authorized mines in the vicinity of the Proposed Action and within the CESA include the the Robinson Mine in White Pine County and the Mount Hope Mine in Eureka County. The Robinson Mine includes approximately 6,867 acres of surface disturbance on BLM-administered and private lands with approximately 600 employees, and the Mount Hope Project includes approximately 8,355 acres of surface disturbance on BLM-administered and private lands with approximately 370 employees at full Project operation. In addition, ROW projects are also major contributors of indirect impacts potentially bringing in additional people and the possibilities of future expansion to the area. One of the major existing transmission line projects in the area is the Falcon-Gondor transmission line.

RFFAs: Potential impacts to social values and economics as a result of livestock grazing/rangeland management, wildland fires, dispersed recreation, utility and other ROW management and maintenance, and mineral exploration and mining activities are expected to continue. Specific projects that are planned include ROWs and mineral

exploration and mining projects. Reasonably foreseeable major mining projects in the CESA include the Pan Mine located in White Pine County, the Gold Rock Mine Project located in White Pine County, the CSM Project in White Pine County, and the Gibellini Project located in Eureka County. The Pan Mine would include approximately 3,204 acres of surface disturbance on BLM-administered land with approximately 160 employees. The Gold Rock Mine Project would include approximately 3,749 acres of surface disturbance on BLM-administered land with up to approximately 300 employees. The CSM Project would include approximately 474 acres of surface disturbance on USFS-administered land with up to 82 employees. The Gibellini Project would include approximately 730 acres of surface disturbance on BLM-administered land with approximately 120 employees during Project operations. The Ely District RMP and the West-Wide Energy Corridor Final Programmatic Environmental Impact Statement (DOE and BLM 2008) identified a corridor for the Southwest Intertie Project, which when completed would extend more than 500 miles from Jerome County, Idaho to Clark County, Nevada. In addition, MWP's Highway 50 to Pan 69 kV Transmission Line Project and the Mount Hope 230 kV Transmission Line Project have been recently authorized by the BLM within the CESA.

Cumulative Impacts: The identified projects within the CESA, including the Proposed Action, would have an impact on social values and economics. The Proposed Action would utilize up to five existing MHLLC employees for a temporary period of up to four weeks. Maintenance of the road would be conducted by existing MHLLC employees. Most of these employees currently reside in Ely, Nevada. The Proposed Action's direct incremental contribution to the cumulative environment when added to the past and present actions and RFFAs in the Social Values and Economics CESA would be minimal. However, the road widening activities would result in indirect cumulative impacts to social values and economics by allowing exploration and mining vehicle transportation to the CSM Project site, thereby adding more workers to the area resulting in an increased need for public services. Direct impacts from the CSM Project would be discussed in a separate NEPA document.

4.4.4 Soils

The CESA for soils is the Vegetation CESA, which encompasses approximately 105,054 acres, and is shown on Figure 4.2.1.

Past and Present Actions: Past and present actions that have impacted and are currently impacting soils include livestock grazing/rangeland management, dispersed recreation, utility and other ROW management and maintenance, mineral exploration, mining, and soil compaction due to travel by heavy equipment on unpaved roads. These actions may have directly disturbed or impacted soils, or increased erosion or sedimentation potential. Impacts from these activities include loss of soils productivity due to changes in soil physical properties, soil fertility, soil movement in response to water and wind erosion, and loss of soil structure due to compaction. There are no specific data to quantify impacts to soils from livestock grazing/rangeland management or dispersed recreation in the Vegetation CESA.

Authorized or closed mineral exploration and mining Notices or plans of operation, as well as mineral material disposal sites total approximately 902 acres (approximately 0.9 percent of the CESA) of surface disturbance. ROWs, including roads and highways, total approximately 4,611 acres within the Vegetation CESA that had the potential to impact soils. The past and present actions that are quantifiable have disturbed approximately 5,513 acres or approximately five percent of the CESA.

RFFAs: Livestock grazing, dispersed recreation, mineral exploration, mining, utility and other ROW management and maintenance, soil compaction due to travel by heavy equipment on unpaved roads, or loss of native vegetation associated with potential wildland fires are expected to continue. There are no specific data to quantify impacts from livestock grazing, dispersed recreation, or wildland fires. There are approximately 6,987 acres of disturbance from pending minerals projects in the Vegetation CESA, and approximately one acre of a pending ROW project.

Cumulative Impacts: The Proposed Action would impact approximately 0.007 percent of the CESA (105,054 acres). Quantifiable past and present actions and RFFA disturbance in the Vegetation CESA is approximately 12,501 acres, which is an impact to approximately 11.9 percent of the total Vegetation CESA. Based on the above analysis and findings, incremental impacts to soils as a result of the Proposed Action, when combined with the impacts from the past and present actions and RFFAs, are expected to be minimal.

4.4.5 Special Status Species

The CESA for special status species is the Wildlife CESA, which encompasses approximately 998,040 acres, and is shown on Figure 4.2.2.

Past and present actions: Past and present actions that have impacted and are currently impacting special status species include livestock grazing, wildland fires, dispersed recreation, utility and other ROW management and maintenance, mineral exploration, and mining. Noise and surface disturbance have also impacted special status wildlife species. Impacts to special status species from these activities include loss of forage, cover, and habitat as well as disturbance of mating and brood rearing practices. There are no specific data to quantify impacts to special status species from livestock grazing or dispersed recreation, or to greater sage-grouse as a result of the reduction in PPH or PGH.

Historic fires (1981 – 2012) have burned approximately 7,671 acres in the Wildlife CESA (approximately 0.8 percent of the CESA). Authorized or closed mineral exploration and mining Notices or plans of operation, community pits, and mineral material disposal sites total approximately 9,268 acres (approximately 0.9 percent of the CESA) of surface disturbance. ROWs, including roads and highways, total approximately 69,719 acres within the Wildlife CESA that had the potential to create surface disturbance and disturb special status species habitat and vegetation. The past and present actions that are quantifiable have disturbed approximately 86,658 acres or approximately 8.7 percent of the CESA.

RFFAs: Potential impacts to special status species from livestock grazing, dispersed recreation, mineral exploration, mining, utility and other ROW management and maintenance, or loss of native vegetation associated with potential wildland fires are expected to continue. There are no specific data to quantify impacts to special status species or their habitat as a result of livestock grazing, dispersed recreation, or potential wildland fires within the CESA. There are approximately 310 acres of disturbance for pending ROWs and approximately 6,987 acres of disturbance for pending minerals projects reported in LR2000 in the Wildlife CESA. These pending projects are all required to incorporate protection measures for special status species and therefore, are not expected to directly harm special status species, but may result in habitat removal or alteration.

Cumulative Impacts: The Proposed Action would impact approximately 0.0008 percent of the CESA (998,040 acres). Quantifiable past and present actions and RFFA disturbance in the Wildlife CESA is approximately 93,955 acres, which is an impact to approximately 9.4 percent of the total Wildlife CESA. Based on the above analysis and findings, direct incremental impacts to special status species and their habitat as a result of the Proposed Action, when combined with the impacts from the past and present actions and RFFAs, are expected to be minimal. However, the road widening activities could result in indirect cumulative impacts to the loss of habitat for special status species by allowing access to the CSM Project site resulting in additional surface disturbance in the vicinity of the Project Area. Direct impacts from the CSM Project would be discussed in a separate NEPA document.

4.4.6 Vegetation

The CESA for vegetation is the Vegetation CESA, which encompasses approximately 105,054 acres, and is shown on Figure 4.2.1.

Past and Present Actions: Past and present actions that have impacted and are currently impacting vegetation include livestock grazing, dispersed recreation, utility and other ROW management and maintenance, wildland fires, and vegetation treatments that altered the structure, composition, and ecology of plant communities, mineral exploration, and mining. There are no specific data to quantify impacts to vegetation from livestock grazing or dispersed recreation. Impacts caused by hunting activities and associated off-road vehicle travel include the introduction of noxious weeds, invasive or nonnative species, and trampled vegetation.

Authorized or closed mineral exploration and mining Notices or plans of operation and mineral material disposal sites total approximately 902 acres (approximately 0.9 percent of the CESA) of surface disturbance. ROWs, including roads and highways, total approximately 4,611 acres within the Vegetation CESA that had the potential to create surface disturbance and disturb vegetation. The past and present actions that are quantifiable have disturbed approximately 5,513 acres or approximately five percent of the CESA.

RFFAs: Potential impacts to vegetation from livestock grazing, dispersed recreation, mineral exploration, mining, utility and other ROW management and maintenance, or loss of native vegetation associated with potential wildland fires are expected to continue. There are no specific data to quantify impacts from livestock grazing, dispersed recreation, or wildland fires. There is approximately one acre of disturbance for pending ROWs and approximately 6,987 acres of disturbance for pending minerals projects reported in LR2000 in the Vegetation CESA.

Cumulative Impacts: The Proposed Action would impact approximately 0.007 percent of the CESA (105,054 acres). Quantifiable past and present actions and RFFA disturbance in the Vegetation CESA is approximately 12,501 acres, which is an impact to approximately 11.9 percent of the total Vegetation CESA. Based on the above analysis and findings, incremental impacts to vegetation as a result of the Proposed Action, when combined with the impacts from the past and present actions and RFFAs, are expected to be minimal. However, the road widening activities could result in indirect cumulative impacts to the loss of vegetation by allowing access to the CSM Project site resulting in additional surface disturbance in the vicinity of the Project Area. Direct impacts from the CSM Project would be discussed in a separate NEPA document.

4.4.7 Wild Horses

The CESA for wild horses is the Wild Horses CESA, which encompasses approximately 855,000 acres, and is shown on Figure 4.2.4.

Past and present actions: Past and present actions that have impacted or are currently impacting wild horses include wildland fires, dispersed recreation, utility and other ROW management and maintenance, mineral exploration, and mining. Impacts to wild horses from these activities include loss of forage, increased traffic, and noise from drilling and mining activities. The extent of these impacts varies with the type of activity. There are no specific data to quantify impacts to wild horses from dispersed recreation. The Pancake HMA was last gathered in January 2012 and removed 968 wild horses. The Pancake Emergency Wild Horse Gather occurred in September 2012 and removed 125 wild horses.

Authorized or closed mineral exploration and mining Notices or plans of operation and mineral material disposal sites total approximately 1,156 acres (approximately 0.1 percent of the CESA) of surface disturbance. Approximately 7,487 acres of ROWs, including roads and highways, were issued within the Wild Horses CESA that had the potential to create surface disturbance and disturb wild horse foraging habitat and vegetation. The past and present actions that are quantifiable have disturbed approximately 8,643 acres or approximately one percent of the CESA.

RFFAs: Potential impacts to wild horses from dispersed recreation, mineral exploration, mining, ROW construction and maintenance, or loss of native vegetation associated with potential wildland fires are expected to continue. There are no specific data to quantify impacts to wild horses as a result of livestock grazing, dispersed recreation, or potential wildland fires within the CESA. There are approximately 6,987 acres of disturbance from

pending minerals projects reported in LR2000 in the Wild Horses CESA, and approximately 85 acres of disturbance for pending ROW projects.

Cumulative impacts: The Proposed Action would impact approximately 0.0009 percent of the CESA (855,000 acres). Quantifiable past and present actions and RFFA disturbance in the Wild Horses CESA is approximately 15,715 acres, which is an impact to approximately 1.8 percent of the total Wild Horses CESA. Based on the above analysis and findings, incremental impacts to wild horses as a result of the Proposed Action, when combined with the impacts from the past and present actions and RFFAs, are expected to be minimal. However, the road widening activities could result in indirect cumulative impacts to the loss of foraging habitat for wild horses by allowing access to the CSM Project site resulting in additional surface disturbance in the vicinity of the Project Area. Direct impacts from the CSM Project would be discussed in a separate NEPA document.

4.4.8 Wildlife (General)

The CESA for wildlife is the Wildlife CESA, which encompasses approximately 998,040 acres, and is shown on Figure 4.2.2.

Past and present actions: Past and present actions that have impacted and are currently impacting wildlife include livestock grazing, wildland fires, dispersed recreation, utility and other ROW management and maintenance, mineral exploration, and mining. Impacts to wildlife from these activities include loss of forage, cover, and habitat as well as disturbance of mating and brood rearing practices. There are no specific data to quantify impacts to wildlife from livestock grazing or dispersed recreation.

Historic fires (1981 – 2012) have burned approximately 7,671 acres in the Wildlife CESA (approximately 0.8 percent of the CESA). Authorized or closed mineral exploration and mining Notices or plans of operation, community pits, and mineral material disposal sites total approximately 9,268 acres (approximately 0.9 percent of the CESA) of surface disturbance. ROWs, including roads and highways, total approximately 69,719 acres within the Wildlife CESA that had the potential to create surface disturbance and disturb wildlife habitat and vegetation. The past and present actions that are quantifiable have disturbed approximately 86,658 acres or approximately 8.7 percent of the CESA.

RFFAs: Potential impacts to wildlife from livestock grazing, dispersed recreation, mineral exploration, mining, utility and other ROW management and maintenance, or loss of native vegetation associated with potential wildland fires are expected to continue. There are no specific data to quantify impacts to wildlife or their habitat as a result of livestock grazing, dispersed recreation, or potential wildland fires within the CESA. There are approximately 310 acres of disturbance for pending ROWs and approximately 6,987 acres of disturbance for pending minerals projects reported in LR2000 in the Wildlife CESA.

Cumulative Impacts: The Proposed Action would impact approximately 0.0008 percent of the CESA (998,040 acres). Quantifiable past and present actions and RFFA

disturbance in the Wildlife CESA is approximately 93,955 acres, which is an impact to approximately 9.4 percent of the total Wildlife CESA. Based on the above analysis and findings, incremental impacts to wildlife as a result of the Proposed Action, when combined with the impacts from the past and present actions and RFFAs, are expected to be minimal. However, the road widening activities could result in indirect cumulative impacts to the loss of habitat for wildlife by allowing access to the CSM Project site resulting in additional surface disturbance in the vicinity of the Project Area. Direct impacts from the CSM Project would be discussed in a separate NEPA document.

5.0 CONSULTATION AND COORDINATION

5.1 Introduction

The issue identification section of Chapter 1 provides the rationale for issues that were considered but not analyzed further and identifies those issues analyzed in detail in Chapter 3. The issues were identified through the public and agency involvement process described in sections 5.2 and 5.3 below.

5.2 Persons, Groups and Agencies Consulted

Name	Purpose & Authority for Consultation or Coordination	Findings and Conclusions
Nevada SHPO	Consultation for undertakings as required by the National Historic Preservation Act (Public Law 89-665; U.S.C. 470 et seq.)	The cultural survey report was sent to SHPO with a determination of no adverse effect. A SHPO response was received on April 17, 2013, with a concurrence of no adverse effect. Therefore, Section 106 cultural inventory consultation is considered completed.
Curt Baughman, NDOW	Greater sage-grouse lek surveys	Curt Baughman identified via e-mail on March 19, 2013 that the Hoppe Spring W lek, the lek closest to the Project Area, has been inactive for many years.
Bill Miller, White Pine County Road Department	Project Area access on County Road 5	An excavation permit would be required for encroachment into the County Road 5 ROW. Detailed construction plans would be submitted to the County.
Forsgrens	Replacement of water pipeline off Forsgren water tank	No issues were identified by the Forsgrens.

The BLM Ely District Office sent formal consultation letters on October 2, 2012 to the following tribes and tribal councils informing them of the proposed Project and EA and inviting comments and concerns:

- Duckwater Shoshone Tribe
- Skull Valley Band of Goshute Indians of Utah
- Ely Shoshone Tribe
- Las Vegas Paiute Tribe
- Confederated Tribes of the Goshute Reservation, Nevada-Utah
- Battle Mountain Band Council
- Paiute Indian Tribe of Utah
- Te-Moak Tribe of the Western Shoshone Indians of Nevada
- Indian Peaks Band
- Wells Band Council
- Shivwits Band of Paiutes

- South Fork Band Council
- Cedar City Band of Paiutes
- Elko Band Council
- Kaibab Band of Paiute Indians
- Yomba Shoshone Tribe
- Moapa Band of Paiute Indians

The Paiute Indian Tribe of Utah provided a response on November 23, 2012 and had no objections to the Project. A site visit was conducted with the Duckwater Shoshone Tribe on May 9, 2013. A request was made that any piñon-juniper cut down would be limbed, stacked, and available for firewood cutting.

5.3 Summary of Public Participation

During preparation of the EA, the public was notified of the Proposed Action by posting on the Environmental Notification Bulletin Board on March 1, 2013. Any pertinent comments were incorporated into the text of this EA.

5.4 List of Preparers

5.4.1 BLM

Name	Title	Responsible for the Following Section(s) of this Document
Mindy Seal	Assistant Field Manager	Social Values and Economics; NEPA Compliance
Stephanie Trujillo	Realty Specialist	Project Lead; Lands and Realty
Marian Lichtler	Wildlife Biologist	General Wildlife, Migratory Birds, Special Status Species
Lisa Gilbert	Archaeologist Technician	Cultural Resources; Paleontological Resources
Erin Rajala	Outdoor Recreation Planner	Recreation, Visual Resources
T.J. Mabey	Forestry and Fuels Specialist	Forest Health
Elvis Wall	Native American Coordinator	Native American Religious and Other Concerns
Melanie Peterson	Environmental Protection Specialist	Health and Safety
Chris McVicars	Natural Resource Specialist	Invasive and Nonnative Species
Emily Simpson	Wilderness Planner	Wilderness
Ruth Thompson	Wild Horse Specialist	Wild Horses
Mark D'Aversa	Hydrologist	Soils, Water Quality, Air Quality
Mark Lowrie	Rangeland Management Specialist	Rangeland Health, Vegetation, Livestock Grazing
Miles Kreidler	Geologist	Mineral Resources

5.4.2 Non-BLM Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Opal Adams	Principal Specialist	Technical Review, Editing
Catherine Lee	Senior Specialist/Project Manager	Overall project management; preparation of all chapters and sections

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6.2 Acronyms

° - degrees

amsl - above mean sea level

AUM - Animal Unit Months

BLM - Bureau of Land Management

BMPs – best management practices

CESA - Cumulative Effects Study Area

CFR - Code of Federal Regulations

CSM – Centennial-Seligman Mining

DETR – Department of Employment, Training, and Rehabilitation

EA - Environmental Assessment

EIS – Environmental Impact Statement

EO - Executive Order

EPA – Environmental Protection Agency
ESA - Endangered Species Act of 1973
F - Fahrenheit
FEIS – Final Environmental Impact Statement
FLPMA - Federal Land Policy and Management Act of 1976
FONSI – Finding of No Significant Impact
GBBO - Great Basin Bird Observatory
GHG - greenhouse gas
HMA - Herd Management Area
IM - Instruction Memorandum
LR2000 – Land & Mineral Legacy Rehost 2000 System
MBTA - Migratory Bird Treaty Act of 1918
MDB&M - Mount Diablo Base & Meridian
MHLLC – Mt. Hamilton LLC
MOU - Memorandum of Understanding
NDEP - Nevada Division of Environmental Protection
NDOW – Nevada Department of Wildlife
NE - northeast
NEPA - National Environmental Policy Act of 1969
NFS - National Forest System
NNHP - Nevada Natural Heritage Program
NRCS - National Resources Conservation Service
NRHP – National Register of Historic Places
NW - northwest
NSPL - National System of Public Lands
PGH - Preliminary General Habitat
POD - Plan of Development
PPH - Preliminary Priority Habitat
RMP - Resource Management Plan
ROD – Record of Decision
ROW - right-of-way
SE - southeast
SHPO – State Historic Preservation Office
SW - southwest
USFS - United States Forest Service
USFWS - United States Fish and Wildlife Service
WRCC – Western Regional Climate Center

Appendix 1

Road Use and Road Improvement Project Plan of Development

(to be included in Final EA)

Appendix 2

**BLM Form SF-299 (1/2006) Application for Transportation and Utility Systems and
Facilities on Federal Lands**

(to be included in Final EA)

Appendix 3

BLM Ely District Recommended Bird Nest Buffer Sizes

BLM Ely District Recommended Bird Nest Buffer Sizes

Nest Buffer Sizes

The following buffer sizes for nests are recommended by the BLM Ely District. The type of disturbance, current life cycle of the birds (i.e. just started nest construction, incubating, chicks in nest, chicks ready to fledge), and habitat in the area (i.e. riparian area) may warrant adjustments to these recommended buffer sizes. With certain species, an increase in monitoring of the response of the nesting birds and their young to the disturbance may be allowed to reduce buffer sizes. Nests **will not** be marked with bright-colored flagging or anything that could attract predators to the nest. Nests **will not** be checked more than one time per week so as to not alert predators to nest locations.

The following process will be employed once nesting activity has been observed for this project area:

- 1) Activity will cease in the area until the chick(s) fledge, if this is not possible, see number 2 below.
- 2) The buffer specified in the table below will be adhered to until the chick(s) fledge, if this is not possible, see number 3 below.
- 3) The biological monitors will document the following information and submit it to the CICs. The information will then go to the BLM biologists and managers for approval:
 - a) Give a detailed description of the nest, nesting activity, vegetation, pre-existing disturbances to the nest (i.e. proximity to roads, power poles, substations, etc.), monitoring information, and include a photo of the area.
 - b) What action is proposed in an area smaller than the standard buffer? Be sure to include types of equipment, frequency, duration, and number of people.
 - c) Is there a potential for screening the action from the birds, either auditory or visual (i.e. due to terrain, dense vegetation)?

Once the information is received, BLM biologists will make a recommendation to management to either approve or deny the request as presented.

Habitat	Common name	Scientific name	Buffer Size	time from eggs to fledging
sagebrush/salt desert scrub	Greater sage grouse	<i>Centrocercus urophasianus</i>	600 ft	25-27-days (eggs only)
open/grasslands	killdeer	<i>Charadrius vociferous</i>	300 ft	24-26 days (eggs only)
open/grasslands	long-billed curlew	<i>Numenius americanus</i>	300 ft	27-28 days (eggs only)
desert scrub	Gambel's quail	<i>Callipepla gambelii</i>	200 ft	31-34 days (eggs only)
generalist	Mourning dove	<i>Zenaida macroura</i>	200 ft	25-28 days
generalist	White-winged dove	<i>Zenaida asiatica</i>	200 ft	26-30 days
open/grasslands	common nighthawk	<i>Chordeiles minor</i>	300 ft	39 days
woodlands	hummingbirds	<i>Many spp.</i>	200 ft	35-41 days
woodlands/cavity	Lewis's woodpecker	<i>Melanerpes lewis</i>	100 ft	43-45 days
woodlands/cavity	red-naped sapsucker	<i>Sphyrapicus nuchalis</i>	100 ft	39-40 days
woodlands/cavity	Williamson's sapsucker	<i>Sphyrapicus thyroideus</i>	100 ft	44 days

woodlands/cavity	hairy woodpecker	<i>Picoides villosus</i>	100 ft	39-45 days
woodlands/cavity	Ladder-backed woodpecker	<i>Picoides scalaris</i>	100 ft	34-39 days
woodlands/cavity	northern flicker	<i>Colaptes arcticus</i>	100 ft	28-31 days
P/J or sagebrush	gray flycatcher	<i>Empidonax wrightii</i>	200 ft	30 days
cliffs	black phoebe	<i>Sayornis nigricans</i>	200 ft	32-39 days
cliffs	Say's phoebe	<i>Sayornis saya</i>	200 ft	26-30 days
woodlands	vermilion flycatcher	<i>Pyrocephalus rubinus</i>	200 ft	28-31 days
open/trees	western kingbird	<i>Tyrannus verticalis</i>	200 ft	28-31 days
open/cavity/trees	Ash-throated flycatcher	<i>Myiarchus cinerascens</i>	100 ft	31-32 days
tree/scrub	Phainopepla	<i>Phainopepla nitens</i>	200 ft	32-34 days
cliff/tree/cavity	Violet-green swallow	<i>Tachycineta thalassina</i>	100 ft	33-40 days
tree/cavity	Tree swallow	<i>Tachycineta bicolor</i>	100 ft	29-40 days
burrows	Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>	100 ft	32-37 days
woodlands	Blue-gray gnatcatcher	<i>Polioptila caerulea</i>	200 ft	27-28 days
woodlands	Black-tailed gnatcatcher	<i>Polioptila melanura</i>	200 ft	23-29 days
woodlands/yucca	Scott's oriole	<i>Icterus parisorum</i>	200 ft	28 days
open woodlands	Bullock's oriole	<i>Icterus bullockii</i>	200 ft	28 days
open/scrub	horned lark	<i>Eremophila alpestris</i>	300 ft	22-31 days
woodlands	western scrub-jay	<i>Aphelocoma californica</i>	200 ft	33-35 days
woodlands	pinyon jay	<i>Gymnorhinus cyanocephalus</i>	200 ft	38 days
woodlands	Clark's nutcracker	<i>Nucifraga Columbiana</i>	200 ft	38-40 days
scrub woods	black-billed magpie	<i>Pica pica</i>	200 ft	39-50 days
woods	American crow	<i>Corvus brachyrhynchos</i>	200 ft	30-40 days
cliffs/trees	common raven	<i>Corvus corax</i>	200 ft*	55-63 days
tree/cavity	juniper titmouse	<i>Parus inornatus ridgwayi</i>	100 ft	31-33 days
scrub	verdin	<i>Auriparus flaviceps</i>	300 ft	35 days
woodlands	bushtit	<i>Psaltriparus minimus</i>	200 ft	26-28 days
scrub	cactus wren	<i>Campylorhynchus brunneicapillus</i>	300 ft	36-39 days
rock outcrops	rock wren	<i>Salpinctes obsoletus</i>	300 ft	26-30 days
rock outcrops	canyon wren	<i>Catherpes mexicanus</i>	300 ft	27-33 days
woodlands/cavity	Bewick's wren	<i>Thryomanes bewickii</i>	200 ft	28 days
woodlands/cavity	mountain bluebird	<i>Sialia currucoides</i>	100 ft	31-35 days
woodlands/cavity	Townsend's solitaire	<i>Myadestes townsendii</i>	100 ft	25 days

woodlands	northern mockingbird	<i>Mimus polyglottos</i>	200 ft	23-28 days
sagebrush	sage thrasher	<i>Oreoscoptes montanus</i>	300 ft	26-29 days
scrub	Bendire's thrasher	<i>Toxostoma bendirei</i>	300 ft	28 days
scrub	Crissal thrasher	<i>Toxostoma crissale</i>	300 ft	25-26 days
tree in scrub	loggerhead shrike	<i>Lanius ludovicianus</i>	300 ft	31-37 days
woodlands	gray vireo	<i>Vireo vicinior</i>	200 ft	26-28 days
Ground	Virginia's warbler	<i>Vermivora virginiae</i>	300 ft	23-26 days
woodlands/cavity sensitive	Lucy's warbler	<i>Vermivora luciae</i>	300 ft	23 days
woodlands	yellow-rumped warbler	<i>Dendroica coronate auduboni</i>	200 ft	24-27 days
Scrub	MacGillivray's warbler	<i>Opornis tolmei</i>	300 ft	19-23 days
Ground	Wilson's warbler	<i>Wilsonia pusilla</i>	300 ft	21-24 days
Scrub	yellow-breasted chat	<i>Cteria virens</i>	300 ft	19-23 days
woodlands	western tanager	<i>Piranga ludoviciana</i>	200 ft	23-24 days
Scrub	pyrrhuloxia	<i>Cardinalis sinuatus</i>	200 ft	24 days
Scrub	lazuli bunting	<i>Passerina amoena</i>	300 ft	22-27 days
Scrub	green-tailed towhee	<i>Pipilo chlorus</i>	300 ft	23-24 days
Scrub	spotted towhee	<i>Pipila maculatus</i>	300 ft	21-22?days
Scrub	Abert's towhee	<i>Pipila aberti</i>	300 ft	25-27 days
woodlands	chipping sparrow	<i>Spizella passerine</i>	200 ft	20-26 days
sagebrush	Brewer's sparrow	<i>Spizella breweri</i>	300 ft	19-22 days
sagebrush	black-chinned sparrow	<i>Spizella atrogularis</i>	300 ft	23 days
sagebrush	vesper sparrow	<i>Pooecetes gramineus</i>	300 ft	31-35 days
Scrub	lark sparrow	<i>Chondestes grammacus</i>	300 ft	20-33 days
sagebrush	black-throated sparrow	<i>Amphispiza bilineata</i>	300 ft	22 days
sagebrush	sage sparrow	<i>Amphispiza belli</i>	300 ft	22-26 days
sagebrush	western meadowlark	<i>Sturnella neglecta</i>	300 ft	37-41 days
woodlands	Brewer's blackbird	<i>Euphagus cyanocephalus</i>	200 ft	25-26 days
Alpine	black rosy-finch	<i>Leucosticte atratus</i>	200 ft	32-34 days
woodlands	Cassin's finch	<i>Carpodacus cassinii</i>	200 ft	26-28 days
woodlands	red crossbill	<i>Loxia curvirostra</i>	200 ft	30-38 days
woodlands	lesser goldfinch	<i>Cardeulis psaltria</i>	200 ft	33 days
woodlands	evening grosbeak	<i>Coccothraustes vespertinus</i>	200 ft	25-28 days
ledge or cavity	House finch	<i>Carpodacus mexicanus</i>	100 ft	23-33 days

* = nest may be removed with FWS depredation permit

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Appendix 4

Ely District Sensitive Species with the Potential to Occur in the Project Area

APPENDIX 4
ELY DISTRICT SENSITIVE SPECIES
WITH THE POTENTIAL TO OCCUR IN THE PROJECT AREA

Species	Potential to Occur (Yes or No)
Plants	
<i>Arctomecon merriamii</i> White bearpoppy	No
<i>Asclepias eastwoodiana</i> Eastwood milkweed	Yes
<i>Astragalus calycosus</i> var. <i>monophyllidius</i> Torrey milkvetch	Yes
<i>Astragalus ensiformis</i> var. <i>gracilior</i> Veyo milkvetch	Yes
<i>Astragalus eurylobus</i> Needle Mountains milkvetch	No
<i>Astragalus geyeri</i> var. <i>triquetrus</i> Threecorner milkvetch	No
<i>Astragalus lentiginosus</i> var. <i>stramineus</i> Straw milkvetch	No
<i>Astragalus oophorus</i> var. <i>lonchocalyx</i> Long-calyx eggvetch	No
<i>Astragalus uncialis</i> Currant milkvetch	No
<i>Botrychium crenulatum</i> Dainty moonwort	No
<i>Castilleja salsuginosa</i> Monte Neva paintbrush	No
<i>Cymopterus basalticus</i> Intermountain wavewing	Yes
<i>Epilobium nevadense</i> Nevada willowherb	No
<i>Ericameria cervina</i> Antelope Canyon goldenbush	No
<i>Erigeron ovinus</i> Sheep fleabane	No
<i>Eriogonum corymbosum</i> var. <i>nilesii</i> Las Vegas buckwheat	No
<i>Eriogonum microthecum</i> var. <i>phoeniceum</i> (<i>Eriogonum microthecum</i> var. <i>arceuthinum</i>) Scarlet buckwheat	No
<i>Eriogonum pharnaceoides</i> var. <i>cervinum</i> Deer Lodge buckwheat	No
<i>Eriogonum viscidulum</i> Sticky buckwheat	No
<i>Frasera gypsicola</i> Sunnyside green gentian	No
<i>Grusonia pulchella</i> Sand cholla	No
<i>Ivesia arizonica</i> var. <i>saxosa</i> Rock purpusia	No
<i>Jamesia tetrapetala</i> Waxflower	No
<i>Lewisia maquirei</i> Maquire's bitterroot	No

Species	Potential to Occur (Yes or No)
<i>Mentzelia argillicola</i> Pioche blazingstar	No
<i>Mentzelia tiehmii</i> Tiehm blazingstar	No
<i>Penstemon concinnus</i> Tunnel Springs beardtongue	Yes
<i>Penstemon leiophyllus</i> var. <i>francisci-pennellii</i> Pennell beardtongue	No
<i>Phacelia parishii</i> Parish phacelia	No
<i>Sclerocactus blainei</i> Blaine pincushion	No
<i>Sclerocactus pubispinus</i> Great Basin fishhook cactus	Yes
<i>Sclerocactus schlesseri</i> Schlesser pincushion	No
<i>Silene nachlingerae</i> Nachlinger catchfly	No
<i>Sisyrinchium radicatum</i> St. George blue-eyed grass	No
<i>Sphaeralcea caespitosa</i> var. <i>williamsiae</i> Railroad Valley globemallow	Yes
<i>Spiranthes diluvialis</i> Ute ladies' tresses	No
<i>Trifolium andinum</i> var. <i>podocephalum</i> Currant Summit clover	Yes
<i>Viola lithion</i> Rock violet	No
Amphibians	
<i>Rana onca</i> Relict leopard frog	No
<i>Rana pipiens</i> Northern leopard frog	No
Birds	
<i>Accipiter gentilis</i> Northern goshawk	No
<i>Aquila chrysaetos</i> Golden eagle	Yes
<i>Athene cunicularia hypugaea</i> Western burrowing owl	No
<i>Buteo regalis</i> Ferruginous hawk	Yes
<i>Buteo swainsonii</i> Swainson's hawk	Yes
<i>Centrocercus urophasianus</i> Greater sage-grouse	No
<i>Charadrius alexandrinus nivosus</i> Western snowy plover	No
<i>Coccyzus americanus</i> Western yellow-billed cuckoo	No
<i>Empidonax traillii extimus</i> Southwestern willow flycatcher	No
<i>Falco peregrinus</i> Peregrine falcon	No

Species	Potential to Occur (Yes or No)
<i>Gymnorhinus cyanocephalus</i> Pinyon jay	Yes
<i>Haliaeetus leucocephalus</i> Bald eagle	No
<i>Lanius ludovicianus</i> Loggerhead shrike	Yes
<i>Leucosticte atrata</i> Black rosy-finch	No
<i>Melanerpes lewis</i> Lewis' woodpecker	No
<i>Oreoscoptes montanus</i> Sage thrasher	No
<i>Spizella breweri</i> Brewer's sparrow	No
<i>Toxostoma bendirei</i> Bendire's thrasher	No
<i>Toxostoma lecontei</i> Le Conte's thrasher	No
Mammals	
<i>Antrozous pallidus</i> Pallid bat	Yes
<i>Brachylagus idahoensis</i> Pygmy rabbit	No
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	No
<i>Eptesicus fuscus</i> Big brown bat	Yes
<i>Euderma maculate</i> Spotted bat	Yes
<i>Eumops perotis californicus</i> Greater western mastiff bat	No
<i>Lasionycteris noctivagans</i> Silver-haired bat	No
<i>Lasiurus blossevillii</i> Western red bat	No
<i>Lasiurus cinereus</i> Hoary bat	Yes
<i>Microdipodops megacephalus</i> Dark kangaroo mouse	No
<i>Microdipodops pallidus</i> Pale kangaroo mouse	No
<i>Microtus montanus focosus</i> Pahranagat Valley montane vole	No
<i>Myotis californicus</i> California myotis	Yes
<i>Myotis ciliolabrum</i> Western small-footed myotis	Yes
<i>Myotis evotis</i> Long-eared myotis	Yes
<i>Myotis lucifugus</i> Little brown myotis	Yes

Species	Potential to Occur (Yes or No)
<i>Myotis thysanodes</i> Fringed myotis	Yes
<i>Myotis volans</i> Long-legged myotis	Yes
<i>Myotis yumanensis</i> Yuma myotis	No
<i>Ochotona princeps</i> American pika	No
<i>Ovis canadensis</i> Bighorn sheep	No
<i>Pipistrellus hesperus</i> Western pipistrelle	No
<i>Tadarida brasiliensis</i> Brazilian free-tailed bat	No
Fish	
<i>Catostomus clarkia</i> ssp. 2 Meadow Valley Wash desert sucker	No
<i>Crenichthys baileyi baileyi</i> White River springfish	No
<i>Crenichthys baileyi grandis</i> Hiko White River springfish	No
<i>Crenichthys nevadae</i> Railroad Valley springfish	No
<i>Empetrichthys latos</i> Pahrump poolfish	No
<i>Gila bicolor isolata</i> Independence Valley tui chub	No
<i>Gila bicolor newarkensis</i> Newark Valley tui chub	No
<i>Gila bicolor</i> ssp. 7 Railroad Valley tui chub	No
<i>Gila elegans</i> Bonytail chub	No
<i>Gila robusta jordani</i> Pahranagat roundtail chub	No
<i>Gila seminuda</i> pop. 2 Virgin River chub (Muddy River pop.)	No
<i>Lepidomeda albivalis</i> White River spinedace	No
<i>Lepidomeda mollispinis pratensis</i> Big Spring spinedace	No
<i>Moapa coriacea</i> Moapa dace	No
<i>Oncorhynchus clarkia</i> Utah Bonneville cutthroat trout	No
<i>Relictus solitarius</i> Relict dace	No
<i>Rhinichthys osculus</i> spp 11 Meadow Valley speckled dace	No
<i>Rhinichthys osculus</i> spp 7 White River speckled dace	No

Species	Potential to Occur (Yes or No)
<i>Rhinichthys osculus velifer</i> Pahrnagat speckled dace	No
Reptiles	
<i>Gopherus agassizii</i> Desert tortoise	No
<i>Heloderma suspectum cinctum</i> Banded Gila monster	No
<i>Lampropeltis pyromelana</i> Sonoran mountain kingsnake	No
<i>Sauromalus ater</i> Chuckwalla	No
Insects	
<i>Euphilotes bernardino minuta</i> Baking powder flat blue	No
<i>Hesperia uncas fulvapalla</i> Railroad Valley skipper	No
<i>Hesperia uncas grandiosa</i> White River Valley skipper	No
<i>Pelocoris shoshone Shoshone</i> Pahrnagat naucorid bug	No
<i>Phyciodes pascoensis arenacolor</i> Steptoe Valley crescent spot	No
Molluscs	
<i>Pyrgulopsis aloba</i> Duckwater pyrg	No
<i>Pyrgulopsis anatina</i> Southern duckwater pyrg	No
<i>Pyrgulopsis cruciglans</i> Tranverse gland pyrg	No
<i>Pyrgulopsis landyei</i> Landyes pyrg	No
<i>Pyrgulopsis merriami</i> Pahrnagat pebblesnail	No
<i>Pyrgulopsis orbiculata</i> Sub-globose Steptoe Ranch pyrg	No
<i>Pyrgulopsis peculiaris</i> Bifid duct pyrg	No
<i>Pyrgulopsis plamulata</i> Flat-topped Steptoe pyrg	No
<i>Pyrgulopsis serrata</i> Northern Steptoe pyrg	No
<i>Pyrgulopsis sulcata</i> Southern Steptoe pyrg	No
<i>Pyrgulopsis umbilicata</i> Southern Soldier Meadow pyrg	No
<i>Pyrgulopsis villacampae</i> Duckwater warm springs pyrg	No
<i>Tryonia clathrata</i> Grated tryonia	No