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

Preliminary Environmental Assessment
DOI-BLM-NV-L020-2010-007-EA
September 2010

White Pine County Silver State Trail

Location:
White Pine County, Nevada

U.S. Department of the Interior
Bureau of Land Management
Ely District Office
Phone: (775) 289-1800
Fax: (775) 289-1910

This page intentionally left blank.

CONTENTS

Appendix

Figures

Tables

ACRONYMS AND ABBREVIATIONS

AML	Appropriate Management Level
amsl	above mean sea level
ARPA	Archaeological Resources Protection Act
ATV	all-terrain vehicle
AUM	Animal Unit Month
BLM	Bureau of Land Management
BMP	best management practice
Census Bureau	U.S. Census Bureau
CFR	Code of Federal Regulations
County	White Pine County
EA	Environmental Assessment
ERMA	Extensive Recreation Management Area
ESA	Endangered Species Act
FEIS	Final Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act
FONSI	Finding of No Significant Impact
Forest Service	U.S. Forest Service
GIS	geographic information system
HMA	Herd Management Area
MBTA	Migratory Bird Treaty Act
NDOW	Nevada Department of Wildlife
NDSP	Nevada Division Of State Parks
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NNHP	Nevada Natural Heritage Program
NRHP	National Register of Historic Places
OHV	off-highway vehicle
PL	Public Law
PLUAC	Public Land Users Advisory Committee
RFA	Reasonably Foreseeable Action
RMP/FEIS	Resource Management Plan/Final Environmental Impact Statement
ROD	Record Of Decision
ROW	right-of-way
RV	recreational vehicle
SHPO	State Historic Preservation Office
SNWA	Southern Nevada Water Association
SRMA	Special Recreation Management Area
SST	Silver State Off-Highway Vehicle Trail

SWCA	SWCA Environmental Consultants
Trail	Silver State Off-Highway Vehicle Trail
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
White Pine Act	White Pine County Conservation, Recreation and Development Act

1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze the Bureau of Land Management's (BLM's) proposal to designate a Silver State Off-Highway Vehicle (OHV) Trail (SST) on existing roads and trails through White Pine County (or County), Nevada. The EA is a site-specific analysis of potential impacts that could result from implementation of the alternatives. The EA will assist the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA).

This document is tiered to, and incorporates by reference, the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (RMP/FEIS) and Record of Decision (ROD) (BLM 2007, 2008a). Should a determination be made that implementation of an alternative would not result in significant environmental impacts or significant environmental impacts beyond those already disclosed in the RMP/FEIS, a Finding of No Significant Impact (FONSI) would be prepared to document that determination and a Decision Record issued that provides a rationale for approving the selected alternative.

1.1 Background

The Silver State OHV Trail was first designated by Congress through the Lincoln County Conservation, Recreation and Development Act of 2004. In total, 267 miles of existing roads and trails were included as part of the SST. The trail forms a long-distance loop through the center of Lincoln County, with connections to the communities of Caliente and Pioche, ending just south of the White Pine County line. A study was not conducted for the Lincoln County Trail; however, in 2007 the BLM completed a management plan that includes measures to evaluate and manage appropriate levels of use to minimize environmental impacts and prevent impacts to cultural resources (BLM 2007). In 2006, the White Pine County Conservation, Recreation and Development Act (White Pine Act) directed the BLM Ely District Office to prepare a study of existing routes for the Silver State OHV Trail in White Pine County. If no significant impacts are identified during the study, the preferred route of the Trail would be designated by the Secretary of the Interior.

The White Pine Act requires the BLM to take thoroughly consider the potential impacts to natural and cultural resources in White Pine County before identifying any additions to the SST. The SST would only be designated if the BLM determines there would be no adverse significant impacts to wildlife, natural or cultural resources, or traditional uses such as hunting and ranching. Additionally, any preferred route for the White Pine Trail must be an extension of the Lincoln County Trail and run in a north-south direction. Continuation of the SST is part of a larger vision of OHV recreation in eastern Nevada.

1.2 Purpose of Action

The BLM's purpose for determining the feasibility of a White Pine County Silver State OHV Trail is to comply with requirements of the White Pine Act, which calls for a study of existing routes for the Silver State OHV Trail in White Pine County.

1.3 Need for Action

As described in the White Pine Act, there is a need to ensure that the current and future conditions of natural and cultural resources and traditional land uses in White Pine County are not significantly impacted by designation of the White Pine County Silver State OHV Trail. The BLM will decide whether

to recommend a preferred route for designation as the SST through White Pine County, and if so, under what monitoring and mitigation requirements.

1.4 Scoping, Public Involvement, and Issues

At an August 2008 interdisciplinary internal project scoping meeting, the following preliminary issues of concern were identified as warranting further review to determine whether they require detailed analysis:

- Concerns were expressed that air quality would be impacted by fugitive dust from increased OHV use on existing roads and trails.
    - Addressed in Table 3.1-1.
- Concerns were expressed that impacts to wildlife and wildlife habitat, specifically sage-grouse and big-game animals such as elk and mule deer, would be impacted by designating an OHV trail on existing roads and trails.
    - Addressed in Sections 4.6 and 4.7.
- Concerns were expressed that designating an OHV trail would affect both historic and prehistoric cultural resources.
    - Addressed in Section 4.2.
- Concerns were expressed that designation of an OHV trail would impact various traditional uses, including hunting, ranching, historic sheep trails, and pine nut collecting.
    - Addressed in Sections 4.10, 4.13, and 4.15.
- Concerns were expressed that increased recreation use of existing roads and trails would contribute to the spread of noxious and invasive species.
    - Addressed in section 4.4.

Resource specialists from the BLM Ely District Office and Egan Field Office participated in the project scoping meeting. In addition to the above issues, there are several supplemental authorities that have provided guidance on other issues and resources necessary for analysis. These are further described in Chapter 3, Affected Environment.

During the week of March 10, 2009, the BLM presented background information and information on public involvement for the SST project to the White Pine County Commission, Public Land Users Advisory Committee (PLUAC), Ely City Council, and White Pine County Coordinated Resource Management team. Following those presentations, the BLM held a public scoping period from March 16 to April 17, 2009, including one public scoping meeting held at the BLM Ely District Office on March 25, 2009. Some of the issues and concerns identified during the public scoping period included the following:

- Concerns were expressed that the best available science and information be used to ensure adequate analysis of impacts.
    - The analysis considered best available resources, which are referenced and listed in the literature cited section.
- Concerns were expressed that the BLM should maximize new, sustainable trails.
    - The White Pine Act limited the BLM to consideration of existing roads and trails only. There would be no new trail construction as part of the alternatives.
- Concerns were expressed that existing trails should remain open.

    - The BLM is not closing existing trails as part of any of the alternatives.
- There is a desire to incorporate proactive OHV management as part of the alternatives.
    - Resource conservation measures in Section 2.2.1 include development of an OHV management plan that incorporates monitoring and mitigation measures described for this alternative The management plan would also include a complete list of inventories that would be performed prior to any future ground-disturbing activity.
- It was expressed that the BLM needs to plan and manage for anticipated increased use.
    - See concern above.
- There is a desire for the alternatives to include consideration of the 2004 citizen-proposed SST route in the analysis.
    - Alternative C was based on the 2004 citizen-proposed route.

A full description of all comments received is available in the Silver State Trail System Environmental Assessment Scoping Report (SWCA Environmental Consultants [SWCA] 2009).

This page intentionally left blank.

2.0 DESCRIPTION OF ALTERNATIVES

The purpose of this chapter is to formulate a range of alternatives that respond to the purpose and need and issues identified in Chapter 1. This chapter describes and compares the alternatives considered for the EA. It includes a description of each alternative considered and presents resource conservation measures to reduce some of the potential effects. The BLM has not identified a preferred alternative at this time.

The BLM's approach to developing alternatives for the SST was twofold. First, those issues and resources of concern identified in the White Pine Act and during BLM internal scoping, stakeholder presentations, and public scoping period were considered. Second, the potential recreation quality of existing roads and trails based on existing geographic information system (GIS) data provided by the BLM, aerial imagery, and public scoping were considered. In some cases, to complete the alternative routes, imagery from the 2006 National Agriculture Imagery Program was used to identify road and trail locations where no GIS data were available.

Alternative A was developed to provide more diverse, high-quality motorized recreation opportunities. To accomplish this, trail segments that have greater overlap with resources of concern were selected if they included more diverse topography, terrain, and vegetation. In addition, Alternative A identifies optional motorcycle and all-terrain-vehicle (ATV) trail connectors in addition to the primary full-sized vehicle route.

Alternative B was developed to provide for the greatest resource avoidance. Where appropriate, trail segments outside areas of resource concern were selected despite less diversity of topography, terrain, and recreational quality. Alternative B does not cross Cave Valley or the northern reaches of the Schell Creek Range. Additionally, Alternative B does not include optional ATV- or motorcycle-width connectors.

Alternative C was developed based on the proposal made to the Nevada Congressional Delegation for the White Pine Act. That proposal was adjusted to remain on existing routes and avoid motorcycle routes. Alternative C is the only alternative that crosses Cave Valley, provides an east-west route connecting to Eureka County, and provides a link to the community of Lund.

With the exception of the No Action Alternative, each alternative meets the basic requirements outlined in the White Pine Act; using roads and trails currently in existence is an effort to extend the designated Lincoln County SST, as is connecting to existing vehicle routes in Elko County. Additionally, each alternative provides a potential connection to the city of Ely.

2.1 No Action Alternative

Under the No Action Alternative, the SST would not be designated within White Pine County. OHV use and associated impacts in White Pine County would continue under existing trends. The No Action Alternative forms the baseline against which the potential impacts of the action alternatives are compared. Thus, it includes current actions and activities within the County. The selection of the No Action Alternative would not preclude motorized recreation on designated and existing roads and trails in White Pine County as allowed under the Ely RMP/FEIS (BLM 2008a) and the U.S. Forest Service (Forest Service) Travel Management Plan (Forest Service 2009).

2.2 Alternative A

Alternative A would designate an OHV trail consisting of 208 miles of existing roads, routes, and trails across White Pine County (Figure 2.1-1). Alternative A was developed to provide more diverse, quality

motorized recreation opportunities by being located in areas of variable topography and vegetation. Alternative A would be open for motorcycles, ATVs, and full-sized vehicles. In addition, it identifies optional motorcycle and ATV connectors that would be limited to those types of vehicle travel, in addition to the primary route.

Alternative A is oriented in a generally north-south direction and does not include an east-west spur connecting to Eureka County. Alternative A would not directly connect to the northern terminus of the SST designated in Lincoln County, but it would be accessed from U.S. Route 93 at the Lincoln County line, approximately 6 miles from the Lincoln County Trail. Alternative A would go from Lake Valley around the north end of Mount Grafton and into Steptoe Valley north of Cave Valley and on toward Ely. Alternative A would stop south of Ely on U.S. 93. From the northern edge of Ely, it would travel north through Butte Valley, around the north end of Telegraph Peak, and across U.S. 93 toward the Schell Creek Range. Alternative A would terminate at the Elko County line, approximately 2.5 miles east of where U.S. 93 crosses into Elko County.

No new road and trail construction would occur. All other roads and trails that are not being considered for designation would continue to be managed according to the Ely RMP.

Over time, damage to roads, routes, and trails associated with Alternative A would occur from both natural processes and increased vehicle use. It is expected that portions of the route would require some level of maintenance on an annual basis. A management and monitoring plan would be developed consistent with the Lincoln County SST plan that would direct the management of the trail system. This plan would outline trail management objectives, including maintenance protocol, enforcement issues, user education, signing, mapping, and monitoring. Maintenance activities would include rehabilitation of user-created routes that intersect with the designated trail. The BLM would coordinate with the Forest Service, State of Nevada, and White Pine County in the development of the management and monitoring plan. In addition, resource conservation measures identified in Section 2.2.1 would be implemented to further minimize impacts.

Following designation and preparation of the management and monitoring plan, the route would be identified through the placement of fiberglass markers with appropriate trail information. SST access points would be designed to provide easy access for passenger vehicles pulling trailers and easy access to the trail itself. Maps of the SST would be provided, along with information regarding responsible land use. Any development of access points and/or trailheads identified following designation would require additional analysis under NEPA.

2.2.1 Resource Conservation Measures

- Collect baseline vehicle use data by placing road counters along the alternative route prior to installing trail markers and signs.
- Inventory the alternative route for the existence of noxious weeds and invasive non-native species prior to trail marking.
- Follow established best management practices (BMPs) from the Ely RMP/FEIS (BLM 2008a) and treat noxious weed infestations adjacent to any proposed trail segments prior to marking the segments as part of the SST.
- Use invasive plant, noxious weed, and pest awareness and prevention education techniques by all means available to increase the awareness of OHV trail users. At a minimum, information would be provided at trail access points, by patrol personnel, and on the BLM Ely District website.

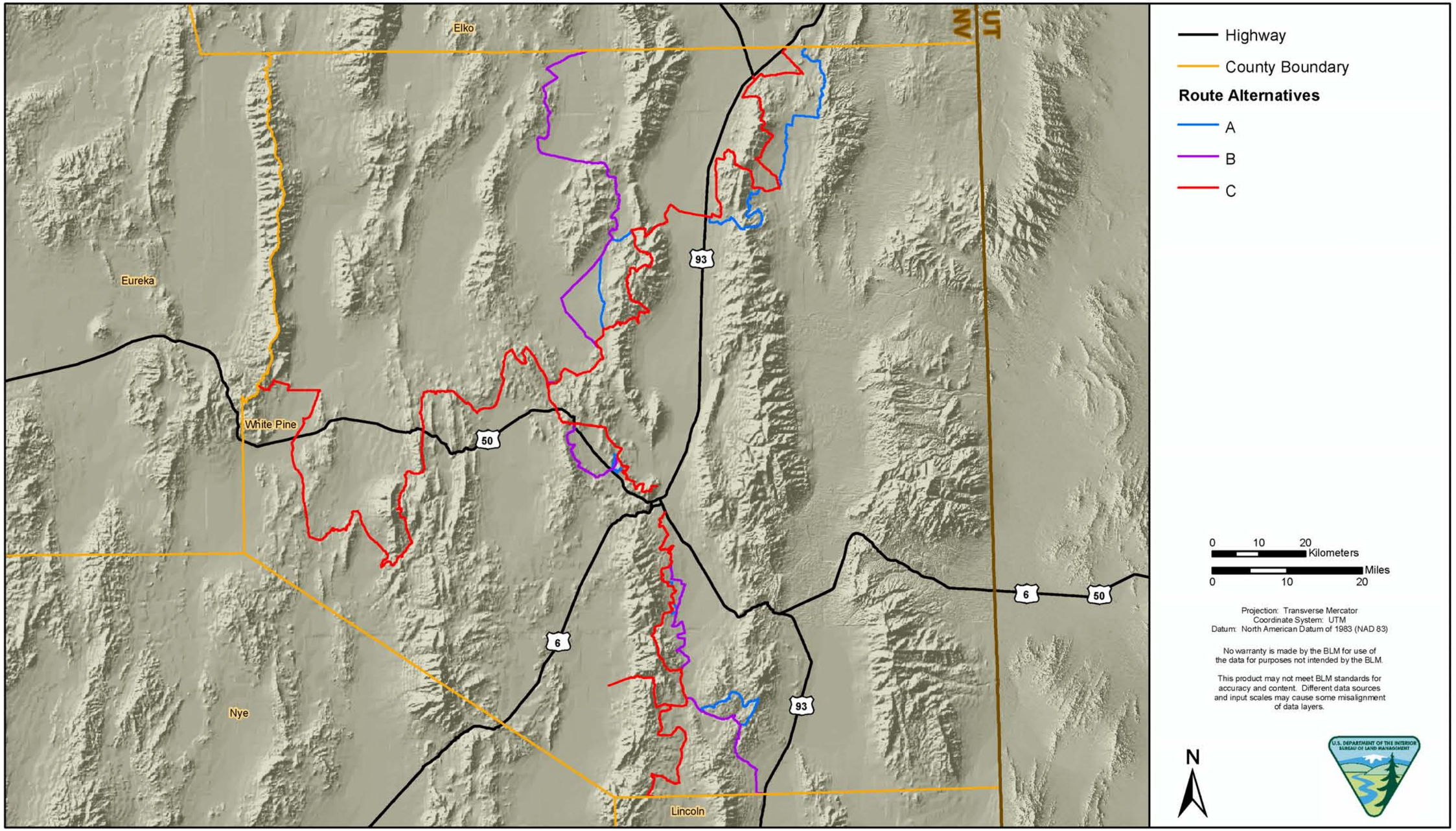

Figure 2.1-1. Silver State OHV Trail alternative routes.

This page intentionally left blank.

- Install OHV-compatible cattle guards or fence crossings at locations where the alternative route crosses fences. Information would be provided to inform users of the presence of livestock and proper multiple-use etiquette.
- Develop an OHV management plan that incorporates monitoring and mitigation measures described for this alternative, as well as from the Silver State Monitoring and Mitigation Plan. The monitoring plan would also include a complete list of inventories that would be performed prior to any future ground-disturbing activity.
- For the alternative route, follow the requirements set forth in the State Protocol Agreement between the Nevada State Historic Preservation Office (SHPO) and the Nevada BLM. All cultural resources (except those defined as categorically not eligible in the Protocol, Appendix E) would be avoided using the guidelines set forth in the Protocol, Appendix F, Section H, Roads and Trails. Marking the route with signs would not occur until SHPO concurrence is received.
- Incorporate information on land use ethics from the programs such as Right Rider and Tread Lightly into all trail access point kiosks.
- Make highway crossings at an angle of approximately 90° to the direction of traffic (in other words, in as straight a line as possible across the roadway). The crossing must be made at a place where no obstruction prevents a quick and safe crossing. The OHV must make a complete stop before entering any part of the roadway, and the operator shall yield the right-of-way (ROW) to all oncoming traffic.
- Install information kiosks where the alternative route enters a Herd Management Area (HMA) to educate trail users on wild horses in Nevada.
- If necessary, construct access roads and fords that cross stream channels to BLM road standards.

2.3 Action Alternative B

Routes for Alternative B were selected to avoid resources of concern to the greatest degree possible. Alternative B would designate an OHV trail consisting of 176 miles of existing roads, routes, and trails across White Pine County (see Figure 2.1-1). Just as under Alternative A, no new road and trail construction would occur. Other roads and trails through the project area that are not being considered for designation under Alternative B would remain open unless determined otherwise through future travel management planning.

Although Alternative B would be open for motorcycles, ATVs, and full-sized vehicles, it is made up of full-sized vehicle routes and does not include optional ATV- or motorcycle-width connector trails. Alternative B is oriented in a generally north-south direction and does not include an east-west spur connecting to Eureka County. Alternative B would not directly connect to the northern terminus of the SST as designated in Lincoln County but would be accessed from U.S. 93 at the Lincoln County line, approximately 6 miles from the Lincoln County Trail, just as under Alternative A. Alternative B avoids Cave Valley and the northern reaches of the Schell Creek Range. Alternative B would go from Lake Valley around the northern extent of Mount Grafton and into Steptoe Valley north of Cave Valley and on toward Ely. Alternative B would stop south of Ely on U.S. 93. From Ely, it would travel north through Butte Valley, along the west side of Telegraph Peak. Alternative B would terminate at the Elko County line, west of the Cherry Creek Range, 25 miles west of where U.S. 93 crosses into Elko County.

Routes designated as part of Alternative B would be identified through the placement of fiberglass markers with appropriate trail information. Maps of the SST would be provided, as well as information regarding responsible land use. Over time, damage to roads, routes, and trails occurs from natural processes and vehicle use. It is expected that portions of the alternative route would require some level of maintenance on an annual basis. A management and monitoring plan would be developed consistent with

the Lincoln County SST plan that would direct the management of the trail system. This plan would outline trail management objectives, including maintenance protocol, enforcement issues, user education, signing, mapping, and monitoring. Maintenance activities would include rehabilitation of user-created routes that intersect with the designated SST.

Additionally, Alternative B includes implementation of the resource conservation measures identified under Alternative A.

2.4 Action Alternative C

Alternative C was developed based on the 2004 proposal submitted by the public to the Nevada Congressional Delegation for inclusion in the White Pine Act. Adjustments to the original proposal were made in order to remain on existing roads and trails and avoid single-track motorcycle routes. Alternative C would designate an OHV trail consisting of 354 miles of existing roads, routes, and trails across White Pine County (see Figure 2.1-1). Just as under Alternatives A and B, no new road and trail construction would occur. Other roads and trails through the project area that are not being considered for designation under Alternative C would remain open unless determined otherwise through future travel management planning.

Alternative C is made up of full-sized vehicle routes and does not include optional ATV- or motorcycle-width connector trails. Alternative C is oriented in a generally north-south direction and includes an east-west spur connecting to Eureka County. Alternative C would provide the closest connection to the northern terminus of the SST as designated in Lincoln County and is the only alternative that crosses Cave Valley and Telegraph Peak, includes an east-west route connecting to Eureka County, and provides a link to the community of Lund. Alternative C also includes the greatest mileage of Forest Service–designated roads and trails as part of its route. Alternative C would stop south of Ely on U.S. 93. From Ely, it would travel north through Butte Valley, over Telegraph Peak, and then cross U.S. 93 once again toward the Schell Creek Range. Alternative C would terminate where U.S. 93 crosses into Elko County. The east-west spur departs the main route northwest of Ely after crossing the Egan range. Alternative C would terminate at the Eureka County Line approximately 8 miles north of where U.S. 50 crosses into Eureka County.

Just as described under Alternative A, routes designated as part of Alternative C would be identified through the placement of fiberglass markers with appropriate trail information. Maps of the SST would be provided, along with information regarding responsible land use. Over time, damage to roads, routes, and trails occurs from natural processes and vehicle use. It is expected that portions of the alternative route would require some level of maintenance on an annual basis. A management and monitoring plan would be developed consistent with the Lincoln County SST plan that would direct the management of the trail system. This plan would outline trail management objectives, including maintenance protocol, enforcement issues, user education, signing, mapping, and monitoring. Maintenance activities would include rehabilitation of user-created routes that intersect with the designated SST.

Additionally, Alternative C includes implementation of the resource conservation measures identified under Alternative A.

2.5 Alternatives Considered but Eliminated from Detailed Analysis

During the initial identification of potential routes, all existing roads and trails within White Pine County were considered for analysis. Through a comparison of those potential routes with known avoidance areas

and other resources of concern, various configurations were considered and determined to be infeasible because of resource concerns, land ownership, and lack of connectivity.

2.6 Conformance with BLM Land Use Plan

The proposed project would occur on land administered by the BLM Ely District and the Forest Service Ely Ranger District. The proposed project is in conformance with the Ely RMP/FEIS and ROD (BLM 2007, 2008a:81), which states that the BLM will "conduct a study of potential routes for the SST in White Pine County in accordance with Subtitle E of the White Pine County Conservation, Recreation and Development Act of 2006." Additionally, the proposed project is in conformance with the following BLM goals and objectives for recreation:

- "Conduct an assessment of current and future off-highway vehicle demand, and plan for and balance the demand for this use with other multiple uses/users" (BLM 2008a:79).
- "Develop sustainable off-highway vehicle use areas to meet current and future demands, especially for urban interface areas" (BLM 2008a:79).

2.7 Relationship to Statutes, Regulations, and Other Plans

The proposed project is consistent with the White Pine County Conservation, Recreation and Development Act of 2006, which states, "The Secretary shall complete a study of routes (with emphasis on roads and trails in existence on the date of enactment of this Act) in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) for the Silver State Off-Highway Vehicle Trail (referred to in this section as the 'Trail')."

The Ely Ranger District Travel Management Project EA refers to the SST, stating that

> at this time, it is unclear where the trail would cross NFS lands. The trail may cross NFS lands near Schellbourne, on the north end of the Schell Range, through the northeast edge of Ward Mountain, and across the north end of the White Pine Range. When the BLM makes their decision regarding the location of the Silver State Trail, the Forest would change the motor vehicle use map to agree with the final route. (Forest Service 2009:14)

The proposed project follows the Resource Advisory Council's "OHV Administration Guidelines for Nevada Public Lands," which provides guidance for On the Ground Management, Planning, and Education Guidelines (Resource Advisory Council 2007).

The proposed project is also consistent with the terms, conditions, and decisions of the White Pine County Public Lands Policy Plan as adopted by the White Pine County Board of County Commissioners (PLUAC 2007). Specifically, the proposed project is consistent with Policy 13-3:

> Promote "Eco-tour" and responsible off highway vehicle businesses in the County. The themes of the tours could vary from wildlife viewing, to visiting hot springs, historical sites, or to learn to ride motorcycles and drive four wheel vehicles. Ensure that all governmental agencies work in a cooperative effort to encourage such uses while protecting the resources from damage. OHV users are encouraged to visit and patronize county communities. (PLUAC 2007:32)

This page intentionally left blank.

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

This chapter presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) occurring along the alternative routes. The alternative routes are located on existing roads and trails primarily on BLM- and Forest Service–managed lands entirely within White Pine County, Nevada. While many issues and concerns were identified during scoping, not all of the issues raised warrant detailed analysis. Issues raised through scoping are analyzed if

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

Based on consideration of the issues raised during BLM interdisciplinary meetings and public scoping for the proposed SST designation, in addition to guidance from NEPA and related statutes, the following supplemental authorities were considered in the evaluation of the alternatives (Table 3.1-1). Consideration of these items occurs in order to ensure compliance with laws, statutes, and executive orders that impose certain requirements on all federal actions. In addition to the supplemental authorities identified in Table 3.1-1, other resources identified in here are relevant to the management of public lands in general and to the BLM Ely District in particular and include vegetation, rangeland and livestock grazing, land use and ownership, transportation/access, recreation, and socioeconomics.

Table 3.1-1. Supplemental Authorities and Other Relevant Resources

Supplemental Authority*	Not Present†	Present/Not Affected	Present/May Be Affected‡	Rationale
Air Quality		√		There would be short-term, intermittent increased particulate matter from increased road and trail use. The alternative routes are not within an area of non-attainment or areas where total suspended particulates or other criteria pollutants exceed State of Nevada air quality standards.
Area of Critical Environmental Concern	√			Resource is not present. All alternative routes were identified to avoid Areas of Critical Environmental Concern.
Cultural/Historical			√	Impacts assessed in EA.
Paleontological Resources	√			No known resources are present.
Environmental Justice	√			No minority or low-income groups would be disproportionately affected by health or environmental effects.
Farmlands, Prime or Unique		√		The proposed project does not include any new road or trail construction. There would be no new disturbance to prime or unique farmlands.
Noxious Weeds/Invasive Non-native Species			√	Impacts assessed in EA.

Table 3.1-1. Supplemental Authorities and Other Relevant Resources (Continued)

Supplemental Authority*	Not Present†	Present/Not Affected	Present/May Be Affected‡	Rationale
Native American Religious Concerns		√		Project was presented at the Tribal Coordination Meeting on March 19, 2009. The Ely Shoshone Tribe commented (verbally, no written comment was received) that they would like a regional ethnographic study to be completed. Following additional consultation, on February 12, 2010, the BLM Native American Coordinator confirmed that there are no Native American traditional religious or cultural sites of importance that have been identified within the project area.
Floodplains		√		The proposed project does not include any new road or trail construction. Because no new surface disturbance is being proposed under any of the alternatives, there would be no direct impact to floodplains.
Riparian/Wetlands			√	Impacts assessed in EA.
Threatened, Endangered, and Special-status Species			√	Impacts assessed in EA.
Migratory Birds			√	Impacts assessed in EA.
Waste-Hazardous/Solid		√		Hazardous and solid wastes may exist in the form of illegal dumps and spills and is a concern on public lands. No dumping signs would be posted along routes and kiosks. Roads and trails would be monitored for dumping.
Water Quality		√		The proposed project does not include any new road or trail construction. Because no new surface disturbance is being proposed under any of the alternatives, there would be no direct impact to water quality.
Wild and Scenic Rivers	√			Resource is not present.
Wilderness (Study Area)		√		Wilderness and Wilderness Study Areas are closed to motorized travel. Alternative routes were identified to avoid all Wilderness and Wilderness Study Areas.
Forests and Rangelands (Healthy Forest Restoration Act only)	√			Project does not meet Healthy Forest Restoration Act criteria.
Human Health and Safety			√	Impacts assessed in EA.
Visual Resources		√		Because there would be no new construction—and no changes to form, line, and texture of the existing landscape—the project would not result in any new contrasts to the characteristic landscape.
Vegetation			√	Impacts assessed in the EA.
Wildlife			√	Impacts assessed in the EA.
Rangeland and Livestock Grazing			√	Impacts assessed in the EA.
Wild Horses			√	Impacts assessed in the EA.
Land Use and Ownership			√	Impacts assessed in the EA.
Transportation/Access			√	Impacts assessed in the EA.
Recreation			√	Impacts assessed in the EA.
Socioeconomics			√	Impacts assessed in the EA.

* See H-1790-1 (BLM 2008b), Appendix 1, Supplemental Authorities to Be Considered.

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

‡ Supplemental Authorities determined to be Present/May Be Affected must be carried forward for analysis in the document.

3.2 Cultural Resources

3.2.1 Overview

Management of cultural resources is guided by two laws: the National Historic Preservation Act (NHPA) of 1966, as amended, and the Archaeological Resources Protection Act (ARPA) of 1979. Section 106 of the NHPA, as amended in 2000, requires government agencies to take into account the effects of their actions on properties listed or eligible for listing in the National Register of Historic Places (NRHP). The NHPA is the overarching law concerning the management of cultural resources and created the framework within which cultural resources are managed in the United States. Section 106 of the NHPA defines the process for the identification of a cultural resource and the process for determining whether a project would adversely affect the resource. ARPA requires protection of archaeological resources, which are those sites and objects 100 years or more in age.

Cultural resources that meet the eligibility criteria for listing in the NRHP are considered "significant" resources and must be taken into consideration during the planning of federal projects. Federal agencies are also required to consider the effects of their actions on sites, areas, and other resources (e.g., plants) that are of religious significance to Native Americans as established under the American Indian Religious Freedom Act (Public Law [PL] 95-341). Native American graves and burial grounds are protected by the Native American Graves Protection and Repatriation Act (PL 101-601).

Because no new ground disturbance is being proposed for this project, there would be no direct effect on NRHP-eligible sites; therefore, a Class III intensive cultural resource inventory was not required. However, a wide variety of cultural resource sites have been documented throughout White Pine County (BLM 2007). The types of sites that have been recorded include temporary-use campsites, rock art sites, artifact scatters, rock shelters, historic mining camps, staging stations, trails, and structures. It is assumed that lands occurring along the alternative routes are reflective of the diverse array of prehistoric and historic resources known to occur throughout the County.

3.2.2 Heritage Special Designations

In addition to the diversity of cultural resource sites known to occur, there are several heritage areas in the County with special designations. The Great Basin National Heritage Area encompasses White Pine County and Millard County, Utah, and contains a variety of archaeological, historical, cultural, natural, and scenic features that are representative of the Great Basin. This designation does not provide for any authority to regulate land uses, but it does promote heritage tourism and visitation to the representative sites throughout the area.

The Pony Express National Historic Trail is 1,900 miles of the historic trail used to carry mail between St. Joseph, Missouri, and Sacramento, California, for just over 19 months between 1860 and 1861. The Pony Express Trail crosses east-west through northern White Pine County, near the Elko County line. The Pony Express Trail through White Pine County is signed with fiberglass posts and is currently open to motorized travel across White Pine County.

Lincoln Highway was the first paved auto route across the United States and was dedicated in 1913. The route of the Lincoln Highway crosses into White Pine County in the northeast corner of the County, just west of Ibapah, Utah. It follows portions of U.S. 93 south to Ely; from Ely, it follows U.S. 50 west. Lincoln Highway through White Pine County is signed with concrete markers and fiberglass posts and is currently open to motorized travel across White Pine County.

The Historic Ward Mining District is located on the east side of the Egan Range, approximately 17 miles south of Ely. Silver was discovered in Ward Gulch in 1872, and by 1876 the town of Ward was the largest in White Pine County, with a population of 1,500. The Martin White Company, out of San Francisco, controlled most of the mines in the Historic Ward Mining District at that time. Today, remains of the historic town site of Ward consist of two smelters and a 20-stamp mill with three furnaces connected to the mines by a tramway. In addition to the historic town site, the Ward Charcoal Ovens State Park is located 1 mile south of Ward. The ovens were constructed in order to supply charcoal for the two silver smelters located at Ward. The six beehive-shaped charcoal ovens remain an example of stone architecture and masonry craftsmanship. These areas are both considered tourism destinations in White Pine County. Although visitation numbers are not available for the Ward town site, there were 1,687 visitors to the Ward Charcoal Ovens in 2009 (Nevada Division of State Parks [NDSP] 2010).

3.3 Vegetation

Vegetation data obtained from South West Regional Gap Analysis Project (SWReGAP) (U.S. Geological Survey [USGS] 2004) indicate that 16 vegetation types are present in different combinations along the three alternative routes (Table 3.3-1). Vegetation is typical of mid-elevation areas in the Central Basin and Range ecoregion and is dominated by Sagebrush Shrubland and, to a lesser extent, Pinyon-Juniper Woodland (BLM 2007; USGS 2004).

Table 3.3-1. Vegetation Types along Alternative Routes

Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland
Great Basin Pinyon-Juniper Woodland
Great Basin Xeric Mixed Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Shrubland
Inter-Mountain Basins Big Sagebrush Steppe
Inter-Mountain Basins Greasewood Flat
Inter-Mountain Basins Mixed Salt Desert Scrub
Inter-Mountain Basins Mixed Salt Desert Scrub
Inter-Mountain Basins Montane Sagebrush Steppe
Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland
Inter-Mountain Basins Semi-Desert Grassland
Inter-Mountain Basins Semi-Desert Shrub Steppe
Invasive Annual and Biennial Forbland
Invasive Perennial Grassland
Recently Burned
Rocky Mountain Aspen Forest and Woodland

Source: USGS (2004).

No federally protected plant species are known to occur within White Pine County (U.S. Fish and Wildlife Service [USFWS] 2010b). GIS data available through the Nevada Natural Heritage Program (NNHP) show that several sensitive plant species are known to occur within White Pine County (NNHP 2008); however, none have been identified along the alternative routes.

3.4 Noxious and Invasive Non-native Weeds

Noxious weed species are designated as Category A, B, or C, based on determinations made by the State Noxious Weed Coordinator. These categories indicate both a weed's degree of establishment within Nevada and potential for eradication and a land manager's legal obligation for treatment. Category A weeds are generally not well established in Nevada, and successful treatment options exist for these species. Generally, Category A weed species are required to be treated. Category B weed species may be abundant in localized areas but generally are not well established in Nevada. Reasonable treatment options exist for these species, and Category B weed species are generally required to be treated where new or small populations are identified. Category C weed species are generally established and widespread in many counties of the state, and treatment is done at the discretion of state quarantine officer. The authority for treatment of noxious weeds is provided by Nevada Revised Statutes 555.150–180.

Noxious and invasive non-native weed species are common along major roadways and in disturbed areas throughout White Pine County (Appendix A). BLM noxious weed inventory data indicate that nine species of noxious and invasive species have been recorded along existing roads associated with the alternative routes (Table 3.4-1).

Table 3.4-1. Noxious and Invasive Plant Species Known to Occur along the Alternative Routes

Common Name	Scientific Name	Weed Category	Alternative Route
hoary cress	*Lepidium draba*	C	All
black henbane	*Hyoscyamus niger*	A	All
scotch thistle	*Onopordum acanthium*	B	A, C
bull thistle	*Cirsium vulgare*	Invasive	All
musk thistle	*Carduus nutans*	B	All
Russian knapweed	*Acroptilon repens*	B	B, C
spotted knapweed	*Centaurea masculosa*	A	All
Canada thistle	*Cirsium arvense*	C	A, C
perennial pepperweed	*Lepidium latifolium*	C	A

Source: BLM (2007) Weed Points shapefile.

In addition to the noxious and invasive species listed in Table 3.4-1, the most common invasive species along existing routes associated with the alternatives are cheatgrass (*Bromus tectorum*) and halogeton (*Halogeton glomeratus*).

3.5 Wetland Riparian Zones

Riparian and wetland areas are the most productive and valuable resources found on public land in the arid West. Riparian areas are distinguished by vegetation and are defined by a band of green vegetation immediately adjacent to a source of water. Riparian areas are commonly classified into two categories: lotic riparian areas are those associated with flowing waters (streams and rivers), and lentic riparian areas are related to areas of standing water or moisture (meadows, seeps, or shoreline), also referred to as wetlands. Wetlands are further defined as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support vegetation typically adapted to saturated soils. Riparian-wetland systems are especially important in arid regions, where they provide the primary

source of moisture for plants and wildlife. Riparian-wetland areas are dependent on stable stream banks and floodplains being vegetated and relatively undisturbed.

BLM policy and regulations (43 Code of Federal Regulations [CFR] 4180) require that all lentic and lotic systems on public land meet or exceed proper functioning condition. Lotic systems with streamside riparian areas are functioning properly when adequate vegetation, large, woody debris, or rock is present to dissipate stream energy associated with high-water flows. Lentic systems, or wetlands, are functioning properly when adequate vegetation is present to facilitate water retention, filtering, and release, as indicated by the presence of plant species and cover appropriate to the site characteristics.

Wildlife use riparian-wetland areas disproportionately more than any other type of habitat. Where site potential allows, multi-canopy riparian areas with trees, shrubs, grasses, forbs, sedges, and rush are extremely valuable as habitat for a wide array of wildlife species. Riparian wetland areas, dominated by woody and/or herbaceous plant communities, are important water, cover, and food sources for wildlife. The structure, food, and water provided in riparian areas make them some of the most diverse and productive habitat for terrestrial as well as aquatic wildlife.

Several riparian-wetland areas occur along the alternative routes. Routes associated with Alternatives A and C cross through small portions of freshwater-emergent wetlands in the far southern (Cave Valley Wash) and northern (Duck Creek, Spring Valley Creek) portions of White Pine County.

3.6 Wildlife

Wildlife habitat typical of the Great Basin occurs throughout the project area. Wildlife habitat in the planning area includes sagebrush, pinyon-juniper woodland, conifer/aspen forests, and riparian/wetland habitats (see Section 3.3, Vegetation). Available water for wildlife consumption and vegetation for cover, breeding, and foraging are the primary limiting factors for wildlife throughout the planning area.

Several species of reptiles and amphibians are known to occur within the project area. Common reptile species include side-blotched lizard (*Uta stansburiana*), western fence lizard (*Sceloporus occidentalis*), Great Basin gophersnake (*Pituophis catenifer*) and Great Basin rattlesnake (*Crotalus oreganus lutosus*). Reptile species in the project area occupy a variety of habitats, from sagebrush and desert scrub to grassland, pinyon-juniper woodland, and montane coniferous forest. Reptiles often bask along roadways and/or on rocks at various times of day, depending on climatic conditions. Amphibians are primarily encountered near perennial and, to a lesser extent, ephemeral water sources, and activity is often correlated with recent rainfall. The Great Basin spadefoot (*Spea intermontana*) is known to occur in White Pine County.

A variety of small mammals occupy various habitat types throughout the project area. Some of the more common small-mammal species occurring in the project area include American deer mouse (*Peromyscus maniculatus*), Ord's kangaroo rat (*Dipodomys ordii*), and least chipmunk (*Tamias minimus*). Small-mammal species in the project area occupy a broad range of habitat types, including grassland, desert scrub, sagebrush, pinyon-juniper woodland, and coniferous forest.

A variety of mid-sized mammals also occupy various habitat types throughout the project area. Some of the more common species include badger (*Taxidea taxus*) and coyote (*Canis latrans*). Like small mammals, these mid-sized mammal species in the project area occupy a broad range of habitat types, including grassland, desert scrub, sagebrush, pinyon-juniper woodland, and coniferous forest. Additionally, predators such as mountain lion (*Puma concolor*) are also known to occur throughout the project area.

Big-game species occurring in the project area consist primarily of Rocky Mountain elk (*Cervus elaphus*), mule deer (*Odocoileus hemionus*), and pronghorn (*Antilocapra americana*) (Figure 3.6-1). Rocky mountain elk occur in a wide variety of habitats and occupy most of the mountain ranges throughout White Pine County. Elk use higher-elevation sites in the summer, consisting primarily of ponderosa pine, white fir, mixed-conifer, Engelmann spruce, aspen, and higher-elevation pinyon-juniper woodlands and meadows above 6,200 feet above mean sea level (amsl). Pinyon-juniper woodlands and sagebrush-grasslands between 5,000 and 9,500 feet amsl provide preferred winter habitat for elk. Results of aerial elk survey counts conducted by the Nevada Department of Wildlife (NDOW) in fall and winter 2008 and spring 2009 (NDOW 2009) are summarized in Table 3.6-1.

Table 3.6-1. Elk Observed during Aerial Surveys

Season	Game Management Unit 78, 104, 105–107	Game Management Unit 121, 104, 108*	Game Management Unit 131–132
Fall–December 2008	2,089	146	207
Spring 2009	146	N/A†	N/A†

Source: NDOW (2009).

* Incidental observations.

† Surveys not conducted.

Mule deer also occur throughout the County (see Figure 3.6-1). Preferred mule deer habitat consists of big sagebrush, low sagebrush, shadscale, and grassland areas. In the summer months, mule deer use riparian/wetland and sagebrush communities for forage and cover. Mule deer rely on mountain mahogany and pinyon-juniper woodlands during winter for thermal protection and to escape from predation. Results of aerial mule deer survey counts conducted by the NDOW in spring, fall, and winter 2008 and spring 2009 are summarized in Table 3.6-2.

Table 3.6-2. Mule Deer Observed during Aerial Surveys

Season	Game Management Unit 101–108	Game Management Unit 111–113	Game Management Unit 121	Game Management Unit 131–134	Game Management Unit 221–223
Spring 2008	7,068	N/A*	N/A*	N/A*	N/A*
Fall–Winter 2008	N/A*	1,723	490	N/A*	1,132
Spring 2009	N/A*	1,921	416	339	777

Source: NDOW (2009).

* Surveys not conducted.

During the summer months, pronghorn are widely spread throughout the valleys and mountain foothills. Pronghorn primarily use Great Basin Sagebrush and Grassland habitat types and rely on sagebrush habitat for both food and cover. Crucial winter habitat areas for pronghorn within the project area are primarily restricted to valleys and foothills in the northeast corner of the County. Results of aerial pronghorn survey counts conducted by the NDOW in fall and winter 2008 are summarized in Table 3.6-3.

Desert bighorn sheep (*Ovis canadensis nelsoni*) habitat occurs in the extreme southern portion the project area in the southern Schell Creek Range, in the vicinity of Mount Grafton (BLM 2007). Desert bighorn sheep occupy desert mountain ranges that feature steep, rocky terrain, which they use to escape from predators. Their preferred habitat consists of shrub-steppe or open grassland communities. Desert bighorn sheep are also known to use water features, i.e., guzzlers, particularly during the hottest months of the

year. Rocky mountain bighorn sheep (*Ovis canadensis canadensis*) also have the potential to occur. There is currently unoccupied Rocky mountain bighorn sheep habitat in the project area.

Table 3.6-3. Pronghorn Observed during Aerial Surveys

Season	Game Management Unit 78, 105–107, 121	Game Management Unit 101–104, 108, 144	Game Management Unit 111–114	Game Management Unit 131, 145, 163, 164	Game Management Unit 221–223, 241
January 2008	N/A*	N/A*	976	N/A*	N/A*
Fall–December 2008	705	624	n/a*	108	116

Source: NDOW (2009).

* Surveys not conducted.

Big-game species migrate seasonally from summer range to winter range throughout the County. Daily and seasonal movement patterns exhibited by big-game species are generally associated with climatic cues, travel between available surface water features (e.g., springs, guzzlers), forage, and cover. Natural features such as canyons and washes are often used as migration corridors between sites. Key migration corridors for big game are generally north-south trending. Steptoe Valley is known to be an important migration corridor for elk.

3.7 Special-Status Species

This section identifies BLM special-status species that occur, or have the potential to occur, along the alternative routes. The BLM 6840 Manual (BLM 2008c) describes special-status species as 1) species listed or proposed for listing under the Endangered Species Act (ESA) and 2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA, which are designated BLM sensitive by the State Director(s). All federal candidate, proposed, and delisted species in the five years following delisting will be conserved as BLM sensitive species. Data pertaining to special-status species occurrence are maintained by the BLM, USFWS, NDOW, and NNHP. These species and their listing status are summarized in Table 3.7-1.

Table 3.7-1. Sensitive Species Known or Likely to Occur

Common Name	Scientific Name	Status
Birds		
Greater sage-grouse	*Centrocercus urophasianus*	Nevada protected; BLM Sensitive
Bald eagle	*Haliaeetus leucocephalus*	Nevada protected; BLM Sensitive
Ferruginous hawk	*Buteo regalis*	Nevada protected; BLM Sensitive
Golden eagle	*Aquila chrysaetos*	Nevada protected; BLM Sensitive
Mammals		
Pygmy rabbit	*Brachylagus idahoensis*	Nevada protected; BLM Sensitive
Desert bighorn sheep*	*Ovis canadensis nelsoni*	BLM Sensitive

Source: BLM (2008a).

* Although desert bighorn sheep is listed as a BLM Sensitive species, it is described under the Wildlife Section with other big-game species (i.e., deer, elk, pronghorn).

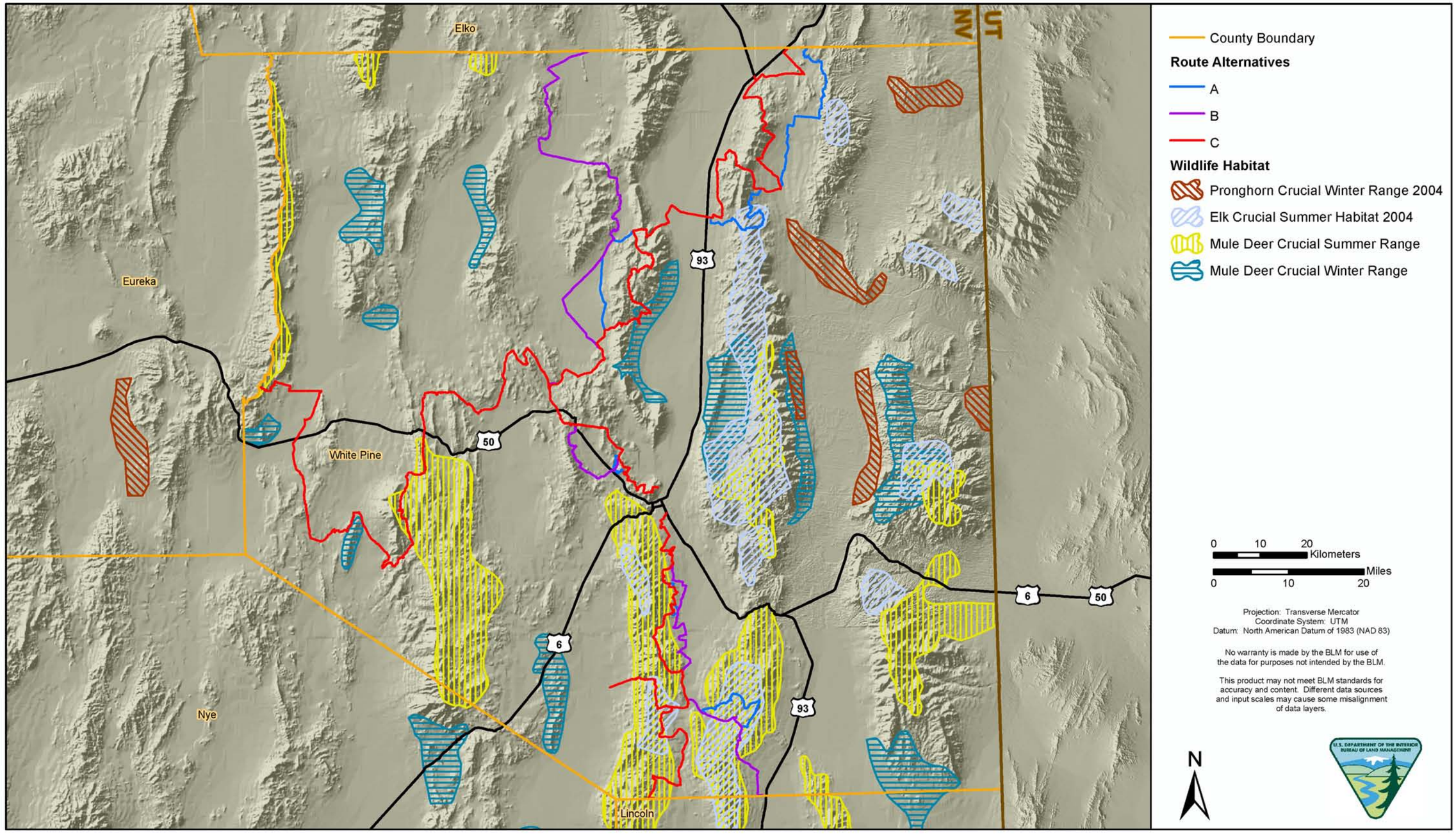

Figure 3.6-1. Wildlife habitat.

This page intentionally left blank.

3.7.1 Pygmy Rabbit

Pygmy rabbit (*Brachylagus idahoensis*) is fully protected by the State of Nevada and is a BLM Sensitive species in Nevada. It has also been petitioned for listing under the ESA. The USFWS is currently undertaking a 12-month finding to determine whether available information warrants listing of the pygmy rabbit under the ESA.

Pygmy rabbits are North America's smallest rabbits and the only rabbits that commonly construct their own burrows. Pygmy rabbits are sagebrush obligates and are known to occur throughout much of the Great Basin; they are primarily associated with tall, dense, decadent sagebrush and friable soils suitable for establishing a burrow system. Habitat is assumed to occur in decadent sagebrush shrublands that occur along portions of the alternative routes.

3.7.2 Greater Sage-grouse

Greater sage-grouse (*Centrocercus urophasianus*) is ranked as a Nevada BLM Sensitive species; NNHP ranks it as S3S4B (vulnerable to apparently secure but with long-term concerns, breeding species), and NatureServe gives it a ranking of G4 (long-term concern, although now apparently secure). On March 5, 2010, the USFWS made a decision on their 12-month finding for the greater sage-grouse and acknowledged that while federal protection of this species is warranted, its listing was precluded due to more threatened species receiving listing priority. Therefore, the species will be listed as a candidate species and its status will be reviewed annually. While this does not offer the greater sage-grouse any additional legal protection, it does require state and federal biologists to monitor populations more closely and federal agencies to be more aware of where potentially disturbing activities are taking place in relation to sage-grouse leks (Tavares 2010).

Greater sage-grouse are sagebrush obligates that depend on sagebrush habitats for successful reproduction and winter survival (Connelly et al. 2004). Sage-grouse are known as year-round residents within White Pine County, using various, sometimes widely separated, habitats seasonally for breeding, nesting, brood rearing, and wintering (Figure 3.7-1). In the spring, greater sage-grouse gather on strutting grounds known as leks. Leks are found in open areas, such as meadows and grassy openings. During the spring mating season, males strut on the leks to attract females. Nesting sites are normally located within 2 to 6 miles of a lek, with the majority of nests located within 2 miles. Nesting habitat is typically located in the Wyoming or mountain big sagebrush communities with a 25% to 30% shrub canopy cover. The majority of nests are located under sagebrush, but other shrubs such as bitterbrush and rabbitbrush are occasionally used. Critical wintering areas are primarily located at higher elevations on windswept, low-sage ridges or flats when available, although greater sage-grouse use lowland big sagebrush communities when weather conditions prevent use of the higher low-sage areas.

3.7.3 Raptors

Raptor nesting areas and foraging habitat are known to occur throughout White Pine County. Special-status raptors known to occur in the County include golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), prairie falcon (*Falco mexicanus*), northern harrier (*Circus cyaneus*), bald eagle (*Haliaeetus leucocephalus*), long-eared owl (*Asio otus*), and western burrowing owl (*Athene cunicularia hypugaea*).

The ferruginous hawk is a nesting summer resident of White Pine County. A number of nests have been recorded over the years. This species breeds primarily in sagebrush and grassland areas where small-mammal prey is abundant. Nests are normally constructed in lone juniper trees, which overlook large, open areas on alluvial fans.

The Bald and Golden Eagle Act is similar to the Migratory Bird Treaty Act (MBTA) in that it prohibits the take of bald and golden eagles. Because there is no ground disturbance or new construction associated with the project, there is little likelihood of take, and if take occurs, it will be reported to the USFWS for further action.

3.8 Migratory Birds

The USFWS defines a migratory bird as any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle. All migratory birds are protected under the MBTA, as amended (16 United States Code 703 *et seq*.).

The federal MBTA states that it is unlawful to "pursue, hunt, take, capture, or kill; attempt to take, capture, or kill; possess, offer to or sell, barter, purchase, deliver, or cause to be shipped, exported, imported, transported, carried, or received any migratory bird, part, nest, egg, or product, manufactured or not." Depending on distribution, abundance, and breeding habits, the Secretary of the Interior may determine how much a migratory bird may be hunted or taken, if at all (USFWS 2007). To minimize unintentional take as defined by Executive Order 13186, the BLM has issued Washington Office Instructional Memo No. 2008-050, Migratory Bird Treaty Act–Interim Management Guidance, to provide interim guidance to meet the BLM responsibilities under the MBTA. This provides the BLM with a consistent approach for addressing migratory bird populations and habitats. Currently, there are 1,007 species that are protected under the federal MBTA (USFWS 2010a). The Instructional Memo also lists species of conservation concern by the USFWS as those migratory bird species on which the BLM will focus. Numerous migratory bird species are known to occur throughout the area and occupy a diverse array of habitat types.

3.9 Wild Horses

The Wild Free-Roaming Horse and Burro Act of 1971 requires the BLM to protect and manage wild horses in areas where they were found at the time of the act to achieve and maintain a thriving natural ecological balance and achieve rangeland health standards consistent with the goals of multiple-use management.

For the purpose of managing healthy and sustainable populations of wild horses on public lands, the BLM Ely District Office has established Wild Horse HMAs based on wild horse use and habitat suitability (BLM 2008a). HMAs are established through the land use planning process in areas where wild horses can be managed for the long term. Three HMAs occur within the project area: Pancake, Triple B, and Antelope (Figure 3.9-1). Each HMA has an Appropriate Management Level (AML) range for herd populations. AMLs are established based on monitoring and evaluation. The Triple B HMA is 1,225,000 acres, with an AML range of 250 to 518. The Antelope HMA is 331,000 acres, with an AML range of 150 to 324. The Pancake HMA within the project area is 855,000 acres, with an AML range of 240 to 493 (BLM 2008a).

Wild horse gathers are conducted periodically in order to maintain horse populations at an AML. Gather techniques used for horse gathers generally consist of helicopter-drive trapping and/or helicopter-roping from horseback, in addition to traps. Gather sites are located in previously disturbed areas to avoid sensitive resources.

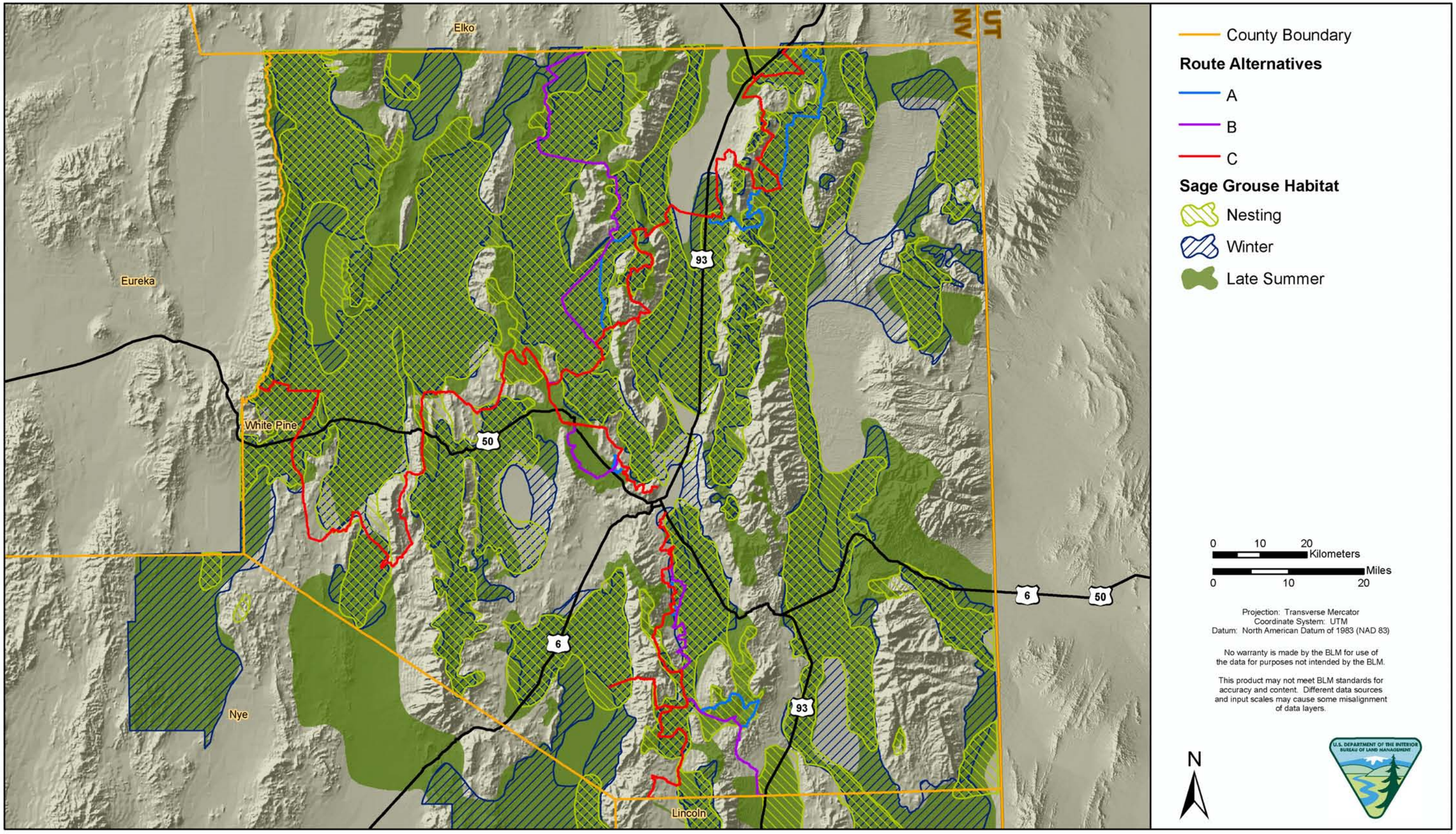

Figure 3.7-1. Greater sage-grouse habitat.

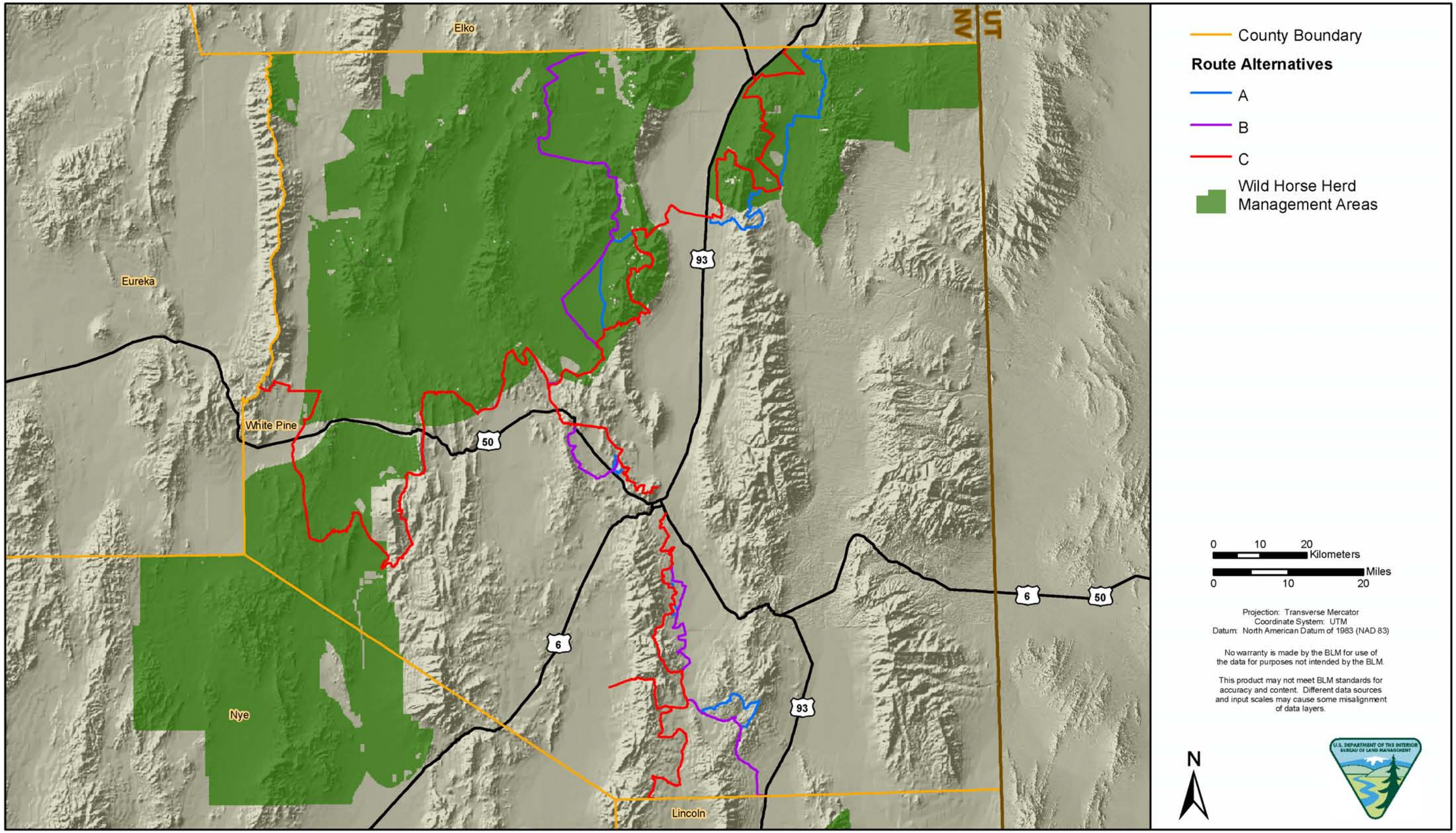

Figure 3.9-1. Herd Management Areas.

3.10 Rangeland and Livestock Grazing

Livestock grazing and production is one of the dominant land uses in the project area. White Pine County has primarily been used as a rangeland, both historically and presently. Most of these lands are managed by the BLM and the Forest Service and are divided into grazing allotments used primarily for cattle and sheep grazing. Livestock grazing permits are normally issued for a 10-year period. In the project area, allotments are generally grazed for a set period of time and may include year-round or seasonal grazing. In order to achieve healthy rangelands, livestock management practices often include rotating grazing through allotments, allotment pastures, or use areas, based on the terms and conditions of the permits.. Management of grazing allotments also normally includes the installation and maintenance of support facilities consisting of roads, allotment and pasture fences, gates, cattle guards, and corrals. Additionally, water developments such as wells, windmills, spring developments, pipelines, water troughs, and water haul sites may be established throughout allotments to supply drinking water to livestock.

The BLM and the Forest Service manage the number of livestock on the allotment by tracking Animal Unit Months (AUMs). An AUM is the amount of forage required to maintain a cow, cow and calf less than six months old, a bull, or five sheep for one month. In Nevada, an AUM is the equivalent of 1,000 pounds of dried forage. The number of AUMs available on each allotment is based on forage studies and rangeland health evaluations. Grazing use for these allotments is managed in accordance with the *Fundamentals of Rangeland Health and Standards and Guidelines for Grazing for Nevada's Northeastern Great Basin Area* (43 CFR 4180, Appendix C: Northeastern Resource Advisory Council Standards and Guidelines).

Thirty-five grazing allotments would be crossed by one or more of the alternative routes (Figure 3.10-1). Table 3.10-1 lists the allotment, the alternative route that crosses it, the allotment acreage, and the AUMs.

Table 3.10-1. Grazing Allotments

Allotment Name	Alternative Route	Public Acres	Active-Use AUMs	Season of Use (Mo/Day–Mo/Day)
Becky Creek	C	12,904	671	11/1–3/15
Becky Springs	A, C	40,621	3,842	11/1–4/30
Big Rock Seeding	A, C	1,862	621	5/1–7/15 or 9/1–2/28
Cattle Camp/Cave Valley	All	75,846	6,878	5/15–11/30
Cave Valley Ranch	C	38,524	2,403	5/1–10/31
Cherry Creek	All	153,107	6,197	3/1–2/28
Chimney Rock	C	20,037	1,233	5/1–11/1
Chin Creek	A, C	148,017	12,479	3/1–2/28
Copper Flat	A, B	40,058	3,033	4/15–11/1
Duckwater	C	807,662	21,159	3/1–2/28
Georgetown Ranch	All	23,688	1,675	3/1–2/28
Geyser Ranch	A, B	237,413	12,308	3/1–2/28
Gold Canyon	A, C	23,640	1,068	6/20–11/30
Lake Area	All	27,556	2,978	5/1–11/1
Little White Rock	A, C	13,012	904	5/1–11/1
Medicine Butte	All	287,368	3,675	3/1–2/28
Monte Cristo	C	6,138	1,129	6/21–9/18
No. Butte	B	26,467	180	8/1–10/31 and 2/15–4/15
North Steptoe	C	12,701	700	10/1–3/15

Table 3.10-1. Grazing Allotments (Continued)

Allotment Name	Alternative Route	Public Acres	Active-Use AUMs	Season of Use (Mo/Day–Mo/Day)
Rock Canyon	C	7,256	432	11/1–2/28
Sampson Creek	A, C	13,232	1,327	5/1–9/30
Schellbourne	A, C	16,316	685	3/1–5/15 and 10/15–2/28
Sheep Pass	C	26,800	1,150	4/1–12/31
Shingle Pass	C	74,788	2,724	5/15–10/30
Six Mile	C	21,335	1,209	3/1–2/28
South Butte	All	26,081	396	4/15–2/28
Steptoe	A, C	44,025	2,836	3/1–2/28
Tamberlane	B	31,692	2,002	3/15–10/15
Thirty Mile Spring	All	178,716	8,405	4/15–2/28
Tippett	A, C	200,041	8,560	3/1–2/28
West Schell Bench	All	25,915	1,389	5/1–11/1
White Rock	All	80,513	8,502	3/1–2/28
Willow Springs	A	46,967	6,608	3/1–2/28

Note: The season of use dates include the combined seasons for all permittees, use areas, and years. However, the season of use dates vary by permittee, year, and pastures.

In addition to grazing allotments, two adjudicated sheep trails run north-south in White Pine County, the Jakes Unit trail and the Preston Lund trail. The sheep trails are 1 mile wide and connect to each other. Ranchers have adjudicated AUMs specific to these trails for spring and fall sheep trailing. Each of the ranchers grazes sheep on northern and southern allotments within the BLM Ely District.

3.11 Land Use and Ownership

The alternative routes are located primarily on public land administered by the BLM Ely District Office and the Humboldt Toiyabe Ely Ranger District. The BLM manages public land for multiple use and provides opportunities for utility ROWs, mining, wildlife habitat, grazing, and recreation, in addition to other resource values and activities. The primary legal basis for granting a permit on BLM land is Section 302 of the Federal Land Policy and Management Act of 1976 (FLPMA). FLPMA provides the BLM with authority to issue leases and permits for the use, occupancy, and development of public lands. The regulations establishing procedures for the processing of these leases and permits are found in 43 CFR 2920. In addition, the Ely RMP/FEIS provides guidance for management of public lands in the Ely District.

This area is primarily undeveloped land and can be characterized as open rangeland and mountainous terrain interspersed with utilities, roads, communication lines, ranching, and widely dispersed residential uses on private parcels.

The RMP/FEIS identified BLM-managed lands around the communities of Ely, McGill, and Lund that would be available for disposal (Figure 3.11-1). Land use demands in proximity to existing roads and trails are mainly for utility ROWs, groundwater development, roads, and communication ROWs, grazing, and dispersed recreation. Grazing and dispersed recreation uses are described Sections 3.10 and 3.13, respectively. Presently, the types of existing ROWs in proximity to the alternative routes and surrounding areas include fiber-optic lines, transmission lines, utility corridor, roads, and groundwater development projects.

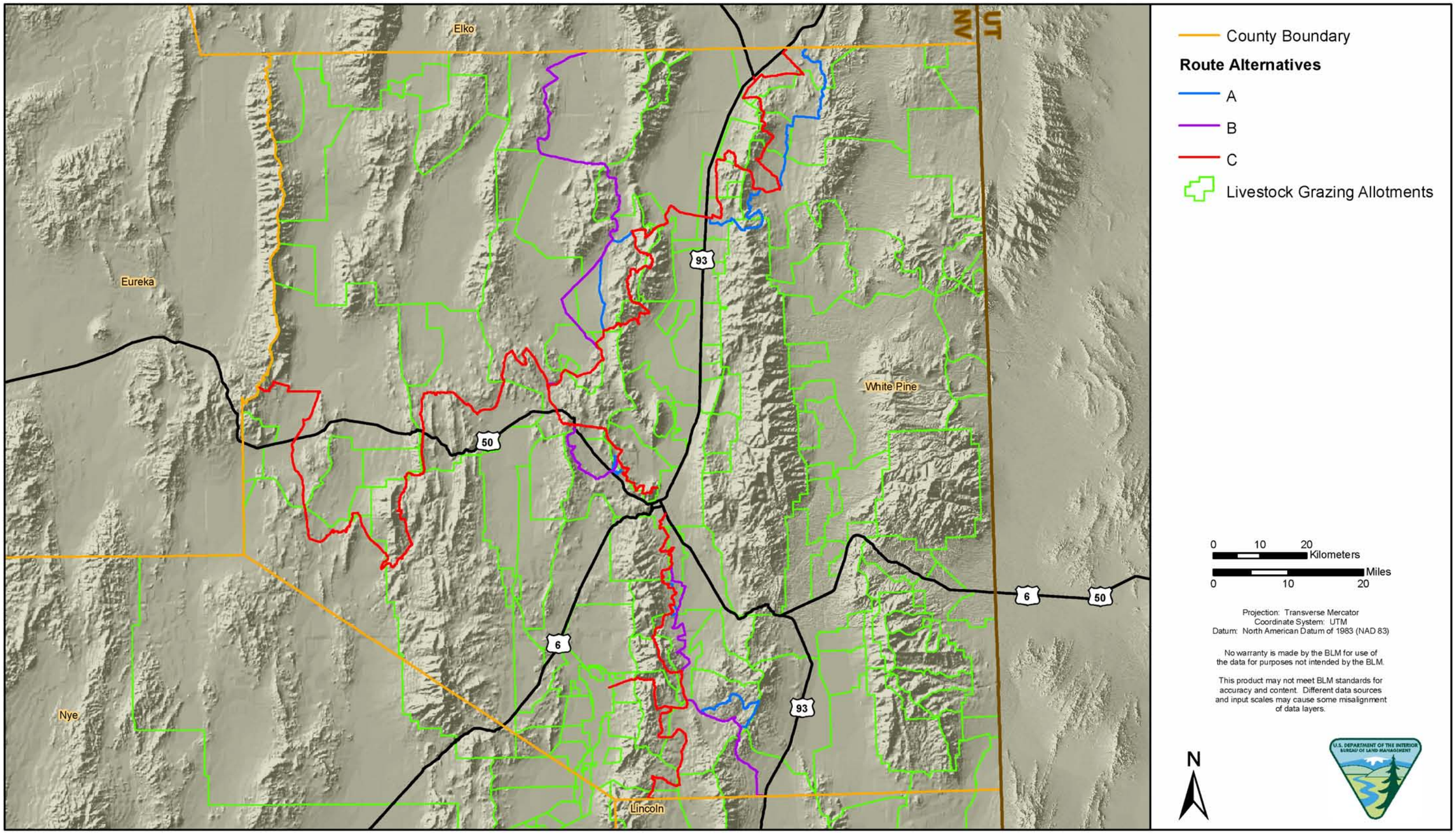

Figure 3.10-1. Grazing allotments.

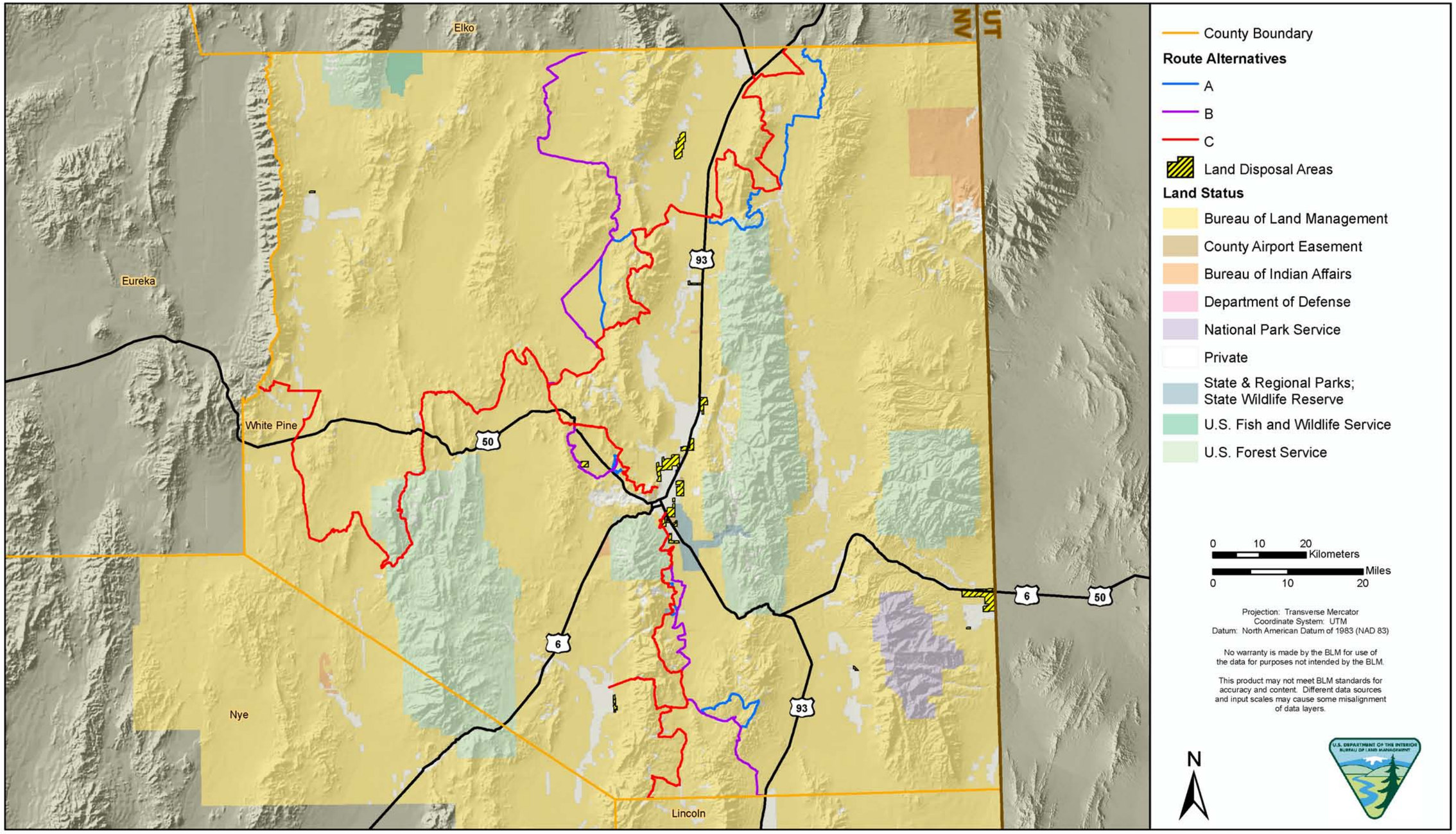

Figure 3.11-1. Land disposal areas.

3.12 Transportation/Access

Under 43 CFR 8340, all BLM-managed lands must be designated as open, limited, or closed to OHV use. Site-specific transportation plans on BLM land in the project area have been completed for the Duck Creek Basin and are underway for the Steptoe Valley Watershed. Motorized travel in those areas has been or will be limited to designated roads and trails as identified in the plans. Wilderness and Wilderness Study Areas managed by the BLM and Forest Service are closed to motorized travel. Additionally, the Ely Ranger District has completed comprehensive travel management planning on Forest Service–managed lands throughout White Pine County, and OHV travel is limited to designated roads and trails as identified in that plan (Forest Service 2009).

In addition to dirt surface roads and trails throughout White Pine County, U.S. 50, U.S. 93, and U.S. 6 cross White Pine County. Several other paved roads occur within White Pine County, including State Routes 318 and 486 (see Figure 2.1-1).

3.13 Recreation

For the purpose of recreation management, the BLM identifies public lands as either special recreation management areas (SRMAs) or as extensive recreation management areas (ERMAs). SRMAs are areas in which more intensive recreation management is needed because of their high usage and where recreation is a principal management objective. ERMAs are all public lands outside SRMAs and other special designation areas. ERMAs are areas in which recreation is non-specialized and dispersed and does not require a specific management strategy or activity-level planning. Recreation may not be the primary management objective in ERMAs, and recreation activities are subject to few restrictions. The BLM Ely District Office has identified two SRMAs and one ERMA managed for a broad range of recreation opportunities to ensure a balance of recreation experiences (BLM 2008a). The Loneliest Highway SRMA, which is managed to ensure a balance of recreation experiences (BLM 2008a), extends north of U.S. 6/50 to the Elko County Line and encompasses 675,123 total acres. Although a site-specific recreation area management plan for the Loneliest Highway SRMA has not been prepared, several developed recreation sites and a variety of dispersed recreation opportunities, including motorized touring and hunting, are available. There is also an urban interface with the cities of Ely and McGill. The Egan Crest SRMA totals 53,455 acres and is located south of Ely; it is also managed to ensure a balance of recreation experiences (BLM 2008a). No site-specific recreation area management plan has been prepared for the Egan Crest SRMA.

3.13.1 Developed Recreation Sites

There are several developed recreation sites managed by various entities that occur near the alternative routes: Garnet Hill, Egan Crest Trail System, Ward Mountain Recreation Area, and Ward Charcoal Ovens. Garnet Hill is located in White Pine County, 6.4 miles west of central Ely, Nevada.

The major access road to the site is off U.S. 50. Garnet Hill is a rockhounding area used mainly for the casual collection of garnets. In addition, there are observation points for viewing the open-pit copper mine to the south. There are five picnic table locations, and tents and small recreational vehicles (RVs) are allowed in area. There were 10,977 visitors to Garnet Hill in 2009 (BLM 2010).

The Egan Crest trail system is located 8 miles west of Ely, just north of U.S. 50. There are over 50 miles of trails with varying terrain throughout this site. Trails are accessible for OHV, mountain biking, hiking, and equestrian uses. Picnic tables are available at the trailhead, but there is no potable water source. There were 3,204 visitors to this site in 2009 (BLM 2010). Because this site occurs just off U.S. 50, it is assumed that a portion of the visitor use is as a rest area and not to enjoy the trail opportunities.

The Ward Mountain Recreation Area is located 6 miles southwest of Ely off U.S. 6 and 50. There is a developed campground, with sites available for tent and RV use. These sites have restroom facilities, fire pits, and drinking water.

The trail system within the area is contiguous between both Forest Service and BLM lands, with trailheads on the north and south sides of U.S. 6 and 50. There are 30 miles of trails available for hiking, biking, horseback riding, and cross-country skiing. In addition, the north trailhead has a disc golf course.

The Ward Charcoal Ovens State Historic Site is located 7 miles south of Ely off U.S. 50, 6, and 93 and 11 miles southwest of Ely on Cave Valley Road, which is a graded dirt road that is accessible most of the year. The elevation reaches 7,000 feet amsl at the park. Recreation opportunities include heritage tourism, fishing at Willow Creek, and several miles of trails accessible for OHV, hiking, and biking. There is a 14-site campground with a few spots for larger RVs and a restroom facility. There were 1,687 visitors to the Ward Charcoal Ovens in 2009 (NDSP 2010).

The Steptoe Wildlife Management Area is managed by the NDOW and is located directly south of Ely off U.S. 93, 50. This area totals 6,424 acres, including Comins Lake. There are streams and wet meadows with opportunities for wildlife observation. Recreation opportunities consist primarily of fishing and boating.

3.13.2 Undeveloped Recreation Opportunities

Dispersed recreation can occur on undeveloped BLM and Forest Service lands that are open to the public for camping and general recreation. These opportunities do not include any developed amenities or recreation facilities. Camping is permitted on BLM and Forest Service lands throughout the County. There is a 14-consecutive-day limitation on camping within a 28-day period (BLM 2008a). In 2009, there were 707 dispersed-use visitor-days recorded in the Egan Field Office and 70,546 dispersed-use visitor-days recorded in the Schell Field Office (BLM 2010).

Hunting is one of the more popular dispersed outdoor recreation opportunities in the County. There are several NDOW game management units that the project area crosses. Within these units, big-game species, including elk, mule deer, and pronghorn antelope, are hunted by permit. Hunts for these game species occur from August to December: mule deer hunts occur from August to November, elk hunts occur from November to December, and pronghorn hunts occur from late August to early September. In addition to the above big-game species, mountain lion permits are available for purchase over the counter, and other fur-bearing animals can be hunted or trapped with a trapping license. There are also opportunities for hunting upland game birds such as chukar (*Alectoris chukar*), sage-grouse, and dove (Columbidae).

OHVs are used for many purposes in Nevada, including recreation. An OHV is defined as any type of motorized vehicle that is used for the purpose of traveling over land, water, or other natural terrains. These can include, but are not limited to, 4×4 vehicles, ATVs, motorcycles, and jeeps. In Nevada in 2005, there were approximately 425,000 OHVs, ATVs, and dirt bikes (NDSP 2005). Motorized trail users average 30 miles a day. OHV travel is limited to existing

roads and trails throughout White Pine County by the BLM RMP/FEIS (BLM 2008a) and is limited to designated roads and trails by the Forest Service travel management plan (Forest Service 2009).

3.14 Health and Human Safety

Safe travel for all users on routes associated with the alternatives is a concern that was identified during the public scoping process. Currently, the routes associated with the alternatives are open to full-sized

vehicles, smaller ATVs, and motorcycles. Health and human safety issues on existing roads and trails in White Pine County consist of the risks associated with smaller ATVs and motorcycles traveling on the same roads and trails as full-sized vehicles, as well as the remoteness and long emergency response times to accidents.

3.15 Socioeconomics

With a population of 9,694, the primary industries in White Pine County are government services, mining, agriculture, and tourism (U.S. Census Bureau [Census Bureau] 2000; White Pine County Tourism and Recreation Board 2008). White Pine County contains nearly 400 businesses, which offer a variety of products and services, including restaurants, hotels, and construction services (White Pine County Tourism and Recreation Board 2008). Mining operations are a larger source of employment in White Pine County. Private non-agricultural employment in White Pine County in 2007 was 2,784 (Nevada State Demographer 2008). Mining represents one of the largest non-agricultural employers in White Pine County and is projected at 837 workers for 2010 (Nevada State Demographer 2008). Other employers in the County include federal and local governments, the school district, service industries, utilities, and agriculture. The median household income in the County in 2008 was $49,209.

The Census Bureau has not developed projections for White Pine County and the city of Ely since the 2000 census. The Nevada State Demographer recently released 2008 population estimates for Nevada's counties, cities, and towns. The information presented is the best available data on socioeconomic conditions in White Pine County. Located centrally within the project area and containing approximately 45% of the population of White Pine County, Ely has a population of 4,352 (Census Bureau 2000).

Public lands in White Pine County are a resource base for tourism and outdoor recreation. Current uses include hunting, fishing, wildlife observation, camping, heritage tourism, hiking, mountain biking, winter activities, and OHV use. These opportunities are enjoyed by both residents and visitors to the County and provide support to the local economy.

New equipment purchases and insurance costs make up the majority of the annual expenses for Nevada residents who participate in motorized trail activities, as shown in Table 3.15-1.

Table 3.15-1. Average Annual Expenditures by Motorized Trail Users in Nevada

Expense Category	ATV (in dollars)	OHV (in dollars)	Dirt Bike (in dollars)
New Equipment	1,683	3,563	950
Lodging	425	252	0
Maintenance/Repairs	290	815	549
Insurance	254	703	202
Food and Beverages	184	175	241
Accessories	181	361	494
Gas	159	241	182
Eating in Restaurants	98	101	160
Permits	32	29	40
Club Membership	0	28	0
Total	**3,306**	**6,268**	**1,868**

Source: NDSP (2005).

Additionally, hunting, fishing, and other recreation opportunities associated with wildlife are an important part of the local economy and the quality of life enjoyed in White Pine County. Table 3.15-2 describes the fishing and hunting licenses sold in White Pine County annually from 2004 to 2007.

Table 3.15-2. Hunting and Fishing Permits Sold in White Pine County

Permit Type	2004–2005	2005–2006	2006–2007
Resident Fishing	2,175	2,237	2,520
Non-resident Fishing	784	740	816
Subtotal Fishing	*2,959*	*2,977*	*3,336*
Resident Hunting	360	333	351
Non-resident Hunting	31	47	45
Subtotal Hunting	*391*	*380*	*396*

Note: NDOW (2010).

Harvesting native plant products also contributes to the local economy and the quality of life enjoyed in White Pine County. Personal and commercial collection of pine nuts and fuelwood, Christmas trees, posts, and poles is permitted by the BLM and Forest Service offices and occurs throughout the County.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

This chapter presents the anticipated environmental consequences from designation of each alternative route as described in Chapter 2. For the analysis, existing data, appropriate scientific methodologies, and professional judgment were used. The analysis also takes into account the resource conservation measures identified in Chapter 2. This analysis was done using the best available information, including state and federal agency data on wildlife and wildlife habitat, SWReGAP-level vegetation data, and recreation visitation numbers. Impacts that occur under more than one alternative are discussed under the first applicable alternative and are then referenced under other pertinent alternatives.

Only those resources and resource uses that would potentially be impacted by any of the alternatives are brought forward for detailed analysis and discussed in Chapter 4. Impacts are defined as modifications to the existing environment brought about by implementing an alternative. Impacts can be beneficial or adverse, can result from the action directly or indirectly, and can be long term, short term, temporary, or cumulative in nature. Direct impacts are attributable to implementation of an alternative that affects a specific resource, and they generally occur at the same time and place. Indirect impacts can result from one resource affecting another (e.g., soil erosion and sedimentation affecting riparian habitat) or can occur later in time or removed in location but can be reasonably expected to occur. Long-term impacts are those that would substantially remain for many years or for the life of the project. Short-term impacts result in changes to the environment that are stabilized or mitigated rapidly and without long-term effects.

The analysis in this chapter provides a quantitative or qualitative comparison (depending on available data and nature of the impact) between alternative impacts and establishes the severity of those impacts in the context of the existing environment. It is assumed that implementation of any of the alternatives would result in some increased OHV use of the roads and trails associated with the alternative relative to existing conditions. Because there are no road count data for routes associated with the alternatives, road counts from the Lincoln County SST (BLM 2009a) are presented as an approximation of the level of use that would occur following designation of a SST (Table 4.1-1).

Table 4.1-1. Lincoln County Silver State Trail Road Count Data

Trail Count Location Name	April–September 2009	Total Weekday Count / Mean Average Weekday	Total Weekend Count / Mean Average Weekend Day
Stampede 1	148	85 / 0.9	63 / 1.7
Stampede 2	87	68 / 0.9	19 / 0.6
Chief Mountain North	57	41 / 0.4	16 / 0.4
Chief Mountain South	393	174 / 1.8	219 / 5.8
Chief Mountain West	147	110 / 1.2	37 / 1.0
Pahroc	24	20 / 0.2	4 / 0.1
Patterson Pass	31	26 / 0.3	5 / 0.1
Total	**887**	**524 / 5.7**	**363 / 9.7**

Source: BLM (2009a).

It is assumed that following designation, OHV traffic on routes associated with the White Pine County alternatives would be similar to that recorded for the Lincoln County SST. Although it is expected that there would be exceptions, the average number of riders on a weekend day would be 10, and on a

weekday the average would be 6. It is further assumed that the greatest increase in recreational OHV use on any of the alternative trails would occur on weekends between April and September, with the largest number of riders occurring over long holiday weekends. OHV user preferences and use patterns vary, so it is assumed that participants would travel between 30 and 50 miles per day and would travel 12 miles per hour on average. These assumptions are based on the Nevada State Trails Plan (NDSP 2005), BLM observations of motorized recreation in White Pine County, and trail use following the designation of the Lincoln County SST.

4.2 Cultural Resources

Impacts to cultural resources eligible for the NRHP must be considered under Section 106 of the NHPA. The BLM is required to identify any cultural resources in the project area, evaluate their eligibility status for the NRHP, and consult with the SHPO. If the resources are NRHP eligible, the BLM must then assess whether the undertaking would have an adverse effect on those resources, and if necessary, mitigate any adverse effects on those resources.

Because no new ground disturbance is being proposed, there would be no direct effects on NRHP-eligible sites; a Class III intensive cultural resource inventory was therefore not conducted. Impacts to cultural resources from the increased OHV use that would result from the designation of the SST under the each of the alternatives would include an increased likelihood of unauthorized collection of artifacts and vandalism and possible inadvertent destruction of unrecognized resources as a result of greater recreation use and OHV activity. Additionally, increased use would contribute to changes to the historic setting heritage areas. The alternative routes would follow the requirements set forth in the State Protocol Agreement between the Nevada SHPO and the Nevada BLM. All cultural resources (except those defined as categorically not eligible in the Protocol, Appendix E) would be avoided using the guidelines set forth in the Protocol, Appendix F, Section H, Roads and Trails. Marking the route with signs would not occur until SHPO concurrence is received.

4.2.1 No Action

Under the No Action Alternative, the SST would not be designated within White Pine County. OHV use would continue throughout the County on existing roads and trails. The current travel designation of "limited to existing roads and trails" on BLM-managed lands would continue until site-specific travel management plans are completed. The risk of off-trail travel and subsequent creation of new vehicle routes would continue at current levels.

4.2.2 Alternative A

Alternative A is approximately 208 miles long and crosses the Historic Ward Mining District, Pony Express Trail, and Lincoln Highway. Because no ground disturbance is being proposed, there would be no direct effects on NRHP-eligible sites. Increased use of the routes associated with Alternative A would result in increased human presence and increased risks for the inadvertent loss of cultural resources as a result of vandalism and unauthorized collection of artifacts.

In addition, noise and visual intrusions associated with the increased human presence and OHV use would result in intermittent contrasts with the historic setting of both the Ward Mining District and the Pony Express Trail. Because both heritage areas are currently open to motorized travel and experience higher tourism visitation during the summer season, the additional contrasts that would occur from designation of Alternative A are considered to be minor.

4.2.3 Alternative B

Impacts from Alternative B would be similar to those described under Alternative A. However, impacts would be somewhat fewer because of the shorter overall length of the alternative route (176 miles); therefore, there would be less potential to disrupt sites and intrude on the historic settings of heritage areas in the County.

4.2.4 Alternative C

Impacts from Alternative C would be similar to those described under the Alternative A. However, impacts would be greater because of the longer overall length of the alternative route (354 miles). Additionally, the east-west leg of Alternative C crosses additional Forest Service land, although it avoids the historic town site of Hamilton approximately 2 miles to the west. Increased OHV use under Alternative C would result in a greater risk of disrupting sites and intruding on the historic settings of heritage areas in the County.

4.3 Vegetation

This section discusses impacts to vegetation from the increased OHV use that would result from the designation of the SST under the each of the alternatives. Because there is no new trail construction associated with the alternatives, there would be no direct removal of vegetation. The types of impacts to vegetation resources would include crushing and trampling and introduction of invasive vegetation.

4.3.1 No Action

Under the No Action Alternative, the SST would not be designated within White Pine County. Conditions influencing the composition of both native and non-native plant species in the project area would continue to follow existing trends.

4.3.2 Alternative A

Alternative A is 208 miles long and would be located on existing roads and trails, which are currently open to motorized travel. Sagebrush shrubland and pinyon-juniper woodlands are the dominant vegetation communities along Alternative A and are widespread across both White Pine County and the western United States (BLM 2007).

There would be no direct loss of vegetation from trail construction activities; however, crushing and trampling of vegetation would occur from increased use of the designated route and its surrounding areas along the 208-mile-long route as OHV riders pull off to the side of the trail for breaks or in search of camping areas. The effects of crushing increases with the frequency of OHV passes; the greatest intensity of impacts to vegetation from crushing by vehicles pulling off the trail would occur after the first several vehicle passes. For example, studies found that after a single pass, annual plants on an OHV route remained intact but that most were destroyed after 10 passes (Webb et al. 1983).

In addition, increased OHV traffic would also increase the risk of human-caused fires, soil erosion, and potential for noxious or invasive weed introduction along the route. Crushing and trampling of vegetation may also occur along narrow existing trails or where vegetation and topsoil have formed a berm along the center of ungraded two-track roads. Impacts to vegetation would be reduced by application of resource conservation measures identified in Section 2.2.1.

4.3.3 Alternative B

Under Alternative B, an increased risk of direct, long-term impacts to vegetation resources would occur as a result of increased OHV use within the project area. These impacts would occur along 176 miles of existing roads and trails and would be similar to those described under Alternative A. Impacts to vegetation would be minimized by application of resource conservation measures identified in Section 2.2.1.

4.3.4 Alternative C

Increased OHV use within the project area would result in an increased risk of direct, long-term impacts to vegetation resources along 354 miles of existing roads and trails under Alternative C. These impacts would be the same as those described under Alternative A. Application of resource conservation measures as identified in Section 2.2.1 would minimize impacts to vegetation.

4.4 Noxious and Invasive Non-native Weeds

Executive Order 13112 established the National Invasive Species Council in order to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts caused by these species. Noxious and invasive plant species generally have a variety of effects on an area. Typically, these plants spread easily during and immediately following ground-disturbing activities (Mack 1981), where they create problems for wildlife, land managers, and recreationists. Noxious and invasive plants can reduce water levels, alter runoff patterns, and increase soil erosion, diminishing the quality and quantity of wildlife habitat. Some nitrogen-fixing noxious and invasive species improve soil fertility, creating suitable conditions for other noxious and invasive plant species to become established and out-compete native plants (Belnap and Phillips 2001). The growth and spread of noxious and invasive species can also alter an ecosystem by changing fire patterns and intensities (Brooks and Matchett 2003).

Motorized travel along roads and trails is a known vector for the dispersal of noxious and invasive weed species. This section discusses impacts from noxious and invasive non-native weeds that would result from increased OHV use associated with the designation of the SST under each of the alternatives. A noxious and invasive weeds risk assessment was prepared for the project. Each alternative route was evaluated as having a high risk rating. Designation of any of the alternative routes would require the implementation of the mitigation measures listed in Chapter 6. These measures consist of monitoring of the routes following designation and treatment (and eradication if possible) of weeds at identified locations. By applying these mitigation measures, the risk of spreading noxious and invasive weeds would be reduced for each of the alternative routes.

4.4.1 No Action

Under the No Action Alternative, the SST would not be designated within White Pine County. Conditions influencing the composition of noxious and invasive non-native plant species in the project area would continue to follow existing trends.

4.4.2 Alternative A

Increase motorized use of the routes associated with Alternative A would result in increased potential for invasive vegetation that is currently occurring along Alternative A to spread and for new invasive species to be introduced. Eight of the nine noxious and invasive weed species identified along the alternative routes occur along Alternative A (see Figure 3.4-1). Additionally, designation of the SST is expected to

result in increased OHV users from outside White Pine County and in some cases from outside Nevada, which would increase the potential for the introduction of new species of noxious and invasive weeds from outside the County.

Invasive vegetation can degrade forage, native vegetation, and wildlife habitat in several ways. Invasive weed species have the ability to out-compete most native plants and can lead to a homogeneous vegetative landscape. Weedy habitats often contain fewer highly nutritious forage species for grazers and herbivores. A heavy weed invasion would either displace wildlife from this habitat or lead to reduced health for individuals. Furthermore, some invasive species, such as cheatgrass, are fire dependent and create an environment that is prone to frequent wildfires.

Measures for reducing the spread and establishment of noxious and invasive weeds are included as part of the resource conservation measures in Section 2.2.1. Following established BMPs, noxious weed infestations adjacent to any proposed trail segments would be treated prior to marking the segments as part of the SST. Implementation of these measures would reduce the risk of spreading invasive vegetation currently occurring along the alternative route, as well as reducing the risk of introducing new invasive species from locations with known invasive vegetation problems.

A weed inventory of the alternative trail route would be conducted before marking the trail as part of the SST. Known noxious weed infestations along the routes associated with Alternative A would be treated using established BMPs to marking the segments as part of the SST. Monitoring of the SST for noxious weeds would be conducted, and any new noxious weed infestations would be incorporated into a treatment plan.

4.4.3 Alternative B

Impacts from Alternative B would be similar to those described under the Alternative A. However, impacts would be somewhat fewer because of the shorter overall length of the alternative route (176 miles). Six of the nine noxious and invasive weed species identified along the alternative routes occur along Alternative B (see Figure 3.4-1). The application of the resource conservation measures identified in Section 2.2.1 would minimize the risk of increased spread of noxious and invasive species both along the designated routes and throughout the County.

4.4.4 Alternative C

Impacts from Alternative C would be similar to those described under the Alternative A. However, impacts would be greater because of the longer overall length of the alternative route (354 miles). Additionally, the east-west leg of Alternative C crosses greater portions of the County and passes through more known weed infestations. Eight of the nine noxious and invasive weed species identified along the alternative routes occur along Alternative C (see Figure 3.4-1). Therefore, Alternative C has associated with it a greater risk of spreading existing populations of noxious and invasive species along the designated routes and throughout a greater a portion of the County.

4.5 Wetland/Riparian Zones

This section discusses impacts to wetland/riparian zones from the increased OHV use that would result from the designation of the SST under each of the alternatives. The types of impacts to wetland/riparian zones would include loss of vegetation. Impacts from each alternative were determined by calculating the miles of each alternative route that would be designated through areas with wetland and riparian vegetation. The analysis area includes the existing routes associated with each of the alternatives, as well as lands surrounding the alternative routes, including 25-foot stream and open water buffers; 100-foot

spring, stream, and open water buffers; and 250-foot spring buffers. Distances through these buffers by alternative are summarized in Table 4.5-1.

Table 4.5-1. Proximity to Potential Occurrences of Wetland/Riparian Zones

	No Action (miles)	Alternative A (miles)	Alternative B (miles)	Alternative C (miles)
Springs				
100-foot buffer	0.00	0.32	0.05	0.41
250-foot buffer	0.00	0.98	0.27	1.89
Perennial Streams				
25-foot buffer	0.00	0.03	0.03	0.09
100-foot buffer	0.00	0.25	0.28	0.52
Perennial Open Water				
25-foot buffer	0.00	0.02	0.00	0.03
100-foot buffer	0.00	0.18	0.00	0.18
Intermittent Open Water				
100-foot buffer	0.00	0.03	0.00	0.02
Total	**0.00**	**1.81**	**0.63**	**3.14**

Note: Surveys not conducted.
Source: BLM (2008a).

4.5.1 No Action

Under the No-Action Alternative, the SST would not be designated and current trends and conditions of wetland and riparian zones would continue. Impacts to wetland/riparian zones from existing OHV use would continue at current levels.

4.5.2 Alternative A

Wetland/riparian zones are especially vulnerable to OHV traffic and increased recreation use. Increased use of the routes associated with Alternative A would result in result in increased OHV traffic and human presence for recreational purposes near springs and streams. A total of 1.81 miles of Alternative A crosses in proximity (within 250 feet) to surface waters with the potential for wetland/riparian zone vegetation to occur (see Table 4.5-1). The increased human presence and OHV traffic in wetland riparian zones along the route would lead to an increase in the loss of vegetation along those 1.81 miles. Riparian areas along Alternative A are also at risk from trail/road rutting as a result of increased motorized travel around wet and rutted areas. Additionally, in areas of lentic systems there is the risk for an underlying water barrier to be breached or damaged to an extent that the soils could no longer hold water at saturation levels sufficient to maintain riparian obligate vegetation throughout the year.

Because wetland/riparian zones with their perennial water sources, increased shade, and wildlife viewing opportunities are an attractive draw for recreational purposes, there would be a greater risk of impacts from recreation uses associated with OHV touring such as camping and picnicking. These would also include loss of vegetation from trampling, increased likelihood of erosion, and deterioration of bank stability.

4.5.3 Alternative B

Impacts from Alternative B would be similar to those described under Alternative A. However, impacts would be less because of the shorter overall length of Alternative B (176 miles). A total of 0.63 mile of Alternative B crosses near (within 250 feet) surface waters that have the potential to host wetland/riparian zone vegetation (see Table 4.5-1). The risk of impacts to wetland/riparian zones associated with Alternative B would occur over fewer areas than under Alternative A.

4.5.4 Alternative C

Impacts from Alternative C would be similar to those described under Alternative A. However, impacts would be greater because of the longer overall length of the alternative route (354 miles). A total of 3.14 miles of Alternative C crosses in proximity (within 250 feet) to surface waters with the potential for wetland/riparian zone vegetation to occur (see Table 4.5-1). The risk of impacts to wetland/riparian zones associated with Alternative C would occur over a greater area than under Alternatives A or B.

4.6 Wildlife

This section discusses impacts to wildlife from the increased OHV use that would result from the designation of the SST under the each of the alternatives. Based on the Lincoln County SST trail count data, it is assumed that an increase on average of six riders a day over the weekend and two riders a day through the week would occur on routes associated with the alternative. Additionally, these riders would generally travel between 30 and 50 miles per day. The types of impacts to wildlife resources that would occur under the alternatives include habitat disturbance, changes in individual animal behavior, increased mortality, and introduction of invasive vegetation. The impacts analysis of wildlife resources takes into account the implementation of resource conservation measures described in Section 2.1.1. Each of the routes avoids habitat identified for desert bighorn sheep. Distances through big-game key habitat types by alternative are summarized in Table 4.6-1.

Table 4.6-1. Miles of Routes through Big-Game Habitat Types

	No Action (miles)	Alternative A (miles)	Alternative B (miles)	Alternative C (miles)
Mule Deer Crucial Summer Range	0.00	36.65	11.74	53.46
Mule Deer Crucial Winter Range	0.00	0.00	0.00	5.63
Elk Crucial Summer Habitat	0.00	28.63	9.48	15.51
Elk Corridors (Home Range)	0.00	0.27	0.27	0.49
Elk Corridors (Seasonal Migration)	0.00	0.60	0.60	0.00

Note: Surveys not conducted.
Source: BLM (2008a).

4.6.1 No Action Alternative

Under the No Action Alternative, the SST would not be designated within White Pine County. Existing habitat disturbance and OHV usage trends within the project area would continue under the No Action Alternative. Wildlife species that are currently in the project area would continue to use the habitat. Changes in individual animal behavior and movements, increased mortality of less mobile species, and the spread and introduction of invasive vegetation from motorized travel on existing roads and trails through the County would continue under current conditions.

4.6.2 Alternative A

Alternative A is 208 miles long and would be located on existing roads and trails that are currently open to motorized travel. For the purposes of impact analysis, the entire route is considered to move through potential reptile habitat. Reptile species along the alternative route have limited mobility and would not be able to easily avoid OHV traffic. An increase in OHV use along the 208 miles of existing roads and trails would increase the risk of direct mortality to reptiles as a result of crushing by vehicles. This risk would increase during the warmer months of the year, i.e., April to September, when these species are more active and more commonly encountered basking along roadways.

Alternative A would increase the risk of direct, long-term impacts to small mammals as a result of crushing from increased OHV traffic. For the purposes of impact analysis, the entire route is considered to cross through potential habitat for small mammals. Small-mammal species along the route have limited mobility and would not be able to easily avoid increased OHV traffic.

Studies have shown that noise and other disturbances associated with OHV activities would result in increased risk of elevated stress levels in a variety of wildlife species. For example, studies have shown that ungulates, birds, and reptiles all experience accelerated heart rates and metabolic function during disturbance events (Havlick 2002). Distance to roads open to motorized vehicles has been identified as a significant predictor of deer and elk distributions. Elk in particular have shown disproportionately less use of areas near roads open to motorized traffic. The pattern of elk selecting habitat further away from roads appears to increase with increasing rate of traffic (Wisdom et al. 2005). On the other hand, studies measuring responses of deer to OHV use showed conflicting results. One study concluded that responses were minimal and that no correlation between OHV activity levels and animal activity levels occurs (Devol 1999). Another study on deer in the Rock Creek OHV area in the Eldorado National Forest concluded that deer were not affected by OHV use and found that deer did not alter their habitat use because of higher traffic levels (Jones and Stokes Associates, Inc. 1991). Alternatively, another study showed that deer avoided OHV use areas during periods of increased use but returned after traffic levels decreased (Kutilek and Ferris 1989), which indicates that at least some additional energy expenditure would occur in association with increased OHV use.

Increased OHV traffic associated with designation of this route would increase the risk of mortality to big-game species from collision with OHVs. Increased human presence, noise, and vibration associated with the increase in OHV traffic along the alternative route would also result in increased energy expenditures and interference with behavioral activities as individual animals move away from the existing roads. These impacts have the potential to occur along the entire 208-mile-long route but would have a greater intensity through crucial habitat types as identified in the Ely RMP/FEIS and ROD (BLM 2007, 2008a). Routes associated with Alternative A cross through 36.65 miles of mule deer crucial summer range and 28.63 miles of elk crucial summer habitat. Alternative A crosses through general pronghorn habitat but does not cross any crucial pronghorn habitat.

Additionally, increased human presence and noise from OHVs may interfere with movement and migration behavior of big-game species. Specifically, Alternative A crosses through 0.27 mile of known elk home range migration corridors and 0.60 mile of known seasonal migration corridors for elk. These impacts would be intermittent and would occur during periods of migration when increased levels of OHV traffic are present.

Indirect long-term impacts that would result from increased OHV use in the project area consist of an increased risk in the spread of noxious and invasive weed species along the route, which could result in a reduction in forage quality along the route.

4.6.3 Alternative B

Impacts from Alternative B would be similar to those described under Alternative A. However, impacts would be less because of the shorter overall length of Alternative B (176 miles). Additionally, routes associated with Alternative B were selected to avoid features within the project area identified as important to big-game species, such as crucial habitat, corridors, springs, and guzzlers. Routes associated with Alternative B travel through 11.74 miles of mule deer crucial summer range and 9.48 miles of elk crucial summer habitat. As a result, risk of impacts to big-game species under Alternative B would be minimized relative to those described under Alternatives A and C.

4.6.4 Alternative C

Impacts from Alternative C would be similar to those described under Alternative A. However, impacts would be greater because of the longer overall length of Alternative C (354 miles) and the additional east-west spur not present in Alternatives A and B. Additionally, routes associated with Alternative C were not selected to avoid areas of crucial habitat for wildlife species. Routes associated with Alternative C travel through 53.46 miles of mule deer crucial summer range and 15.51 miles of elk crucial summer habitat. As a result, risk of impacts to big-game species under Alternative C would be greater than those described under Alternatives A and B.

4.7 Special-Status Species

This section discusses impacts to special-status species from the increased OHV use that would result from the designation of the SST under the each of the alternatives. The types of impacts to special-status species that would occur under the alternatives are similar to those described in Section 4.5 for wildlife. The impacts analysis of special-status species takes into account the implementation of resource conservation measures described in Section 2.1.1.

4.7.1 No Action Alternative

Under the No Action Alternative, the SST would not be designated within White Pine County. Existing habitat disturbance and OHV usage trends within the project area would continue under the No Action Alternative. Special-status species that occur along existing routes through White Pine County would continue to use habitat at current levels. Changes in individual animal behavior and movements, increased mortality of less mobile species, introduction of invasive vegetation, and decreases in water quality from erosion and runoff from motorized travel on existing roads and trails through the County would continue under current conditions.

4.7.2 Alternative A

PYGMY RABBIT

Surveys for pygmy rabbit habitat were not completed for the analysis. Direct, long-term impacts to the pygmy rabbit under Alternative A would be similar to those identified for other small-mammal species in the project area. An increase in OHV use within areas of pygmy rabbit habitat along Route A would increase the risk of mortality from crushing. Additionally, increased OHV traffic would result in displacement of individuals and interference with behavioral activities such as foraging and reproduction.

GREATER SAGE-GROUSE

The majority of sagebrush habitat through which Alternative A crosses in White Pine County is considered potential greater sage-grouse habitat. In addition, Alternative A crosses 152.3 miles of occupied greater sage-grouse summer range. Increased OHV traffic on routes associated with Alternative A would result in an increased risk of mortality or injury to greater sage-grouse through occupied habitat. Additionally, increased OHV traffic would contribute to displacement of individuals and interference with behavioral activities such as nesting.

A total of 2.3 miles of Alternative A crosses within 0.25 mile of active greater sage-grouse leks. A total of 59.3 miles of Alternative A crosses within 2 miles of active leks. Auditory and visual disturbance from increased OHV traffic and human presence may cause greater sage-grouse to avoid traditional use areas and reduce use of those leks and nearby nesting areas (Young 2003).

An increase in OHV use would also increase the risk of spreading noxious and invasive weeds along the route, resulting in indirect, long-term impacts to this species by reducing forage quality. Implementation of resource conservation measures identified in Section 2.2.1 would reduce these impacts.

RAPTORS

Ferruginous hawks and golden eagles are known to nest along the alternative routes. It is assumed that nesting ferruginous hawks golden eagles along existing roads and trails are acclimated to existing traffic levels. Auditory and visual disturbance from increased OHV traffic and human presence may displace ferruginous hawks and golden eagles from areas adjacent to Alternative A.

Bald eagles are known to use roosts within the project area in the winter months but do not occur within the project area during the anticipated period of peak OHV activity (May–September). Since OHV use is not anticipated to increase during the winter months, designation of Alternative A would not result in increased disturbances to bald eagle.

4.7.3 Alternative B

PYGMY RABBIT

Impacts from Alternative B would be similar to those described under Alternative A. However, impacts would be less because of the shorter overall length of Alternative B (176 miles).

GREATER SAGE-GROUSE

Impacts from Alternative B would be similar to those described under Alternative A. However, impacts would be less because of the shorter overall length of Alternative B (176 miles). Additionally, routes associated with Alternative B were selected to avoid features within the project area identified as important to special-status species, specifically sage-grouse leks and habitat. A total of 1.6 miles of Alternative B crosses within 0.25 mile of active greater sage-grouse leks. A total of 60.3 miles of Alternative B crosses within 2 miles of active leks. Routes associated with Alternative B travel through 134.6 miles of greater sage-grouse summer range. As a result, the risk of impacts to special-status species under Alternative B would be minimized, relative to those described under Alternatives A and C.

RAPTORS

Impacts from Alternative B would be similar to those described under Alternative A. However, impacts would be less because of the shorter overall length of Alternative B (176 miles).

4.7.4 Alternative C

PYGMY RABBIT

Impacts from Alternative C would be similar to those described under Alternative A. However, impacts would be greater because of the longer overall length of Alternative C (354 miles) and the additional east-west spur not present in Alternatives A and B.

GREATER SAGE-GROUSE

Impacts from Alternative C would be similar to those described under Alternative A. However, impacts would be greater because of the longer overall length of Alternative C (354 miles) and the additional east-west spur not present in Alternatives A and B. Additionally, routes associated with Alternative C were not prioritized to avoid areas of important habitat for special-status species. A total of 2.1 miles of Alternative C crosses within 0.25 mile of active greater sage-grouse leks. A total of 93.8 miles of Alternative C crosses within 2 miles of active leks. Routes associated with Alternative C travel through 218.0 miles of greater sage-grouse summer range. As a result, the risk of impacts to big-game species under Alternative C would be greater than those described under Alternatives A and B.

RAPTORS

Impacts from Alternative C would be similar to those described under Alternative A. However, impacts would be greater because of the longer overall length of Alternative C (354 miles) and the additional east-west spur not present in Alternatives A and B.

4.8 Migratory Birds

This section discusses impacts to migratory birds from the increased OHV use that would result from the designation of the SST under each of the alternatives. The types of impacts to migratory birds that would occur under the alternatives are similar to those described in Section 4.5, Wildlife, and Section 4.6, Special-status Species, and include displacement and nest abandonment. The impacts analysis of special-status species takes into account the implementation of resource conservation measures described in Section 2.1.1.

4.8.1 No Action

Under the No Action Alternative, the SST would not be designated within White Pine County. Existing habitat disturbance and OHV usage trends within the project area would continue under the No Action Alternative. Migratory bird species that use habitat along existing routes through White Pine County would continue to use habitat at current levels. Changes in individual animal behavior and movements, nesting success, increased mortality, and introduction of invasive vegetation from motorized travel on existing roads and trails through the County would continue under current conditions.

4.8.2 Alternative A

Alternative A would increase the risk of direct, long-term impacts to migratory birds. Increased human presence and OHV use could result in a direct loss of habitat and an alteration of species composition in the area immediately adjacent to designated route segments. For the purposes of impact analysis, the entire route, 208 miles, is considered to cross through potential habitat for migratory bird species. Migratory birds nest in suitable habitats at or near carrying capacity. Increased human presence, OHV use, and noise would result in loss of individual birds through nest abandonment or habitat disturbance.

Because the migratory bird breeding season ends no later than July 15 and increased OHV use is assumed to occur from May to September, there would be an increased risk of interference with breeding behavior in May and June.

4.8.3 Alternative B

Impacts from Alternative B would be similar to those described under Alternative A. However, impacts would be less because of the shorter overall length of Alternative B (176 miles). Additionally, routes associated with Alternative B were selected to avoid features within the project area identified as important to wildlife. As a result, the risk of impacts to migratory bird species under Alternative B would be minimized relative to those described under Alternatives A and C.

4.8.4 Alternative C

Impacts from Alternative C would be similar to those described under Alternative A. However, impacts would be greater because of the longer overall length of Alternative C (354 miles) and the additional east-west spur not present in Alternatives A and B. Additionally, routes associated with Alternative C were not prioritized to avoid areas of important resources for wildlife. As a result, the risk of impacts to migratory bird species under Alternative C would be greater than those described under Alternatives A and B.

4.9 Wild Horses

This section discusses impacts to wild horses from the increased OHV use that would result from the designation of the SST under the each of the alternatives. The types of impacts to wild horses that would occur under the alternatives include habitat disturbance, displacement, and increased risks of harassment. Impacts from each alternative will be determined by miles of each alternative route designated through HMAs. Distances through HMAs by alternative are summarized in Table 4.9-1.

Table 4.9-1. Miles of Routes through HMAs

	No Action (miles)	Alternative A (miles)	Alternative B (miles)	Alternative C (miles)
Pancake	0.0	0.0	0.0	31.6
Triple B	0.0	32.4	70.9	71.3
Antelope	0.0	35.1	0.0	55.4
Total	**0.0**	**67.4**	**70.9**	**158.3**

Source: BLM (2008a).

4.9.1 No Action

Under the No Action Alternative, the SST would not be designated within White Pine County. Existing wild horse habitat disturbance and OHV usage trends within affected HMAs would continue under the No Action Alternative. Wild horses currently in the project area would continue to use these areas.

4.9.2 Alternative A

Increased use of the routes associated with Alternative A would result in intermittent increases in human presence and noise levels along the designated route. This would lead to intermittent disruptions in the behavior of wild horses in the Triple B and Antelope HMAs (see Table 4.9-1). Routes associated

with Alternative A cross through 32.4 miles of the Triple B HMA and 35.1 miles of the Antelope HMA. Disturbances to wild horse behavior would occur primarily during times of higher recreation use such as weekends during the summer months. Increased human presence can also result in an increased risk of displacement and habitat avoidance by wild horses in these HMAs.

Alternative A would also result in reduced forage quality in the long term from the increased spread of existing invasive vegetation and the introduction of new species of invasive vegetation. Measures for reducing the spread and establishment of noxious and invasive weeds are included as part of the resource conservation measures in Section 2.2.1. Implementation of these measures would reduce the risk of spreading invasive vegetation currently occurring along the Alternative route and would reduce the risk of introducing new invasive species from locations with known invasive vegetation problems.

4.9.3 Alternative B

Impacts from Alternative B would be similar to those described under Alternative A. However, impacts would be less because of the shorter overall length of Alternative B (176 miles). Additionally, Alternative B avoids both the Pancake and Antelope HMAs. There are 70.9 miles of Alternative Route B located within the Triple B Wild Horse HMA.

4.9.4 Alternative C

Impacts from Alternative C would be similar to those described under Alternative A. However, impacts would be more intense because of the greater overall length of Alternative B (354 miles) and the additional east-west leg. Alternative C also crosses the Triple B, Pancake, and Antelope HMAs. There are 31.6 miles of Alternative Route B crossing the Pancake HMA, 71.3 miles crossing the Triple B HMA, and 55.4 miles crossing the Antelope HMA, for a total of 158.3 miles through HMAs.

4.10 Rangeland and Livestock Grazing

This section discusses impacts to rangeland and livestock grazing from the increased OHV use that would result from the designation of the SST under each of the alternatives. The types of potential impacts to rangeland and livestock grazing resources would include increased fugitive dust, the introduction of invasive vegetation, a decrease in water quality from erosion and runoff, noise, interference with livestock behavior, and vandalism to range improvements. Impacts from each alternative were determined by calculating the miles of each alternative route designated through grazing allotments, through known populations of invasive vegetation, and near water sources. None of the alternative routes intersect with Sheep Trails in White Pine County. The analysis area includes the existing routes, as well as lands immediately surrounding the alternative routes where the increased OHV use would have an indirect impact to livestock. Table 4.10-1 summarizes alternative route mileage through allotments in White Pine County.

4.10.1 No Action

Under the No Action Alternative, OHV use would continue to occur on existing roads and trails through each of the allotments. The effects of human presence and noise from OHV use on rangeland and livestock grazing would continue to occur under current conditions.

Table 4.10-1. Grazing Allotments by Alternative

Allotment Name	No Action (miles)	Alternative A (miles)	Alternative B (miles)	Alternative C (miles)
Becky Creek	0.0	0.0	0.0	4.2
Becky Springs	0.0	8.5	0.0	15.9
Big Rock Seeding	0.0	1.7	0.0	1.7
Butte Seeding	0.0	0.1	0.1	0.1
Cattle Camp/Cave Valley	0.0	18.6	10.5	11.2
Cave Valley Ranch	0.0	0.0	0.0	1.8
Cherry Creek	0.0	6.3	8.7	6.4
Chimney Rock	0.0	0.0	0.0	18.0
Chin Creek	0.0	9.3	0.0	4.0
Copper Flat	0.0	7.3	17.7	2.9
Duckwater	0.0	0.0	0.0	21.2
Georgetown Ranch	0.0	14.8	11.8	16.1
Geyser Ranch	0.0	11.1	11.1	0.0
Gold Canyon	0.0	1.7	0.0	5.0
Lake Area	0.0	13.4	9.4	14.8
Little White Rock	0.0	6.6	0.0	6.6
Medicine Butte	0.0	21.1	43.2	19.6
Monte Cristo	0.0	0.0	0.0	2.3
Moorman Ranch	0.0	0.0	0.0	27.0
Newark	0.0	0.0	0.0	28.5
No. Butte	0.0	0.0	0.9	0.0
North Steptoe	0.0	0.0	0.0	7.9
Rock Canyon	0.0	0.0	0.0	3.0
Sampson Creek	0.0	6.0	0.0	7.4
Schellbourne	0.0	6.3	0.0	6.6
Sheep Pass	0.0	0.0	0.0	6.2
Shingle Pass	0.0	0.0	0.0	2.2
Six Mile	0.0	0.0	0.0	1.1
South Butte	0.0	7.3	10.3	7.3
Steptoe	0.0	0.0	0.0	10.4
Tamberlane	0.0	0.0	4.1	0.0
Thirty Mile Spring	0.0	20.0	20.8	36.6
Tippett	0.0	17.3	0.0	15.3
West Schell Bench	0.0	2.4	2.4	2.4
White Rock	0.0	10.9	19.0	9.2
Willow Springs	0.0	2.4	0.0	0.0

Source: BLM (2008a).

4.10.2 Alternative A

Increased use of the routes associated with Alternative A would result in increased fugitive dust along the route from vehicle traffic, human presence, and noise levels along the 208-mile-long designated route across 21 different allotments (see Table 4.10-1). Increased human presence and noise associated with OHV use would lead to intermittent disruptions in the behavior of cattle and sheep. Interruptions would occur primarily during times of higher recreation use such as weekends during the summer months. Changes in grazing patterns may result in increased grazing in other portions of allotments that are not directly impacted by increased motorized travel and human presence.

Alternative A would result in reduced native vegetation quality from increased fugitive dust settling on vegetation adjacent to the route, the spread of existing invasive vegetation and the introduction of new species of invasive vegetation. Invasive vegetation degrades vegetation in several ways. Weeds out-compete most native plants and can lead to a homogeneous vegetative landscape. Weedy habitats often contain fewer highly nutritious species for grazers. Increased motorized use of the routes associated with Alternative A would result in an increased potential for invasive vegetation that is currently occurring along Alternative A to spread and for new invasive species to be introduced. Measures for reducing the spread and establishment of noxious and invasive weeds are included as part of the resource conservation measures in Section 2.2.1. Implementation of these measures would reduce the risk of spreading invasive vegetation that is currently occurring along the alternative route, as well as reducing the risk of introducing new invasive species from locations with known invasive vegetation problems.

Increased human presence would also result in an increased risk of vandalism to grazing facilities such as cut fences, damaged gates, and interference with livestock use of stock ponds, troughs, or other water sources.

4.10.3 Alternative B

Impacts from Alternative B would be similar to those described under Alternative A. However, impacts would be less because of the shorter overall length of Alternative B (176 miles). Additionally, Alternative B only crosses through 14 allotments.

4.10.4 Alternative C

Impacts from Alternative C would be similar to those described under Alternative A. However, impacts would be more intense because of the greater overall length of Alternative B (354 miles) and the additional east-west leg. Additionally, Alternative C crosses through 32 allotments.

4.11 Land Use and Ownership

This section discusses impacts to land use from the increased OHV use that would result from the designation of the SST under the each of the alternatives. Impacts to land use are assessed by determining conflicts with existing plans, designations, management prescriptions, or changes to the types of existing land uses brought on by the implementation of the alternatives. The analysis area for land use and ownership consists of lands immediately surrounding the alternative routes within White Pine County. Lands immediately surrounding the alternative routes ensure that ROWs, pending ROWs, private lands, and dispersed land uses that would be potentially affected by the designation of a SST are taken into consideration.

4.11.1 No Action

Under the No Action Alternative, the SST would not be designated within White Pine County, and land managed by the BLM and the Forest Service would continue to be managed within their respective management frameworks and in conformance with applicable statutes, regulations, Forest Service Travel Management Plan (Forest Service 2009), and the Ely RMP/FEIS (BLM 2007, 2008a).

4.11.2 Alternative A

Alternative A occurs on existing roads and trails currently open to motorized vehicle travel for public purposes, including recreation uses. Designation of routes associated with Alternative A would conform to the terms and conditions of any previously issued ROWs and would not result in any changes to the maintenance and operations of existing ROWs.

A total of 2.5 miles of existing roads associated with Alternative A cross private lands. Increased OHV recreation use of existing roads and trails through private lands would lead to restricted public access.

4.11.3 Alternative B

Because Alternative B would also be designated on existing roads and trails currently open to motorized travel for public purposes, the impacts from Alternative B to land uses would be the same as those described under Alternative A.

A total of 1.9 miles of existing roads associated with Alternative B cross private lands. Increased OHV recreation use of existing roads and trails through private lands would lead to restricted public access.

4.11.4 Alternative C

Because Alternative C would also be designated on existing roads and trails currently open to motorized travel for public purposes, the impacts from Alternative C to land uses would be the same as those described under Alternative A.

A total of 14.9 miles of existing roads associated with Alternative C cross private lands. Increased OHV recreation use of existing roads and trails through private lands would lead to restricted public access.

4.12 Transportation/Access

This section discusses impacts to transportation from the increased OHV use that would result from the designation of the SST under the each of the alternatives. Impacts to transportation will be determined by changes to existing road designations and public access that are brought on by the implementation of the alternatives.

4.12.1 No Action

Under the No Action Alternative, the SST would not be designated within White Pine County. OHV use would continue throughout the County on existing roads and trails consistent with existing travel management plans and OHV designations in the BLM RMP/FEIS. The current travel designation of “limited to existing roads and trails” on BLM-managed lands would continue until site-specific travel management plans are completed. The risk of off-trail travel and subsequent creation of new vehicle routes would continue at current levels.

4.12.2 Alternative A

Alternative A would designate 208 miles of existing roads and trails as the SST. There would be no change to travel management plans or public access as a result of the designation. Increased recreational use of existing roads and trails would contribute to increased erosion of road surfaces leading to rutting and road widening as motorized users travel around "problem" rutting areas. Damage to road surfaces would be mitigated by road and trail maintenance actions as determined in the monitoring and mitigation plan.

4.12.3 Alternative B

Impacts from Alternative B would be similar to those described under Alternative A.

4.12.4 Alternative C

Impacts from Alternative C would be similar to those described under Alternative A.

4.13 Recreation

This section discusses impacts to recreation from the increased OHV use that would result from the designation of the SST under each of the alternatives. Impacts to recreation will be determined by changes to developed recreation sites, dispersed recreation opportunities, and activities. Additionally, impacts were determined by changes to the settings needed to support those activities and desired recreational experiences that are brought on by the implementation of the alternatives. The analysis area includes the existing routes as well as lands immediately surrounding the alternative routes where the increased OHV use would be experienced by the visitor.

4.13.1 No Action

Under the No Action Alternative, recreation opportunities in the project area would continue to be managed consistent with the objectives of the Ely RMP/FEIS (BLM 2007, 2008a). Current recreation opportunities, settings, and activities in the area of analysis would continue to be affected by existing conditions under the No Action Alternative. The project area would remain available for recreation activities, including hunting, hiking, OHV use, motorized touring, and other types of dispersed recreation.

4.13.2 Alternative A

DEVELOPED RECREATION SITES

Under Alternative A, changes to developed recreation sites along the proposed route would result from increased motorized recreation use of the existing roads and trails. Based on observations of use of the existing routes associated with the Lincoln County SST following designation, the increased traffic from new OHV users along Alternative A would contribute to minor increases in visitation at the following developed recreation sites along the alternative route: Ward Charcoal Ovens, the Historic Ward Mining District, the Steptoe Wildlife Management Area, Garnet Hill, and the Egan Crest Trail System. In the long term, as more individuals become aware of the SST, it is assumed that use would become progressively greater. Increases in motorized recreation at these sites over time would result in greater user conflicts and displacement of non-motorized recreation uses to other nearby developed recreation sites (Ouren et al. 2007). The resource conservation measure "incorporate information on land use ethics from programs such as Right Rider and Tread Lightly into all trail access point kiosks" as described in Section 2.1.1 would help reduce conflicts between recreation uses.

DISPERSED RECREATION OPPORTUNITIES

Motorized recreation is a popular dispersed recreation activity in White Pine County. Alternative A includes existing route designations through more diverse topography in addition to motorized trail opportunities for motorcycles, OHVs, and standard four-wheel drive vehicles. This diversity of trails and topography associated with Alternative A would contribute to the enjoyment of those recreationists seeking backcountry motorized touring opportunities and would result in greater increases in OHV use of the designated trail in the long term.

In addition to motorized recreation, one of the primary dispersed recreation opportunities in White Pine County is hunting. An increase in OHV use on existing roads and trails through game management units would result in diminished hunting opportunities. Increased OHV use would result in individual big-game animals avoiding areas near Alternative A. This would result in the displacement of hunters into areas farther from the designated routes as they travel different routes and to different areas of the game management units. Because the increases in OHV recreation use are assumed to occur during the primary tourism season between April and September, the effects of increased OHV use would occur primarily in August and September during early mule deer and pronghorn hunts and would not result in long-term changes to hunting experiences.

4.13.3 Alternative B

DEVELOPED RECREATION SITES

Impacts from Alternative B would be similar to those described under Alternative A. In the long term, as more individuals become aware of the SST, it is assumed that use would become progressively greater. The increases in motorized recreation at these sites over time would result in greater user conflicts and displacement of non-motorized recreation uses to other nearby developed recreation sites such as Cave Lake State Park and Ward Mountain.

DISPERSED RECREATION OPPORTUNITIES

Motorized recreation is a popular dispersed recreation activity in White Pine County. Although Alternative B would contribute to motorized recreation opportunities in White Pine County, Alternative B does not include various road and trail widths or the variety of topography and vegetation found under Alternative A.

Impacts from Alternative B would be similar to those described under Alternative A. Increased OHV use would result in individual big-game animals avoiding areas near the alternative route. This would indirectly result in the displacement of hunters to different routes and different areas of the game management units for more quality hunting opportunities.

4.13.4 Alternative C

DEVELOPED RECREATION SITES

Impacts from Alternative C would be similar to those described under Alternative A. However, impacts would be more intense because of the greater overall length of Alternative C (354 miles) and the additional east-west leg. In the long term, as more individuals become aware of the SST, it is assumed that use would become progressively greater. The increases in motorized recreation at these sites over time would result in greater user conflicts and displacement of non-motorized recreation uses to other nearby developed recreation sites such as Cave Lake State Park and Ward Mountain.

DISPERSED RECREATION OPPORTUNITIES

Impacts from Alternative C would be similar to those described under Alternative A. Motorized recreation is a popular dispersed recreation activity in White Pine County. Alternative C includes the highest mileage of route designations in addition to a connection to Eureka County and the community of Lund. Alternative C would contribute to the enjoyment of those recreationists seeking backcountry motorized touring opportunities and would result in long-term increased OHV use of the designated SST.

Increased OHV use would result in individual big-game animals avoiding areas near the alternative route. This would indirectly result in displacing hunters to different routes and different areas of the game management units to avoid increased OHV use and for more quality hunting opportunities.

4.14 Health and Human Safety

This section discusses impacts to health and human safety from the increased OHV use that would result from the designation of the SST under the each of the alternatives. It is assumed that implementation of any of the alternatives would result in increased OHV use of the roads and trails associated with the alternative relative to existing conditions. Concerns over public safety consist of the cost of emergency and rescue services, need for increased law enforcement, safety and OHV use on existing public roads and in communities, increased use decreasing user safety, and mixing OHVs and other forms of passenger transportation. Impacts to public safety will be determined by evaluating the number of paved road crossings and a qualitative assessment of routes that would be used for multiple motorized vehicle types. The analysis area includes the routes where increased recreational OHV use is expected to occur.

4.14.1 No Action

Under the No Action Alternative, public safety along existing routes in White Pine County would continue under current conditions. Existing routes throughout the County would remain open to motorized travel and would continue to be used by a combination of full-sized vehicles, ATVs, and motorcycles. There would be a risk of collision between OHV riders and full-sized vehicle drivers under the No Action Alternative.

4.14.2 Alternative A

Under Alternative A, 208 miles of existing roads and trails would be designated as the SST. These existing roads and trails are currently open to motorized travel and are accessible to full-sized vehicles, OHVs, and motorcycles. Encouraging increased recreation use of these existing roads and trails is expected to result in increased OHV and motorcycle use as described in Section 4.1. Increased use is expected to result in a greater risk of vehicle collisions, injuries, and fatalities to riders of smaller OHVs and motorcycles. Although there are no available baseline data, based on qualitative field observations and proximity to a population center, it is assumed that there are higher numbers of vehicles using roads surrounding Ely. Because of this, the risk of collisions and vehicle accidents is expected to be more intense where the route enters and leaves the city of Ely. Shared-use signs placed along the route would reduce the risk of collisions.

Abandoned mine lands in the form of shafts and adits are present in all alternatives. Educating riders, posting danger signs, and securing all adits and shafts would help reduce risks of falling into shafts or adits.

Additionally, Alternative A has three highway crossings, two at U.S. 50 west of Ely and one at U.S. 93 north of Ely (see Figure 2.1-1). Highway crossings are points of increased risk of collision with higher-

speed vehicles, injuries, and fatalities. Rider education and resource conservation measures described in Section 2.1.1 would help reduce risks of collisions, injuries, and fatalities associated with highway crossings.

4.14.3 Alternative B

Impacts from Alternative B would be similar to those described under Alternative A. However, Alternative B has two highway crossings at U.S. 50. Rider education and resource conservation measures described in Section 2.1.1 would help reduce risks of collisions, injuries, and fatalities associated with highway crossings by addressing safe riding skills.

4.14.4 Alternative C

Impacts from Alternative C would be similar to those described under Alternative A. However, Alternative C has a total of five highway crossings: four U.S. 50 and one U.S. 93. Rider education and the resource conservation measures described in Section 2.1.1 would help reduce risks of collisions, injuries, and fatalities associated with highway crossings by addressing safe riding skills.

4.15 Socioeconomics

The BLM is required to integrate social science information in the preparation of informed decisions. Section 102 of NEPA requires federal agencies to "insure the integrated use of natural and social sciences . . . in planning and decision making." Economic conditions refer to employment, income, and the economic base of a community. Social conditions refer to the human population, its characteristics, and its interests related to the use of public lands.

This section discusses impacts to socioeconomics from the increased OHV use that would result from the designation of the SST under each of the alternatives. Impacts to socioeconomics are considered in terms of the potential changes to public services, road and trail maintenance, employment, income, and tax revenues brought on by the implementation of the alternatives, including

- Cost of additional maintenance to existing roads;
- Liability to the County from unlicensed vehicle use;
- No funding allocated to assist the County to address negative impacts;
- Cost of services such as search and rescue and law enforcement;
- Impacts to the public owning OHVs and looking for opportunities to use them; and
- Economic benefit from motorized recreation.

4.15.1 No Action

Under the No Action Alternative, an SST would not be designated, and socioeconomic conditions in White Pine County would continue to be subject to existing conditions and local trends.

4.15.2 Alternative A

Under Alternative A, 208 miles of existing roads and trails would be designated as the SST. Designating Alternative A is expected to result in an increase in recreation and tourism along the route in White Pine County. The Nevada 2005 State Recreational Trails Plan found that 18.8% of survey respondents participated in ATV riding and they traveled in groups of four people or more (NDSP 2005). A survey of

OHV users performed in the state of Utah found that 40% to 57% of respondents recreated on land managed by the BLM and that they traveled, on average, 100 miles or more per trip, one-way, to participate in OHV riding activities and made up to 14 trips per year. This same survey also indicated that on average they used 4.3 gallons of gas per trip in their OHV and that people also visited lodging and eating establishments during their trips (Fisher et al. 2001). The average OHV rider in Nevada spent up to $769 annually on gas, food, restaurants, and lodging while participating in motorized recreation (NDSP 2005).

It is assumed that OHV riders on the SST would contribute to the local economy of Ely by spending on gas, restaurants, lodging, and other services. There were 887 vehicle counts recorded at the Lincoln County SST between April and September. It is assumed that not all of these vehicles are associated with OHV recreation on the SST. The total weekend vehicle count recorded at the Lincoln County SST between April and September in 2009 was 363. This would represent a potential annual increase to the local economy of $279,147. However, although Alternative A does provide connections to the outskirts of Ely, it is expected that because the route is a long-distance, point-to-point trail, users would largely be self-reliant and come equipped with camping equipment and supplies. As a result, there would be a negligible beneficial impact to the local economy of Ely from increased OHV use.

Alternatively, increased recreational OHV use of the routes associated with Alternative A would lead to an increased need for public services such as law enforcement, search and rescue, and road and trail maintenance in remote parts of the County. Designation of the SST would result in an increased demand for available public services in the long term.

4.15.3 Alternative B

Impacts from Alternative B would be similar to those described under Alternative A.

4.15.4 Alternative C

Impacts from Alternative C would be similar to those described under Alternative A. Because of the connection to Lund, it is assumed that OHV riders on the SST would contribute to the local economy of Lund by spending on gas, restaurants, lodging, and other services. The greater distances and additional spurs of Alternative C would also encourage users to be more self-reliant and come with their own supplies.

Because segments of routes associated with Alternative C are more remote than Alternatives A and B from Ely, there would be a greater cost to public services associated with responding to incidents in the long term.

This page intentionally left blank.

5.0 CUMULATIVE IMPACTS

Council on Environmental Quality regulations for implementing NEPA define cumulative impacts as

> the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions (RFA) 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)

The BLM NEPA Handbook states that the purpose of the cumulative effects analysis is to ensure that decision-makers consider the full range of the consequences of the Proposed Action, alternatives to the Proposed Action, and No Action Alternative (BLM 2008b). Those resources that would be directly or indirectly affected by the alternatives are analyzed below. If the actions under each alternative have no direct or indirect effect on a resource (as disclosed in Chapter 4, Environmental Consequences), then the cumulative impacts on that resource are not addressed below.

The cumulative impacts analysis area is generally based on a 10-mile buffer surrounding the alternative routes (Figure 5.1-1). This area of White Pine County was determined to be a large enough geographic area to encompass all affected resources considered for cumulative impacts. For all resources analyzed, a review of past, present, and reasonably foreseeable future actions was completed within the portions of White Pine County through which the alternative routes occur. The cumulative impact analysis area is primarily undeveloped and used for grazing, recreation, roads, and ROWs.

Table 5.1-1 summarizes past, present, and reasonably foreseeable future actions. Past actions are considered those that have occurred within the past 50 years. Present actions are considered those occurring at the time of this evaluation. Future actions are those that are in planning stages with a reasonable expectation of occurring over the next 20 years. These actions were identified through correspondence with the Ely BLM District Office.

Table 5.1-1. Past, Present, and Reasonably Foreseeable Future Actions Considered for Cumulative Impact Analyses

Action	Description	Resources Affected	Area of Impact
Past Actions			
Cave Valley Ranch Rabbitbrush Removal	The BLM partnered with private land owners in Cave Valley Ranch and the Rocky Mountain Elk Foundation to remove rabbitbrush on public and private lands in Cave Valley through mowing and herbicide.	Grazing, Vegetation, Wildlife	850 acres
Smith Valley Stewardship Project	Fuels reduction project expected to yield more than 4,500 tons of biomass. Part of biomass would be burned for heat in a retrofitted boiler by the Ely Elementary School.	Grazing, Vegetation, Wildlife, Socioeconomics	1,100 acres
Dispersed Recreation	OHV use, hunting, hiking, heritage tourism, etc., have occurred throughout the area of analysis.	All	Entire cumulative impacts area
Livestock Grazing	Grazing has occurred throughout the cumulative impacts area on BLM, Forest Service, and private lands.	Vegetation, Wildlife, Socioeconomics, Noxious and Invasive Species, Wetland and Riparian Zones	Entire cumulative impacts area

Table 5.1-1. Past, Present, and Reasonably Foreseeable Future Actions Considered for Cumulative Impact Analyses (Continued)

Action	Description	Resources Affected	Area of Impact
Present Actions			
Gleason Creek Riparian Fence	Fence to prevent cattle from overusing riparian vegetation and eliminate trampling and soil compaction.	Grazing, Riparian Vegetation, Wildlife	4-mile fence
North Antelope Thinning Stewardship	Habitat improvement and fuels reduction project in the Antelope and north Steptoe valleys.	Grazing, Vegetation, Wildlife	3,600 acres
Cold Springs Stewardship Project	Fuels treatment project expected to yield 2,000 cords of pinyon and juniper.	Grazing, Vegetation, Wildlife	520 acres
Integrated Weed Management Plan	Provides for non-native and noxious invasive weed inventory, treatment and prevention, and education.	All	Entire cumulative impacts area
Reasonably Foreseeable Future Actions			
White Rock Riparian Fence	New fence, pipeline, and trough to maintain a dependable water source for wildlife and wild horses while reversing impacts to riparian vegetation at White Rock Spring.	Grazing, Riparian Vegetation, Wildlife, Wild Horses	1,450-foot fence
Cherry Creek Riparian Fence	New fence, pipeline, and trough to restrict livestock access to spring sources and adjoining riparian zones to protect riparian zones from overgrazing and recover toward proper functioning condition.	Grazing, Riparian Vegetation, Wildlife	0.5-mile riparian fence
Duck Creek Travel Plan	Rehabilitating up to 60 miles of OHV routes in Duck Creek Basin through barrier construction, soil de-compaction, and seeding.	Wildlife, Recreation	60 miles of routes
Windlab Systems	ROWs have been issued for two project areas in Horse Corral Pass and Mule Shoe Summit. An anemometer has been installed in each area to monitor wind for three years.	All	Unknown
Ely Wind Mountain	Nevada Wind has proposed an up to 700-megawatt wind project on approximately 15,000 acres. A project of that size would use approximately three hundred fifty 2-megawatt turbines. Typical ground disturbance (short and long term) associated with a project of that size would be around 10% of the total project area, totaling 1,500 acres.	All	1,500 acres
Southern Nevada Water Association Groundwater Development Project	The project would develop and convey up to 170,000 acre-feet of water per year from publics lands in rural Clark, Lincoln, and White Pine counties to the Las Vegas and Coyote Spring valleys to help meet southern Nevada's future water needs. Full build-out of the project is anticipated to be complete by 2050. Quantifiable impacts to vegetation and springs are anticipated to occur at the 10-foot drawdown period, which is projected to occur 75 years after full build-out (BLM 2009b).	All	Permanent ROW, 7,872 acres
ON Line	NV Energy and LS Power, Inc., proposed a 500-kV transmission line from the Harry Allen substation, north of Las Vegas to a substation to be constructed west of Ely.	All	236 miles
Integrated Weed Management Plan	New plan would continue to provide for non-native and noxious invasive weed inventory, treatment and prevention, and education.	All	Entire cumulative impacts area
Antelope Complex Wild Horse Gather	The BLM is scheduled to remove 746 wild horses from the Antelope Complex.	Wildlife, Vegetation, Wild Horses, Grazing	331,000 acres

In any NEPA analysis, it is preferable to quantify the assessment of impacts on each affected resource. This is true for direct, indirect, and cumulative impacts. Where possible, the following analysis is quantified. Where quantification is not available, a meaningful and qualified judgment of cumulative effects is included to inform the public and the decision maker.

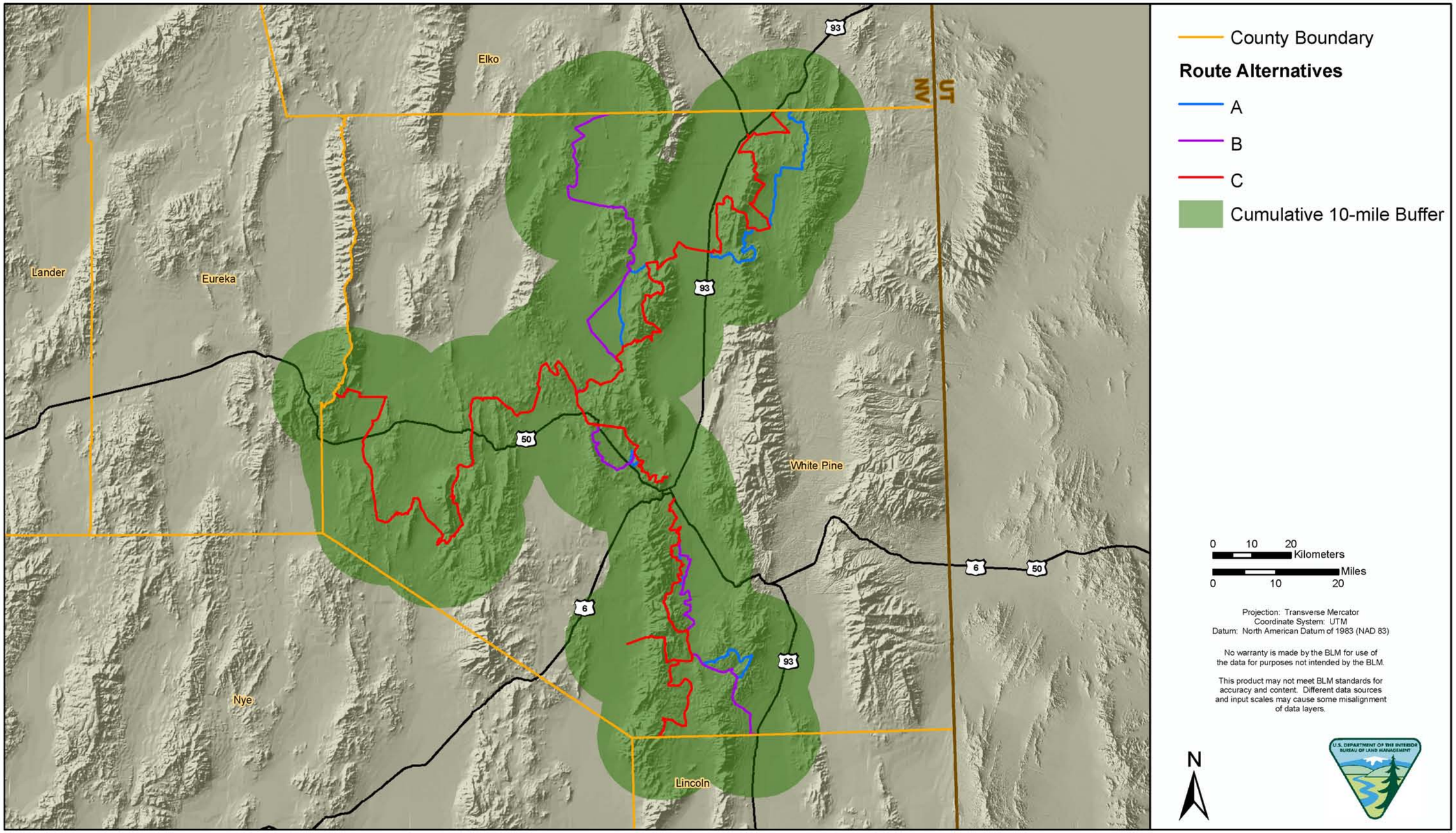

Figure 5.1-1. Cumulative impacts analysis area.

This page intentionally left blank.

5.1 Cultural Resources

The past and present land uses along the alternative routes have had a direct effect on cultural resource values in the area. Direct effects have included the loss and disturbance of cultural artifacts and sites, as well as the modification and alteration of the setting of heritage areas, cultural sites, and resources. Although surveys are conducted prior to development on federal lands to determine the presence of cultural resources sites eligible for listing in the NRHP

(Section 106 of the NHPA), information may not be captured or sites may not be protected from disturbance on private lands.

Reasonably foreseeable development in the area over the next 30 years would be expected to result in the development of up to 14,000 acres for wind energy facilities, construction and operation of the 236-mile ON line 500-kV transmission line, and the Southern Nevada Water Association (SNWA) groundwater development project. These developments would result in new ground disturbance, including new access roads and an increased human presence along existing roads during both construction and operations within the cumulative impacts analysis area. Surveys prior to construction would identify the presence of cultural resources and eligible sites prior to surface disturbance for construction. These surveys would provide for mitigation measures needed to capture the information these sites provide before construction and disturbance or removal of the affected sites. While physical sites would be lost, the information these sites provide about previous cultures would be recorded before construction. Ultimately, the result would be the collection of additional information about previous cultures and sites but the loss of the physical presence of other sites.

The designation of the SST under the alternatives would result in an incremental increase in motorized use and human presence along existing roads and trails in the area and result in a minor cumulative contribution to the risk of indirect damages to cultural resources and direct contrasts to the settings of heritage area.

5.2 Vegetation

The past and present land uses along the alternative routes have had a direct effect on vegetation in the area. Direct effects have included the direct loss of vegetation, crushing and trampling, and introduction of invasive vegetation.

Reasonably foreseeable development in the cumulative impacts analysis area such as the development of riparian exclosures, invasive weed treatments, fencing, and wildfire and vegetation rehabilitation treatments would result in improved vegetation conditions along segments of the alternative routes over the next 30 years. The integrated weed management plan would facilitate weed treatment throughout the Ely District, including the cumulative impacts analysis area. Other actions such as the development of 14,000 acres for wind energy facilities, construction and operation of the 236-mile ON line 500-kV transmission line, and the SNWA groundwater development project would result in new ground disturbance and vegetation removal and would include new access roads that would contribute to increased motorized use and human presence along existing roads within the area of analysis.

The designation of the SST under the alternatives would contribute to the increase in crushed vegetation adjacent to existing roads, the spread of noxious and invasive weeds, and the introduction of new noxious weed species as a result of incremental increases in motorized use and human presence along existing roads and trails in the cumulative impacts analysis area. The cumulative impacts to vegetation from the spread of noxious and invasive weeds would be reduced through the implementation of the integrated

weed management plan, weed control measures under each of the SST alternatives, and implementation of BMPs that would be associated with reasonably foreseeable future actions.

5.3 Noxious and Invasive Non-native Weeds

Past and present land uses along the alternative routes have contributed to the introduction and spread of noxious and invasive non-native species along the alternative routes. Invasive weed treatments, wildfire rehabilitation, illegal route restoration in Duck Creek Basin, and vegetation rehabilitation treatments have resulted in improved vegetation conditions along segments of the alternative routes.

Reasonably foreseeable development in the area such as the development of riparian exclosures, invasive weed treatments, fencing, travel management planning, and vegetation rehabilitation treatments would further contribute to better control of noxious and invasive weed species along existing roads and trails in the cumulative impacts analysis area over the next 30 years. The construction and operation of linear developments such as the 236-mile ON line 500-kV transmission line and the SNWA groundwater development project would include access roads and would result in new ground disturbance and increased risk to the spread of noxious and invasive species along new access roads and existing roads within the cumulative area of analysis. The designation of the SST under each of the alternatives would not result in any new surface disturbances; however, it would result in an incremental increase in motorized use along existing roads and trails in the area and would contribute to the introduction of new weed species and the spread of currently occurring noxious and invasive weeds. The cumulative impacts of noxious and invasive weeds would be reduced through the implementation of the integrated weed management plan, weed control measures under each of the SST alternatives, and implementation of BMPs associated with the other reasonably foreseeable future actions.

5.4 Wetland and Riparian Zones

The past and present land uses along the alternative routes have had a direct effect on wetland and riparian vegetation in the area. Direct effects have included the direct loss of vegetation, crushing and trampling, and introduction of invasive vegetation.

Reasonably foreseeable development in the area such as the development of riparian exclosure fences and invasive weed treatments would be expected to result in improved conditions of wetland and riparian zones along segments of the alternative routes over the next 30 years. Construction of riparian exclosure fences at Gleason Creek, White Rock Spring, and Cherry Creek springs would allow for the recovery of degraded riparian zones. Additionally, other reasonably foreseeable effects would include loss of riparian vegetation and potential for sediment capture by riparian systems and potential effects on surface and groundwater systems that favor the formation and persistence of riparian systems. It is assumed that other future projects would be designed and constructed to avoid wetland and riparian zones.

Designation of the SST would result in an incremental increase in motorized use and human presence along existing roads and trails in the area and would contribute to impacts of riparian areas as a result of increased human presence and OHV use. Although there would not be an increase in the number or character of existing roads and trails, the increased use would contribute to greater perturbation of those existing road and trail surfaces (including rudimentary ditches on roads), which may facilitate the mobilization of sediment into drainages or riparian systems during rainfall or snowmelt events. Resource conservation measures are included as part of the alternatives and would address impacts to riparian areas.

5.5 Wildlife

The past and present land uses along the alternative routes have had a direct effect on wildlife in the area. Direct effects have included habitat fragmentation, loss of vegetation, habitat disturbance, changes in individual animal behavior, increased mortality, and introduction of invasive vegetation. Invasive weed treatments, illegal route restoration in Duck Creek Basin, and habitat restoration treatments have contributed to improved wildlife habitat conditions and reduced habitat fragmentation on 6,070 acres and would reduce existing illegal vehicle routes in the area by 60 miles.

Reasonably foreseeable future actions such as the development of riparian exclosure fences, invasive weed treatments, and wild horse gathers are also expected to result in improved wildlife habitat conditions within the cumulative impacts analysis area. Construction of riparian exclosure fences at Gleason Creek, White Rock Spring, and Cherry Creek springs would allow for the recovery of degraded riparian zones and would improve wildlife habitat in the long run. Additionally, the installation of pipelines and troughs would maintain available water sources for wildlife. The wild horse gather would maintain horse populations at AMLs.

Other reasonably foreseeable future actions in the area over the next 30 years would be expected to result in the development of 1,400 acres for wind energy facilities and construction and operation of the 236-mile ON line 500-kV transmission line. These developments would result in a direct loss of habitat, increased habitat fragmentation, and increased risk of mortality associated with the increased human presence and motorized use of new improved public access within the area of analysis.

Designation of the SST would result in an incremental increase in motorized use and human presence along existing roads and trails in the area and would contribute to habitat disturbance, changes in individual animal behavior, increased mortality, and introduction of invasive vegetation. Impacts are assumed to occur along the entire length of each alternative; however, Alternative C, with the highest mileage through crucial big-game habitat, would result in a greater incremental impact to wildlife.

5.6 Special-Status Species

The past and present land uses along the alternative routes have had a direct effect on special-status species in the area. Past and present actions have contributed to injury, mortality, loss of habitat, habitat fragmentation, lek abandonment, nest abandonment, and displacement.

Reasonably foreseeable development in the area such as the development of riparian exclosure fences and invasive weed treatments would be expected to result in improved conditions of vegetation in the cumulative impacts analysis area over the next 30 years. Construction of riparian exclosure fences at Gleason Creek, White Rock Spring, and Cherry Creek springs would allow for the recovery of degraded riparian zones. Other reasonably foreseeable future actions in the area over the next 30 years would be expected to result in the development of 1,400 acres for wind energy facilities, construction and operation of the 236-mile ON line 500-kV transmission line, and the SNWA groundwater development project. These actions would result in loss of habitat, habitat fragmentation, increased risk of lek abandonment, and increased risk of mortality associated with new structures, increased human presence, and motorized use of new improved public access.

Designation of the SST would result in an incremental increase in motorized use and human presence along existing roads and trails in the area and would contribute to displacement, lek abandonment, habitat disturbance, increased mortality, and changes in individual animal behavior in the long run. Alternative C has the highest mileage occurring, with 2 miles of active leks, and would result in a greater incremental impact to greater sage-grouse than Alternatives A and B.

5.7 Migratory Birds

The past and present land uses along the alternative routes have had a direct effect on migratory birds in the area. Past and present actions have contributed to displacement, nest avoidance, injury, mortality, loss of habitat, and habitat fragmentation.

Reasonably foreseeable development in the area such as the development of habitat restoration projects, riparian exclosure fences, and invasive weed treatments would be expected to result in improved conditions of vegetation and associated migratory bird habitat within the cumulative impacts analysis area over the next 30 years. Other reasonably foreseeable future actions in the area over the next 30 years would be expected to result in the development of 1,400 acres for wind energy facilities, construction and operation of the 236-mile ON line 500-kV transmission line, and the SNWA groundwater development project. These actions would result in loss of habitat, habitat fragmentation, and increased risk of mortality associated with construction activities, the presence of new vertical structures, increased human presence, and motorized use of new improved public access within the cumulative impacts analysis area.

The designation of the SST under the alternatives would result in an incremental increase in noise from motorized use and human presence along existing roads and trails during the migratory bird nesting period from April to June and would result in an incremental contribution to displacement, nest avoidance, injury, mortality, loss of habitat, and habitat fragmentation.

5.8 Wild Horses

The past and present land uses along the alternative routes have had a direct effect on wild horses in the area. Past and present actions have contributed to injury, mortality, loss of habitat, habitat fragmentation, and displacement.

Reasonably foreseeable development in the area such as the development of riparian exclosure fences and invasive weed treatments would be expected to result in improved conditions of vegetation along segments of the alternative routes over the next 30 years. Construction of the riparian exclosure fence at the White Rock Spring and installation of a pipeline and water trough would maintain the available water source for wild horses. Other reasonably foreseeable future actions in the area over the next 30 years would be expected to result in the development of 1,400 acres for wind energy facilities and construction and operation of the 236-mile ON line 500-kV transmission line. These developments would result in loss of habitat, habitat fragmentation, and displacement as a result of increased human presence and motorized use of existing roads within the area of analysis. In addition, wild horse gathers are conducted periodically in order to maintain wild horse populations at AMLs.

The designation of the SST under the alternatives would result in an incremental increase in motorized use and human presence along existing roads and trails in the HMAs and result in a minor cumulative contribution to habitat disturbance, changes in wild horse behavior, and introduction of invasive vegetation.

5.9 Rangeland and Livestock Grazing

The past and present land uses in the allotments have had a direct effect on extent of grazing and the amount of forage in the area. Utility development, roads, and dispersed recreation have encroached on lands used for grazing and reduced the amount of acres available for livestock.

Reasonably foreseeable development in the area such as the development of riparian exclosure fences, and invasive weed treatments would be expected to result in improved conditions of vegetation along segments of the alternative routes over the next 30 years. Construction of riparian exclosure fences at Gleason Creek, White Rock Spring, and Cherry Creek springs would allow for the recovery of degraded riparian zones. Installation of pipelines and troughs would maintain the available water source for livestock. It is unclear what the effects of SNWA groundwater development project would be on vegetation and acres available for grazing along the alternative routes.

Other reasonably foreseeable future actions in the area over the next 30 years would result in the development of 14,000 acres for wind energy facilities and construction and operation of the 236-mile ON line 500-kV transmission line. These developments would result in the loss of acres available for grazing, loss of AUMs, and increased invasive vegetation as a result of increased human presence and motorized use of new improved public access within the area of analysis.

Designation of the SST would not contribute to any loss of acres available for grazing or loss of AUMs in the affected allotments. Designation of the SST would contribute to an increase in motorized use and human presence along existing roads and trails in the cumulative impacts analysis area and would contribute to decreased native vegetation quality from fugitive dust, an incremental increase in invasive vegetation, changes in individual livestock behavior, and increased risk of damage and/or vandalism of range improvements, including fences, water troughs, gates, etc.

5.10 Land Use and Ownership

The past and present land uses in Spring Valley have had a direct effect on the conversion of lands from one use to another. Land in Spring Valley is largely undeveloped and is characterized by open rangelands and by areas used for grazing, utilities, recreation, and widely dispersed private ranches.

Reasonably foreseeable future actions in the area over the next 30 years would be expected to result in changes to land uses from the development of 1,400 acres for wind energy facilities, construction and operation of the 236-mile ON line 500-kV transmission line, travel management planning, and the SNWA groundwater development project.

The designation of the SST under the alternatives would result in an incremental increase in motorized use and human presence along existing roads and trails in the area. Because the alternative routes are located entirely on existing roads and trails, there would be a negligible contribution to land use changes in the cumulative impacts analysis area.

5.11 Transportation/Access

The past and present land uses along the alternative routes have had a direct effect on transportation and access in the area. Travel management planning and restoration of unauthorized vehicle routes in the Duck Creek Basin have led to changes in public access in the cumulative impacts analysis area. However, traffic levels on dirt surface roads and trails generally remain low.

Reasonably foreseeable future actions in the area over the next 30 years would be expected to result in increased traffic levels from construction and operation traffic associated with the development of one wind energy facility, construction and operation of the 236-mile ON line 500-kV transmission line, and the SNWA groundwater development project.

The designation of the SST under the alternatives would result in an incremental increase in motorized use and human presence along existing roads and trails in the area. Because the alternative routes are located entirely on existing roads and trails, there would be a negligible contribution to changes in transportation and access in the cumulative impacts analysis area.

5.12 Recreation

The past and present land uses along the alternative routes have had a direct effect on recreation in the area. Direct effects have included changes in motorized access in the Duck Creek Basin and short-term loss of dispersed recreation access during habitat restoration projects.

Reasonably foreseeable future actions in the cumulative impacts analysis area over the next 30 years would be expected to result in a loss of lands available for dispersed recreation opportunities from the development of 1,400 acres for wind energy facilities, construction and operation of the 236-mile ON line 500-kV transmission line, and the SNWA groundwater development project. Additionally, there would be short-term loss of access during future restoration projects and changes in motorized access from travel management planning. These future actions are also expected to enhance dispersed recreation opportunities in the long run.

The designation of the SST under the alternatives would contribute to enhanced motorized recreation opportunities in the cumulative impacts analysis area.

5.13 Health and Human Safety

The past and present land uses along the alternative routes have had a direct effect on health and human safety in the area. Reasonably foreseeable future actions would contribute to increases in traffic on existing roads and trails in the cumulative impacts analysis area resulting in increased risk of vehicle accidents. The designation of the SST under each of the alternatives would result in a negligible contribution to the overall cumulative increase in vehicle use of existing roads and trails and subsequent risk of vehicle accidents.

5.14 Socioeconomics

The past and present land uses in the cumulative impacts analysis area have had a direct effect on the socioeconomics of the County through changes to employment and tax revenue. Past and present actions such as grazing and dispersed recreation activities have contributed to the local economy and have resulted in the current socioeconomic conditions in the County, as described in Chapter 3.

In general, implementation of reasonably foreseeable future actions would result in positive, temporary impacts on the local economy and increased employment opportunities. Development of 1,400 acres for wind energy facilities, construction and operation of the 236-mile ON line 500-kV transmission line, and the SNWA groundwater development project would be expected to draw partially on the available construction workforce in White Pine County. In the event of concurrent construction needs, there would be an increased demand for labor that cannot be met with local residents, which could lead to an influx of non-local workers. This population increase could impact socioeconomic conditions and public services and utility. In addition, the reasonably foreseeable actions would result in increased contributions to White Pine County personal property tax revenue.

The designation of the SST under each of the alternatives would result in an increase in motorized recreation and tourism that would contribute a negligible cumulative amount to the local economy.

6.0 MITIGATION MEASURES

The White Pine Act also calls for a management plan to be prepared in the event the White Pine County SST is designated. The plan would describe actions to periodically evaluate and manage the appropriate levels of use and location of the SST to minimize environmental impacts and prevent damage to resources from the use of the SST. Mitigation measures presented in this section were developed to address specific impacts that are not addressed by the resource conservation measures described in Section 2.2.1. It is assumed that these mitigation measures would be incorporated into the required White Pine SST Management Plan. The following mitigation measures may be implemented to reduce impacts as part of any alternative trail designation:

- Implement temporary trail closures to address seasonal impacts to wildlife or to complete resource restoration projects.
- Permanently reroute portions of the trail to address resource issues observed during monitoring. Any reroute would be on existing roads and trails and would be subject to additional NEPA analysis.
- The BLM may issue permits for organized OHV club rides of 12 or more riders.

This page intentionally left blank.

7.0 TRIBES, INDIVIDUALS, ORGANIZATIONS, AN D AGENCIES CONSULTED

7.1 Introduction

The preliminary 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 4. The issues were identified through the public and agency involvement process described in Section 7.3 below.

7.2 Persons, Groups, Agencies Consulted

- Forest Service
- White Pine County Public Land Users Advisory Committee
- White Pine County Commission
- City of Ely
- Coordinated Resource Management Team
- Nevada Department of Wildlife
- Ely Shoshone Tribe

7.3 Summary of Public Participation

Prior to public scoping, five presentations were given to key stakeholder groups to encourage early involvement in the scoping process (SWCA 2009). There was an opportunity for questions at these meetings; however, only one official comment was received. At the Tribal Coordination Meeting on March 19, 2009, the Ely Shoshone Tribe commented (verbally, no written comment was received) that they would like a regional ethnographic study to be completed. Following additional consultation, on February 12, 2010, the BLM Native American Coordinator confirmed that there are no Native American traditional religious or cultural sites of importance identified within the project area.

One public scoping meeting was held on March 25, 2009, for the Silver State Trail Study (SWCA 2009). The meeting was an open-house format with no formal presentation or speaking opportunity for the public. Comment forms and handouts were available throughout the room. Seven informational boards were displayed at the meeting including:

1. “Welcome” to the meeting with a brief project description
2. Resources that would be considered as Areas of Avoidance
3. Explanation of resources to be considered during route selection
4. Explanation of opportunities on “How to Comment” during the scoping process
5. Land Use Map
6. Wildlife and Habitat Resources Map
7. Existing Roads and Trails Map

BLM personnel were available at the meeting to answer questions and take comments. Meeting attendees signed in upon entrance, at which time they were provided with comment forms and were informed of the meeting format and how to comment at the meeting.

In addition to the public scoping meeting, members of the public were afforded several methods for providing comments during the scoping period:

- There were multiple stations at the public meeting with comment forms on which attendees could write and submit comments.
- Emails could be sent to silverstatetrail@blm.gov.
- Letters could be mailed to the BLM Ely District Office, Attn: Erin Rajala, 702 N. Industrial Way, HC 33 Box 33500, Ely, NV 89301.

In total, 32 submissions were received. Three were from government agencies (SNWA, NDOW, and White Pine County Board of County Commissioners), four were from non-governmental or special interest organizations (Rocky Mountain Elk Foundation, Center for Biological Diversity, Capital Trail Vehicle Association, and Back Country Hunters and Anglers), one was from a business (Cave Valley Ranch, LLC), and 24 were from individuals (23 from Nevada and 1 from California). All comments received are summarized in the Silver State Trail Scoping Report (SWCA 2009).

7.4 List of Preparers/Reviewers

Name	Title	Affiliation	Responsibility
BLM			
Erin Rajala	Project Manager/Outdoor Recreation Planner	BLM	Project Management, Recreation, Transportation/Access
Gina Jones	NEPA Coordinator	BLM	NEPA Review
Doris Metcalf	Field Office Manager/ Realty Specialist	BLM	Lands and Realty, Socioeconomics
Kathy McConnell	Archaeologist	BLM	Cultural Resources
Marian Lichter	Wildlife Biologist	BLM	Wildlife and Special-status Species
Elvis Wall	Native American Coordinator	BLM	Native American Concerns
Mindy Seal	Natural Resource Specialist	BLM	Vegetation, Noxious Weeds and Invasive Species
Mark Lowrie	Rangeland Management Specialist	BLM	Rangeland and Grazing
Mark D'Aversa	Natural Resource Specialist	BLM	Soil Resources, Water Resources, Wetland Riparian Zones
Non-BLM Preparers			
Steve Leslie	Project Manager	SWCA	Chapters 1 and 2, Recreation, and Socioeconomics
Michael Swink	Environmental Planner/Wildlife Biologist	SWCA	Wildlife, Special-status Species, Migratory Birds, Wetland Riparian Zones
Matt Villaneva	Environmental Specialist/Botanist	SWCA	Vegetation, Noxious and Invasive Species
Lesley Hanson	Environmental Specialist/Biologist	SWCA	Wildlife, Special-status Species
Greg Seymour	Archaeologist	SWCA	Cultural and Paleontological Resources, Native American Concerns, and Environmental Justice
Alan Stutz	GIS Specialist	SWCA	GIS, Maps, and Figures
Jessica Maggio	Publication Specialist	SWCA	Formatting of Document
Heidi Orcutt-Gachiri	Technical Editor	SWCA	Technical Editing of Document
Kelsey Travis	Project Intern	SWCA	Project Assistance

8.0 LITERATURE CITED

Belnap, J., and S.L. Phillips. 2001. Soil biota in an ungrazed grassland: response to annual grass (*Bromus tectorum*) invasion. *Ecological Applications* 11(5):1261–1275.

Brooks, M.L., and J.R. Matchett. 2003. Plant community patterns in unburned and burned blackbrush (*Coleogyne ramosissima*) shrublands in the Mojave Desert. *Western North American Naturalist* 63(3):283–298.

Bureau of Land Management (BLM). 2007. *Ely Proposed Resource Management Plan and Final Environmental Impact Statement*. Ely: U.S. Department of the Interior, Bureau of Land Management, Ely District Office.

———.2008a. *Record of Decision for the Approved Ely District Resource Management Plan and Final Environmental Impact Statement*. Ely: U.S. Department of the Interior, Bureau of Land Management, Ely District Office.

———.2008b. *National Environmental Policy Act Handbook*. BLM Handbook H-1790-1.

———.2008c. *Special Status Species Management*. BLM Manual 6840.

———.2009a. *Lincoln County Silver State Trail OHV Road Counter Data*. Ely District.

———.2009b. Preliminary Draft EIS: SNWA's Clark, Lincoln, White Pine Counties Groundwater Development Project. Ely, U.S. Department of Interior, Bureau of Land Management. December 2009

———.2010. BLM Ely District Office recreation website. Available at: http://www.blm.gov/nv/st/en/fo/ely_field_office/blm_programs/recreation.html. Accessed April 14, 2010.

Connelly, J.W., S.T. Knick, M.A. Schroeder, and S.J. Stiver. 2004. *Conservation Assessment of Greater Sage-Grouse and Sagebrush Habitats*. Unpublished report. Cheyenne, Wyoming: Western Association of Fish and Wildlife Agencies.

Devol, J. 1999. *Synopsis: Research on the Effects of OHV Recreation on Wildlife*. West Virginia Off-Highway Vehicle Association.

Fisher, A.L., D.J. Blahna, and R. Bahr. 2001. *Off-Highway Vehicle Uses and Owner Preferences in Utah.* Professional report IORT PR2001-02. Logan, Utah: Institute for Outdoor Recreation and Tourism, Department of Forest Resources, Utah State University.

Havlick, D.G. 2002. *No Place Distant—Roads and Motorized Recreation on America's Public Lands.* Washington, D.C.: Island Press.

Jones and Stokes Associates, Inc. 1991. *Rock Creek Off-Road Vehicle/Deer Study*. Prepared for California Department of Fish and Game. Sacramento: California Department of Parks and Recreation and El Dorado National Forest.

Kutilek, M., and R. Ferris. 1989. *Responses of Black-Tailed Deer to OHVs in Hollister Hills State Vehicle Recreation Area*. Final Report. San Jose State University, Department of Biological Science.

Mack, R.N. 1981. Invasion of *Bromus tectorum* L. into western North America: an ecological chronicle. *Agro-Ecosystems* 7:146–165.

Nevada Division of Wildlife (NDOW). 2009. *2008–2009 Big Game Status Report*.

———.2010. Hunting and license sales by county. Available at: http://www.ndow.org/law/sales/White_Pine_sales.pdf. Accessed June 25, 2010.

Nevada Division of State Parks (NDSP). 2005. *State Recreational Trails Plan*. Available at: http://parks.nv.gov/trail/plan.htm. Accessed June 30, 2010.

———.2010. Ward Charcoal Ovens Historic State Park. Available at: http://parks.nv.gov/ww.htm#TRAILS. Accessed April 14, 2010.

Nevada Natural Heritage Program (NNHP). 2008. GIS Occurrence Records for Sensitive Species in Nevada.

Nevada State Demographer. 2008. *Nevada County Population Projections 2008 to 2028.*

Ouren, D.S., Haas, Christopher, Melcher, C.P., Stewart, S.C., Ponds, P.D., Sexton, N.R., Burris, Lucy, Fancher, Tammy, and Bowen, Z.H., 2007, Environmental effects of off-highway vehicles on Bureau of Land Management lands: A literature synthesis, annotated bibliographies, extensive bibliographies, and internet resources: U.S. Geological Survey, Open-File Report 2007-1353, 225 p.

Public Land Users Advisory Committee (PLUAC). 2007. *White Pine County Public Lands Policy Plan*.

Resource Advisory Committee. 2007. OHV administrative guidelines for Nevada public lands. Available at: http://www.blm.gov/nv/st/en/res/resource_advisory/sierra_front-northwestern/standards_and_guidelines.html. Accessed June 15, 2010.

SWCA Environmental Consultants (SWCA). 2009. *Silver State Trail System Environmental Assessment: Scoping Report*. June.

Tavares. 2010. It's man vs. bird in quest for power. *Las Vegas Sun*. March 6, 2010.

U.S. Census Bureau (Census Bureau). 2000. Fact Finder. Available at: http://factfinder.census.gov/home/saff/main.html?_lang=en. Accessed June 16, 2009.

U.S. Fish and Wildlife Service (USFWS). 2007. Migratory Bird Treaty Act; U.S. Fish and Wildlife Service Alaska Region. Available at: http://alaska.fws.gov/ambcc/ambcc/treaty_act.htm. Accessed June 30, 2010.

———.2010a. Birds protected by the Migratory Bird Treaty Act: list of migratory birds. Updated March 31, 2010. Available at: http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/taxolst.html. Accessed May 6, 2010.

———.2010b. Nevada's protected species by county. Available at: http://www.fws.gov/nevada/protected_species/species_by_county.html. Accessed April 26, 2010.

U.S. Forest Service (Forest Service). 2009. *Decision Notice Finding of No Significant Impact Ely Ranger District Travel Management Project.* February.

U.S. Geological Survey (USGS). 2004. Provisional digital land cover map for the southwestern United States. Version 1.0. RS/GIS Laboratory, College of Natural Resources, Utah State University.

Webb, R.H., H.G. Wilshire, and M.A. Henry. 1983. Natural recovery of soils and vegetation following human disturbance. In *Environmental Effects of Off-Road Vehicles—Impacts and Management in Arid Regions*, pp. 279–302. New York: Springer-Verlag.

White Pine County Tourism and Recreation Board. 2008. Ely, Nevada, White Pine County. Available at: http://elynevada.net/Level1/live.htm#Demographics. Accessed June 15, 2009.

Wisdom, M.J., N.J. Cimon, B.K. Johnson, E.O. Garton, and J.W. Thomas. 2005. Spatial partitioning by mule deer and elk in relation to traffic. In *The Starkey Project: A Synthesis of Long-Term Studies of Elk and Mule Deer*, edited by M.J. Wisdom, pp. 53–66. Reprinted from the 2004 Transactions of the North American Wildlife and Natural Resources Conference, Alliance Communications Group, Lawrence, Kansas.

Young, J.R. 2003. The Gunnison sage-grouse (*Centrocercus minimus*). Available at: http://www.western.edu/bio/young/gunnsg/gunnsg.htm. Accessed April 9, 2010.

This page intentionally left blank.

Appendix A

NOXIOUS WEED RISK ASSESSMENT

1. Project Name: White Pine County Silver State OHV Trail

2. NEPA No. DOI-BLM-NV-L020-2010-007-EA

3. Date Risk Assessment Was Completed: June 25, 2010

4. Describe Steps Taken to Complete Risk Assessment:

Prior to conducting this noxious/invasive weed risk assessment (risk assessment), SWCA Environmental Consultants (SWCA) obtained noxious weed geographic information system (GIS) data from Bonnie Million of the Bureau of Land Management (BLM) District Office (Figure A-1). Noxious weed field surveys were not completed for this assessment.

5. Project Description:

Designate and manage a Silver State Off-Highway Vehicle (OHV) Trail on existing roads and trails through White Pine County, Nevada.

6. Project Location:

The project is located in White Pine County, Nevada.

7. Risk Assessment:

The risk assessment is evaluated by two categorical factors. Factor 1 is determined by the current condition of noxious and invasive weed populations within and adjacent to the project site, including access roads. Factor 2 is independent from Factor 1 and is determined by evaluating the consequences of noxious and invasive weed establishment on the project site.

Factor 1 has been determined to be moderate (4–7) due to the current infestations of noxious and invasive plant species within and adjacent to the project area. These species and their general occurrence location are summarized below in Table A-1. Analysis of noxious weed GIS data was limited to the existing routes being considered for designation as the White Pine County Silver State Trail.

Table A-1. Noxious and Invasive Plant Species Known to Occur along the Alternative Routes

Scientific Name	Common Name	Weed Category	Alternative Route
Lepidium draba	hoary cress	C	All
Hyoscyamus niger	black henbane	A	All
Onopordum acanthium	scotch thistle	B	A, C
Cirsium vulgare	bull thistle	Invasive	All
Carduus nutans	musk thistle	B	All
Acroptilon repens	Russian knapweed	B	B, C
Centaurea masculosa	spotted knapweed	A	All
Cirsium arvense	Canada thistle	C	A, C
Lepidium latifolium	perennial pepperweed	C	A

Source: BLM (2008) Weed Points shapefile.

Factor 2 has been determined to be high (8–10). This rating was chosen because there is potential for the spread of noxious and invasive weeds within and outside the project area. The greatest concern is of introducing new noxious weed species to existing roads and trails associated with the alternative routes.

8. Risk Rating:

The risk ratings for the project sites are determined by multiplying Factors 1 and 2. The subsequent value determines the course of action required to mitigate noxious and invasive weeds resulting from project implementation.

9. Determination

The risk rating for this project is moderate to high (32–70). This level of risk rating indicates that preventive measures for noxious and invasive weeds **are** necessary. Preventive measures for this project are discussed in the following section.

10. Preventive Measures

Following are project-specific stipulations that will attempt to control State of Nevada–listed noxious weeds on this project. The authority for the control of noxious weeds is provided in Nevada Revised Statutes 555.150–180. Invasive weed species are not legally required for control at this time.

1. The BLM shall evaluate options, including area closures, to regulate the flow of traffic on sites where native vegetation needs to be established.
2. The BLM Weed Coordinator will be consulted regarding any proposed herbicide treatment.
3. Disturbed areas should be seeded with desirable species using a BLM-approved seed mix.
4. Disturbed areas should be monitored for at least 3 consecutive years, and newly established populations of noxious/invasive weeds should be controlled through follow-up treatments.

Prepared by: Steve Leslie, SWCA Date: 6/24/2010

Reviewed by/Date Renewed: _____ Date: _____
(Noxious Weed Coordinator)

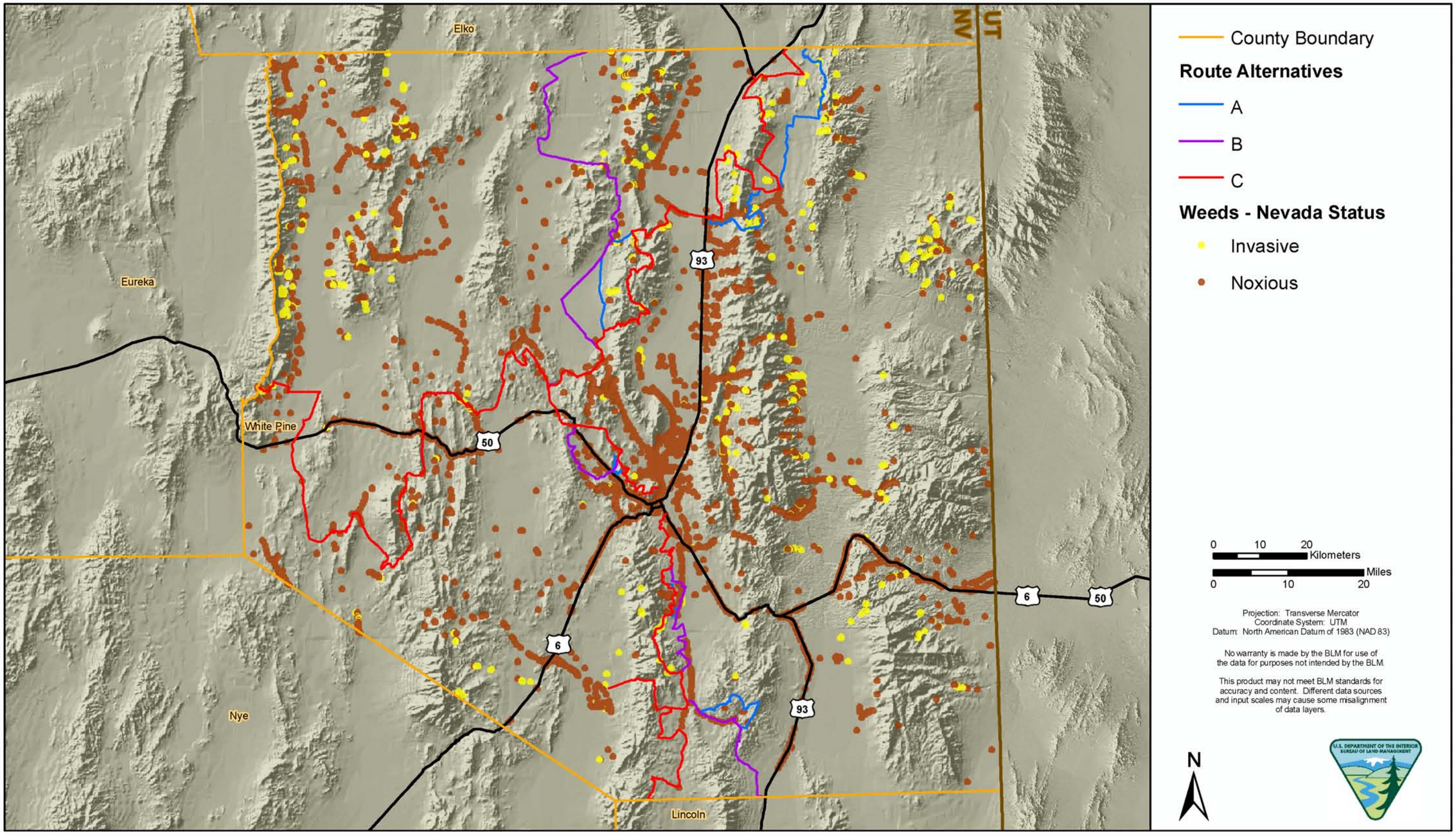

Figure A-1. Weed risk assessment, route alternatives and state status.