

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

**South Steptoe Travel Management Plan Preliminary
Environmental Assessment**

DOI-BLM-NV-L020-2011-0015-EA

May 1, 2011

PREPARING OFFICE

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Management Plan
Preliminary Environmental
Assessment: DOI-BLM-NV-
L020-2011-0015-EA**

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Chapter 1. Introduction

Comprehensive travel and transportation planning is the Bureau of Land Management's (BLM's) interdisciplinary approach to addressing multiple-use access concerns. Comprehensive travel management planning addresses all resource use aspects and accompanying modes and conditions of travel on public lands, and is not limited to recreational off-highway vehicle activities. Providing and maintaining access to the public lands is an important public service provided by the BLM. The National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands (BLM 2001a) provides guidance in developing and implementing solutions to off-highway vehicle issues. Routes on BLM-administered lands are used by permitted users such as miners and livestock operators and by recreationists for dispersed recreation activities such as hunting, fishing, camping, rock-hounding, off-highway vehicle use, and sightseeing. Access is necessary for BLM personnel to administer the various resource management programs on public land including livestock grazing, mining, wildlife habitat management, watershed management, recreation management, and numerous other programs. Access is also an important factor in fire suppression and fire management. The Ely District Record of Decision and Approved Resource Management Plan (RMP) (BLM 2008) provides additional guidance, stating that travel management within the Ely District will be:

- Comprehensive: All motorized and non-motorized travel that occurs on public lands will be considered.
- Multi-functional: Participation will encompass all functions within the BLM.
- Collaborative: Travel plans will be accomplished in a collaborative and community-based process.
- Outcome based: Travel systems will be designed for transportation outcomes.
- Holistic: Travel management implementation will be accomplished in a holistic approach that provides clear direction for access and recreation opportunities while protecting sensitive areas. This includes signs, maps, education, maintenance, construction, reconstruction, planning, field presence, law enforcement, and monitoring.

This Environmental Assessment (EA) has been prepared to analyze the BLM's proposal to complete and implement a Travel Management Plan (TMP) in the South Steptoe Valley. The EA is a site-specific analysis of potential impacts that could result from implementation of the alternatives. Upon implementation, the classification of travel routes would change from "Limited to Existing Roads and Trails" to "Designated Roads and Trails."

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.

1.1. Identifying Information

1.1.1. Title and EA number

South Steptoe Travel Management Plan Preliminary Environmental Assessment,
DOI-BLM-NV-L020-2011-0015-EA

1.1.2. Location of Proposed Action

The South Steptoe Travel Management Area (TMA) is primarily located South of the city of Ely in Eastern Nevada, as depicted in [Figure 1.1, “Location Map of Travel Management Area”](#), and is split into nine planning units. Planning Units 3 through 9 are located within the South Steptoe Valley primarily south of Ely and are bound by the Egan Range on the west, the Schell Creek Range on the east, and Mount Grafton Wilderness to the south. Planning Unit 1 is located north of the city of Lund and east of Nevada State Highway 318. Planning Unit 2 is located north of US-6, east of State Highway 318 and west of the city of Ely. This TMA lies within White Pine County and the Egan and Schell Field Offices of the Ely District and is adjacent to tribal fiduciary trust assets.

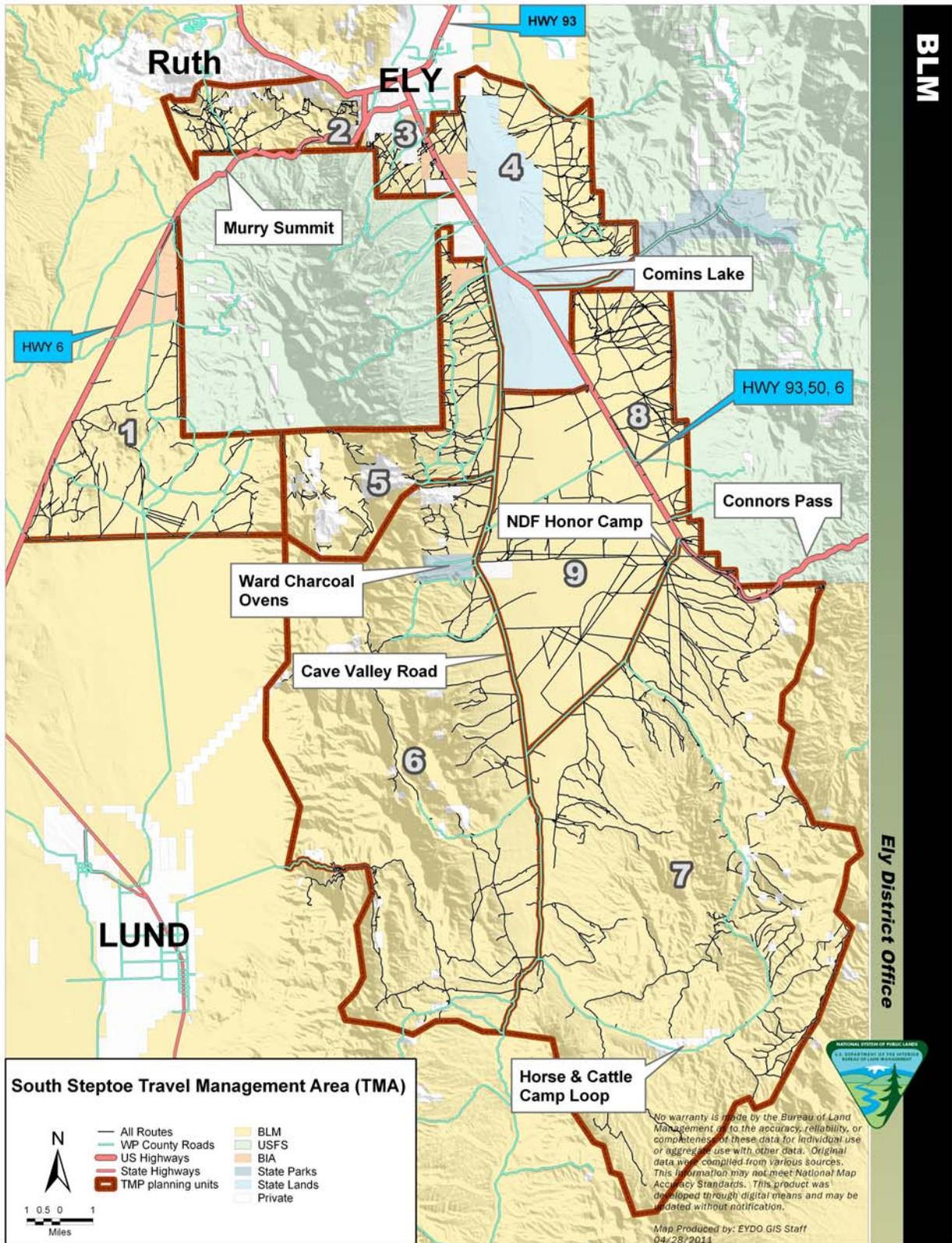


Figure 1.1. Location Map of Travel Management Area

1.1.3. Name and Location of Preparing Office

Lead Office - Schell Field Office

702 N. Industrial Way, HC 33, Box 33500

Ely, Nevada 89301

1.2. Purpose and Need for Action

This action is needed to address the increased use of motorized vehicles, the proliferation of unplanned routes on public land, and their potential impact on other resources. The majority of the use is associated with the city of Ely and recreational opportunities close to town, including off-highway motorcycles, ATVs, UTVs, mountain biking, hiking, equestrian uses, trail running, and cross country skiing. Further away from the population center, the use becomes more dispersed and is largely associated with motorized touring, wildlife viewing, and hunting. The close proximity and accessibility of the abundance of public land in White Pine County is an important aspect of the local character. A network of routes will be identified that balances the recreation and access needs of the public, private landowners, and affected agencies with the management of the overall health of the landscape.

The purpose of this action is to comply with previous directives from the national and local level. In the early 1980s, responding to Presidential Executive Orders 11644 and 11989, the BLM began designating all public lands as “open”, “closed”, and “limited” for Off-Highway Vehicle (OHV) usage. In 2003, the BLM’s Executive Leadership Team approved BLM’s Priorities for Recreation and Visitor Services, which is underscored by one of the Department of Interior’s Strategic Plan goals for recreation:

Establish a comprehensive approach to travel planning and management.

1. *Address comprehensive travel management through the land-use planning process;*
2. *Improve on-the-ground travel management operations;*
3. *Improve signing, mapping, travel information, and education;*
4. *Implement travel management through national motorized, mechanized, and non-motorized recreation strategies; and*
5. *Expand transportation/travel management partnerships and funding sources.*

Currently, vehicular travel within the South Steptoe TMA is “Limited to existing roads and trails.” In accordance with these orders and BLM guidance, the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (RMP/FEIS) and Record of Decision (ROD) (BLM 2007) has mandated following:

“Update the Ely District Office Transportation Plan through subsequent implementation-level plans completed primarily along watershed boundaries.” (2.4.14.1, TM-4)

1.3. Background and Public Involvement

This area was analyzed through a previous travel management effort that was never fully completed. The Coordinated Resource Management (CRM) board formed a Technical Review Team (TRT) in 2007 to analyze routes in the South Steptoe Valley. This group held regular meetings until March 2008 and produced a proposal for this area. Although it was a very comprehensive recommendation for the area, the proposal lacked documentation regarding the reasoning for route recommendations or alternatives. Additionally, the plan did not appear to be in full conformance with the BLM Egan Resource Management Plan and the BLM elected not to adopt it. Instead, the BLM asked White Pine County to appoint a group of interested members of the public to help develop at least two more alternatives with appropriate documentation. The group's membership was representative of a variety of resource areas including:

- Wildlife (hunting)
- Wildlife (non-hunting)
- Motorized Recreation
- Non-motorized Recreation
- Private Land Owner
- Tribal Interests
- City of Ely
- White Pine County
- Local Business Owner
- Emergency Services
- Soils
- Grazing Permittee
- Northeastern Great Basin Resource Advisory Council

The BLM hosted committee meetings beginning in the Spring of 2009. There were approximately 30 bimonthly meetings until the final recommendations were made in June 2010. This committee developed Alternatives B, C, and D to be sent back to the Interdisciplinary Team (ID Team) made up of BLM staff representatives for review. The original CRM proposal has also been included in this document as Alternative E to allow further evaluation and comparison with the more recently developed alternatives.

1.4. Terminology

- A designation of “open” means that the route is open to all use for access (other than limits that may be required by law).
- A designation of “closed” typically means that the route is closed to all use. For the purposes of this plan, a designation of “closed” means that the route has been closed to motorized use.

Physical closure of a route may include restoring the route to the degree possible to blend with surrounding landscape, as well as installation of physical barriers or signage at the original departure point, if necessary.

- A designation of “limited” means the route is limited for use by certain parties or entities, vehicle types, or seasons, etc. For example, a route may be limited to administrative or to motorized use during seasons when impacts to sensitive resources are minimized.
- A “route” is a generic term for a transportation-related linear feature, which can be further defined as a road, primitive road, or trail.
- A “road” is a linear route declared a road by the owner, managed for use by low-clearance vehicles having four or more wheels, and maintained for regular and continuous use.
- A “primitive road” is a linear route managed for use by four-wheel drive or high-clearance vehicles. These routes do not customarily meet any BLM road design standards.
- A “trail” is a linear route managed for human-powered, stock, or off-road vehicle forms of transportation of for historical or heritage values. Trails are not generally managed for use by four-wheel drive or high-clearance vehicles.

1.5. Decision to be Made

The RMP states that “Until site specific implementation plans and route designations are complete, motorized travel will be limited to existing roads and trails except when cross-country travel is needed for safety, required for government (federal, state, and local) administrative needs, as authorized on a permit, for big game retrieval, or as otherwise officially approved.” (2.4.14.1, TM-4) The adoption of this plan will not affect the cross-country travel allowances permitted under the RMP. Through this process, BLM will determine designations of “open,” “limited,” or “closed” for each of the 1,392 existing routes, totaling 885 miles, located on public land within the South Steptoe TMA.

1.6. Scoping and Identification of Issues

Initial issues were identified by BLM staff at the beginning of the process in order to guide the selection process for membership of the committee appointed by White Pine County. The following issues were identified as key to the project:

- Continued access for recreational uses, especially OHV usage
- Access to private lands and resources for economic and social reasons
- Coordination with other agencies and commercial entities
- Impacts to wildlife habitat

Public outreach and involvement throughout the TMP process was critical to the development of the proposed alternatives. Internal scoping was conducted among BLM resource specialists to gain more detailed insight beyond the initial issues listed above. Further, the committee meetings were open to the public, with prior advertising including press releases and radio announcements to solicit additional public participation.

1.7. Process for Designation

The criteria used by BLM when making route and area designations are found in 43 CFR 8342.1. The BLM based the evaluation and designations on the protection of resources of the public lands, the promotion of safety and enjoyment of the users of the public lands, and strives to minimize conflicts among the various users of the public lands. Routes and areas are evaluated and designated to:

- Minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.
- Minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention is given to protect endangered or threatened species and their habitats.
- Minimize conflict between OHV use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in the area, taking into account noise and other factors.

The process followed by the White Pine County appointed committee involved the individual review of each route within the TMA using the following series of questions:

1. Is the route maintained or recognized by another agency? Is the route part of a right-of-way? Does the route provide access to private property or commercial activities?
2. Does the route currently impact or has the potential to impact State or Federal special status species or their habitat? Does the route impact cultural or any other resources that are protected by law? Does the route have a negative effect on any other sensitive resources?
3. Does the route provide or contribute to either motorized or non-motorized recreational opportunities or provide important access to traditional use areas?
4. Is this a redundant route? Is there another route that adequately meets the same public uses that has less impacts to other resources?

In addition to the questions above, the committee members held open discussion on each of the routes to ensure that all aspects of the decision were shared amongst the group prior to making a recommendation for a designated status of “open,” “limited,” or “closed” for Alternatives B, C, and D.

Chapter 2. Proposed Action and Alternatives

2.1. Introduction

The Travel Management Area has been divided into nine Planning Units to allow for more detailed analysis within the larger area.

Several alternatives were considered and refined throughout the process. Given the extensive period allotted for public input on this plan, there is a wide variety of alternatives intended to capture the spectrum of feedback that was gathered.

Table 2.1. Mileage and Route Comparisons for All Alternatives

Alternative		Miles Open	Miles Closed	Miles Limited	Routes Open	Routes Closed	Routes Limited
A	No Action	885	0	0	1392	0	0
B	Resource Protection Emphasis /Minimum Access	524	349	12	503	870	19
C	Balanced Alternative/ Resources and Recreation	623	250	12	661	712	19
D	Motorized Recreation Emphasis /Maximum Access	734	139	12	915	458	19
E	Coordinated Resource Management (CRM) Proposal*	629	305	80	1632	1130	388
F	Proposed Action	659	214	12	745	628	19

*Alternative E: Coordinated Resource Management Proposal included additional routes on land managed by the U.S. Forest Service and the State of Nevada. These areas are beyond the jurisdiction of the BLM and are not analyzed in this document.

2.2. Aspects Common to All Alternatives

2.2.1. Potential Recreational Corridor

Planning Unit 2 has been identified as a potential recreational corridor that will require further analysis. In accordance with the Ely RMP Management Action REC-7, which reads “Develop or construct recreation trails and routes in extensive recreation management areas as future needs are identified in site-specific planning,” designations for the area will be reevaluated with greater detail to more adequately address the variety of recreational opportunities that could be accommodated. These designations are shown in each of the alternatives, except Alternative E: Coordinated Resource Management Proposal, as “limited — future plan”, which will mean that they will be assigned an “open” designation until further planning efforts can be completed. If Alternative E is selected, the adopted designations will remain in place until further planning efforts can be completed.

2.2.2. Future Modifications to the South Steptoe Travel Management Plan

Travel Management will never be completely static and, as such, the BLM acknowledges the need to periodically update this plan to reflect the changing needs of the community and the health of the surrounding landscape. The BLM anticipates the potential for minor modifications (adjustments to the designations or locations of less than 25 miles of routes over the life of the plan) as a result of requests from the public or emergent needs. New roads or upgrades to existing roads that are included in a right-of-way grant, mining claim, or other administrative action will be reviewed per the National Environmental Policy Act (NEPA) through separate actions and shall not be included in the 25 miles of potential adjustments for this plan. Additionally, the following actions would be categorically excluded from additional review under NEPA:

- Incorporation of eligible roads and trails in any transportation plan when no new construction or upgrading is needed.
- Temporary closure of roads and trails.

Any proposed changes to the designations as adopted in this plan would be made available for public review prior to any final decision.

2.2.3. Closure Methods

There are several methods that would be employed to notify the users of road closures.

2.2.3.1. Flexible Fiberglass Composite Sign Posts

This would be the first step for most closed roads since it is the most economical and can be deployed relatively quickly as funding becomes available. The flexible fiberglass composite sign posts would be posted at the entrance to each road, either to the side or within the path of travel, with an attached sticker stating that the route has been closed.



Figure 2.1. Example of Flexible Fiberglass Composite Sign Posts

2.2.3.2. Steel Posts

Routes may be closed by means of posting two permanent 4-inch by 7-foot steel posts; set into concrete footings at a 3-foot depth with 4 feet remaining above the surface to which a “Route Closed” sticker may be affixed. The steel posts would most commonly be placed within the path of the former road to prevent passage, but may also be placed to the side of the road. This method would be used where the flexible fiberglass composite sign posts are either expected or have proven to be insufficient in deterring usage.



Figure 2.2. Example of Steel Post

2.2.3.3. Gated Access

Gates with locks may be placed within the path of the route to prevent unauthorized access. This method would be used to close routes to the public while still providing administrative access for BLM staff or existing employees to perform necessary maintenance or other functions related to public safety..

2.2.3.4. Mechanical Removal of Route Surface

Routes may be removed by means of actually ripping the route surface mechanically with a trail dozer. Placement of large boulders at the entrances and vertical mulching may be used to discourage vehicular use and promote rehabilitation. This method may be applied to the entire length of the closed road or only to the visible horizon. Seeding would also be performed to reduce the encroachment of invasive plants on the newly-disturbed surface of the former route.



Figure 2.3. Example of Mechanical Removal of Route Surface

2.2.3.5. Manual Removal of Route Surface

Routes may be removed by hand using work crews and hand tools. This method may be used in areas where removal of the road surface is the preferred method to discourage use, but sensitive resources may be located near the former route that could be damaged by mechanical removal. This method may be applied to the entire length of the closed road or only to the visible horizon. Seeding would also be performed to reduce the encroachment of invasive plants on the newly-disturbed surface of the former route.

2.2.3.6. Administrative Access

Routes may be designated for Administrative Access Only where heavy usage by motorized vehicles could be potentially detrimental to the surrounding resources. This designation would still allow access for BLM staff and holders of existing permits to perform maintenance and other duties required for permit compliance, public safety, or other infrequent administrative functions.

2.2.3.7. Monitoring and Enforcement

Once signs are in place, BLM staff will periodically patrol the areas within the TMA to document damage or removal of signs and replace them as necessary. A database of routes and sign locations will be maintained by the BLM. Flexible fiberglass composite sign posts will be the primary initial method used to alert the public, but other more permanent methods will be used for areas with frequent vandalism or sign removal. Following adoption of this plan, enforcement efforts will be based upon the adopted map and compliance will be required even if signs have been damaged or removed from routes that have been closed.

2.3. Proposed Action (Alternative F)

This alternative applies some of the recommendations each from Alternatives B, C, and D, which were developed by the White Pine County appointed committee, into a single combined alternative. Alternative B, *Resource Protection Emphasis* would be applied to Planning Units 1 & 7 where resource protection is the primary concern due to the presence of important or critical big game habitat. Alternative D, *Motorized Recreation Emphasis* would be applied to Planning Units 2, 3, 4, 5, 8, and 9 due to their proximity to the town of Ely and high motorized use. Alternative C, *Balanced Alternative* would be applied to Planning Area 6 as a transition area to meet the needs of both motorized recreation and resource protection.

Table 2.2. Mileage and Routes for the Proposed Action (Alternative F)

Miles Open	Miles Closed	Miles Limited	Routes Open	Routes Closed	Routes Limited
659	214	12	745	628	19

NOTE: See Appendix A for more detailed maps of the Proposed Action

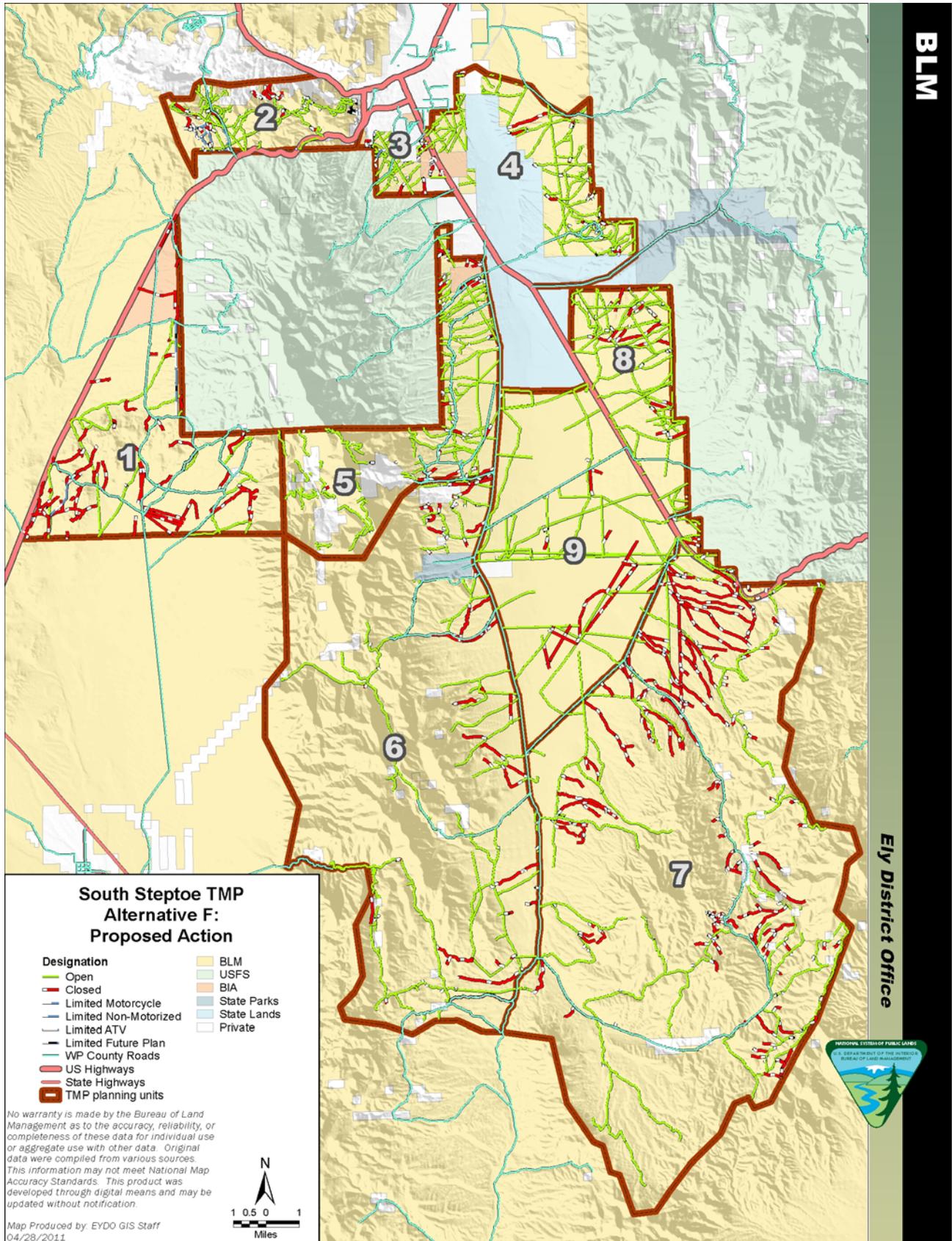


Figure 2.4. Map of Proposed Action

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2.4. Alternative A: No Action

The No Action Alternative represents the current management conditions. Under the current condition, all motorized use is limited to existing roads and trails. In this alternative, 100 percent of the roads existing at the time of the route inventory would remain open to motorized use. Management and monitoring would continue at current levels, which does not adequately address the proliferation of unauthorized, user-created routes.

Table 2.3. Mileage and Routes for the No Action Alternative

Miles Open	Miles Closed	Miles Limited	Routes Open	Routes Closed	Routes Limited
885	0	0	1392	0	0

NOTE: More detailed maps of Alternative A are available at the BLM Ely District Office upon request.

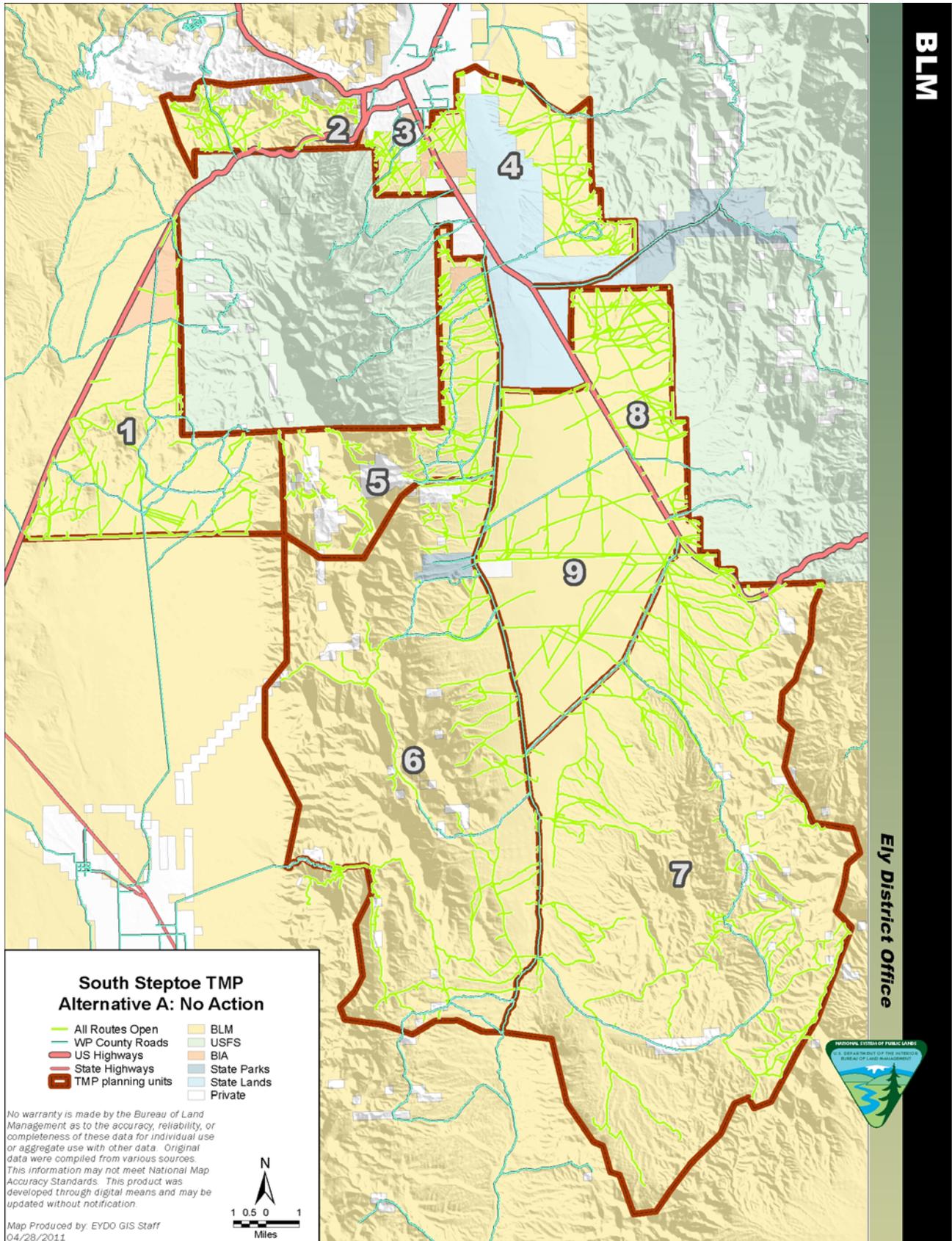


Figure 2.5. Map of No Action Alternative

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2.5. Alternative B: Resource Protection Emphasis/ Minimum Access

Alternative B was developed by the committee appointed by the White Pine County Commission with the following general guidelines:

- Provide minimum necessary motorized access for private, commercial, and recreational uses while obtaining watershed health goals
- Keep all routes to facilities open
- Close all redundant routes
- Re-route any routes causing adverse impacts
- No new permanent routes or upgrades of existing routes unless necessary

This alternative focuses on providing only a minimum amount of necessary motorized access for private, commercial, and recreational uses while obtaining watershed health goals, including primarily wildlife and cultural resources. Areas were targeted for closure based on reducing fragmentation of critical habitat and minimizing motorized ground disturbance to areas known to have cultural resources. All routes to commercial, private, and public facilities would remain open while removing the majority of redundancies. Routes that were identified to have potentially adverse impacts would be closed. New permanent routes or upgrades of existing routes would be permitted only when there is a direct resource benefit.

Table 2.4. Mileage and Routes for the Resource Protection Emphasis/ Minimum Access Alternative

Miles Open	Miles Closed	Miles Limited	Routes Open	Routes Closed	Routes Limited
524	349	12	503	870	19

NOTE: More detailed maps of Alternative B are available at the BLM Ely District Office upon request.

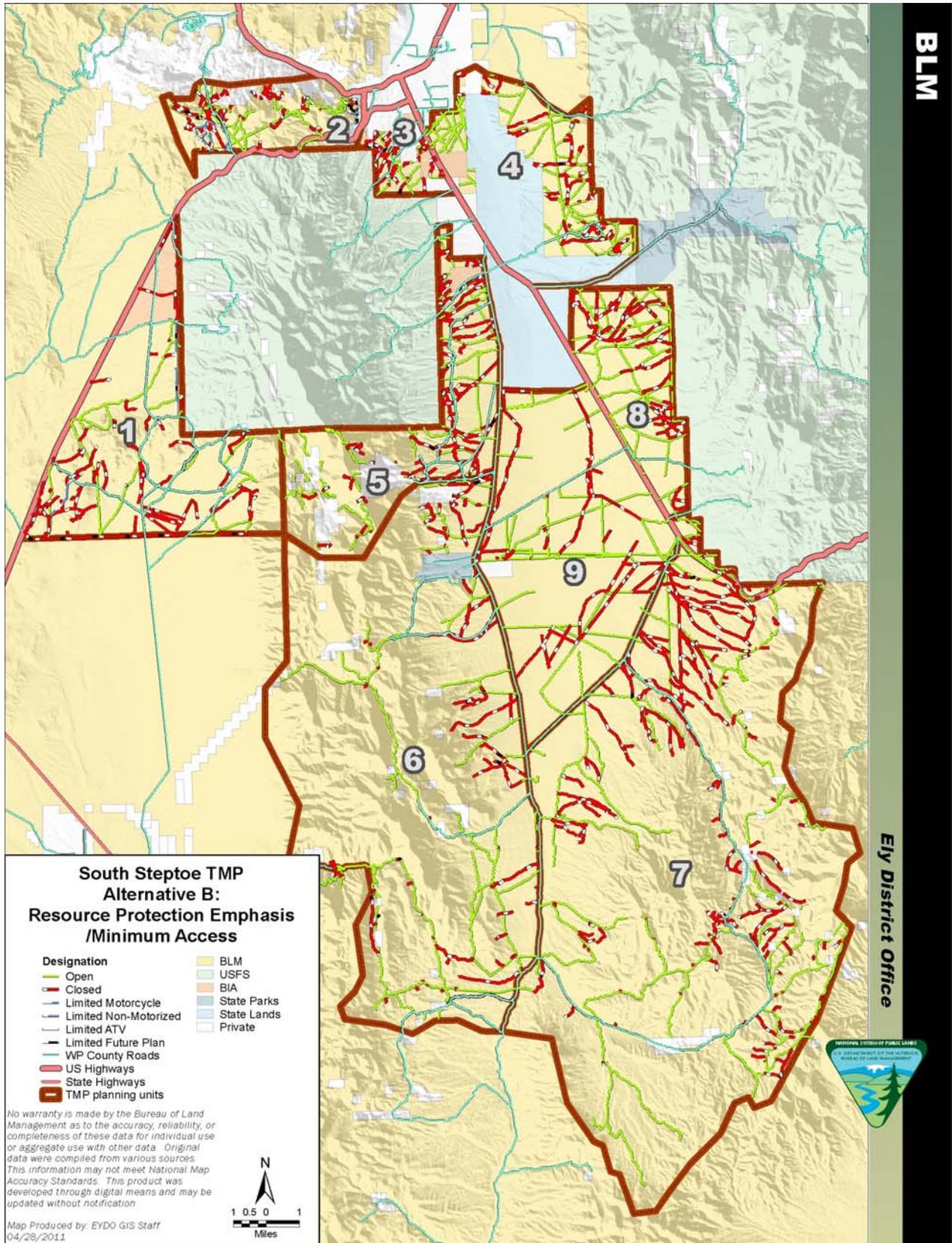


Figure 2.6. Map of Alternative B: Resource Protection Emphasis/ Minimum Access

Chapter 2 Proposed Action and Alternatives
Alternative B: Resource Protection Emphasis/
Minimum Access

May 1, 2011

2.6. Alternative C: Balanced Alternative/ Resources and Recreation

Alternative C was developed by the committee appointed by the White Pine County Commission with the following general guidelines:

- Provide necessary motorized access to private, commercial, and recreational purposes while obtaining watershed health goals
- Close most of the redundant routes
- Close, re-route, or mitigate routes that are having a negative effect on sensitive resources
- New permanent routes or upgrading of existing routes would be allowed in limited amounts

This alternative focuses on providing a balance between recreational motorized access to private, commercial and recreational facilities while still obtaining watershed health goals. Most of the redundant routes would be closed, except for those that provide for unique recreational opportunities. More of the loop routes were left open than in Alternative B, but fewer than the maximum allowance in Alternatives A and D. Routes that were found to have the greatest impact on resources were targeted for closure. New permanent routes or upgrading of existing routes would be allowed in limited amounts to meet a justified need.

Table 2.5. Mileage and Routes for the Balanced Alternative/ Resources and Recreation Alternative

Miles Open	Miles Closed	Miles Limited	Routes Open	Routes Closed	Routes Limited
623	250	12	661	712	19

NOTE: More detailed maps of Alternative C are available at the BLM Ely District Office upon request.

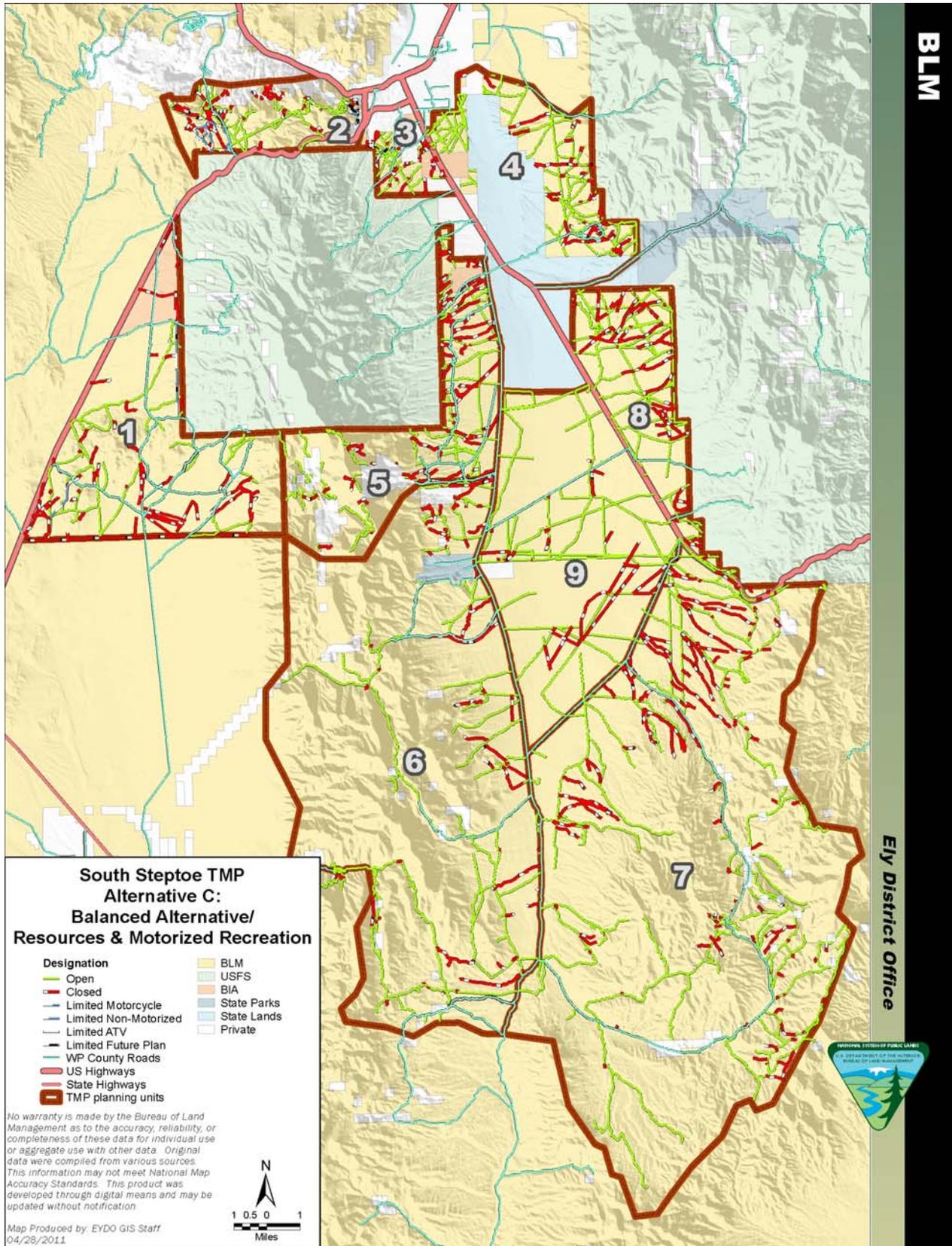


Figure 2.7. Map of Alternative C: Balanced Alternative/ Resources and Recreation

Chapter 2 Proposed Action and Alternatives
Alternative C: Balanced Alternative/ Resources
and Recreation

May 1, 2011

2.7. Alternative D: Motorized Recreation Emphasis/ Maximum Access

Alternative D was developed by the committee appointed by the White Pine County Commission with the following general guidelines:

- Provide for enhanced motorized access for private, commercial, and recreational purposes while obtaining watershed health goals
- Close some of the redundant routes
- Keep all routes open unless the route is having a negative effect on sensitive resources
- Consider a re-route versus more restrictive mitigation
- Construction of new permanent routes or upgrading of existing routes would be allowed

Alternative D focuses on providing for maximum motorized access for private, commercial and recreational purposes while addressing watershed health goals. Some of the redundant routes would be closed, but the majority of existing routes would remain open unless the route is having a negative effect on sensitive resources. If mitigation becomes necessary in the future, re-routes would be considered first versus more restrictive mitigation measures such as closures. Construction of new permanent routes or upgrading of existing routes would be allowed to meet a justified need.

Table 2.6. Mileage and Routes for the Motorized Recreation Emphasis /Maximum Access Alternative

Miles Open	Miles Closed	Miles Limited	Routes Open	Routes Closed	Routes Limited
734	139	12	915	458	19

NOTE: More detailed maps of Alternative D are available at the BLM Ely District Office upon request.

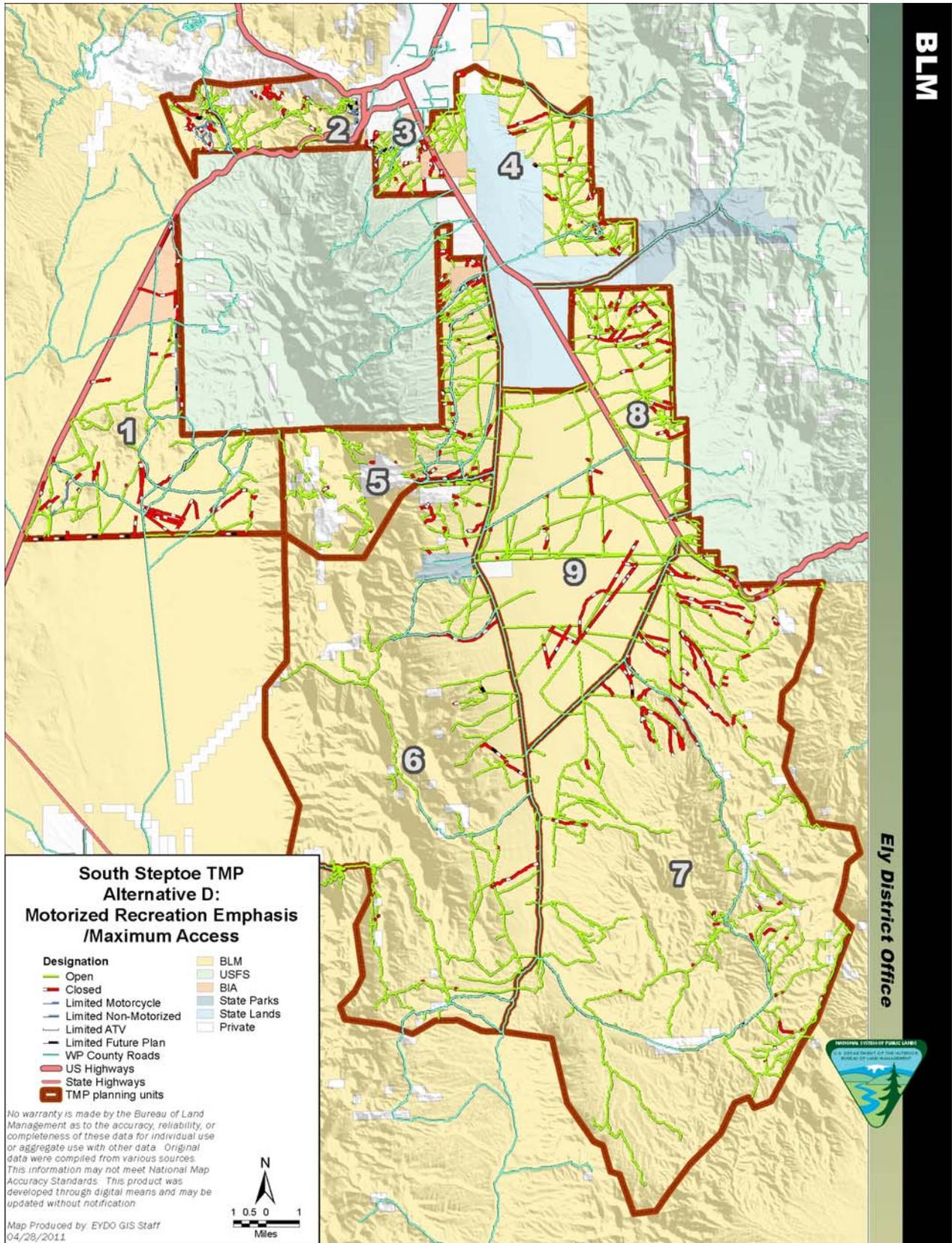


Figure 2.8. Map of Alternative D: Motorized Recreation Emphasis/ Maximum Access

Chapter 2 Proposed Action and Alternatives
Alternative D: Motorized Recreation Emphasis/
Maximum Access

May 1, 2011

2.8. Alternative E: Coordinated Resource Management (CRM) Proposal

Alternative E was prepared during a previous planning effort conducted between 2005 and 2008, but was never adopted due to lack of documentation and a limited public process. At the time, it was felt that the recommendations were valid, but that the process under which they were developed was not sufficient in terms of documentation and public involvement. Inclusion in this process has allowed comparison with other alternatives and a more open public process. The majority of the road closures are located near to the urban interface area surrounding the city of Ely. Many of the redundant routes would be eliminated while still providing access to private, commercial, and public facilities. Areas located farther from the urban interface included fewer closures to allow for continued recreational access.

This effort relied upon a more comprehensive inventory of routes that included land managed by the U.S. Forest Service and the State of Nevada. These areas are beyond the jurisdiction of the BLM and, if this alternative is adopted, this Travel Management Plan would only apply to the land managed by the BLM.

Table 2.7. Mileage and Routes for the Coordinated Resource Management (CRM) Proposal Alternative*

Miles Open	Miles Closed	Miles Limited	Routes Open	Routes Closed	Routes Limited
629	305	80	1632	1130	388

Alternative E: Coordinated Resource Management Proposal included additional routes on land managed by the U.S. Forest Service and the State of Nevada. These areas are beyond the jurisdiction of the BLM and are not analyzed in this document.

NOTE: More detailed maps of Alternative E are available at the BLM Ely District Office upon request.

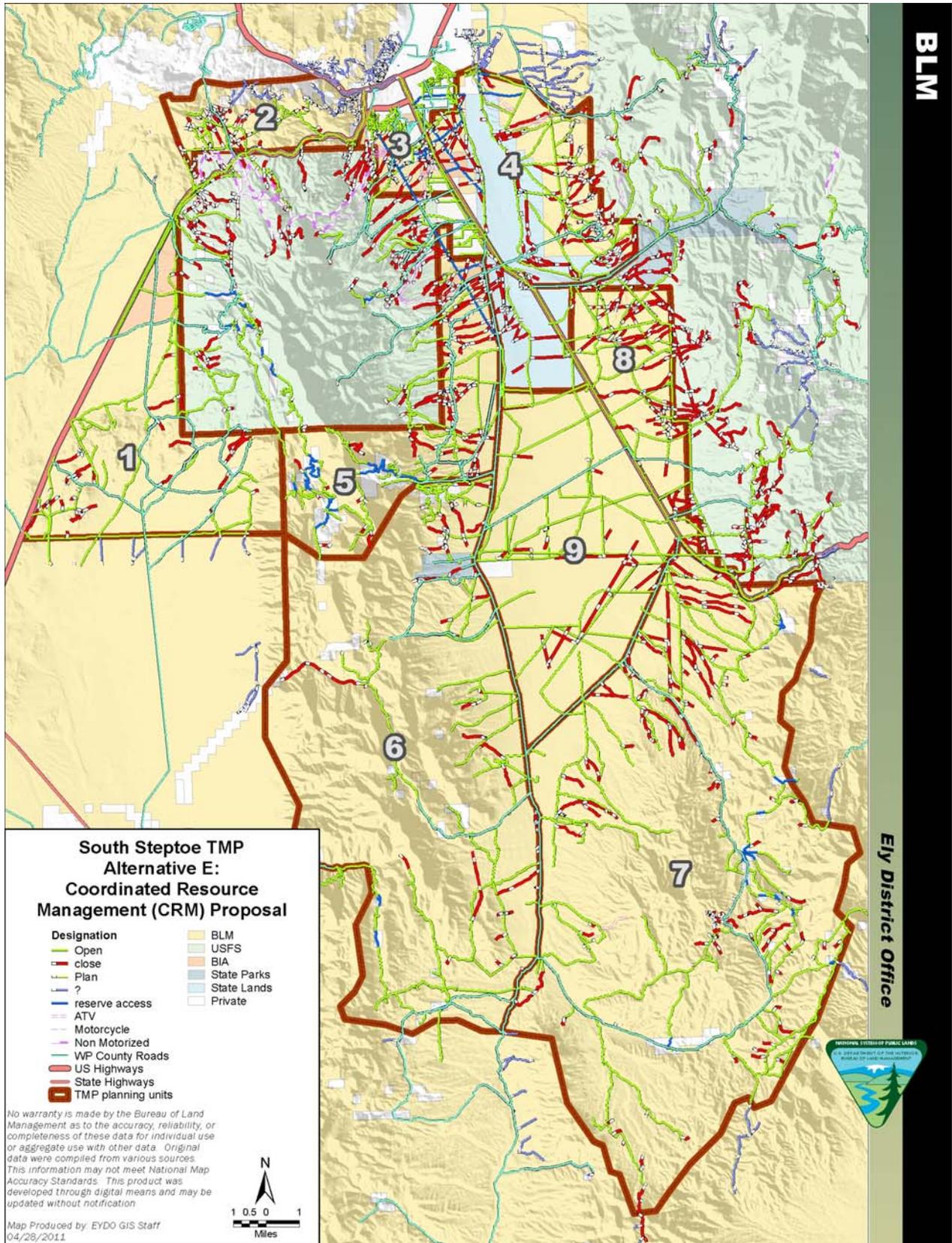


Figure 2.9. Map of Alternative E: Coordinated Resource Management (CRM) Proposal

Chapter 3. Affected Environment:

3.1. General Project Setting

The Travel Management Area (TMA) is located south and east of the city of Ely. The routes within the area are primarily used for recreational travel, access to hunting and wildlife viewing areas, and access to private land and other destinations. The area consists of a total of 250,512 acres and approximately 885 miles of motorized routes. All of the routes under consideration in this Plan are located on land managed by the BLM.

3.2. Resources or Concerns Not Affected

The resources or concerns listed in the following table are not present within the TMA and are not discussed further:

Table 3.1. Potentially Affected Resources

Resource	Rationale for Dismissal from Further Analysis
Areas of Critical Environmental Concern	Not Present
Environmental Justice	Not Present
Farmlands (Prime and Unique)	Not Present
Floodplains	Not Present
Human Health and Safety	Not Present
Threatened and Endangered Species	Not Present
Wastes, Hazardous or Solid	Not Present
Wild and Scenic Rivers	Not Present
Wilderness	Not Present
Wilderness Characteristics	Not Present

3.3. Air Quality

The State of Nevada, Division of Environmental Protection (NDEP) annually monitors principal ambient air pollutants for compliance with EPA established standards. In 1998 an air quality monitoring site was established in McGill, White Pine County, Nevada to monitor the pollutant PM10. PM10 is an inhalable coarse particulate which is mainly an emission from man-made sources like salt and sand on roads in winter, work on unpaved roads, construction sites, or rock processing. After one year of collecting data from McGill the NDEP discontinued the site in White Pine County due to numbers being below the minimums needed to continue the monitoring location. The current air quality status for all constituents that NDEP monitors is “unclassifiable” meaning that no annual data is collected in White Pine County.

Motorized vehicle use on native surface roads in the analysis area kicks up dust and mobilizes the smaller particles making them airborne. Soil surfaces lacking adequate total ground cover are susceptible to wind erosion.

3.4. Vegetation

3.4.1. Forest and Woodland Vegetation

Woodlands and forests occur within the TMA can be grouped into four categories. Singleleaf pinyon pine (*Pinus monophylla*) and Utah juniper (*Juniperus osteosperma*) woodlands occupy

approximately 8% of the planning area. Pinyon-juniper woodlands are found at mid-elevation in the planning units on benches of the Egan and Schell Creek Ranges. Curlleaf mountain-mahogany (*Cercocarpus ledifolius*) occupies approximately 14% of the TMA and is distributed throughout the area on drier sites. The majority of the mountain-mahogany within the TMA is found in Planning Unit 7. Mixed conifer forests are also present within the planning unit. Mixed conifer forests include species such as white fir (*Abies concolor*), limber pine (*Pinus flexilis*) and occasionally ponderosa pine (*Pinus ponderosa*). These forests are found at the highest elevations and comprise approximately 2% of the TMA, most of that being white fir. These high elevation communities are in varying states of health, but in general are over dense as a result of an altered disturbance regime in the area. Aspen communities, though occurring at a low percentage in the watershed (1%), are vitally important for many wildlife species. Aspen can be found at mid and high elevations near subsurface water in stands of less than 1 acre up to 20 acres in size. Aspen stands are generally in poor health and dominated by white fir.

3.4.2. Woodland and Vegetative Products

The TMA is a prime location for the gathering of vegetative products on the Ely District. Vegetative products gathered in the area include pine nuts, fuelwood, posts and poles, native seed and Christmas trees. Being close to the largest population centers within the county, many locals use this area extensively for vegetative products. Fuelwood, both commercial and personal use, is gathered in great quantities within the TMA. Pinyon and juniper fuelwood is gathered by a large percentage of the fuelwood burning publics of Ely and Ruth. The dense mountain-mahogany stands near Horse and Cattle Camp Loop are the most used mountain-mahogany woodlands in the district for the collection of green and dead fuelwood. The majority of mountain-mahogany fuelwood consumed in the county is harvested from this area. Posts and poles, primarily Utah juniper, are also harvested within the planning area at lower rates. Christmas trees, including pinyon pine and white fir are harvested in large quantities from the South Steptoe Valley. Pine nuts are also harvested for both personal and commercial use in this area. Commercial harvest in the Horse and Cattle Camp designated commercial pine nut harvesting area is dependent on the quantity of pine nuts produced in any given year. However, this area has been used numerous times in the past decades with tens of thousands of pounds of pine nuts harvested from the area in many years.

3.4.3. Noxious and Invasive Non-native Species

Noxious weeds that were found within the TMA include black henbane (*Hyoscyamus niger*), hoary cress (*Lepidium draba*), musk thistle (*Carduus nutans*), spotted knapweed (*Centaurea stoebe*), and tall whitetop (*Lepidium latifolium*). The area was last inventoried for noxious weeds in 2007.

Other invasive non-native species that are present within the TMA include cheatgrass (*Bromus tectorum*), bull thistle (*Cirsium vulgare*), halogeton (*Halogeton glomeratus*), Russian thistle (*Salsola kali*), bur buttercup (*Certocephala testiculata*), stork's bill (*Erodium cicutarium*), and tumble mustard (*Sisymbrium altissimum*).

Weeds are naturally spread by water, wind, birds, and animals, but can also be spread by people and/or their vehicles. Seeds can be carried in vehicle radiators, undercarriages, or tire treads or can become attached to clothing, shoes, or equipment. Areas where soil and vegetation have been disturbed are especially susceptible to the establishment of invasive non-native species. These

non-native species impact native plant communities by reducing biodiversity, altering soil characteristics, and potentially altering fire intensity and frequency.

3.4.4. Special Status Plant Species

3.4.4.1. Pennel Beardtongue

The Pennel Beardtongue occurs on rocky calcareous slopes and shaded banks at 2,590 – 3,355 meters in elevation. In the planning area there is one documented population in the Egan Mountains west of the Ward Mining District.

3.5. Fish and Wildlife Resources

3.5.1. Fish and Wildlife

Wildlife habitat and associated species are diverse and wide spread within the South Steptoe TMA. Big game species that occur within the TMA include Rocky Mountain elk, mule deer, and pronghorn antelope. Rocky mountain elk occur in a wide variety of habitats from valley benches during winter to higher elevations during the summer and fall. The Ely Resource Management Plan delineates 247,624 acres of yearlong elk habitat throughout the planning area and 46,856 acres of crucial summer habitat along portions of the Egan Range ridgeline and eastern bench and in the Schell Creek Range along the southeastern portions of the South Steptoe Watershed. Elk habitat includes mixed conifer, aspen, sagebrush-grasslands, and pinyon-juniper woodlands.

Mule deer are widespread in the South Steptoe TMA and are typically associated with middle to upper elevations. Within the planning area there are 72,182 acres of year round mule deer habitat and 110,423 acres of crucial habitat along the Egan and Schell Creek Ranges. Habitat for mule deer within the TMA includes mixed conifer, aspen, big sagebrush, low sagebrush, and grasslands.

Pronghorn are widespread throughout the valley bottoms and benches within the South Steptoe TMA. There are 96,967 acres of year round pronghorn habitat consisting of primarily sagebrush and grasslands. Pronghorn are primarily associated with sagebrush habitat mixed with antelope bitterbrush, saltbush, rabbitbrush and winterfat.

The variety of habitats within the South Steptoe TMA makes it an important area for big game year round, especially during the winter and spring. The crested wheatgrass seedings and winterfat communities are important foraging areas within the valley bottom. The higher elevations provide important browse species such as antelope bitterbrush and mahogany, as well as additional forage. Pinyon-juniper and mahogany woodlands provide thermal and escape cover. The Horse and Cattle Camp Loop area and Robbers Roost Basin in Planning Unit 7 in South Steptoe Valley contains habitat crucial to elk and deer populations.

The TMA also provides habitat for an array of other wildlife species such as coyotes, rabbits, badgers, bobcats, mountain lions, gray and red foxes, and other numerous small mammals, reptiles, amphibians, and invertebrates.

3.5.2. Special Status Animal Species

The BLM 6840 Manual (2008) 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 as Bureau sensitive by the State Director(s). All Federal candidate species, proposed species, and delisted species in the five years following delisting would be conserved as a Bureau sensitive species. [Table 3.2, “BLM Sensitive Species that have been documented and have the potential to occur within the planning area”](#) below lists the BLM sensitive species that have the potential to occur within the South Steptoe TMA. There are no federally threatened or endangered species in the TMA.

Table 3.2. BLM Sensitive Species that have been documented and have the potential to occur within the planning area

	Common Name	Scientific Name
Birds	Bald eagle	<i>Haliaeetus leucocephalus</i>
	Burrowing owl*	<i>Athene cunicularia</i>
	Ferruginous hawk	<i>Buteo regalis</i>
	Golden eagle	<i>Relictus solitaries</i>
	Gray vireo*	<i>Vireo vicinior</i>
	Greater sage-grouse	<i>Centrocercus urophasianus</i>
	Juniper titmouse	<i>Baeolophus griseus</i>
	Loggerhead shrike*	<i>Lanius ludovicianus</i>
	Long-billed curlew*	<i>Numenius americanus</i>
	Long-eared owl	<i>Asio otus</i>
	Northern goshawk	<i>Accipiter gentilis</i>
	Peregrine falcon	<i>Falco peregrines</i>
	Pinyon Jay	<i>Gymnorhinus cyanocephalus</i>
	Prairie falcon	<i>Falco mexicanus</i>
	Short-eared owl	<i>Asio flammeus</i>
	Vesper sparrow	<i>Pooecetes gramineus</i>
	Swainson’s hawk	<i>Buteo swainsoni</i>
Mammals**	Pygmy rabbit	<i>Brachylagus idahoensis</i>
Insects	White River wood nymph	<i>Cercyonis pegala pluvialis</i>
Plants	Pennel beardtongue	<i>Penstemon leiophyllus var. francisci-pennelli</i>

*Species that have not been documented, but have the potential to occur in the TMA.

**Numerous bat species roost and forage within the TMA, but are not affected by the proposed action.

3.5.2.1. Sage Grouse

The sage grouse is a BLM Sensitive Species that has been determined to be warranted for listing under the Endangered Species Act (ESA), but is precluded by other species of higher priority (Federal Register/Vol. 75, No. 55/Tuesday, March 23, 2010). The South Steptoe TMA is within

the Steptoe/Cave Sage Grouse Population Management Unit (PMU) and the Butte/Buck/White Pine PMU as described in the White Pine County Sage Grouse Conservation Plan. Within the TMA there are 12 active sage grouse leks, five leks of unknown status, and one inactive lek as of 2008.

Sage grouse are sagebrush obligates that depend on large expanses of un-fragmented sagebrush habitats for successful reproduction and winter survival. The Ely RMP delineates approximately 200,344 acres of nesting, 150,729 acres of summer brood-rearing and 95,458 acres of winter habitat in the TMA. Telemetry data collected in South Steptoe Valley from 2008 - 2010 shows sage grouse predominately utilizing habitat within 2-2.5 miles from their lek trap site with grouse also using the Summit Spring area for nesting and brood-rearing. Sage grouse tend to nest within two miles of their breeding sites if suitable habitat is available.

3.5.2.2. Pygmy Rabbits

The pygmy rabbit is another high-profile BLM sensitive species that has recently been found not to warrant protection under the ESA (Federal Register/vol.75, No. 189/Thursday, September 30, 2010). Numerous pygmy rabbit sightings have been documented in the South Steptoe Valley generally within drainages with taller sagebrush. The extent of pygmy rabbit occurrence is influenced by habitat suitability as indicated by the presence of tall, dense, big sagebrush stands in combination with deep, friable soils to dig burrows.

3.5.2.3. Raptors

Raptor nesting areas for five (ferruginous hawk, golden eagle, prairie falcon, Cooper's hawk, sharp-shinned hawk) of the 16 local species of raptors are known to occur within the TMA. The ferruginous hawk is a summer nesting resident and 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 golden eagle is Nevada's largest resident bird of prey and nests primarily in cliff areas or sometimes in trees, with numerous nest sites in a territory. This highly adaptable bird is a common year-long resident of the planning area and feeds primarily on small mammals. The prairie falcon is known to be a yearlong resident of Nevada. Cliffs are preferred, but nest sites seem to depend on the abundance of prey species as otherwise unsuitable nest sites are often used if prey is available. Both the Cooper's hawk and sharp-shinned hawk are tree nesters in forested areas, with the Cooper's hawk favoring riparian habitat.

3.5.3. Migratory Birds

Migratory birds are those listed in 50 CFR 10.13 and include many native species commonly found in the U.S. Migratory birds are protected under the MBTA, which makes it unlawful to take, kill, or possess migratory birds.

Migratory bird nesting and foraging habitats are located throughout the South Steptoe TMA. Based on the Atlas of Breeding Birds of Nevada (Floyd et al. 2007), the following species (and others not listed) are common in Nevada and have a high probability of occurring within the planning area. The Brewer's sparrow, sage thrasher, and sage sparrow are sagebrush obligate species that require large expanses of sagebrush habitat for ideal nesting conditions. Other species that nest in sagebrush shrubs include the loggerhead shrike, gray flycatcher, and green-tailed

towhee. Common pinyon-juniper species in the planning area are pinyon jay, western scrub jay, mountain chickadee, bushtit, and juniper titmouse and mixed conifer species include the white breasted nuthatch, hermit thrush, Cassin's finch, and Clark's nutcracker.

Many migratory bird species are heavily dependent on healthy riparian systems, with willows and cottonwoods being important habitat features. The TMA includes the Steptoe Valley Wildlife Management Area wetlands, as well as several springs and perennial streams that represent important migratory and game bird habitat.

3.6. Water Quality

The South Steptoe TMA is primarily located within the South Steptoe Valley Watershed, with small portions of the White River North and Steptoe C Watersheds.

3.7. Wetlands and Riparian Areas

There are approximately 38 miles of perennial streams and 123 named and unnamed springs in the analysis area. Perennial stream systems may possess both lotic and lentic riparian areas. Lotic types are associated with flowing water and adjacent to streambanks. Lentic types are usually associated with non-flowing riparian systems that may or may not have surface water such as vegetation around ponds or vegetation in meadows.

The lotic riparian areas range from moderately disturbed systems in the valley bottom where stream channels were altered to accommodate other water needs. The riparian vegetation in these areas is dominated by rush, sedge, grasses, and with willows common. Higher up the piedmonts within the old confined stream channels the lotic systems are dominated by grasses and sedges with clumps of willow common. Water Birch may be found on streambanks that were altered. In the headwaters of the streams and some intermittent and ephemeral drainages, Quaking Aspen stands can be found either associated with lentic riparian areas or as a lone stand of trees.

Lentic riparian areas associated with stream valley systems tend to be dominated by grasses with rush and sedge components and willows common. These areas range in size from isolated patches which are only tenths of acres to stringers of vegetation which follow the stream for miles and are hundreds of feet wide. Lentic riparian areas are also associated with springs throughout the watershed. Many small, unnamed springs flow or seep and have small areas of riparian vegetation develop in and around the saturated soil. Small lentic systems may be ephemeral and dependent upon snowmelt or spring precipitation.

3.8. Rangeland Resources

Livestock have historically and currently graze the areas within the TMA. The objectives of livestock grazing are to allow the use to occur in a manner and at levels consistent with multiple use, sustained yield, and the established standards for rangeland health.

3.9. Visual Resource Management

Visual resources are identified through the Visual Resource Management (VRM) inventory. This inventory consists of a scenic quality evaluation, sensitivity level analysis and a delineation of distance zones. Based on these factors, BLM-administered lands are placed into four visual

resource inventory classes: VRM Class I, II, III and IV. Class I and II are the most valued, Class III represents a moderate value and Class IV is of the least value. VRM classes serve two purposes: (1) as an inventory tool that portrays the relative value of visual resources in the area, and (2) as a management tool that provides an objective for managing visual resources.

The South Steptoe Valley TMA falls within VRM Classes I – IV. Class objectives should be considered when selecting an alternative and when road reclamation, maintenance, or construction occurs.

The Class I VRM objective is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

The Class II VRM objective is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

The Class III VRM objective is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the landscape. Changes caused by management activities may be evident and begin to attract attention, but these changes should remain subordinate to the existing landscape.

The Class IV VRM objective is to allow for management activities that involve major modification of the existing character of the landscape. The level of contrast can be high--dominating the landscape and the focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements of the characteristic landscape.

The proposed project area is located between the Egan and Schell Creek Ranges, south of the city of Ely. Elevations range from approximately 6,000 to 9,000 feet and slopes range from an estimated 2 to 35 percent. Annual precipitation levels average from approximately 8 to 22 inches. The primary vegetation within the project area consists of pinyon and juniper, aspen and sagebrush communities. A number of springs and riparian areas exist within the project boundary.

3.10. Cultural Resources

The cultural landscape in South Steptoe Valley has evidence of a long history of human occupation. The earliest commonly accepted date for human presence in the Eastern Great Basin is approximately 10,000 to 11,000 years before present and has been consistently, though not densely populated up to the present day (Aikens and Madsen 1986). The location of cultural resources in the nine identified travel management units delineated by the BLM are limited but can be reasonably extrapolated based on the information available through previous research conducted in those areas. Data for the assessment of cultural resources was reviewed from the Nevada Cultural Resource Inventory System (NVCRIIS), records housed at the BLM Ely District Office, and General Land Office (GLO) maps for Nevada.

3.10.1. Archaeological Resources

Archaeological resources are physical remnants of cultures that can add data to the study of human behavior. Most archeological resources known in the travel management units have been recorded in conjunction with cultural resource inventories conducted for compliance with Section 106 of the National Historic Preservation Act (NHPA). Within the units the records show 241 archaeological sites recorded by over 100 separate cultural resource inventories done over the last forty years. Because of the changes in record keeping over those forty years, it was discovered that a number of sites listed in the records actually represent isolated occurrences. The analysis of impacts was limited to those entities that met the current definition of an archaeological site (Nevada BLM Cultural Resource Inventory Guidelines 1990), totaling 182.

Based on the data reviewed, prehistoric archaeological sites recorded in the APE include small to moderately sized scatters of lithic tools and debitage of variable density, with few exceptions. The occupations for those sites are mostly between the Middle Archaic and Late Prehistoric Periods. Historic Period archaeological sites in the APE are overwhelmingly related to mining and ranching themes, many of which are small single use trash dumps.

3.10.2. Historic Resources

Historic properties may be significant because of attributes other than or in addition to their ability to yield data to the archaeological record. These properties or objects may represent events, people, or design features important in American history. Historic properties that have been identified as important to American history are present in the APE. These properties, such as the Historic Ward townsite, a part of the Ward Historic Mining District (Tingley 1998), and a portion of the Northern Nevada Railway, represent the economic development integral to the establishment of Nevada as a state and the permanent expansion of European Americans into the west.

3.11. Native American Religious Concerns

The TMA is adjacent to and includes a small amount of tribal fiduciary assets. A letter requesting consultation was sent to the Ely Shoshone Tribe on December 17, 2010.

3.12. Recreation Management

The South Steptoe TMA offers a wide variety of recreational activities. Recreation in the valley is moderate and dispersed, and primarily consists of off-highway vehicle use, dirt biking, hunting, wildlife viewing, fishing, camping, hiking, cross-country skiing, horseback riding, caving, and mountain biking. Developed recreation sites within South Steptoe Valley include: Ward Charcoal Ovens State Park, Ward Mountain Recreation Area, and the Ely Elk Viewing Area.

Recreation in the BLM Ely District is managed by designation of Special Recreation Permit Areas (SRPA), Special Recreation Management Areas (SRMA), and Extensive Recreation Management Areas (ERMA). A SRPA is an area that was designated through the Ely Resource Management Planning process, to provide opportunities for competitive motorcycle special recreation permit events. A SRMA is an area where more intensive recreation management is needed and where recreation is a principal management objective. An ERMA includes all BLM-administered

lands outside of SRMAs and may include developed and primitive recreation sites with minimal facilities.

The Ely SRPA is located on the southwest and west side of Planning Unit 1. Approximately one competitive motorized event is held in this SRPA each year.

The Loneliest Highway SRMA is located on the north and northeast portions of South Steptoe Valley. The SRMA encompasses 675,120 acres running in an east - west direction along both sides of Highway 50. The BLM management objective for this SRMA is to provide both motorized and non-motorized recreational opportunities to the public.

3.13. Social and Economic Values

The South Steptoe Valley is a common location for a wide variety of recreational uses for nearby residents facilitated by the access and mileage of roads available for hiking, biking, and off-road vehicle usage. Game species are present within the planning area and some of the roads evaluated in this TMP potentially provide access for hunters and commercial guide businesses. Additionally, there are several businesses that use the existing network of roads to collect pine nuts for commercial purposes.

3.14. Fuels and Fire Management

The South Steptoe TMA encompasses 250,512 acres within five Fire Management Units (FMU). Historical fire occurrence within the TMA is 83 fires over the last ten years and 242 fires since 1980. Of these, the largest was the Water Fire, which consumed 240 acres in 1995. Transportation routes within the TMA serve as access for fire resources for both suppression and logistical support of wildland fire incidents. Existing transportation routes also serve as fuel breaks and are often utilized as holding positions for suppression resources. The amount and distribution of access routes correspond to the amount of time from when a fire is reported to the time that suppression resources are on scene, commonly called response time. These same routes are utilized by members of the public and can be a source of unintentional human starts. Of the fires within the TMA, six fires within the last ten years and 40 fires within the last 30 years were human caused.

Of the FMUs within the TMA, two are Watershed and Wildland Urban Interface (WUI) based (Ely/Lund Watershed and WUI FMU and Ely/Lund/Duckwater WUI FMU) where wildland fires are aggressively suppressed to protect watershed and community infrastructure. The remaining FMUs are listed as High Value Habitat concerns and range from high to low constraints for fire size. The Northern Benches FMU is listed as high constraint where fire size is to be limited to 50 acres or less. The other two FMUs (Highlands and South Egan FMU and Bullwhack FMU) are listed as low and moderate constraints of fire size. The moderate constraint restricts fire size to 300 acres and the low restricts fire size to 1,000 acres. Access route density is highest within the WUI and Watershed FMUs followed by the Northern Benches FMU (see [Table 3.3, “Roads present within each Fire Management Unit”](#)).

Table 3.3. Roads present within each Fire Management Unit

FMU Name	Miles of Road	Square Miles	Miles of Road/Square Mile
Ely/Lund Watershed and WUI & Ely/Lund/Duckwater WUI	284	73	3.9

Northern Benches	549	167	3.3
Bullwhack & Highlands and South Egan Range	219	152	1.4

Presently, fire suppression within the TMA has led to an alteration of fire cycles leading to an increase in fuel build up and continuity, which leads to an increase in the potential for large uncontrollable fires. The TMA encompasses a variety of fuel types extending from high elevation limber pine to low salt desert scrub. Fuels management activities within the TMA have treated 4,077 acres of vegetation for hazardous fuels reduction and habitat improvement. Access routes are utilized to transport equipment to vegetation treatment areas as well as pre and post monitoring of vegetation management treatment areas.

Access routes used by the public serve as vectors by which invasive weeds can be transported into vegetation treatment areas. The establishment of these invasive species within treatment areas compromises the potential success of re-vegetation efforts.

It is anticipated the vegetation treatments for the reduction of hazardous fuels and habitat improvement would continue into the future as resources are available to complete the projects. Fire management within the TMA would continue as is directed under the current approved Fire Management Plan and Resource Management Plan. It is assumed that other land uses within the planning area would continue as is.

Chapter 4. Environmental Effects:

4.1. Introduction

This section analyzes the environmental impacts and effects of implementing each alternative upon the resources and concerns identified in Chapter 3: *Affected Environment*. Many of the impacts are common to more than one alternative and have been grouped accordingly.

4.2. Air Quality

4.2.1. Impacts Common to All Alternatives

Dust, fine soil particles, created by motorized vehicles acts no differently than dust mobilized by wind events. The amount of energy used to kick up the particles (wind speed or vehicle speed) would determine how large the particle and how long the particle will remain in the air. Casual use of unpaved trails and roads would lead to silt-sized particles remaining in the air for a short period. Higher speed events would mobilize larger amounts of silt-sized particles and send them a greater distance into the air thus, making them last longer in suspension until they settle back to the ground. Low, moderate, and higher speed events (vehicles or wind speed) would lead to short-term dust events. Dust would be expected to remain in suspension from minutes to hours depending upon ambient wind speed. Sand-sized particles would settle within seconds of being mobilized except in the largest wind storms where they could travel for hundreds of feet and be in suspension for minutes. Motorized vehicle use would not reach the speeds necessary to maintain sand in suspension for more than seconds after being mobilized.

Soil particles mobilized by either natural wind events or by motorized vehicle use in the project analysis area would not affect air quality parameters that the NDEP uses to assess compliance with air quality standards. Short-term and localized dust events in the analysis area would not affect the air quality of White Pine County, Nevada.

4.3. Vegetation

4.3.1. Forest and Woodland Vegetation

4.3.1.1. Impacts Common to All Alternatives

Roads in forest and woodland communities can be beneficial and negative depending on how they are used. Roads are extremely valuable for allowing access to these areas for management, restoration, monitoring and fire management activities. Without these actions, woodlands and forests can be at risk to being lost from fire, disease, insects, and succession of unnatural communities. Roads also allow access to these forests and woodlands which have many positive impacts such as recreation, hunting, etc., but also allow for harvesting of trees primarily for fuelwood, which can be a positive or negative impact. In general, losing access to forests and woodlands for restoration activities is a bigger concern than having these forests and woodlands accessible for harvest of vegetative products due to the relatively small impact harvest of vegetative products has on the landscape as a whole and the quick rate at which woodlands and forests can be severely impacted without proper management. The cost of forest management, including restoration activities, prescribed fire, and fire suppression, is directly related to the distance from a road. As distance from a road increases, so does the cost. At

some point, restoration activities are no longer economically feasible and the stand is no longer actively managed. Active management of aspen stands is of particular concern. Without active management aspen stands would continue to deteriorate in health due to mature trees being shaded by conifers, especially white fir, and the lack of regeneration. Most stands in the area are at risk to being completely lost within the next 50 to 100 years without disturbance of some sort, thus active management is of great importance

4.3.1.2. Impacts from Alternative A

The no action alternative provides the fewest impacts to forest and woodlands. Harvesting trees from woodlands would be likely to continue at a relatively constant rate. No routes would be closed, allowing for maximum administrative access to the woodlands and forests for management activities including restoration, harvesting, prescribed fire and fire management.

4.3.1.3. Impacts from Alternative B

Alternative B would not allow for motorized access to many woodland and forest stands within the TMA that currently are accessible by road. Management of forest and woodland resources would be more constrained under this alternative due to the higher cost of accessing these areas. Without active management some forest and woodlands would be at high risk to uncharacteristic damage caused by insects, disease, fire, and succession in the next century. Aspen stands located in inaccessible locations would be at the highest risk of being lost due to conifer encroachment.

4.3.1.4. Impacts from Alternatives C and E

Alternatives C and E, by primarily reducing redundant routes, would impact forest and woodland vegetation less than Alternative B. Alternate routes would still exist to access most forest and woodlands stands that would be in need of active management over the next decades. Loss of aspen stands due to the increased cost of treatment would be much less likely than in Alternative B.

4.3.1.5. Impacts from Alternative D

Impacts to forests and woodlands from Alternative D would be similar to those in Alternative A. Because only redundant routes are targeted for closure, access for active management of woodlands and forests would not be restricted and harvest of woodland products would likely continue at the current rate.

4.3.1.6. Impacts from Alternative F: Proposed Action

Alternative F would primarily impact forest and woodland vegetation by reducing access to stands for active management, increasing the risk of the stands being lost or compromised from fire, insects, unnatural communities, etc. Closure of access into some areas, including the mountain-mahogany stands near Horse and Cattle Camp Loop, would benefit mountain-mahogany woodlands by reducing the number of trees harvested as fuelwood.

4.3.2. Woodland and Vegetative Products

4.3.2.1. Impacts Common to All Alternatives

Closing access routes in woodland areas reduce the ability for the public to access vegetative products including pine nuts, fuelwood and Christmas trees. The impact to the collection of vegetative products depends on the number of routes closed, if the closed routes are redundant, and the availability of products elsewhere in areas that still have access.

4.3.2.2. Impacts from Alternative A

There would be no impacts to the availability and harvest of forest products under the no action alternative.

4.3.2.3. Impacts from Alternative B

Impacts to vegetative products in Alternative B include reducing the number of routes available for access into woodland stands. Most products in the planning area can be found in sufficient quantities in other areas of the district to help reduce the impact to closing routes in the South Steptoe Valley, except pine nuts and mountain-mahogany fuelwood. Access into the Horse and Cattle Camp commercial pine nut unit would be greatly limited in this alternative, reducing the ability to harvest pine nuts in this area. In addition, access to the low elevation mountain-mahogany stand in horse and cattle camp loop would be lost greatly reducing the amount of mountain-mahogany fuelwood available to the public. There is no similar substitute of accessible mountain-mahogany in the District to compensate for the loss of access to this area.

4.3.2.4. Impacts from Alternative C, D, and E

Alternatives C, D and E would have little impact on the harvest of vegetative products. Most routes being closed would be redundant routes and sufficient access into woodland stands, commercial pine nut harvesting areas and the horse and cattle camp loop mountain-mahogany stand would still exist.

4.3.2.5. Impacts from Alternative F: Proposed Action

The proposed action would limit access to woodlands and reduce the availability of vegetative products to the public. Most closed routes in the area are redundant and would not greatly impact the harvest of vegetative products. However, the roads closed in the horse and cattle camp loop area are not all redundant and access to the popular mountain-mahogany harvesting area would be limited. In addition, access would be lost to a portion of the horse and cattle camp commercial pine nut harvesting area.

4.3.3. Noxious and Invasive Non-native Species

4.3.3.1. Impacts from Alternative A

There would be no change to the rate of spread for weeds resulting from the No Action Alternative.

4.3.3.2. Impacts from Alternatives B, C, D, E, and F: Proposed Action

Closure of routes could reduce further spread of weeds by vehicles. However, if routes are mechanically or manually removed it creates the potential for noxious weeds to move into the disturbed areas following treatment.. This impact is reduced by using weed free seed, cleaning equipment, and treating current weed infestations along access routes.

4.3.4. Special Status Species

4.3.4.1. Pennel Beardtongue

4.3.4.1.1. Impacts Common to All Alternatives

Due to the location of single known population in the TMA, no impacts are expected from any of the alternatives.

4.4. Fish and Wildlife Resources

4.4.1. Fish and Wildlife

4.4.1.1. Impacts Common to All Alternatives

Wildlife would be affected by all Alternatives. This would vary depending upon the number and location of road closures and number of users. Reducing the number of open roads does not equate to a reduction of OHV operators and may result in more concentrated use on existing roads. Additionally, roads increase the spread of weeds throughout the landscape, altering habitat and forage quantity and quality for all wildlife species. Any proposed road closures will be potentially beneficial by reducing direct and indirect impacts to wildlife species.

Studies measuring the responses of deer and elk to OHV use generally conclude that deer are less affected by recreational use than elk. A study at the Starkey Experimental Forest and Range in northeastern Oregon determined elk exhibited greater movement rates than deer in response to ATV riding, mountain biking, horseback riding and hiking (Wisdom et al. 2004). Another study at Starkey revealed that mule deer in general selected areas closer to roads with varying traffic levels than elk (Wisdom et al. 2005). Deer may possibly be seeking dense cover rather than fleeing from the disturbance as elk do. Big game animals that are fleeing from recreational activity are adversely affected by the loss of foraging opportunities and increased energy expenditure, resulting in reduction of fat reserves for winter survival. While mule deer show lower movement rates than elk, OHV usage disturbs them from foraging activities that help them build adequate fat reserves for winter survival (Wisdom et al. 2005).

Security areas, as well as areas for undisturbed foraging, are important for big game survival. Security areas for elk are defined as “any area that will hold elk during periods of stress because of geography, topography, vegetation, or a combination of those features” (Lyon and Christensen 1992). Studies in Montana identified security areas for elk to consist of at least 250 acres of forested cover with a minimum distance of a half mile from roads (Hillis et al. 1991). These are conservative criteria for the South Steptoe TMA considering these guidelines were developed for

steep, heavily forested habitat of western Montana. For the South Steptoe Travel Management Plan big game analysis, half-mile buffers were applied to open roads in all alternatives to analyze the amount of potential security and foraging areas remaining within the TMA. Security areas for this analysis were identified as areas greater than 350 acres a half mile from open roads with adequate tree cover on BLM property. [Table 4.1, “Acreage of security areas for each alternative”](#) shows the acreage of security area for each alternative.

Table 4.1. Acreage of security areas for each alternative

Alternative	Acres	Percent difference from Alternative B
Alternative A: No Action	37,463	17%
Alternative B: Resource Protection Emphasis	45,012	—
Alternative C: Balanced Alternative	42,519	6%
Alternative D: Motorized Recreation Emphasis	39,976	11%
Alternative E: Coordinated Resource Management Proposal	42,170	6%
Alternative F: Proposed Action	43,277	4%

4.4.1.1.1. Impacts from Alternative A

Under Alternative A, vehicular use would remain unchanged throughout the TMA with no proposed road closures. Impacts to wildlife due to recreational activities would remain unchanged. Alternative A creates 37,463 acres of security area for big game which is approximately 17% less security area than Alternative B.

4.4.1.1.2. Impacts from Alternative B

Alternative B proposes the largest number of road closures throughout the TMA opening up large expanses of habitat for security and foraging areas for big game and creating additional smaller areas of unfragmented habitat for smaller and less mobile wildlife species. Alternative B creates the greatest amount of security area with approximately 45,012 acres in the TMA. These areas are most noticeable and important in the Horse and Cattle Camp Loop area and Robbers Roost Basin (Planning Unit 7), which contains critical habitat for both elk and deer populations.

4.4.1.1.3. Impacts from Alternatives C, D and E

Alternative D offers the least amount of road closures throughout the TMA, except for the No Action Alternative, and creates 11% less security area for big game than Alternative B. Alternatives C and E propose to close more miles of roads compared to D, however the location of the road closures in relation to open roads does not create open blocks of habitat for big game foraging and security areas. Both of these alternatives create approximately 6% less security area than Alternative B.

4.4.1.1.4. Impacts from Alternative F: Proposed Action

Alternative F is a combination of Alternatives B, C, and D and designates a specific alternative to be applied for each planning unit. While this alternative does not provide the greatest amount of road closures as other alternatives, it designates road closures in important habitat areas that other

alternatives do not, such as in Planning Unit 7. This alternative creates approximately 43,277 acres of security area, 4% less than Alternative B.

4.4.2. Special Status Species

4.4.2.1. Impacts Common to All Alternatives

Special Status Species would be affected by all Alternatives. The level of impact would vary depending upon species, miles of road closed, location and arrangement of roads. Reducing the number of “open” roads does not equate to a reduction of OHV operators and may result in more concentrated use on remaining roads. Additionally, road usage can increase the spread of weeds throughout the landscape, altering habitat and forage quantity and quality for all wildlife species.

Vehicular disturbance to sage grouse, raptors, and passerines during the breeding and nesting season can result in decreased reproduction, nest productivity, and chick survivorship. Roads can increase predation of sage grouse, chicks, and eggs due to transportation vectors for predators. Ferruginous hawks avoid human disturbance during nest site selection and are particularly sensitive to human disturbance during the courtship, egg-laying, and incubation phases of reproduction (Wildlife Action Plan Team 2006). On the other hand, other hawk species (Cooper’s hawk) are more tolerant of habitat fragmentation and human disturbance.

4.4.2.2. Impacts from Alternative A

Under the No Action Alternative, there would be no road closures and impacts to special status species would continue. However, no road closures may also indicate more dispersed recreational activity throughout the TMA.

4.4.2.3. Impacts from Alternatives B, C, D, E, and F: Proposed Action

Alternative D has the least number of closures and therefore has the most direct and indirect impacts and Alternative B has the least for all special status species. Alternatives C, E, and F have varying degrees of impact based on species, miles of road closed, location and arrangement. The Summit Spring area in Planning Unit 7 is an important sage grouse nesting and brood rearing area and has been proposed for road closures in Alternative B, E and F. Closures in the Summit Spring area would benefit this species by increasing nest success and chick survivorship, in addition to possibly reducing nest predation. Raptors and passerines would benefit from all proposed road closures. Ferruginous hawks would see the fewest impacts with Alternatives B, C and E with road closures along the benches where there are juniper stringers for nesting. Pygmy rabbits would benefit most with road closures in drainage bottoms dominated by big sagebrush.

4.4.3. Migratory Birds

4.4.3.1. Impacts Common to All Alternatives

Studies have shown that human disturbance, including recreational and OHV trails, impact bird species. One study found that species composition was altered near recreational trails, birds were less likely to nest near trails, and nest predation was greater near trails (Miller 1997). Barton and

Holmes (2006) revealed greater nest desertion and abandonment on nests less than 100 meters from OHV trails than nests greater than 100 meters from trails in northeastern California.

An increased level of disturbance associated with OHV use could result as roads become widened or braided, causing an additional loss of habitat and an alteration of species composition in the area immediately adjacent to roads. OHV use could result in direct mortality from vehicular collisions. There is an expected benefit to migratory bird populations with proposed road closures in the TMA.

4.4.3.2. Impacts from Alternative A

Under the no action alternative, there would be no road closures and impacts to migratory birds would continue. However, no road closures would also indicate more dispersed recreational activity throughout the TMA.

4.4.3.3. Impacts from Alternative B, C, D, E, and F: Proposed Action

These five alternatives propose some degree of road closures throughout the TMA. Proposed road closures would reduce direct and indirect impacts to migratory birds, however it would take years for vegetation to recover to provide adequate nesting habitat for migratory birds. Additionally, Alternative E proposes roads to be rerouted, which would create a new disturbance and potential loss of nesting habitat. Overall, as the number of road closures increases with each alternative, migratory bird impacts would likely decrease.

4.5. Water Quality

4.5.1. Impacts Common to All Alternatives

The closure of routes may reduce the amount of sedimentation caused by travel on existing routes, but the current and expected impacts are both negligible in terms of overall water quality in the South Steptoe Valley.

4.6. Wetlands and Riparian Areas

4.6.1. Impacts Common to All Alternatives

The analysis for effects to the resource was approached in two ways: (1) open road crossing perennial streams, and (2) open road proximity to both natural and developed springs. Perennial stream crossings were chosen since the potential for roads and trails to affect streams is greatest at these intersections. A 100-foot buffer around the springs was used as a means to intersect open roads with the springs using GIS. The buffer was chosen to represent the outside potential influence zone of roads upon the springs.

shows the number of perennial stream crossings and number of buffered springs intersected by open roads for each alternative. Analysis for Alternative E showed results not indicative of the true number of open roads associated with the alternative.

Table 4.2. Number of stream crossings and number of roads within the 100-foot spring buffer for each alternative

Alternative	A	B	C	D	E	F
Stream Crossings	18	13	13	15	13–15*	15
Spring Buffer Crossings	16	14	15	15	14 or 15*	14
*Number lies between minimum and maximum intercepts; differences in GIS data layer creation would not allow comparative analysis but it is known that number lie between the minimum and maximum road/trail alternatives (Alternatives B and D).						

Alternative A shows the existing condition for number of perennial stream crossings and springs potentially affected by roads and trails. All action alternatives would reduce the number of perennial streams crossed and the number of springs potentially affected as compared to the existing condition or no action alternative.

The numbers shown in are based upon total number of open roads. The results show that the roads selected for closure in Alternatives B through F would eliminate both perennial stream crossings and the number of springs potentially affected by roads and trails. The Proposed Action lies mid-way between the minimum and maximum access alternatives (B and D, respectively) in terms of stream crossings and spring intercepts. The resource and recreation Alternative C shows that the number of stream crossings most resembles the resource protection Alternative B while the number of spring intercepts most resembles the recreation Alternative D. The Proposed Action resembles the recreation Alternative D in terms of stream crossing sand resembles the resource protection Alternative B in terms of spring intercepts. In other words, the Proposed Action would maintain more mid-elevation roads than Alternative B and close more mid- to higher-elevation roads than Alternative D.

The reduction in number of stream crossings and springs potential effects would be directly affected by alternative selection. Indirectly, the riparian zones adjacent to stream crossings and associated with the springs avoided would be expected to show an increase in streambank stability and riparian health. The riparian systems would show greater resilience to change and show an increase in the ability to withstand high wind and water flow events.

Reduction in the number of stream crossings and spring intercepts would reduce the maintenance efforts necessary to maintain the transportation system. Fewer high priority locations would equate to less effort and cost associated with maintenance.

4.7. Rangeland Resources

4.7.1. Impacts Common to All Alternatives

All of the alternatives would still provide access for the operators to maintain range improvements under cooperative agreements or administrative access designations.

4.8. Visual Resource Management

4.8.1. Impacts from Alternative A

If the proposed action is not implemented, visual impacts would continue as route density and proliferation increase, causing an increase in linear features and vegetation inconsistencies within the landscape of the planning area. Lack of travel management would result in the current road density to remain the same, with the potential increase of more user created routes.

4.8.2. Impacts from Alternative B

In this alternative, the rehabilitation methods described in section 2.2.3 *Closure Methods* to close routes may cause visual impacts for the short-term. During the rehabilitation process, before vegetation is allowed to regenerate, this process may dominate the view of the casual observer and be inconsistent with the surrounding landscape characteristics, depending on the VRM Class. In the long-term, the overall effect of this alternative would improve the visual resources as the old linear features blend into the surrounding landscape.

4.8.3. Impacts from Alternative C, D, E, and F: Proposed Action

In these alternatives, the rehabilitation methods described in section 2.2.3 *Closure Methods* to close routes may cause visual impacts for the short-term. During the rehabilitation process, before vegetation is allowed to regenerate, this process may dominate the view of the casual observer and be inconsistent with the surrounding landscape characteristics, depending on the VRM Class. In the long-term, the overall effect of this alternative would improve the visual resources as the old linear features blend into the surrounding landscape. Maintenance and/or construction would be required to meet VRM class objective(s).

4.9. Cultural Resources

A travel management plan can impact cultural resources in several different ways both positively and negatively. The most direct negative impact to resources would be the creation of new roads, but as none of the plan alternatives propose any new roads, this impact would not be assessed. Direct negative impacts to cultural resources that were assessed are established roads that bisect archaeological sites or historic properties. The continued use of roads that bisect sites have the potential to increase the rate of natural degradation from widening during road maintenance, increased erosion surrounding the road, or unauthorized off-road vehicle use. Indirect negative impacts to cultural resources are the increased exposure that easier access to those resources entails.

Road closures identified in certain alternatives would benefit cultural resources by reducing the potential for negative impacts from the usage described above. The methods listed in section 2.2.3 *Closure Methods* that may be employed to implement the South Steptoe Travel Management Plan are variable yet all are confined to areas of previous disturbance. The particular method used would be chosen to best preserve significant cultural resources. Secondly, implementation of some closure methods would require monitoring by a qualified archaeologist as stipulated in

the Monitoring Plan (Appendix B). Therefore, road closures are not anticipated to cause any negative impacts to cultural resources.

4.9.1. Archaeological Resources

While many of the known archaeological sites in the TMA are ephemeral occupations or lack integrity of location, which limit the amount of significant data they are able to yield, there are several examples of exceptional sites that could provide important data to the archaeological record. Archaeological sites determined eligible for the National Register of Historic Places (NRHP) were used to determine which archaeological sites were significant. All archaeological sites were taken into account; however, the potential effects to eligible sites were given greater consideration during the analysis of each alternative.

4.9.1.1. Impacts by Alternative

Direct and indirect impacts were analyzed separately for each alternative and results of both reviewed to rank alternatives. Direct impacts to archaeological sites were quantitatively measured based on the ratio of the total length of roads in the recorded site boundary to the length of the site boundary perimeter. For direct impact analysis, the higher the ratio of total length of roads within a site compared to the size of the site, the higher the potential for direct impacts. Each bisected site in the analysis was indexed based on this ratio.

Indirect impacts to an archaeological site were quantitatively measured based on a site's distance from a road. For indirect analysis, the closer the site was to a road, the higher the potential for indirect impacts. Each site not directly impacted was indexed based on its distance from the closest road in the TMA.

All sites were initially measured for impacts for the no-action alternative, where no road closures would be implemented. In analyzing subsequent alternatives, the level of benefit of a road closure to a site was assessed by using the measurement of negative impact to the site calculated for the no-action alternative. If a site's level of negative impacts is high because road usage, the level of benefit to the site would be equally high if that road were closed.

Each alternative was ranked based on the total amount of impacts to all sites in the APE. The sites used in the analysis are those that have been previously recorded which represent only a small sample of all sites in the project area. Secondly, the analysis conducted for each alternative was quantitative making the exact level of impacts to all sites in the APE slightly different for each alternative. Therefore, it was necessary to test whether the differences in the total impacts for each alternative were significant enough to suggest that one alternative was substantially better for preservation than any other.

4.9.1.1.1. Impacts Common to All Alternatives

All six alternatives proposed in for this action would result in continued road use in the South Steptoe TMA and no new roads would be constructed, resulting in no new impacts to archaeological sites in the TMA. Therefore, the preference for alternatives from a preservation perspective would be those that would potentially benefit archaeological sites the most through closures.

4.9.1.1.2. Impacts from Alternative A

The no-action alternative would result in no change to the present level of impacts to archaeological sites from road use in the APE. While this alternative would not result in any new impacts, this alternative would not improve preservation efforts for archaeological sites in the APE. From a preservation perspective, this is not the preferred alternative.

4.9.1.1.3. Impacts from Alternatives B, C, D, E, and F: Proposed Action

The results of the impact analysis reveal that Alternative B was ranked highest for its benefit to archaeological sites. This conclusion was based on the total level of both direct and indirect potential impacts from continued road usage. However, a subsequent test of the differences between the alternatives suggests that Alternatives C and E, ranked second and third respectively, would likely not result in a substantial increase in impacts from continued road usage compared to Alternative B. Conversely, the analysis suggests that the continued road usage in Alternatives D and E would result in an increase in impacts compared to the other three alternatives analyzed.

4.9.2. Historic Resources

Similar to archaeological resources, historic properties were given a higher consideration in the analysis if they were determined eligible for the NRHP. While road closures would potentially benefit historic properties similarly to archaeological sites, some roads identified for closure may themselves be historic properties. If such a road is identified for closure, a non-destructive closure method would be used as stated in the closure Monitoring Plan (Appendix B).

4.10. Native American Religious Concerns

4.10.1. Impacts Common to All Alternatives

Coordination was initiated with the Ely Shoshone Tribe in December 2010. No concerns have been expressed.

4.11. Recreation Management

4.11.1. Impacts from Alternative A

This alternative would continue to support the trend of an increase in use of motorized vehicles. Without the identification of unnecessary and redundant routes and proper management of access, the overall health of the landscape would be negatively impacted. Hunter access would remain the same.

4.11.2. Impacts from Alternative B

The routes remaining open, in this alternative, would have increased motorized use that may result in conflicts between users and decreased opportunities for OHV users. Access for hunting would be reduced for hunters who primarily use roads to access their hunting units; which

has the potential to impact the success and satisfaction of those hunters. In this alternative, non-motorized users would find larger areas available without the noise and interruptions generated by OHVs, with added opportunity to experience solitude and naturalness, desired by many outdoor enthusiasts.

4.11.3. Impacts from Alternative C

This alternative would provide access for both non-motorized and motorized recreationists; while maintaining watershed health goals. The balance of this alternative would enhance the motorized and non-motorized recreational experience and protect the resources.

4.11.4. Impacts from Alternative D

This alternative would provide more motorized access. Non-motorized users would find fewer areas available without the noise and interruptions generated by OHVs, which could negatively impact the recreational experience desired by some outdoor enthusiasts.

4.11.5. Impacts from Alternative E

In this alternative, access is provided for a variety of recreational opportunities that occur further from the city of Ely. Hunter success and satisfaction would be similar to that found in Alternatives A and D. Many of the redundant user-created routes on the outskirts of town that would be closed; however recreationists would still be able to easily access areas further from the city of Ely with the remaining network.

4.11.6. Impacts from Alternative F: Proposed Action

In this alternative, Planning Units 1 and 7 would have increased motorized use on remaining routes that may result in conflicts between users and decreased opportunities for OHV users. Access for hunting would be reduced; which could decrease hunter success and satisfaction. In this alternative, non-motorized users would find larger areas available without the noise and interruptions generated by OHVs, with added opportunity to experience solitude and naturalness, desired by many outdoor enthusiasts.

Planning Unit 6 would provide access for both non-motorized and motorized recreationists; while maintaining watershed health goals. Routes designated as open would be upgraded, maintained, or re-routed as necessary which would enhance the recreational experience and protect the resources.

The remaining planning units would provide the most recreational opportunities for motorized recreationists, as it would allow for enhanced motorized access. Enhanced access would allow for increased hunter success and satisfaction for hunters who use roads to access their hunting units. However, non-motorized users would find fewer areas available without the noise and interruptions generated by OHVs; which could negatively impact the recreational experience desired by some outdoor enthusiasts.

4.12. Social and Economic Values

4.12.1. Impacts Common to All Alternatives

Due to the inclusion of closures within each of the alternatives, there would be varying levels of impact to hunting and commercial operations conducted in the project area. Motorized access would be reduced to the remaining roads with “open” or “limited” designations, which could lessen the ability of users to access areas if they are not physically capable of hiking. Additionally, many hunting guides use the network of roads to scout for game species or to transport clients once the season opens.

4.12.2. Impacts from Alternative A

Revenue sources and other economic factors are expected to remain unchanged under the no action alternative.

4.12.3. Impacts from Alternative B

Alternative B would have the most direct impact to hunters and commercial guiding and pine nut businesses by reducing access throughout the planning area.

4.12.4. Impacts from Alternatives C and F: Proposed Action

These alternatives seek to balance the impacts of reduced access with the goals of habitat improvement. While the immediate effect may be diminished convenience for existing businesses and sportsmen, Alternatives C and F seek to balance the continuance of these uses with the overall goals for watershed health.

4.12.5. Impacts from Alternatives D and E

Except the No Action Alternative, these alternatives would have the least direct impacts to hunters and commercial enterprises using the area. Duplicate routes have been left open maintaining increased access throughout the TMA. Minimal, if any, economic impacts would be anticipated from these alternatives.

4.13. Fuels and Fire Management

4.13.1. Impacts from Alternative A

Under the no action alternative fuels and fire management would continue as is. There would be no change in the amount of routes utilized by the public and fire suppression resources. There would be no anticipated change in the potential for human starts. Vegetation management activities would continue as is within the TMA.

4.13.2. Impacts from Alternative B

This alternative would restrict the amount of routes available to the public and suppression resources. Closure of roads within this alternative would restrict access to a later degree as compared to the other alternatives. The restriction of routes available to the public would lead to reduced potential for man caused fires within the TMA. This reduction would also reduce the amount of access routes available to suppression resources both for the purpose of access and as holding positions in the case of a wildland fire.

The reduction in access routes may potentially lead to an increase in response time, depending upon the point of ignition, for suppression resources to reported incidents. Route closures would have the greatest impact within the WUI and Watershed based FMUs where fires are to be aggressively suppressed for the protection of watershed values and community infrastructures. Road closures would have diminishing impacts within the Northern Benches FMU (where fires are to be kept to 50 acres or less) followed by the Bullwhack FMU and Highlands and South Egan Range. Within the Bullwhack FMU and Highlands and South Egan Range the road densities are low in relation and the allowable fire size exceeds the largest recorded fire within the planning area. Route closure impacts to fire suppression would be minimal within these three FMUs and would be overshadowed by the random point of ignition in relation to existing routes under any alternative. These FMUs would not be considered as being impacted for fire suppression for the rest of the analysis. Closures are not anticipated to have a large impact on suppression resource response time due to the remaining route density and distribution remains sufficient to allow timely response to most of the FMUs. There is the potential that if fuels and weather conditions are favoring the growth and spread of wildfire and there is an ignition near a closed section of road that it may grow larger as a result of the road closure, but the potential is not considered much greater than the no action alternative. This alternative may lead to more of an emphasis on aerial resources to suppress fires in areas not readily accessible to ground suppression resources.

Human caused fires occur most frequently within the Watershed and WUI FMUs with 73% over the last 30 years and 83% over the last ten years of human caused fires occurring within these FMUs which make up 19 percent of the TMA.

It is recommended that a log of the decommissioned roads be maintained in order to provide the information to suppression resources. If heavy equipment (ie bulldozers, road graders) is required for the construction of firelines it would be preferred to disturb previously disturbed areas (reclaimed roads) if possible.

The reduction of access would lead to a reduced potential for the introduction of invasive weeds within vegetation treatment areas. This would increase the potential for success of re-vegetation effort.

It is recommended that routes that provide access to or occur within proposed vegetation treatment areas be left un-reclaimed until such a time that the treatment occurs (they may be signed closed). At the time of the vegetation treatment the roads can be reclaimed with the equipment and resources on site, avoiding duplication of effort.

4.13.3. Impacts from Alternative C

This alternative would restrict the amount of routes available to the public and suppression resources less than Alternative B but more than the other alternatives. The restriction of routes

available to the public would lead to reduced potential for man caused fires within the planning area. This reduction would also reduce the amount of access routes available to suppression resources both for the purpose of access and as holding positions in the case of a wildland fire however would provide more access than under Alternative B. The reduction in access routes may potentially lead to an increase in response time, depending upon the point of ignition, for suppression resources to reported incidents, road density and distribution within the FMUs remains sufficient to allow timely response to most of the FMUs.

It is recommended that a log of the decommissioned roads be maintained in order to provide the information to suppression resources. If heavy equipment (ie bulldozers, road graders) is required for the construction of firelines it would be preferred to disturb previously disturbed areas if possible.

The reduction of access would lead to a reduced potential for the introduction of invasive weeds within vegetation treatment areas, the potential would be greater than under Alternative B. This would increase the potential for success of re-vegetation efforts.

It is recommended that routes that provide access within or occur within proposed vegetation treatment areas be left un-reclaimed until such a time that the treatment occurs (they may be signed closed). At the time of the vegetation treatment the roads can be reclaimed with the heavy equipment and resources on site, reducing duplication of effort.

4.13.4. Impacts from Alternative D

This alternative would be less restrictive than Alternatives B or C and would only close redundant routes. Closures would result in virtually no change in response time, holding positions or the potential for human ignitions as routes would continue to access all parts of the FMUs.

It is recommended that a log of the decommissioned roads be maintained in order to provide the information to suppression resources. If heavy equipment (ie bulldozers, road graders) is required for the construction of firelines it would be preferred to disturb previously disturbed areas if possible.

The potential for the introduction of invasive species within the planning area would not change from the no action alternative as routes would still access most of the same areas. The potential for the introduction of noxious and invasive weeds would be greater under Alternative D than under Alternatives B and C.

It is recommended that routes that provide access within or occur within proposed vegetation treatment areas be left un-reclaimed until such a time that the treatment occurs (they may be signed closed). At the time of the vegetation treatment the roads can be reclaimed with the heavy equipment and resources on site, reducing duplication of effort.

4.13.5. Impacts from Alternative E

This alternative would have similar impacts as Alternative B. There are some differences within certain areas, however the overall reduction in access is similar. The restriction of routes available to the public would lead to reduced potential for man caused fires within the planning area. This reduction would also reduce the amount of access routes available to suppression resources both for the purpose of access and as holding positions in the case of a wildland fire. The reduction in

access routes may potentially lead to a decrease in response time for suppression resources to reported incidents. This may lead to more of an emphasis on aerial resources to suppress fires in areas not readily accessible to ground suppression resources.

It is recommended that a log of the decommissioned roads be maintained in order to provide the information to suppression resources. If heavy equipment (ie bulldozers, road graders) is required for the construction of firelines it would be preferred to disturb previously disturbed areas if possible.

The reduction in access would lead to a reduced potential for the introduction of invasive weeds within vegetation treatment areas. This would increase the potential for success of re-vegetation efforts.

It is recommended that routes that provide access within or occur within proposed vegetation treatment areas be left un-reclaimed until such a time that the treatment occurs (they may be signed closed). At the time of the vegetation treatment the roads can be reclaimed with the heavy equipment and resources on site, reducing duplication of effort.

4.13.6. Impacts from Alternative F: Proposed Action

This alternative would have similar impacts to Alternative D within the Watershed and WUI FMUs in regards to fire suppression and potential for human ignitions.

It is recommended that a log of the decommissioned roads be maintained in order to provide the information to suppression resources. If heavy equipment (ie bulldozers, road graders) is required for the construction of firelines it would be preferred to disturb previously disturbed areas if possible.

Areas within the High Value Habitat would have mixed impacts relating to the alternative chosen within the planning units. Planning units that have a higher number of road closures would have a reduced risk of invasive weed introduction and those with less closure would result in little change from the current situation or the no action alternative.

It is recommended that routes that provide access within or occur within proposed vegetation treatment areas be left un-reclaimed until such a time that the treatment occurs (they may be signed closed). At the time of the vegetation treatment the roads can be reclaimed with the heavy equipment and resources on site, reducing duplication of effort.

4.14. Cumulative Effects

The Cumulative Effects Study Area (CESA) is defined as the area within the South Steptoe Travel Management Area (see [Figure 1.1, "Location Map of Travel Management Area"](#)).

4.14.1. Past, Present, and Reasonably Foreseeable Future Actions

4.14.1.1. Past Actions

The Bullwhack project focused on hazardous fuels reduction and habitat improvement on 2,037 acres conducted in 2005 near Bullwhack Summit between Cave Valley and Steptoe Valley.

Treatments included prescribed fire and the mechanical treatment of sagebrush using a mowing deck. In 2006, the South Steptoe/Williams Creek project also focused on hazardous fuels reduction and habitat improvement of 1,026 acres on the east bench of the Egan Mountain Range at the mouth of Williams Creek. Treatments included the mechanical treatment of sagebrush using a mowing deck and dixie harrow. In 2008, the Ward Stewardship Project was conducted as a Wildland Urban Interface (WUI) treatment of 389 acres around private lands located on the east bench of the Egan Mountain Range between Lowry Creek and Willow Canyon. Treatments involved the mechanical removal of trees and biomass from the site. Finally, the Connors Summit Powerline Project was a WUI treatment of 191 acres conducted in 2009 to reduce the threat of wildland fire to the Connors Powerline. Treatments involved the mechanical removal of trees and prescribed burning of piles on site.

4.14.1.2. Present Actions

The Cold Springs Restoration Treatment is an ongoing project targeted at hazardous fuels reduction and habitat improvement on 522 acres located on the northeastern corner of Planning Unit 7 between Connors Canyon and Sherry Spring. Treatments involve the mechanical removal of trees and biomass from the site.

4.14.1.3. Reasonably Foreseeable Future Actions

There are several Watershed Restoration Plans currently being developed for the area containing and surrounding the CESA, including the South Steptoe, Steptoe B, Cave Valley, and Lake Valley Watersheds. Each of these efforts are at various stages in the process, but all would incorporate vegetation and other treatments targeted to improve the health of the landscape. The Ward Mountain Restoration Project is another effort being led by the U.S. Forest Service and will also be targeting specific areas for improvement of vegetation and habitat health. Additionally, the Egan Range Aspen Restoration Treatment incorporates a combination of hand-felling of conifers, fencing of aspen stands to reduce herbivory of the aspen by ungulates, and/or prescribed fire to restore quaking aspen communities in the Egan Range.

4.14.2. Cumulative Effects Summary

4.14.2.1. Forest and Woodland Vegetation

Impacts from the proposed action, coupled with other projects in the area, would tend to decrease the overall impacts to forest and woodlands. In particular, the South Steptoe Watershed project and the Ward Mountain Restoration Project aim to restore many of the stands in the nearby area that are in poor ecological health. Restoring these stands prior to road closure (or leveraging enough funding to treat after reducing access) reduces the impact to the forest and woodland communities.

4.14.2.2. Cultural Resources

The potential for preserving cultural resources with this plan coordinated with other travel management plans on the Ely District is very important. While closing all access roads through the valleys on the Ely district is not practical, from a preservation standpoint, any set of alternatives contained within coordinated travel management plans that would cumulatively reduce redundant access routes would be extremely beneficial to prevention of additional disturbance.

4.14.2.2.1. Fish and Wildlife Resources

The closure of routes within critical habitat areas coupled with the habitat improvement projects planned in the South Steptoe Watershed Restoration Plan could cumulatively have a beneficial synergistic impact on wildlife over time.

4.14.2.2.2. Recreation

Cumulative impacts could occur if more routes are closed in other planning areas as a result of future travel management planning efforts. However, any future planning effort would require additional analysis.

4.14.2.2.3. Fuels and Fire Management

Reasonably foreseeable future actions within the TMA include vegetation treatments that would be done in compliance with the Ely District RMP. Objectives would be to reduce the FRCC values for the area and to move vegetation communities closer to the desired future condition as specified within the vegetation section of the Ely District RMP. The achievement of these objectives from future projects would not interact measurably with the impacts of the proposed action or alternatives upon the affected environment, which includes the past and present actions within the TMA. There would be no measurable cumulative impacts resulting from the implementation of the proposed action or alternatives when combined with the past, present or reasonably foreseeable future actions within the TMA.

Chapter 5. Tribes, Individuals, Organizations, or Agencies Consulted:

- Bill Miller, Wildlife-Hunting
- Bob Clayton, Private Land Owner
- Brent Johnson, Law Enforcement
- Curt Baughman, Wildlife-Habitat
- Curt Leet, Soils
- Dana Johnson, Wildlife-Hunting
- Gary Sprouse, Grazing
- Eastern Nevada Landscape Coalition
- Ely Shoshone Tribe
- Jacob Carter, Grazing
- Jason Williams, Wildlife-Habitat
- Jeff Gardner, Grazing
- Jerilyn Clayton, Private Land Owner
- John Griggs, Livestock Permittee
- Julie Thompson, Non-motorized Recreation
- Karl Lee, Local Business Owner
- Kent Robertson, Non-motorized Recreation
- Kevin Lee, Northeastern Great Basin Resource Advisory Council
- Mark Richards, Tribal Interests
- Martin Burdick, Northeastern Great Basin Resource Advisory Council
- Mike Simon, Wildlife-Hunting
- Neil Frakes, Northeastern Great Basin Resource Advisory Council
- Nevada Department of Wildlife
- Rayleene Makley, White Pine County
- Scott Laity, Motorized Recreation
- Shane Bybee, City of Ely
- Steve Foree, Wildlife-Habitat
- Steve Marich, City of Ely
- White Pine County

Chapter 6. List of Preparers

Table 6.1. List of Preparers

Name	Title
John Miller	Acting Outdoor Recreation Planner
Erin Rajala	Outdoor Recreation Planner
Gloria Tibbetts	Planning and Environmental Coordinator
Scott Standfill	Rangeland Management Specialist
Mindy Seal	Natural Resource Specialist
Nancy Williams	Wildlife Biologist
Ken Humphrey	Archeologist
David R. Davis	Geologist
Dave Jacobson	Planning and Environmental Coordinator (Wilderness Planner)
Mark D'Aversa	Hydrologist
Matthew Rajala	Fire Management Specialist (Fire Planner)
Zach Peterson	Forester
Ben Noyes	Wild Horse and Burro Specialist
Brenda Linnell	Realty Specialist

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