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

Preliminary Environmental Assessment
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White Rock Spring Riparian Exclosure and
Associated Pipeline and Trough

Location: White Pine County, Nevada
Applicant/Address: Bureau of Land Management

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

BLM

I. INTRODUCTION

This environmental assessment (EA) addresses the impacts to public land resources from a proposal to implement the White Rock Spring Riparian Exclosure and associated Pipeline and Trough. This EA fulfills the National Environmental Policy Act (NEPA) requirement for site-specific analysis of resource impacts. Both the Proposed Action and alternatives to the Proposed Action are considered.

In the past, the Bureau of Land Management (BLM) has constructed fence exclosures around riparian sites that have been over-utilized by domestic livestock including cows (*Bos taurus*) and sheep (*Ovus aries*), wild horses (*Equus caballus*), and/or big game animals. These exclosures are intended to allow the often denuded riparian areas to recover toward Proper Functioning Condition, and to begin to provide improved wildlife habitat values and functioning riparian vegetation communities while still providing available drinking water to livestock, wild horses, and wildlife that inhabit the area. Riparian communities contribute the largest proportion of biodiversity within the Great Basin ecosystem (Dobkin *et al.* 1998), and are known to support a high density and diversity of bird species (Ellis 1995), often up to ten times greater bird numbers than surrounding uplands in the arid west and southwest (Stevens *et al.* 1977, Skagen *et al.* 1998).

Because water sources are typically widely scattered throughout the Great Basin, they are often the only traditional watering sources for individual groups of wild horses. As such, when fenced the water may no longer be available to wild horses. A requirement of The Wild Free-Roaming Horses and Burros Act is that BLM not restrict access to traditionally used sources of water within Herd Areas (HA). Therefore, the necessary infrastructure in the form of a springbox, pipe, and watering trough outside of the exclosure must be installed to meet the needs of wild horses inhabiting the area.

In addition, the continued availability of water at White Rock Spring will maintain a scattered distribution of the current wild horse population in the area. A census flight was completed in July 2008 with an estimated population of 555 wild horses. This is 122% over the low end of the Appropriate Management Level range of 250-518 wild horses for the area.

Purpose and Need and Decision to be Made

The need for the Proposed Action is to maintain the availability of a dependable water source for wild horses and wildlife. The purpose is to reverse the downward trend of the riparian vegetation and allow for the recovery of a highly degraded riparian system at and downstream from White Rock Spring (Figure 1 and Figure 2).

The Ely District Record of Decision and Approved Resource Management Plan (2008) states management action WL-18, "Restore natural water sources (i.e., springs and seeps) to increase water availability through restoration of riparian habitats and proper livestock and wild horse management (p. 36)."

Decision to be made: The BLM will decide whether or not to construct a riparian enclosure and associated springbox, lateral pipeline, and watering trough so that progress can be made toward meeting the rangeland health standards for the Northeastern Great Basin Area (USDI BLM 1997) and Proper Functioning Condition of the riparian community at White Rock Spring.

Figure 1. White Rock Spring and associated riparian vegetation, upland vegetation, and soil degradation, June 27, 2008.

Figure 2. Riparian area and associated degradation immediately downstream from White Rock Spring, June 27, 2008.

Relationship to Planning

The Proposed Action is consistent with Federal, State, and local laws, regulations, policies, and plans. The Proposed Action is subject to and in conformance with the Ely District Approved Resource Management Plan (BLM 2008), the White Pine County Public Lands Policy Plan (2007), and the White Pine County Elk Management Plan (Elk Management Review Team 2007).

Tiering

This document is tiered to the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007).

Scoping and Issues

The following concerns were brought up at an internal scoping meeting or in subsequent discussions with resource specialists:

- Continued availability of water for wild horses at White Rock Spring.

- Potential loss of surface water at spring source and downstream if a springbox is installed and a portion of the water is piped to a trough outside the exclosure.

- Access to the interior of the exclosure by large game animals which could hinder or preclude riparian recovery.

- Effectiveness of a barbed-wire fence versus a free-standing steel pipe fence in preventing encroachment of wild horses into the exclosure.

- Disturbance to potential cultural sites in the vicinity of White Rock Spring.

External Scoping

Letters notifying the interested public, allotment permittee, and the Tribes of the Proposed Action were sent April 24, 2009. One reply from an interested public was received, expressing concern that BLM would fence the riparian area but still provide water outside the exclosure for wild horses and potentially for livestock. The respondent further expressed the opinion that exotic species such as livestock and wild horses should be prevented from accessing the riparian area, which is the primary intent of the Proposed Action.

II. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Proposed Action

BLM proposes to construct approximately 1450' (1.7 acres) of fence around White Rock Spring and associated saturated soils downstream from the source to protect the spring source and associated wetland flora, beginning in summer 2009. The fence would be pipe rail with two 1-5/8" steel rails at 24" and 42" above the ground. The posts would be set in concrete to ensure adequate strength against wild horse encroachment. The pipe would be left to rust and corrode, thus visually integrating the project into the surrounding environment. The fence would allow wildlife such as deer (*Odocoileus hemionus*), elk (*Cervus elaphus*), and pronghorn (*Antilocapra americana*) to cross into the exclosure without becoming entangled, while excluding wild horses and livestock from the protected riparian area. The same fence design is effectively used by Nevada Department of Wildlife to exclude wild horses and livestock from big game water developments.

The work would be completed by a BLM crew and would require approximately one week for completion. A rubber-tired backhoe would be used to install a springbox and pipeline. The springbox would be installed in the stream channel, approximately 50 m downstream from the spring source (Figure 3). The springbox would be a "leaky" springbox, designed to capture only a portion of the flow sufficient to supply the trough,

leaving the remainder to continue to follow the natural flow of the drainage. The crew would access the site using an existing two-track road. The water pipeline would lead to an associated trough, which would be installed outside of the exclosure as part of the Proposed Action (Figure 3). The trough would be equipped with a float valve to regulate water level and an overflow pipe that would bring any excess flow back into the drainage. There are no public or private water rights held on White Rock Spring.

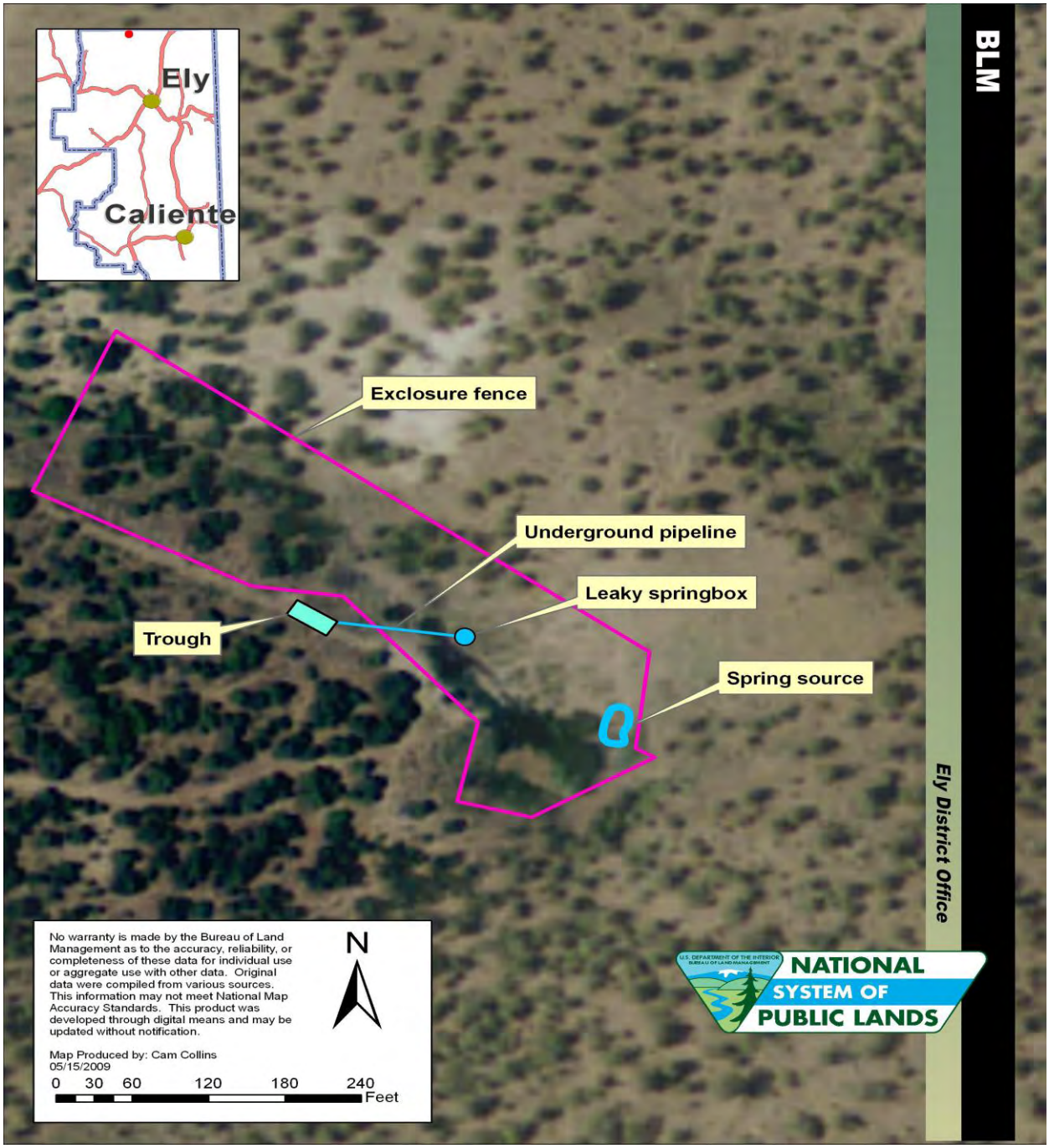

Figure 3. Proposed riparian fence exclosure and pipeline to trough at White Rock Spring.

The Proposed Action will follow all recommendations and stipulations set forth in project specific:

- Risk assessment for Noxious and Invasive Weeds (cleaning of all equipment to reduce the possibility of spreading weed seeds, and reporting of all locations where cleaning occurs).

- Cultural Resources Inventory Needs Assessment (all identified cultural resource sites will be avoided).

The Proposed Action would be consistent with BLM Interim Migratory Bird Conservation Policy (IM 2008-050) as it would be conducted outside of the migratory bird breeding season.

The installation of a springbox, trough, pipeline, and fence would result in less than 1/4 acre of temporary total surface disturbance.

Description of Alternatives Analyzed in Detail
Alternative 1 - No Action Alternative

Under the no action alternative, the proposed fence and associated water pipeline and trough would not be built. Heavy and severe wild horse utilization of the riparian area would continue, which would result in a continued decline of native habitats, unhealthy watershed condition, the risk of poor water quality, continued risk of downcutting and flooding, and vegetative objectives and Standards and Guidelines not being achieved. Progress would not be made toward achieving Proper Functioning Condition of the riparian system.

Alternatives Considered but Eliminated From Detailed Analysis

Alternative 2 - Riparian protection fence without water development

According to Alternative 2, the water development would not be installed. Wild horses and any livestock that normally water at White Rock Spring would have to travel up to a half mile over fairly smooth terrain the nearest alternate source of water (Pot Spring). Wild horse distribution would not be optimal under this alternative, with much more pressure exerted on the water source at Pot Spring, and potentially on the exclosure fence being proposed for White Rock Spring. The riparian vegetative condition would be expected to improve under this alternative. However, with limited water sources throughout the Triple B Herd Management Area, competition among wild horses for the available water would increase, affecting mares and foals most severely. Social stress would increase, as well as fighting among stud horses as they protect their position at scarce water sources. Individual horses would be at risk of death by lack of water. Therefore, this alternative was dismissed from further analysis to comply with The Wild Free-Roaming Horses and Burros Act of 1971 (Public Law 92-195), which states "It is the policy of Congress that wild free-roaming horses and burros shall be protected from capture, branding, harassment, or death".

Alternative 3 – "Liberty" steel jack fence with water development

According to Alternative 3, a Liberty steel jack fence (http://www.libertypipe.com/?p=products&divisionid=1&productid=3) would be installed. Pipe rail fence, specifically Liberty fence, has advantages over fence types such as barbed wire, including:

- Very minimal ground disturbance as liberty fence rests on the surface rather than utilizing t-posts or concrete-set posts in the ground
- The ability to be removed and re-used at other sites if/when protection is no longer required at the initial site
- Less chance that wildlife will become entangled
- Better able to withstand pressure from wild horses and domestic livestock that may attempt to enter the exclosure
- Maintenance-free

While liberty fence may be a superior riparian protection fence, it was deemed too expensive (purchase price of $9 per linear foot). The riparian vegetative condition would be expected to improve under this alternative, however, it was dismissed from further analysis due to expense.

III. DESCRIPTION OF AFFECTED ENVIRONMENT

The area affected by the Proposed Action is located in northern White Pine County, Nevada. White Rock spring is located on a northwest facing slope of an outcrop near the northern terminus of the Butte Mountains.

A. Resources/Concerns Considered for Analysis - Proposed Action

The following items have been evaluated for the potential for significant impacts to occur, either directly, indirectly, or cumulatively, due to implementation of the Proposed Action. Consideration of some of these items is to ensure compliance with laws, statutes or Executive Orders that impose certain requirements upon all Federal actions. Other items are relevant to the management of public lands in general and to the Ely BLM in particular.

Resource/Concern Considered	Issue Analyzed (Y/N)	Rationale for Dismissal from Analysis or Issue(s) Requiring Detailed Analysis
Air and Atmospheric Values	N	Air quality in the affected area is generally good except for occasional dust storms. The Proposed Action would contribute to ambient dust in the air during installation but the impact would be temporary and would not approach a level that would exceed any air quality standards. Detailed analysis is not required.

Cultural Resources.	N	In accordance with the *Archeological Resources Protection Act of 1979*, "any material remains of past human life or activities which are of archaeological interest" shall be assessed and secured "for the present and future benefits of the American People". All ground disturbing activities will be subject to Section 106 review and, if needed, SHPO consultation as per BLM Nevada's implementation of the Protocol for cultural resources. Site Specific review of known Cultural Resources within the renewal area revealed one site potentially eligible for listing in the national historic register. Fence construction and pipeline/trough placement will be such that cultural resources identified through a Class III cultural survey will be avoided. An archaeologist will be onsite with the work crew when constructing fence in the area of the site. There would be no impacts to cultural resources or Historic Properties from the proposed project.
Forest Health	N	No impacts to forest health are expected due to the Proposed Action.
Migratory Birds	N	According to the Migratory Bird Treaty Act of 1918 and subsequent amendments (16 U.S.C. 703-711) and Executive Order 13186 issued January 11, 2001, federal agencies are required to protect migratory birds and their habitat. Appropriate habitat for numerous species of migratory birds occurs at and near White Rock Spring. However, the potential for the Proposed ActionProposed Action to affect migratory birds is minimal because of the temporary nature of the disturbance and the small acreage involved. Long-term population trends of migratory birds will not be affected. Individual birds or nests would not be affected as the Proposed Action would be conducted outside of the breeding season (approximately April 15 to July 15). Migratory bird habitat at and around White Rock Spring would improve as a result of the Proposed Action by improving vegetation cover, production, and composition within the riparian exclosure.
Rangeland Standards and Guidelines	N	Because the Proposed Action occurs over such a small area and within a primarily woodland habitat type, it would have no effect on rangeland health standards outside of the improvement of the riparian community within the exclosure.

Native American Religious and other Concerns	N	A Tribal Coordination letter was sent to local tribes on 04/24/2009. No concerns were expressed regarding the Proposed Action.
USFWS Listed or proposed for listing Threatened or Endangered Species or critical habitat. ACEC's designated for Threatened and Endangered species.	N	There are no listed or proposed Threatened and Endangered species known to occur in or near the project area. There are no ACEC's near the project area.
Wastes, hazardous or solid	N	No hazardous or solid wastes exist in the project area, nor would any be introduced by project construction activities.
Water Quality, Drinking/Ground	Y	Impacts are discussed within this Environmental Assessment.
Wilderness	N	No wilderness areas occur near the project site.
Environmental Justice	N	No environmental justice issues are present at or near the project area. No minority or low income populations would be unduly affected by the Proposed Action.
Floodplains	N	No floodplains occur at or near the project site.
Prime and unique farmlands	N	No prime and/or unique farmlands occur at or near the project site.
Wetlands/Riparian Zones	Y	Impacts are discussed within this Environmental Assessment.
Invasive Non-native Species	Y	Impacts are discussed within this Environmental Assessment. See Weed Risk Assessment (Appendix 1)
Special Status Animal Species, other than those listed or proposed by the FWS as Threatened or Endangered.	Y	Impacts are discussed within this Environmental Assessment.
Special Status Plant Species, other than those listed or proposed by the FWS as Threatened or Endangered. Also, ACECs designated for special status plant species.	Y	Impacts are discussed within this Environmental Assessment.
Heritage Special Designations (Historic Trails, ACEC's designated for Cultural Resources, White River Archaeological District and Rock Animal Corral Archaeological Area)	N	There are no Heritage Special Designation areas at or near the project site.

Wild horses and burros	N	The project area is within the Triple B Herd Management Area. Temporary displacement is possible during construction while workers are on site, but the site would be vacated at night, allowing horses to water, and the effect on wild horses would be negligible.
Fish and Wildlife	Y	There are no fish that occur at or near the project site. General wildlife concerns are analyzed in EA.
Soils/Watershed	Y	Impacts are discussed within this Environmental Assessment.
Visual Resources	N	The western side of the protection fence would not be visible from any road other than the rarely used two-track to Pipe Spring. The trough would be painted in accordance with the standard environmental colors to blend naturally into the surrounding landscape, therefore maintaining consistency with Visual Resource Management (VRM) Class III and IV objectives, and would only be visible from the two-track leading to White Rock Spring.
Grazing Uses/Forage	N	The Proposed Action would improve range productivity, diversity, and vigor. No effects to current livestock grazing are anticipated. Currently the older existing pipeline is not being used since livestock don't usually graze this area due to the high number of wild horses. The exclosure would occur over a small area less than two acres in extent, which represents a small fraction of a percent of the land available for livestock grazing within the allotment.
Land Uses*	N	There are no rights of way or other realty actions proposed at or near the project site.
Transportation/Access	N	There are no possible effects from the Proposed Action on transportation at or near the project site.
Recreation uses including Backcountry Byways, Caves, and/or Rockhounding Areas.	N	There are no special or significant recreation areas at or near the project site.
Fire Management	N	There are no impacts to fire management expected from the Proposed Action. Three gates will be included within the exclosure fence to provide access inside should the need arise for fire management purposes.
Paleontological Resources (fossils and petrified wood)	N	No limestone outcrops occur within the exclosure, therefore, the potential for paleontological resources to occur within the area is very low.
Public Health and Safety	N	No public health or safety concerns have been

		identified.
Water Resources (water rights)	N	There are no water rights held for White Rock Spring although the permittee within the allotment is fully supportive of the project.
Mineral Resources	N	No issues were identified during scoping.
Vegetative Resources	N	There will be minimal disturbance to existing vegetation during project construction; however, riparian vegetation should become more vigorous following project construction. Some riparian vegetation is present and it is expected that areas denuded of vegetation would re-seed naturally as existing vegetation completes its phenological cycle. No significant negative impacts would occur, either directly, indirectly, or cumulatively and no further analysis is necessary.
Forest/Woodland Products (Forest or Seed Products)	N	No effects could to forest or seed products are expected as a result of the Proposed Action.

*Rights of Way, and other realty actions.

Based on the review of existing baseline data and surveys conducted in preparation of this Environmental Assessment, BLM specialists have identified the following as items for consideration for analysis:

- Noxious weeds and non-native invasive species
- Riparian areas
- BLM Special Status Animal and Plant Species
- Water quality (surface or ground water)
- Soils
- Wildlife

Noxious weeds and non-native invasive species

A field survey of the site was conducted for this project on May 12, 2009. A patch of hoary cress (*Lepidium draba*) was found approximately 20 meters northwest of the spring source, and covered approximately 10 square meters. In addition, the Ely District weed inventory data was consulted to determine if any noxious and invasive species occurred near the project area. The following species are found along roads and drainages leading to the project area (Appendix 1; Figure 1):

Hyoscyamus niger	Black henbane
Cirsium vulgare	Bull thistle
Cirsium arvense	Canada thistle
Carduus nutans	Musk thistle
Onopordum acanthum	Scotch thistle
Cicuta maculata	Water hemlock

Lepidium draba Hoary cress

While not officially inventoried the following weeds probably occur in or around the project area: cheatgrass (*Bromus tectorum*), bur buttercup (*Ceratocephala testiculata*), field bindweed (*Convolvulus arvensis*), halogeton (*Halogeton glomeratus*), horehound (*Marrubium vulgare*), and Russian thistle (*Salsola kali*). This area was last inventoried for noxious weeds in 2007.

Riparian areas

The spring source and surrounding riparian and upland vegetation has been severely impacted, primarily by wild horse use. The ability of the riparian community to slow an overland flow event, provide quality riparian habitat for wildlife, and provide other riparian functions is currently severely degraded. The project is designed to improve riparian condition and function. The protection of 1.7 acres surrounding and downstream of the spring source would allow for the recovery of riparian vegetation through protection from chronic trampling and overgrazing by wild horses.

BLM Special Status Animal and Plant Species

The current state of special status species at and near White Rock Spring is largely unknown. Professional observations at the riparian area and surrounding mesic uplands in the vicinity of White Rock Spring indicate that they are currently so denuded of vegetation that bare ground is often the most prevalent feature. Protection of these areas through the Proposed Action would allow for recovery and establishment of a healthy native riparian community associated with the saturated soils surrounding and downstream from the spring source, thus providing an increase in a relatively rare and disproportionately valuable vegetation community. This is likely to benefit State listed Sensitive and BLM Special Status Species that may use the spring vicinity, including but not limited to greater sage-grouse (*Centrocercus urophasianus*), loggerhead shrike (*Lanius ludovicianus*), juniper titmouse (*Baeolophus ridgewayi*), gray vireo (*Vireo vicinior*), and various other birds, invertebrates, small mammals, and plants.

Water quality

Water quality has not been quantitatively measured at White Rock Spring. Observations indicate that chronic trampling of the spring source and the stream channel has significantly degraded water quality, primarily through increased turbidity, suspended solids, temperature fluctuations, and mean water temperature. No surface water within the area is used for domestic drinking water. Ground water in the underlying deep aquifer would not be impacted through the Proposed Action. Water quality indicators such as total suspended solids are expected to improve due to the Proposed Action through restoration of a functioning riparian vegetative community.

Wildlife

The area surrounding White Rock Spring provides year-round habitat for mule deer, pronghorn, and elk. The area also provides habitat for coyotes (*Canis latrans*), rabbits (*Lepus and Sylvilagus* spp.), pinyon/juniper and sagebrush-associated birds, and other small mammals, reptiles, and invertebrates. The project, as proposed, should benefit

many species of wildlife.

Soils

The project area lies within a Pioche-McIvey-Birchcreek soil association. This association is typified by 15-50% slopes, and consists of very cobbly to extremely stony loams. The current soil surface has been and continues to be heavily impacted by chronic hoof action from wild horses watering at White Rock Spring, thus making them susceptible to wind and waterborne erosion.

IV. ENVIRONMENTAL EFFECTS

Resources Not Present or Not Affected by the Proposed Action

The following resources or concerns have been evaluated for significant impacts to occur either directly, indirectly, or cumulatively and are either not affected or are not present in the project area: air and atmospheric values, migratory birds, Rangeland Standards and Guidelines, Native American religious and other concerns, Threatened or Endangered species, solid or hazardous wastes, wilderness, environmental justice, floodplains, prime and unique farmlands, Heritage Special Designations, wild horses and burros, fish and wildlife, visual resources, grazing uses, land uses, transportation/access, recreation uses, fire management, paleontological resources, public health and safety, water resources, mineral resources, vegetative resources, and forest or seed products.

Noxious Weeds and Invasive Plants

Proposed Action

A Noxious & Invasive Weeds Risk Assessment was completed for this project (Appendix I). The ground disturbance created by the excavation of the springbox site and installation of the fence could lead to the introduction of new weed infestations in the project area. If new weed infestations establish within the project area this could have an adverse impact those native plant communities since the area is currently considered to be relatively weed-free. Implementation of BLM Ely District Weed Management Standard Operating Procedures included in the Proposed Action will decrease the likelihood of weed introduction as much as possible. Once a healthy native riparian vegetation community is reestablished within the protection fence, the area will be more resistant to invasion by noxious or invasive weeds.

No Action Alternative

Under the No Action Alternative the riparian exclosure fence would not be built and White Rock Spring would continue to be over used. The native vegetation would continue to decline in health allowing for a greater chance of noxious and invasive weed invasion.

Riparian areas

Proposed Action

The total extent of the current riparian community at and downstream from White Rock Spring is severely degraded (Figure 1 and Figure 2). The dominant plant species present within the riparian area is Wood's rose (*Rosa woodsii*), which in eastern and southern Idaho has been shown to represent a grazing disclimax (Hall and Hansen 1997). The prevalence or dominance of Wood's rose within a riparian community has also been demonstrated to be a disturbance-induced seral stage in Montana (Boggs *et al.* 1990, Hansen *et al.* 1990). Installation of a riparian protection fence would allow for the immediate beginning of recovery to a healthy riparian vegetation community, which is the primary reason for the Proposed Action.

No Action Alternative

The riparian area would continue to degrade.

State listed Sensitive and BLM Special Status Species

Proposed Action

Installation of a riparian protection fence at White Rock Spring would benefit State listed Sensitive and BLM Special Status Species through recovery of a relatively uncommon and disproportionately valuable habitat type. The greater sage-grouse, a high-profile "umbrella" Sensitive Species chosen to represent the sagebrush obligate or sagebrush (*Artemisia* spp.)/woodland dependent guild of species (BLM 2007; p. 4.7-10), is known to use mesic uplands and shrubby riparian communities during late summer, particularly during the brood-rearing period. These areas are preferred because they often provide increased insect abundance required by grouse chicks through an abundance of forbs and other herbaceous vegetation correlated with insect occurrence. The uplands surrounding White Rock Spring consist of a mosaic of pinyon-juniper woodlands with patches or understories of sagebrush. Such habitats support other Sensitive Species such as loggerhead shrike, juniper titmouse, and gray vireo. These species would all benefit from a healthy, functioning, riparian community that provides additional diversity within an already patchy landscape mosaic.

No action alternative

Not constructing the proposed fence and associated water pipeline and trough would not allow State listed Sensitive and BLM Special Status Species to benefit from a healthy, functioning, riparian community.

Water quality

Proposed Action

Water quality is expected to improve through restoration of riparian vegetation cover within the protection fence. Restoration of a healthy, vigorous, riparian community will have the effect of stabilizing diel and seasonal fluctuations in water temperature. In addition, cessation of chronic trampling of the spring source by wild horses could increase water flow and decrease total suspended solids and associated turbidity.

No action alternative

Water quality would not improve and could continue to degrade.

Wildlife

Proposed Action

Recent drought conditions have especially challenged pronghorn populations in western White Pine County (NDOW 2008). It was noted that pronghorn remained in areas with water during the very hot and dry summer of 2007, and once a water source disappeared the area was no longer inhabitable for pronghorn (NDOW 2008).

Deer depend on free water, especially during the dry season. They are generally found within 3 km of a water source (Marshal *et al.* 2006). NDOW estimates that nearly half the potential elk habitat within White Pine County is currently being utilized, owing in part to the lack of, or improper distribution of water sources. Elk are considered limited by water in their distribution throughout the Western United States (McCabe 1982, O'Neil 1985). "Increasing the distribution and availability of water on many of the driest rangelands will likely enhance elk use of such areas, especially during dry seasons or years" (Krausman *et al.* 2006).

Enclosing the spring source within a springbox and installation of a riparian protection fence would ensure that chronic wild horse over-use does not cap the flow, and would allow for a continual supply of clean water to the trough that would be accessible to pronghorn, mule deer, elk, wild horses, and livestock. This stable water supply would create more suitable habitat for pronghorn, mule deer, and elk while also providing the valuable benefit of recovery of the riparian vegetative community, which would benefit a variety of wildlife species.

No action alternative

Wildlife would not benefit from restoration of a functioning riparian vegetative community and reliable source of clean water.

Soils

Proposed Action

Soils would be affected only to the degree that installation of steel t-posts and installation

of a spring box, pipe, and trough would disturb the surface. Recovery of riparian and upland vegetation within the protection fence would help to stabilize soils. Much of the area contains soils that are currently bare and extremely vulnerable to wind and waterborne erosion (Figure 1 and Figure 2). White Rock Spring occurs on a Pioche-McIvey-Birchcreek soil association of 15-50% slopes, the primary soil types of which are either moderately or slightly vulnerable to water and wind erosion in an undisturbed state. However, when these soils are heavily disturbed by repeated hoof action from wild horses and wildlife, they are not able to withstand significant water and wind events without considerable erosion.

No action alternative

Soils within the riparian area and surrounding uplands would continue to degrade with chronic wild horse over-use and become increasingly vulnerable or lost to erosion.

V. CUMULATIVE EFFECTS

The purpose of cumulative analysis is to ensure that the full range of consequences of the Proposed Action is considered. A cumulative impact is defined under federal regulations as follows:

> ...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

According to the 1994 BLM Handbook *Guidelines for Assessing and Documenting Cumulative Impacts*, the analysis can be focused on those issues and resource values identified during scoping that are of major importance. The primary issues identified by the ID team are noxious weeds and non-native and invasive species, riparian areas, BLM Special Status Species, Water quality, soils, and wildlife. The maximum geographic extent identified for cumulative effects analysis in this Environmental Assessment is the Long Valley Watershed, which contains White Rock Spring. The smallest geographic extent is the riparian vegetative community associated with saturated soils at and downstream from White Rock Spring. Each issue identified above in the Environmental Effects section will be analyzed within this range of geographic scales.

Past Actions

Within the past 25 years, the primary human action within the Long Valley Watershed has been agricultural development and livestock grazing. Use by livestock, wild horses, and wildlife has occurred generally wherever there has been available and accessible forage, including within the riparian community at White Rock Spring. There were eight cattleguards, nine troughs, one dump, one landfill, sixteen fences, one corral, four

exclosures, four water pipelines, one chaining, one seeding, and seven fire rehabilitation projects identified in the Ely District Geographic Information System (GIS) database as range improvements. The 1.5" diameter plastic pipe installed in White Rock Spring extended downstream approximately 1.1 miles to a trough. The pipe is no longer functional. There also appears to have been a woven wire fence installed around the spring source, enclosing approximately a quarter acre or less. There is one fencepost remaining and wire piled on the ground near the spring source. Other past human actions include road development, and natural processes have included wildland fire, expansion of pinyon and juniper trees, and spread of noxious and invasive weeds.

Present Actions

Most of the area is grazed by domestic livestock. In addition, much of the area also receives use by wild horses, pronghorn, mule deer, and elk. Recreational activities within the surrounding area include hunting, trapping, and OHV use. Natural processes presently occurring within the Long Valley Watershed include wildland fire, drought, expansion of pinyon and juniper trees, spread of forest insects and diseases, and spread of noxious and invasive weeds. There is one active oil lease within the same section as the Proposed Action.

Reasonably Foreseeable Future Actions

The Ely District RMP identifies reasonably foreseeable future actions (RFFAs) within the Ely District and potentially within the Long Valley Watershed as: the White Pine County Conservation, Recreation, and Development Act, sage-grouse conservation plans, water development projects, habitat conservation plans for Threatened and Endangered Species, and natural processes including wildland fire, drought, expansion of pinyon and juniper trees, spread of forest insects and diseases, spread of noxious and invasive weeds, and spread of West Nile Virus.

Noxious Weeds and Invasive Plants

Most past and all present and reasonably foreseeable future actions have noxious and invasive weed prevention and monitoring stipulations and required weed treatments associated with each project. This in combination with the active BLM Ely District Weed Management Program will minimize the spread of weeds throughout the Long Valley Watershed.

Riparian areas

Riparian areas are likely to be affected by water development projects throughout the Long Valley Watershed. There are no other RFFAs likely to occur at White Rock Spring, other than natural processes such as wildland fire and drought, which are outside the purview of management actions.

State listed Sensitive and BLM Special Status Species

Special Status Species could be affected by a combination of all of the aforementioned presently occurring activities and RFFAs within Long Valley Watershed. However, while the Proposed Action could temporarily displace Special Status Species such as pinyon jays or loggerhead shrikes during construction, it is designed to ultimately improve the quality of the riparian vegetative community at White Rock Spring. A recovered riparian community would greatly benefit any Sensitive or Special Status Species using habitats at or near White Rock Spring, perhaps allowing for increased reproductive and/or foraging success. These additional individuals may disperse throughout the Long Valley Watershed as well as adjacent watersheds or potentially beyond the Ely District planning area. The Proposed Action, when taken collectively with all other RFFAs, would not adversely affect Sensitive and Special Status Species.

Water quality (surface or ground water)

Water quality could be affected by a number of the aforementioned presently occurring actions and RFFAs within Long Valley Watershed. However, the Proposed Action will have no cumulative effect on water quality beyond the riparian community immediately downstream from White Rock Spring. Surface water does not flow from White Rock Spring into the larger Long Valley Watershed, thus eliminating the potential for cumulative effects. The riparian protection fence is designed to eliminate chronic encroachment of wild horses and livestock into the spring source and surface waters immediately downstream, thus improving the quality of the riparian vegetative community at White Rock Spring and leading to a concomitant improvement in water quality.

Soils

Soils may be disturbed to different degrees dependent upon the RFFAs. Most projects attempt to minimize disturbance and to stabilize soils as quickly as possible subsequent to project completion. Standard operating procedures specific to each RFFA and design features of the Proposed Action employed before, during, and after the implementation of the RFFA decrease the cumulative impacts to soil resources. Overall, the Proposed Action would temporarily disturb a very small area separate from other RFFA project areas, thereby not increasing the overall impact to soil resources within Long Valley Watershed. Because the Proposed Action is designed to improve the quality of the riparian vegetative community at White Rock Spring, soil stabilization and resistance to erosion events will increase within the immediate vicinity of the Proposed Action.

Wildlife

Wildlife may be temporarily affected through displacement or disruption of normal behavioral patterns due to implementation of the Proposed Action, including construction activities associated with fence construction, springbox, pipeline, and trough installation, and increased traffic on area two-track roads that are normally rarely travelled. Other RFFAs could increase traffic and wildlife conflicts with humans. Some of these actions

may also decrease forage quality, quantity, and composition. Overall, the Proposed Action would temporarily disturb a very small area separate from other RFFA project areas, thereby not increasing the overall impact to wildlife. Ultimately, a healthy, functioning riparian community at White Rock Spring will meet the need for the action wildlife species at or within the vicinity of White Rock Spring.

VI. PROPOSED MITIGATING MEASURES

Appropriate mitigation measures have been included as design features within the Proposed Action. No additional mitigation is needed for unresolved conflicts as a result of the impact analysis.
Monitoring

Monitoring as described in the Proposed Action is appropriate. No additional monitoring is needed.

VII. TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED

The BLM consulted and coordinated with the following individuals, Federal, State and local agencies, Native American Tribes and non-BLM persons during the development of this environmental assessment:

Federal and State Officials and Agencies

Steve Foree	Nevada Division of Wildlife

Tribes

Chairperson Ona Sequndo	Kaibab Band of Paiute Indians
Chairperson Philbert Swain	Moapa Band of Paiutes
Chairperson David Gonzales	Te-Moak Tribes of the Western Shoshone Indians of Nevada
Chairperson Jeanine Borchardth	Paiute Indian Tribe of Utah
Chairperson Jerry Millet	Duckwater Shoshone Tribe
Chairperson Lora Tom	Cedar Band of Paiute Indians
Chairperson Rupert Steele	Confederated Tribes of the Goshute Indian Reservation
Chairperson Lawrence Bear	Skull Valley Band of Goshute Indians
Chairperson Diana Buckner	Ely Shoshone Tribe
Chairperson Glenn Rogers	Shivwits Band of Paiutes
Chairperson Ranae Pete	Cedar City Band of Paiutes
Chairperson Alfreda Mitre	Las Vegas Paiute Tribe

VIII. LIST OF PREPARERS

Internal District Review

Bonnie Million	Noxious and Invasive Weeds
Lisa Gilbert	Cultural Resources
Leslie Riley	Cultural Resources
Elvis Wall	Native American Religious Concerns
Cameron Collins	Wildlife/T&E/Migratory Birds/Special Status Species
David Jacobson	Wilderness, ACEC
Gina Jones	Ecologist/NEPA Coordinator
Doris Metcalf	Lands
Melanie Peterson	Hazardous Waste
John Longinetti	Engineering
Larry Martin	Engineering
Ruth Thompson	Wild Horse and Burro Specialist
Ben Noyes	Wild Horse and Burro Specialist
Mindy Seal	Range Management Specialist
Mark D'Aversa	Soil/Air/Water/Riparian Quality
Zach Peterson	Forest Resources

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APPENDIX 1

RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS
White Rock Spring Riparian Exclosure
White Pine County, Nevada

On May 15, 2009 a Noxious & Invasive Weed Risk Assessment was completed for the White Rock Spring Riparian Exclosure and Associated Pipeline and Trough in White Pine County, NV. BLM proposes to construct an approximately 1,450' fence, encompassing 1.7 acres, around White Rock Spring and associated saturated soils downstream from the source to protect the spring source and associated wetland flora, beginning in summer 2009. The fence would be standard BLM four-strand barbed-wire fence with steel posts placed every 16 feet. The fence would be built to meet standards regarding cattle and wildlife specifications (BLM Manual 1737), consisting of a smooth bottom wire and three strands of barbed wire. White topped steel posts would be used to increase visibility for livestock and wildlife. White flagging from 18 to 24 inches long would be attached to the top wire between posts during construction and left for one year following construction to alert livestock or wildlife to the new fence. Wildlife passes would be installed to allow deer (*Odocoileus hemionus*) and elk (*Cervus elaphus*) to cross the fence without becoming entangled. There are no water rights held on White Rock Spring, although the permittee for the allotment is fully supportive of the project. The work would be completed by a BLM crew and would require approximately one week for completion. A rubber-tired backhoe would be used to install the springbox and pipeline, which would be buried and approximately 75 m in length. The crew would access the site using an existing two-track road. The water pipeline would lead to an associated trough, which would be installed outside of the exclosure as part of the Proposed Action.

A field survey of the site was conducted for this project on May 12, 2009. A patch of hoary cress (*Lepidium draba*) was found approximately 20 meters northwest of the spring source, and covered approximately 10 square meters. In addition, the Ely District weed inventory data was consulted to determine if any noxious and invasive species occurred near the project area. The following species are found along roads and drainages leading to the project area (Figure 1):

Hyoscyamus niger	Black henbane
Cirsium vulgare	Bull thistle
Cirsium arvense	Canada thistle
Carduus nutans	Musk thistle
Onopordum acanthum	Scotch thistle
Cicuta maculata	Water hemlock
Lepidium draba	Hoary cress

While not officially inventoried the following weeds probably occur in or around the project area: cheatgrass (*Bromus tectorum*), bur buttercup (*Ceratocephala testiculata*), field bindweed (*Convolvulus arvensis*), halogeton (*Halogeton glomeratus*), horehound (*Marrubium vulgare*), and Russian thistle (*Salsola kali*). This area was last inventoried for noxious weeds in 2007.

Factor 1 assesses the likelihood of noxious/invasive weed species spreading to the project area.

None (0)	Noxious/invasive weed species are not located within or adjacent to the project area. Project activity is not likely to result in the establishment of noxious/invasive weed species in the project area.
Low (1-3)	Noxious/invasive weed species are present in the areas adjacent to but not within the project area. Project activities can be implemented and prevent the spread of noxious/invasive weeds into the project area.
Moderate (4-7)	Noxious/invasive weed species located immediately adjacent to or within the project area. Project activities are likely to result in some areas becoming infested with noxious/invasive weed species even when preventative management actions are followed. Control measures are essential to prevent the spread of noxious/invasive weeds within the project area.
High (8-10)	Heavy infestations of noxious/invasive weeds are located within or immediately adjacent to the project area. Project activities, even with preventative management actions, are likely to result in the establishment and spread of noxious/invasive weeds on disturbed sites throughout much of the project area.

For this project, the factor rates as Moderate (4) at the present time. The ground disturbance created by the installation of the pipeline and the use of heavy machinery could lead to the introduction of new weed infestations to the project area.

Factor 2 assesses the consequences of noxious/invasive weed establishment in the project area.

Low to Nonexistent (1-3)	None. No cumulative effects expected.
Moderate (4-7)	Possible adverse effects on site and possible expansion of infestation within the project area. Cumulative effects on native plant communities are likely but limited.
High (8-10)	Obvious adverse effects within the project area and probable expansion of noxious/invasive weed infestations to areas outside the project area. Adverse cumulative effects on native plant communities are probable.

This project rates as High (8) at the present time. If new weed infestations establish within the project area this could have an adverse impact those native plant communities since the areas are currently considered to be mostly weed-free. Also, any increase of cheatgrass could alter the fire regime in the area.

The Risk Rating is obtained by multiplying Factor 1 by Factor 2.

None (0)	Proceed as planned.
Low (1-10)	Proceed as planned. Initiate control treatment on noxious/invasive weed populations that get established in the area.
Moderate (11-49)	Develop preventative management measures for the proposed project to reduce the risk of introduction of spread of noxious/invasive weeds into the area. Preventative management measures should include modifying the project to include seeding the area to occupy disturbed sites with desirable species. Monitor the area for at least 3 consecutive years and provide for control of newly established populations of noxious/invasive weeds and follow-up treatment for previously treated infestations.
High (50-100)	Project must be modified to reduce risk level through preventative management measures, including seeding with desirable species to occupy disturbed site and controlling existing infestations of noxious/invasive weeds prior to project activity. Project must provide at least 5 consecutive years of monitoring. Projects must also provide for control of newly established populations of noxious/invasive weeds and follow-up treatment for previously treated infestations.

For this project, the Risk Rating is Moderate (32). This indicates that the project can proceed as planned as long as the following measures are followed:

- Prior to the entry of vehicles and equipment to a planned disturbance area, a weed scientist or qualified biologist will identify and flag areas of concern. The flagging will alert personnel or participants to avoid areas of concern.
- Prior to entering public lands, the contractor, operator, or permit holder will provide information and training regarding noxious weed management and identification to all personnel who will be affiliated with the implementation and maintenance phases of the project. The importance of preventing the spread of weeds to uninfested areas and importance of controlling existing populations of weeds will be explained.
- To eliminate the transport of vehicle-borne weed seeds, roots, or rhizomes all vehicles and heavy equipment used for the completion, maintenance, inspection, or monitoring of ground disturbing activities; or for authorized off-road driving will be free of soil and debris capable of transporting weed propagules. All such vehicles and equipment will be cleaned with power or high pressure equipment prior to entering or leaving the work site or project area. Cleaning efforts will concentrate on tracks, feet and tires, and on the undercarriage. Special emphasis will be applied to axels, frames, cross members, motor mounts, on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. Cleaning sites will be recorded using global

positioning systems or other mutually acceptable equipment and provided to the Field Office Weed Coordinator or designated contact person.

- To eliminate the introduction of noxious weed seeds, roots, or rhizomes all interim and final seed mixes, hay, straw, hay/straw, or other organic products used for reclamation or stabilization activities, feed, bedding will be certified free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Ely Field Office.
- Removal and disturbance of vegetation would be kept to a minimum through construction site management (e.g. using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.)
- Reclamation would normally be accomplished with native seeds only. These would be representative of the indigenous species present in the adjacent habitat. Rationale for potential seeding with selected nonnative species would be documented. Possible exceptions would include use of non-native species for a temporary cover crop to out-compete weeds. Where large acreages are burned by fires and seeding is required for erosion control, all native species could be cost prohibitive and/or unavailable. In all cases, seed mixes would be approves by the BLM Authorized Officer prior to planting.
- Include noxious and invasive weed detection in all monitoring activities. If the spread of noxious or invasive weeds is noted, appropriated weed control procedures will be determined in consultation with BLM personnel and will be in compliance with the appropriate BLM handbook sections and applicable laws and regulations.

Reviewed by: _____ 5/15/2009

Bonnie M. Million
Ely District Noxious & Invasive Weeds
Coordinator

Date

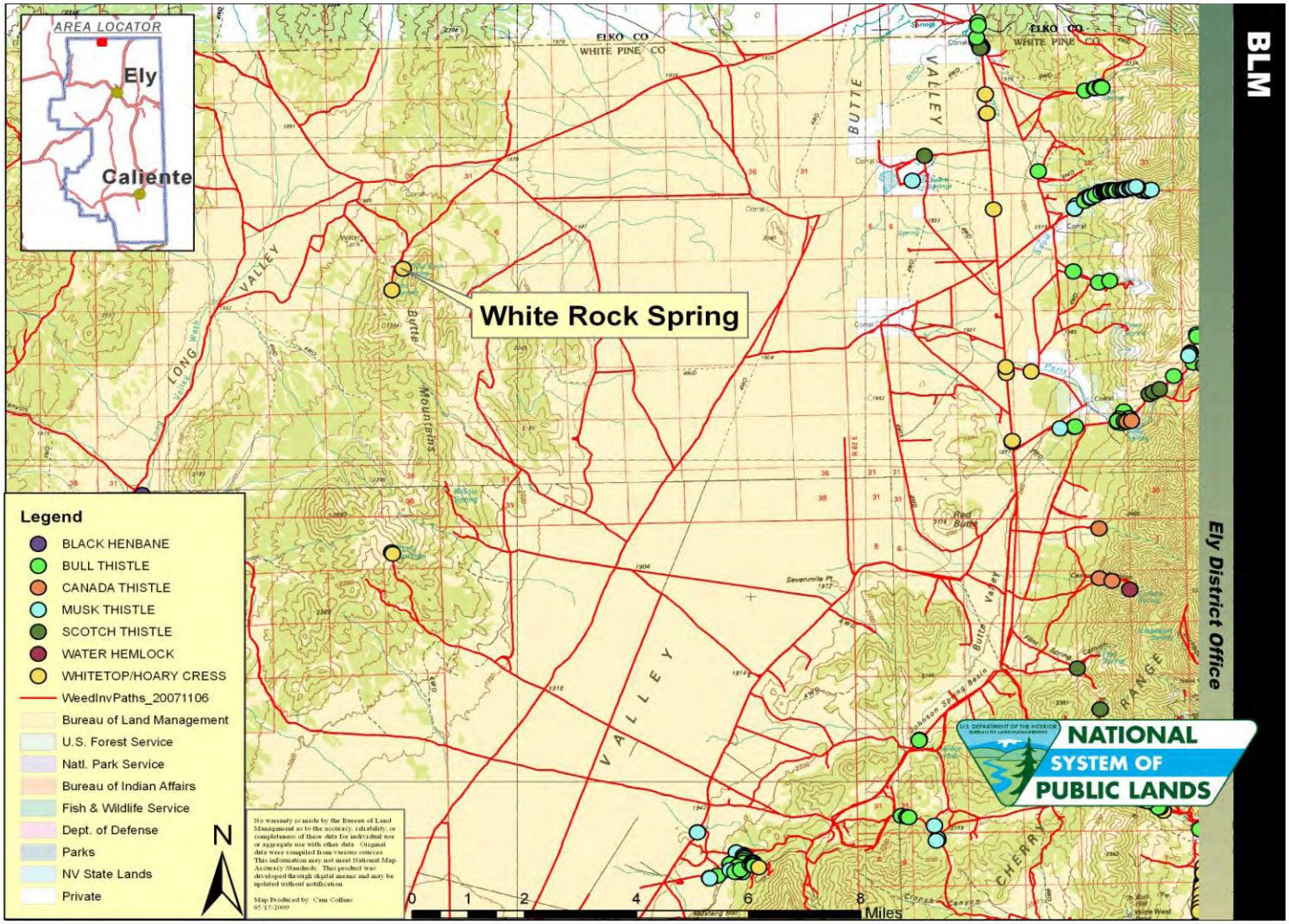

Figure 1. Noxious and invasive weed occurrence along roads and drainages leading to White Rock Spring, White Pine County, NV.