United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Schell Field Office
HC33 Box 33500 (702 N. Industrial Way)
Ely, Nevada 89301-9408
http://www.blm.gov/nv/st/en/fo/ely_field_office.html

In Reply Refer To:
5000 (NVL02000)

Dear Interested Public:

The Ely District BLM, Schell Field Office is proposing to restore quaking aspen stands in the South Snake Range near Ely, Nevada. Quaking aspen is the most shade intolerant species in the west and without disturbance or management, will be lost from the landscape. Aspen provides valuable wildlife habitat as well as unique scenic and recreational opportunities. Treatments are designed to promote regeneration and allow for a varied age distribution of aspen stems within a stand.

The South Snake Range Aspen Restoration project aims at restoring quaking aspen stands though treatments that may include: hand removal of competing conifers, prescribed fire and fencing. A combination of these treatments may be needed to meet the objectives.

A preliminary environmental assessment discussing the proposed action and any potentially significant impact to the quality of the human environment has been prepared for your review.
The document is available at the Ely District web site:
http://www.blm.gov/nv/st/en/fo/ely_field_office.html

Please respond with any comments in writing by December 14, 2009. Comments may be addressed to Mary D'Aversa, Field Manager, Schell Field Office, Bureau of Land Management, HC 33 Box 33500, Ely, NV 89301.

For more information please contact the Ely District Forester, Zach Peterson, at 775-289-1871 or zachary_peterson@blm.gov.

Sincerely,

/s/ Mary D'Aversa

Mary D'Aversa
Field Manager
Schell Field Office

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

Preliminary Environmental Assessment
DOI-BLM-NV-L020-2009-0038-EA
November 19, 2009

South Snake Range Aspen Restoration

Location: S. Snake Range, Eastern Nevada

U.S. Department of the Interior
Bureau of Land Management
Ely District Office
Phone: 775-289-1871
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1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze the Bureau of Land Management (BLM) Schell Field Office's proposal to restore aspen stands located in the South Snake Range approximately 50 miles east of Ely, Nevada. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions. "Significance" is defined by NEPA and is found in Chapter 40 of the Code of Federal Regulations (CFR) §§1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of "Finding of No Significant Impact" (FONSI).

This document is tiered to the *Ely Proposed Resource Management Plan/Final Environmental Impact Statement* (RMP/EIS, 2007) released in November 2007. Should a determination be made that implementation of the proposed or alternative actions would not result in "significant environmental impacts" or "significant environmental impacts beyond those already addressed in the RMP/EIS", a Finding Of No Significant Impacts will be prepared to document that determination, and a Decision Record issued providing the rationale for approving the chosen alternative.

1.1 Background:

Quaking aspen (*Populus tremuloides*) is the most shade intolerant species in the western U.S. Without disturbance, the short-lived species will become overtopped by conifers and without full sunlight will stop reproducing or the stem of the clone will die. Without natural disturbance, i.e. wildfire, the stands must be restored by other means. This proposal will be to restore these aspen stands through hand cutting of conifers and prescribed fire within the stand in order to increase the amount of light in the stand and thereby increase regeneration of the clone. In addition, this environmental assessment will analyze fencing of the aspen stands as part of the proposed action. Fencing aspen clones is very successful at reducing herbivory of the aspen stems by ungulates and therefore increasing regeneration potential.

The Ely District, based on numbers from the Ely District Approved Resource Management plan (RMP), has approximately 7,000 acres of quaking aspen. Currently 60% of the aspen in the district is in an overmature phase tree state, while the other 40% is in a mature phase tree state. Table 1 shows the desired condition based on the RMP and the current state of quaking aspen on the Ely District.

Table 1. Desired range and current condition of aspen resources based on Ely District RMP (2008).

	Herbaceous State (shrub and sapling phase)	Herbaceous State (immature woodland phase)	Tree State (mature woodland phase)	Tree State (overmature woodland phase)
Canopy cover	0-15%	16-29% tree canopy cover	30-45% tree canopy cover	45% or greater canopy cover (includes conifer dominated)
Desired Range	14% (980 acres)	40% (2,800 acres)	45% (3,150 acres)	<1% (<70 acres)
Current Conditions	0%	0%	40%	60%

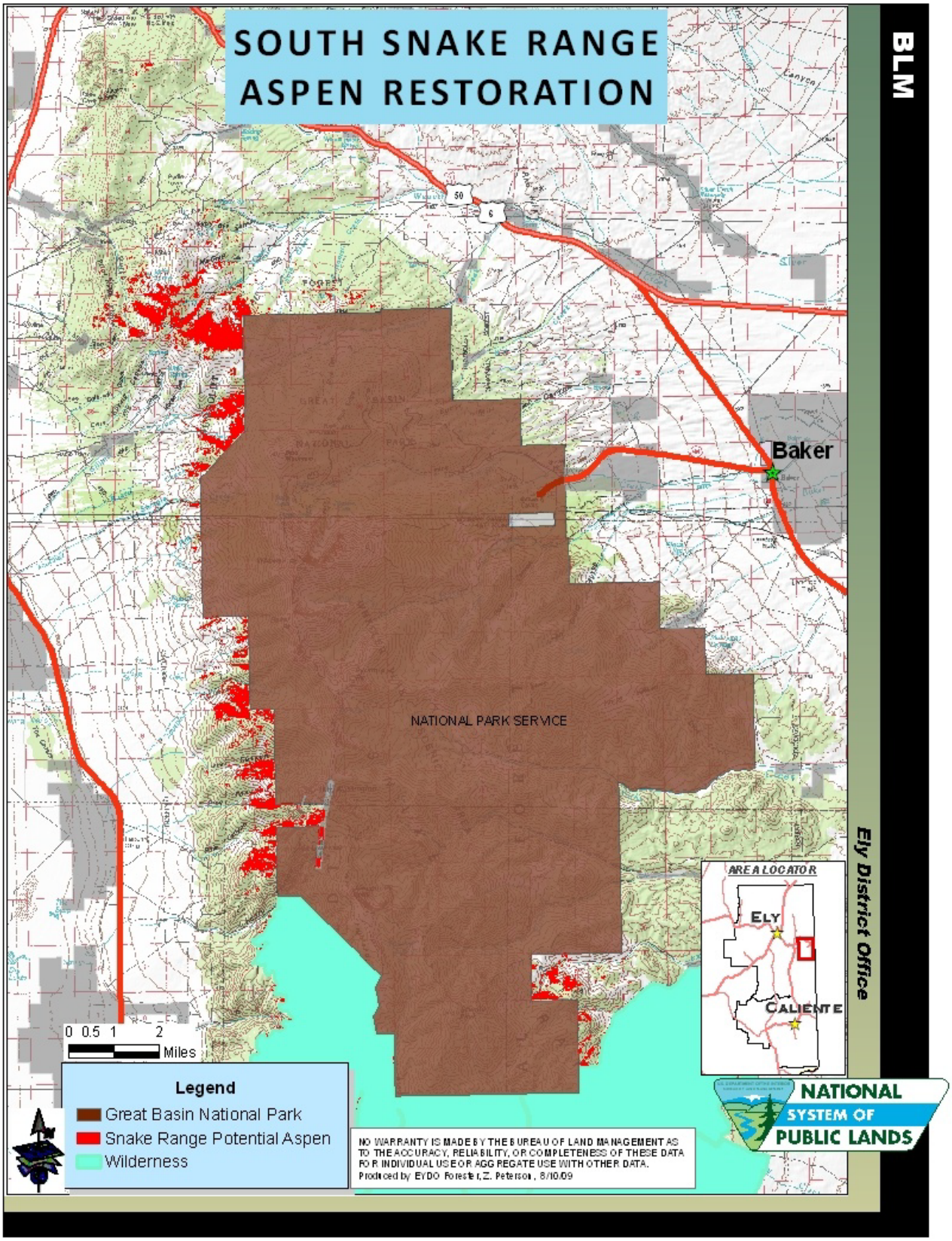
Areas with the highest concentration of aspen stands are shown in Figure 1. While these areas contain many plant communities, aspen is most likely to be found in these areas and on the ground verification has confirmed this. In the South Snake Range, aspen communities are likely to be found in and near the following plant communities: pinyon pine, limber pine, interior Douglas-fir, Engelmann spruce, ponderosa pine and white fir. The 3,300 acres shown has been determined to have the highest potential

for supporting aspen communities. It is possible that other aspen communities exist in the South Snake Range other than those shown in Figure 1. The intent of this environmental assessment is to analyze potential impacts to resources of treating any aspen on BLM administered land within the South Snake Range using the proposed methods found in this EA (not including aspen communities located in wilderness areas).

1.2 Purpose and Need of the Proposed Action:

Quaking aspen communities within the Ely District lack successful regeneration to persist on the landscape in the short or long term due to changed disturbance regimes and herbivory. Once lost, aspen communities do not recover or reappear on the landscape. As aspen reproduces primarily asexually through clones and root suckering, once a clone is lost there is no cost effective or practical method of returning aspen to that location. This restoration effort will increase regeneration of aspen and introduce a new age cohort of stems. Overall health of the aspen communities will be increased. Lastly, desired condition classes found in the Ely District Approved Resource Management Plan (August 2008) will be obtained on a landscape scale within the South Snake Range through implementation of this restoration effort.

Figure 1. Map of potential quaking aspen communities within the South Snake Range



1.3 Conformance with BLM Land Use Plan(s):

The Proposed Action is in conformance with the following goal, objective and management action in the Ely District Record of Decision (ROD) and Approved RMP (August 2008):

- ***Goal***: "Manage vegetation resources to achieve or maintain resistant and resilient ecological conditions while providing for sustainable multiple uses and options for the future across the landscape."
- ***Objective****:* "To manage for resistant and resilient ecological conditions including healthy, productive, and diverse populations of native or desirable nonnative plant species appropriate to the site characteristics"

Parameter: **General Vegetation Management**

- *Management Action VEG-1:* "Emphasize treatment areas that have the best potential to maintain desired conditions or respond and return to the desired range of conditions and mosaic upon the landscape, using all available current or future tools and techniques."
- *Management Action VEG-4:* "Design management strategies to achieve plant composition within the desired range of conditions for vegetation communities, and emphasize plant and animal community health at the mid scale (watershed level)."
- *Management Action VEG-5:* "Focus restoration of undesirable conditions initially on those sites that have not crossed vegetation transitional thresholds."
- *Management Action VEG-6:* "Emphasize the conservation and maintenance of healthy, resilient, and functional vegetation communities before restoration of other sites."

Parameter: Aspen

- *Management Action VEG-10:* "Implement actions to attain the desired vegetation states shown in Table 3 [of the RMP, table 1 of this EA]."
- *Management Action VEG-11:* "Integrate treatment priorities that include:
  1. Areas where select species of conifers dominate the tree overstory and where canopy cover exceeds the percentages listed in the desired range of conditions in Table 3 (Overmature Phase).
  2. Areas where understory species are declining and aspen are not regenerating.
  3. Managing aspen communities (using disturbance) to remain in or move toward those phases that are more resilient and resistant to disturbance.
  4. Allowing regeneration to occur where potential allows, and to protect that regeneration through use restrictions or other protection methods.
  5. Selecting and applying protection measures on a site-specific basis during implementation of the RMP.
  6. Managing aspen stands to maintain or improve stand characteristics and promote regeneration."

1.4 Relationship to Statutes, Regulations, or other Plans:

The Proposed Action is consistent with the following Federal, State, and local plans, regulations and laws to the maximum extent possible:

- The National Environmental Policy Act of 1969 (42 U.S.C. §§ 4321-4347, January 1, 1970, as amended 1975 and 1994)
- The Federal Land Policy and Management Act of 1976 (43 U.S.C. §§ 1701-1782, October 21, 1976, as amended 1978, 1984, 1986, 1988, 1990-1992, 1994 and 1996)

- White Pine County Conservation, Recreation, and Development Act of 2006 (Public Law 109-432)
- White Pine County Portion (Lincoln/White Pine Planning Area) Sage Grouse Conservation Plan (2004).
- State Protocol Agreement between the Bureau of Land Management, Nevada and the Nevada Historic Preservation Office (1999).
- Northeastern Great Basin Resource Advisory Council (RAC) Standards (February 12, 1997).
- White Pine County Public Lands Policy Plan (2007)
- White Pine County Elk Management Plan (2007 revision)
- Migratory Bird Treaty Act (1918 as amended) and Executive Order 13186 (1/11/01)

1.5 Scoping and Issues

The South Snake Range Aspen Restoration project was scoped internally by the Schell Field Office interdisciplinary team on July 13, 2009.

The following issues were analyzed within this EA as a result of scoping:

- Non-native Invasive and Noxious Species

2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION

2.1 Introduction:

The previous chapter presented the Purpose and Need of the proposed project, as well as the relevant issues, i.e., those elements that could potentially have a significant impact to the quality of the human environment through the implementation of the proposed project. In order to meet the purpose and need of the proposed project in a way that resolves the issues, the BLM has developed a proposed alternative. This alternative, as well as a no action alternative, are presented below. The potentially significant environmental effects or consequences of the relevant issues resulting from the implementation of each alternative are then analyzed in Chapter 3.

2.2 Alternative A - Proposed Action:

The BLM Schell Field Office proposes to restore quaking aspen communities on BLM administered lands outside of wilderness areas within the South Snake Range. Restoration will take place through a combination of hand-felling of conifers, fencing of aspen stands to reduce herbivory of the aspen by ungulates, and/or prescribed fire.

Hand Felling

Targeted species of conifer within the aspen stand and within 75 feet of the edge (measured from the last standing, live aspen stem in the stand) of the aspen stand will be removed using a chain-saw. All targeted conifers will be removed within 50 feet of the edge of the aspen stand. The last 25 feet within the 75 foot perimeter will be reserved for variable density thinning to feather the edges of the stand and reduce visual impacts. Target species to be removed include the following:

- singleleaf pinyon pine (*Pinus monophylla*)
- Utah juniper (*Juniperus osteosperma*)
- white fir (*Abies concolor*)
- Engelmann spruce (*Picea engelmannii*)
- limber pine (*Pinus flexilis*)

The following tree species are present or likely to be present but will not be cut or removed:

- ponderosa pine (*Pinus ponderosa*)
- bristlecone pine (*Pinus longaeva*)
- Douglas-fir (*Pseudotsuga menziesii*)
- curlleaf mountain-mahogany (*Cercocarpus ledifolius*)

Trees will be felled by hand. Any material suitable for use as fuelwood may be set aside for that purpose. Limbs, branches and other slash will be used as a barrier fence, piled for burning, mechanical mulching or made available as biomass. Piles for burning will be located in previously disturbed areas to the greatest extent possible.

If an aspen stand contains non-target conifers listed above, those trees will be marked prior to tree removal to avoid cutting of non-target trees, unless a forester is on site during removal to ensure compliance.

Exclosure Fencing

Aspen stands with low regeneration (fewer than 500 healthy stems per acre under 6' in height) may need to be fenced in order to prevent herbivory on the stand. In general fencing of aspen stands will be used in open stands with fewer conifers dominating the overstory (possibly after other treatment) and gentler slopes. Fencing will be constructed of either 8' steel pipe rail fencing, 8' woven wire fencing, electrical fencing or a slash barrier fencing designed to keep elk, deer, cattle and wild horses out of the treatment area. Fencing will be placed in a location to minimize visual impacts to the fullest extent practicable.

Steel pipe rail fencing consists of 4 rails, is self-supporting, non-reflective and no ground disturbance will occur during installation. The fence will be left in place until regeneration objectives are met. At that time the fence may be removed from the stand and available for use elsewhere.

Eight foot woven wire or a slash barrier fence may also be used as a fencing method. Slash barrier fencing is made of debris from other treatments and piled in approximately four feet tall by four feet wide rows. The depth combined with the height has proven effective at keeping ungulates out of aspen stands. Four-wheel drive vehicles off existing roads may be needed to transport the fencing materials around the stand.

Electrical fencing may be used as a cost-effective method that meets the objectives. Electric fencing will typically be 3 or 4 strands on a fiberglass or metal pole to a height of 5 or 6 feet. Corner posts will be of wood. The fencing will be solar powered with a battery box to store electrical charge. The box containing batteries will be camouflaged to the surroundings to the largest degree possible. Electrical fencing will be used for 5 to 10 years, until objectives are met and then made available for re-use in other locations.

Riparian stands may be fenced if water resources are not impacted by the action.

Prescribed Fire and Pile Burning

Piles of slash will be burned if they are not mechanically mulched or utilized for biomass. Burning of piles will take place when there is low chance for fire spread, generally October through April. An appropriate burn plan, approved by the Fire Management Officer (FMO) will be written for any piles burnt.

Prescribed fire will be used as a tool in order to improve the health of the aspen stands. In general, prescribed fire will best be utilized in areas of dense conifer encroachment, and in areas with higher condition class ratings.

The 2002 National Cohesive Strategy defines fire regimes as a generalized description of fire's historic role within an ecosystem. Table 2 outlines each fire regime group:

Table 2 – Fire Regime Groups

FIRE REGIME GROUP	DESCRIPTION
I	0-35 year frequency, low severity
II	0-35 year frequency, stand replacement severity
III	35-100+ year frequency, mixed severity
IV	35-100+ year frequency, stand replacement severity
V	200+ year frequency, stand replacement severity

Frequency is the average number of years between fires. Severity is the effect of fire on the dominate over-story vegetation.
Fire Regime Condition Class (FRCC) is an interagency, standardized tool for determining the degree of departure from reference condition vegetation, fuels and disturbance regimes (http://www.frcc.gov/). Assessing FRCC can help guide management objectives and set priorities for treatments. The classification is based on a relative measure describing the degree of departure from the historical natural fire regime. This departure is described as changes to one or more of the following ecological components: vegetation characteristics (species composition, structural stages, stand age, canopy closure and mosaic pattern); fuel composition; fire frequency, severity and pattern; and other associated disturbances (e.g. insects and disease mortality, grazing and drought). The three classes are based on low (0-33% departure; FRCC1), moderate (34-66% departure; FRCC2) and high (67-100% departure; FRCC3) departure from central tendency of the natural (historical) regime. Low departure is considered to be within the natural (historical) range of variability, while moderate and high departures are outside the range of variability. The FRCC rating is accompanied by a series of indicators of the potential risks that may result from the changes to the associated ecological components when disturbance is applied. Reference descriptions for a typical FRCC1 community have been developed for most major vegetation types. Reference conditions are compared to actual conditions for purposes of determining current FRCC classes.

The majority of the aspen stands in the South Snake Range fall within a Fire Regime Group 3, Condition Class 2. Fire Regime Groups 1 and 2 are also present as are Condition Classes 1 and 3, in much smaller proportions.

A Class III cultural inventory will be performed prior to any prescribed fire. A burn plan outlining specific areas, burn conditions and desired outcomes will be approved by the Ely District FMO.

General

Vehicles, including Off Highway Vehicles (OHV's) may be used off designated roads as part of this proposed action. Prior to any off road vehicular use a class III cultural survey will be completed and any eligible sites will be avoided or mitigated.

Prior to any activity, a Cultural Needs Assessment form will be submitted to the Schell Field Office Archeologist.

In general work will be completed in the summer, fall and winter, outside of migratory bird and raptor nesting season from April 1 to July 31. If work is to be completed during migratory bird and raptor nesting season, a BLM wildlife biologist will clear the affected area.

All activities will follow the Standard Operating Procedures outlined in the Weed Risk Assessment attached as Appendix I.

Sheep will be herded to avoid treatment areas until vegetative objectives are met.

Monitoring

Monitoring will take place in the form of stand surveys to determine the degree to which the objectives of increased aspen regeneration, health and dominance have been met. Monitoring will also be an integral part of any prescribed burn plan to determine potential effects from burning and how well vegetation objectives have been met.

2.3 Alternative B - No Action:

Under the No Action Alternative no quaking aspen restoration work will take place in the South Snake Range. No conifers within aspen stands will be felled. Aspen will continue to be shaded by encroaching conifers and will likely not persist on the landscape in the long term. Aspen stands will not be fenced within the range and herbivory will continue to slow regeneration rates. Current fire regime condition classes will not be changed from their current condition.

2.4 Alternatives Considered, but Eliminated from Further Analysis

No alternatives are needed to address any unresolved resource conflicts.

3.0 AFFECTED ENVIRONMENT/ENVIRONMENTAL EFFECTS

3.1 General Setting

Quaking aspen communities within the South Snake Range are found at elevations of 7,000 ft to 11,000 feet above mean sea level. Average annual precipitation ranges from 12” in the lowest aspen communities to 30” in the highest elevations of BLM administered land within the South Snake Range. Vegetation in the project area varies from Utah juniper and singleleaf pinyon pine woodlands in the low elevations to limber pine giving way to bristlecone pine in the highest elevations. Mid-elevation plant communities consist of interior Douglas-fir, Engelmann spruce, white fir, ponderosa pine, quaking aspen and curlleaf mountain-mahogany. Approximately 3,300 acres within the South Snake Range has been identified as likely to contain aspen communities. Other aspen communities outside of these identified areas likely exist in small acreages. Aspen stands are generally located in near proximity to the Great Basin National Park and many aspen stands that originate on BLM administered land extend into the National Park.

3.2 Resources/Concerns Analyzed

Potential impacts to the following resources/concerns were evaluated in accordance with criteria listed in the H-1790-1 NEPA Handbook (2008) page 41, to determine if detailed analysis was required. Consideration of some of these items is to ensure compliance with laws, statutes or Executive Orders that impose certain requirements upon all Federal actions. Other items are relevant to the management of public lands in general, and to the Ely District BLM in particular.

Resource/Concern	**Issue(s) Analyzed? (Y/N)**	**Rationale for Dismissal from Detailed Analysis or Issue(s) Requiring Detailed Analysis**
Air Quality	N	There would be a temporary increase in particulate matter (dust and/or smoke) resulting from the proposed action. The affected area is not within an area of non-attainment or areas where total suspended particulates or other criteria pollutants exceed Nevada air quality standards. Direct, indirect or cumulative impacts do not approach a level of significance. Detailed analysis is not required.
Areas of Critical Environmental Concern (ACEC)	N	No ACEC's are located near aspen communities within the South Snake Range.
Cultural Resources	N	Cultural sites would be avoided or mitigated prior to ground disturbing activities.
Forest Health	N	Forest Health would increase due to lowered densities of trees and improving regeneration of quaking aspen. The impact to forest health is consistent with the need for the action.
Migratory Birds	N	Proposed action would be planned to occur outside of Migratory Bird nesting season. Should implementation take place within migratory bird nesting season, the area would be cleared prior to work. Impact is negligible. Furthermore, aspen restoration in the South Snake Range would provide a long-term benefit to various birds that utilize aspen stands for nesting and foraging. No further analysis required.
Rangeland Standards and Guidelines	N	Proposed action occurs within woodland sites. Rangeland would not be affected. No detailed analysis necessary.
Native American Religious and other Concerns	N	There are no potential traditional Native American Religious sites of importance within the proposed action area.
Wastes, Hazardous or Solid	N	No known hazardous or solid wastes exist within the project location, nor would any be introduced in larger than negligible quantities.
Water Quality, Drinking/Ground	N	No affects to water quality are expected.
Environmental Justice	N	No environmental justice issues are present at or near the project.
Floodplains	N	No floodplains have been identified by HUD or FEMA within the project area. Floodplains as defined in Executive Order 11988 may exist in the area, but would not be affected by the proposed action.

Resource/Concern	Issue(s) Analyzed? (Y/N)	Rationale for Dismissal from Detailed Analysis or Issue(s) Requiring Detailed Analysis
Farmlands, Prime and Unique	N	No prime or unique farmlands exist within the South Snake Range woodland and forest communities.
Threatened and Endangered Species	N	Not present.
Wetlands/Riparian Zones	N	Fencing of riparian areas would only be done in a manner as to not disturb water flow and would increase riparian health. Burning has potential to affect riparian vegetation and riparian characteristics. Riparian vegetation will be burnt, although not targeted during any prescribed fire operation. Increased hydrophobicity of the soils is unlikely to occur because burns will be conducted when soil moisture levels are high. These potential impacts are historically a natural occurrence given the historic fire regime of the area. Aspen would regenerate quickly after a prescribed fire and impacts to bank stability and soil movement and not foreseen. Impacts would be negligible directly, indirectly and cumulatively.
Non-native Invasive and Noxious Species	Y	Potential for the spread of weeds though ground disturbing activities.
Wilderness/WSA	N	No action would occur within wilderness or wilderness study areas. The Highland Ridge wilderness lies in the south end of the South Snake Range, but treatment would not occur within the wilderness under this restoration effort. No analysis necessary.
Human Health and Safety	N	No unusual hazards to human health and safety would be introduced as part of this restoration project. No analysis necessary.
Wild and Scenic Rivers	N	Not Present
Special Status Animal Species (other than those listed or proposed by the FWS as Threatened or Endangered)	N	Northern Goshawks are known to nest in and around quaking aspen stands. Designed features of the proposed action including not implementing treatments around active nest sites and ensuring no goshawk birds or nests are present prior to treatment would result in a negligible impact to goshawk directly, indirectly and cumulatively. In addition, restoring aspen stands in the South Snake Range would result in a long-term benefit to the species.
Special Status Plant Species (other than those listed or proposed by the FWS as Threatened or Endangered)	N	Special Status plant species would not be affected by the proposed action.
Fish and Wildlife	N	Wildlife may be displaced temporarily. Fencing would be done in accordance with BMPs from RMP and in a manner that does not reduce the amount of water available to wildlife or fish. Impacts would be negligible directly, indirectly and cumulatively.
Wild Horses	N	The proposed action is not within a Herd Management Area, nor would the proposed action impact any horses found outside of an HMA.

Resource/Concern	Issue(s) Analyzed? (Y/N)	Rationale for Dismissal from Detailed Analysis or Issue(s) Requiring Detailed Analysis
Soils/Watershed	N	Disturbance to soils would generally be none as a result of conifer removal and fence building. Prescribed fire and pile burning is unlikely to increase hydrophobicity due to the moist soils when burns will be conducted. The probable quick increase in riparian vegetation, especially aspen stems following disturbance makes the likelihood of soil movement and bank stability issues negligible. If off road vehicle travel is necessary, off road travel would not be permitted when rutting could potentially occur.
Livestock Grazing	N	Livestock grazing generally does not occur on steep slopes or in dense woodland/forest communities where aspen is found in the area. No reduction in forage or water would result from the proposed restoration project. No further analysis necessary.
Water Resources (Water Rights)	N	No adverse effects to water resources or water rights are expected. Any fencing of riparian areas would only be implemented with formal support of the fencing action by all water rights holders. No further analysis necessary.
Mineral Resources	N	There would be no modifications to mineral resources through the proposed action.
Vegetative Resources	N	Impacts to vegetation are consistent with the need for the action. Vegetation, especially aspen stand health would see a positive benefit as a result of the action. No detailed analysis necessary.
Visual Resources	N	The proposed action occurs within Visual Resource Management (VRM) class II. Predominant natural features of the characteristic landscape are mosaic burned and disturbed patches within the landscape resulting from a historic fire regime of generally 35 to 100 years. The proposed action would repeat the basic elements of form, line, color and texture and therefore conform with class II VRM objectives and the Ely District Resource Management Plan.
Recreation	N	Impacts to recreation will be negligible directly, indirectly and cumulatively. Short terms impacts could include visual and noise disturbance near dispersed recreation sites for a period of less than one month. Long term benefits to recreation are possible as a result of healthier aspen stands which are frequented by hikers, hunters and campers.

3.2.1 Noxious and Invasive Weeds

3.2.1.1 Affected Environment

The following noxious weed species are found within the project area: musk thistle *(Carduus nutans)*, spotted knapweed *(Centuarea stoebe)*, Canada thistle *(Cirsium arvense)*, and bull thistle *(Cirsium vulgar)*. The following weeds species are within five miles along roads and drainages leading to the project areas: musk thistle *(Carduus nutans)*, spotted knapweed *(Centuarea stoebe)*, Canada thistle *(Cirsium arvense)*, bull thistle *(Cirsium vulgar)*, hoary cress *(Lepidium*

draba), salt cedar *(Tamarix spp.),* Russian knapweed *(Acroptilon repens),* Scotch thistle *(Onopordum acanthium),* and tall whitetop *(Lepidium latifoliu).* Also, while not officially documented the following non-native invasive weeds probably occur in or around the area: cheatgrass (*Bromus tectorum),* horehound *(Marrubium vulgare),* bur buttercup *(Ceratocephala testiculata),* Russian thistle *(Salsola kali),* common mullein *(Verbascum Thapsus),* and field bindweed *(Convolvulus arvensis).*

3.2.1.2 Environmental Effects

For this project, the average factor rates as Moderate (5) at the present time. This project has a range of ratings for this factor depending on the treatment method selected. The hand removal method has a Low (3) rating due to the minimal amount of ground disturbance associated with those treatments. The fencing has a Moderate (5) rating due to the amount of ground disturbance and the possibility of transporting weed seeds on the vehicle tracks. The prescribed burn method has a Moderate (7) rating due to the tendency of cheatgrass to easily invade some burn sites. 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. If new infestations establish within the project area this could adversely impact those native plant communities since most of the area is currently considered to be weed-free. Also, any increase of invasive annuals such as cheatgrass could alter the fire regime in the area. The Weed Risk Assessment includes preventative management measures for the proposed project to reduce the risk of introduction of spread of noxious/invasive weeds into the area. If other aspen communities outside of those identified areas are included in implementing the project, a review of the Ely District weed inventory data would need to be completed for these additional locations. However, a Weed Risk Assessment would not be necessary, since it is reasonable to consider that these areas would reflect the current locations already identified and the Risk Rating would remain the same. This Risk Rating indicates that the project can proceed as planned as long as the measures identified in the Weed Risk Assessment are followed.

3.2.2 No Action Alternative

Under the no action alternative, the risk of spread of noxious and/or invasive weeds would not change. Changes in population sizes and locations would still occur due to other uses, but no noxious weeds would be introduced or the size of populations altered due to aspen restoration.

4.0 CUMULATIVE EFFECTS

4.1 Basis for Analysis

This Chapter analyzes the potential cumulative impacts from past, present, and reasonably foreseeable future actions combined with the aspen stand restoration within a defined Cumulative Effects Study Area (CESA). As defined by the Council on Environmental Quality (CEQ) Regulations for Implementing NEPA, Cumulative Effects (40 CFR 1508.7) are defined as, “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.”

The guidance provided in The National BLM NEPA Handbook H-1790-1 (2008), for analyzing cumulative effects issues states, "determine which of the issues identified for analysis may involve a cumulative effect with other past, present, or reasonably foreseeable future actions. If the proposed action and alternatives would have no direct or indirect effects on a resource, you do not need a cumulative effects analysis on that resource (p.57). " A comprehensive cumulative effects analysis can be found on pages 4.28-1 through 4.36-1 of the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007).

The CESA for the cumulative effects analysis on non-native, invasive species is defined by the South Snake Range including the east bench of South Spring Valley and the west bench of South Snake Valley.

Past actions in the area include historic grazing, mining and recreational activities. Present actions include vegetation management in aspen, high elevation conifer and pinyon-juniper systems within the area. In addition grazing, mining and many recreational activities occur. Reasonably foreseeable actions include continued vegetation management on BLM land and in the Great Basin National Park including aspen restoration, sagebrush restoration, and protection of unique conifer species within the area especially ponderosa pine.

Cumulative Effects Conclusion

Noxious Weeds and Invasive Non-native Species

The project areas are currently considered to be mostly weed free. Any new infestations, if they occur, would have cumulative effects on the nearby native plant community. However, since there are already known infestations within some of these areas those effects would be limited. By implementing the Best Management Practices from the Ely District RMP and identified in the Weed Risk Assessment, the proposed action, in combination with other past, present, and reasonably foreseeable future actions, is not expected to result in new noxious weed infestations and no cumulative effects would occur. Although there may be an increase of cheatgrass due to disturbance such as the prescribed burning, if preventive measure are followed and the project meets its objectives to increase regeneration of aspen and increase overall health of the aspen communities, then cumulative impacts are not anticipated.

5.0 PROPOSED MITIGATION AND MONITORING

5.1 Proposed Mitigation

Outlined design features incorporated into the proposed action are sufficient. No additional mitigation is proposed based on the analysis of environmental consequences.

5.2 Proposed Monitoring

Appropriate monitoring has been included as part of the Proposed Action. No additional monitoring is proposed as a result of the impact analysis

6.0 List of Preparers - BLM Ely District Office Resource Specialists

Zach Peterson	Forestry, NEPA, Air Quality, Environmental Justice
Paul Podborny	Wildlife, Special Status Species, Migratory Birds, Riparian
Craig Hoover	Range
Brett Covlin	Range
Brenda Linnell	Lands
Shawn Gibson	Archeology
Elvis Wall	American Native Cultural Concerns
Liz Townley	Recreation/ Visual Resource Management
Mindy Seal	Noxious and Invasive, Non-native species
Dave Jacobson	Wilderness
Ben Noyes	Wild Horse and Burros
Dave Davis	Mineral Resources
Melanie Peterson	Hazardous and Solid Waste and Safety
Cody Coombs	Fuels
Mark D'Aversa	Soil, Water, Floodplains

Appendix A

RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS

Snake Range Aspen Restoration Project
White Pine County, Nevada

On July 6, 2009 a Noxious & Invasive Weed Risk Assessment was completed for the Snake range aspen restoration project in White Pine County, Nevada. On August 19, 2009 the risk assessment for this project was revised to reflect the change in scope for this project.

The BLM Schell Field office proposes to restore quaking aspen communities on BLM administered lands outside of wilderness areas within the South Snake Range. Restoration will take place through a combination of hand-felling of conifers, fencing of aspen stands to reduce herbivory of the aspen by ungulates, and/or prescribed fire.
Approximately 3,500 acres within the South Snake Range has been identified as likely to contain aspen communities. Other aspen communities outside of these identified areas likely exist in small acreages. Aspen stands are generally located in near proximity to the Great Basin National Park and many aspen stands that originate on BLM administered land extend into the National Park.

Hand Felling
Targeted species of conifer within the aspen stand and within 75 feet of the edge (measured from the last standing, live aspen stem in the stand) of the aspen stand will be removed by hand using a chain-saw.

Exclosure Fencing
Aspen stands with low regeneration (fewer than 500 stems per acre under 6' in height) may need to be fenced in order to prevent herbivory on the stand. Fencing will be constructed of Steel Jack, or Liberty, pipe fence or other fencing that will keep elk, deer, cattle, wild horses, and sheep out of the stand. Steel Jack fencing will be self-supporting and no ground disturbance will occur during installation of the Steel Jack fencing. The fence will be left in place until regeneration targets are met. At that time the fence may be removed from the stand and available for use elsewhere. Other fencing types may be utilized if it is deemed best for the ecological health of the aspen community. Four-wheel drive vehicles off existing roads may be needed to transport the fencing materials around the stand. Riparian stands may be fenced if water resources are not impacted by the action, or all water right holders are in full support of the action.

Prescribed Fire and Pile Burning
Piles of slash will be burned if they are not mechanically mulched or utilized for biomass. Burning of piles will take place when there is low chance for fire spread, generally October through April.

General
Vehicles, including Off Highway Vehicles (OHV's) may be used off designated roads as part of this proposed action.

No field surveys were completed for this project. Instead the Ely District weed inventory data was consulted. The following species are found within the project area:

Carduus nutans	Musk thistle
Centuarea stoebe	Spotted knapweed
Cirsium arvense	Canada thistle
Cirsium vulgare	Bull thistle

The following weeds species are within five miles along roads and drainages leading to the project areas:

Carduus nutans	Musk thistle
Cirsium arvense	Canada thistle
Cirsium vulgare	Bull thistle
Lepidium draba	Hoary cress
Tamarix spp.	Salt cedar
Acroptilon repens	Russian knapweed
Onopordumacanthium	Scotch thistle
Centuarea stoebe	Spotted knapweed
Lepidium latifolium	Tall Whitetop

The project area was last inventoried for noxious and invasive weeds in 2003. While not officially documented the following non-native invasive weeds probably occur in or around the area:

Bromus tectorum	Cheatgrass	*Marrubium vulgare*	Horehound
Ceratocephala testiculata	Bur buttercup	*Salsola kali*	Russian thistle
Convolvulus arvensis	Field bindweed	*Verbascum thapsus*	Common mullein

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 average factor rates as Moderate (5) at the present time. This project has a range of ratings for this factor depending on the treatment method selected. The hand removal method has a Low (3) rating due to the minimal amount of ground disturbance associated with those treatments. The fencing has a Moderate (5) rating due to the amount of ground disturbance

and the possibility of transporting weed seeds on the vehicle tracks. The prescribed burn method has a Moderate (7) rating due to the tendency of cheatgrass to easily invade burn sites.

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 infestations establish within the project area this could adversely impact those native plant communities since most of the area is currently considered to be 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 the approximately 3,500 acres within the South Snake Range that has been identified for this project, the Risk Rating is Moderate (40). If other aspen communities outside of those identified areas are included in implementing the project, a review of the Ely District weed inventory data would need to be completed for these additional locations. However, a Weed Risk Assessment would not be necessary, since it is reasonable to consider that these areas would reflect the current locations already identified and the Risk Rating would remain the same. This Risk Rating indicates that the project can proceed as planned as long as the following measures are followed:

- Prior to entering public lands, the contractor 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

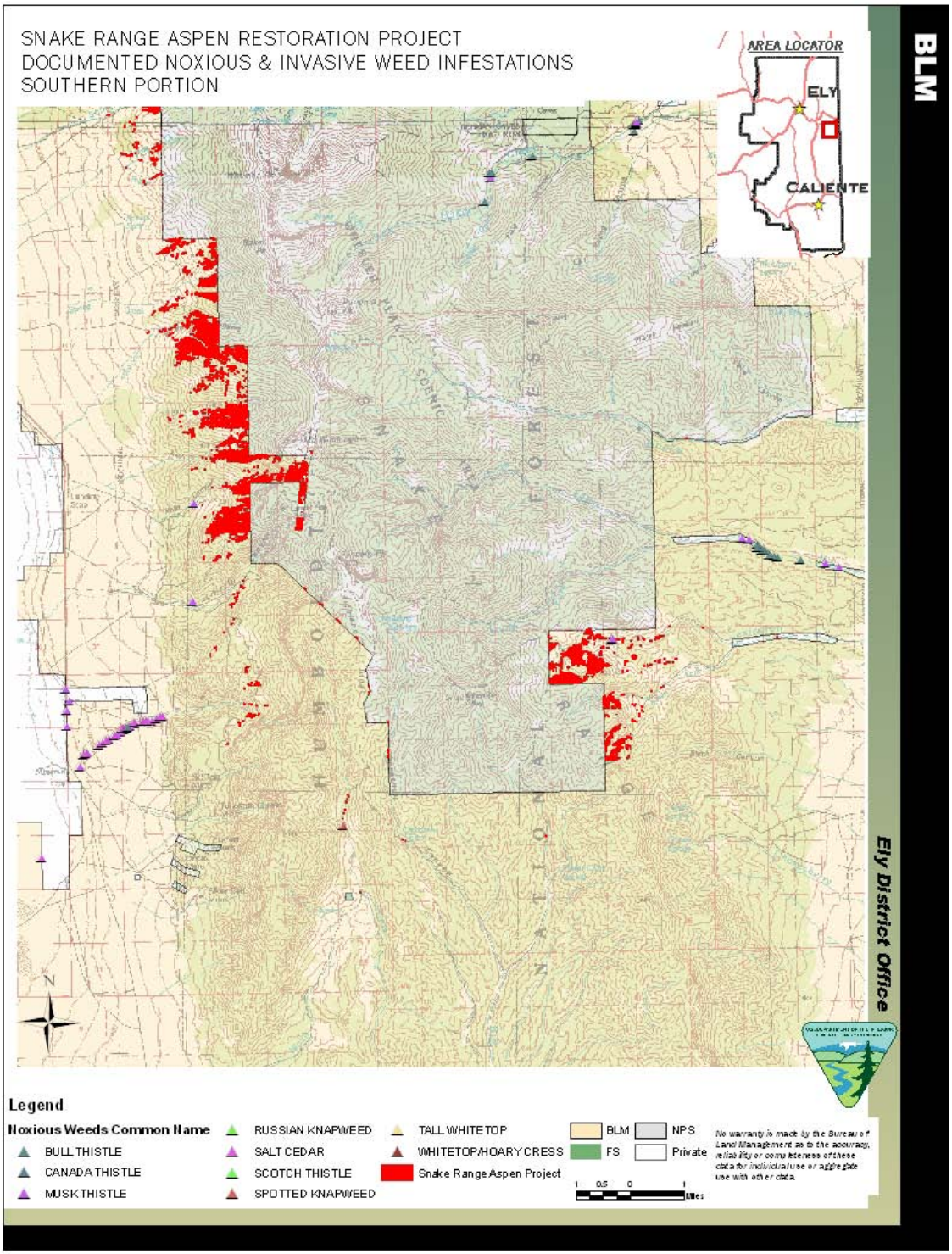
will be applied to axels, frames, cross members, motor mounts, on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. Cleaning sites will be recorded using global positioning systems or other mutually acceptable equipment and provided to the Field Office Weed Coordinator or designated contact person.

- 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.
- If other aspen communities outside of those identified areas are included in implementing the project, a review of the Ely District weed inventory data will need to be completed for these additional locations.

Reviewed by: /s/ Mindy Seal 8/19/2009

Mindy Seal Date

Ely District Noxious & Invasive Weeds Coordinator


SNAKE RANGE ASPEN RESTORATION PROJECT
DOCUMENTED NOXIOUS & INVASIVE WEED INFESTATIONS
SOUTHERN PORTION
AREA LOCATOR
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Ely District Office
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Noxious Weeds Common Name
BULL THISTLE
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MUSK THISTLE
RUSSIAN KNAPWEED
SALT CEDAR
SCOTCH THISTLE
SPOTTED KNAPWEED
TALL WHITETOP
WHITETOP/HOARY CRESS
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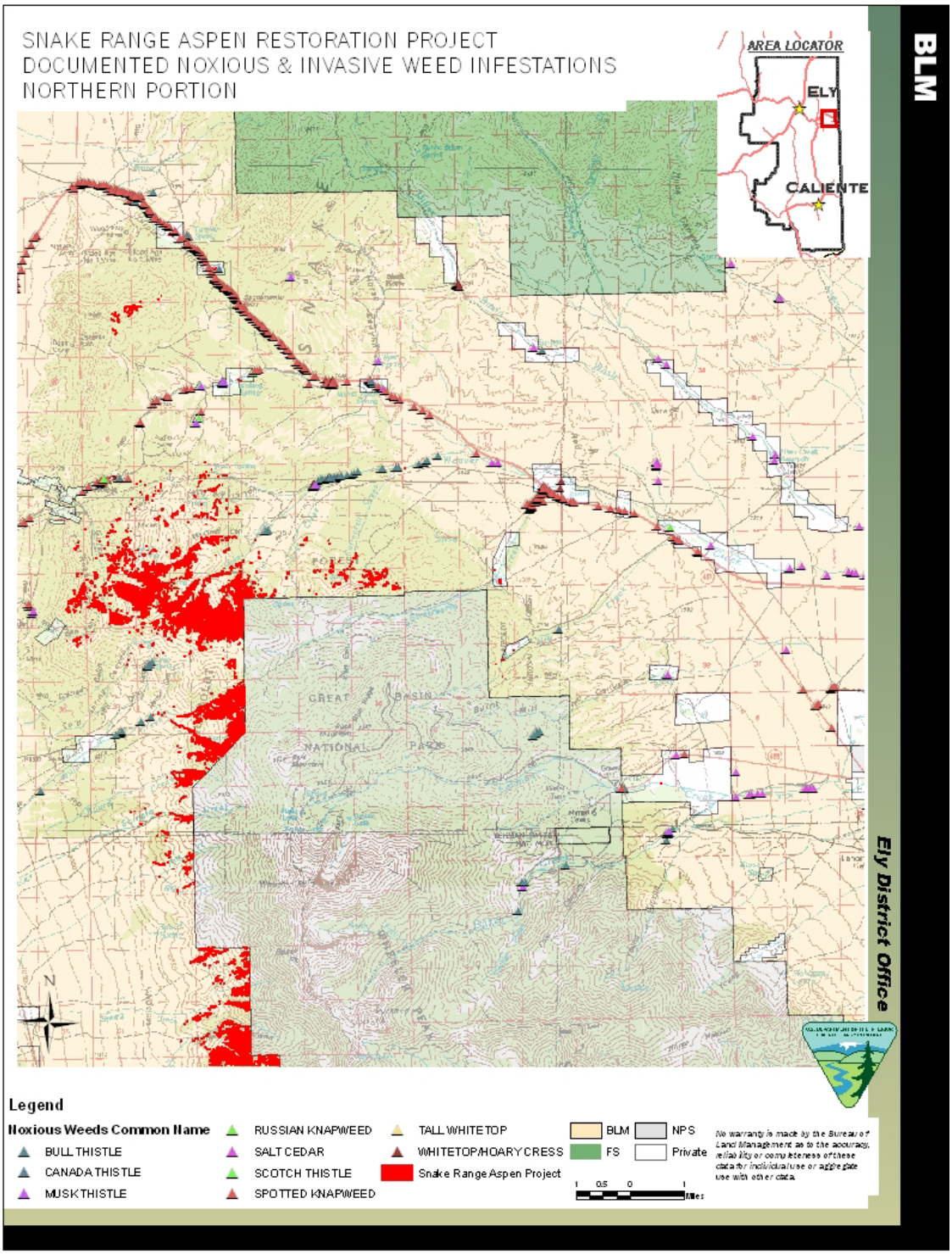
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