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:
4720 (NVL02000)

Dear Reader:

The Preliminary Environmental Assessment (EA) for the Silver King Herd Management Area (HMA) Wild Horse and Burro Gather (EA) DOI-BLM-NV- L020-2010-0039-EA will be available for your review and comment on June 16, 2010. The document may be viewed on-line at http://www.blm.gov/nv then click on the Ely District. Hard copies are available from the Caliente and Schell Field Offices.

The EA analyzes the potential direct, indirect and cumulative effects to the human environment associated with completion of a gather and removal of excess wild horses and burros from within and outside of the Silver King HMA. Should a determination be made that implementation of the Proposed Action or alternative actions would not result in "significant environmental impacts," a Finding of No Significant Impact (FONSI) will be prepared to document that determination, and a Decision Record issued providing the rationale for approving the chosen alternative.

This Environmental Assessment (EA) has been prepared to analyze the Bureau of Land Management's (BLM) Schell and Caliente Field Office proposal to gather and remove approximately 445 excess wild horses from within and outside the Silver King Herd Management Area (HA) beginning in about September 2010.

The range of AML for the Silver King HMA is 60-128 wild horses. This population range is based on in-depth analysis of habitat suitability and monitoring data to maintain healthy wild horses and rangelands over the long-term and as established through the Record of Decision (ROD) and Approved Ely District Resource Management Plan (August 2008).

This assessment is based on factors including, but not limited to the following rationale:

- Silver King's direct count of 505 wild horses in April 2010, showed 445 horses in excess of the AML lower limit
- Moderate to Heavy utilization is evident on key forage species
- Excess horse numbers have resulted in horses residing outside HMA boundaries
- The excess wild horse population is adversely impacting fire rehabilitation efforts
- The excess wild horse population poses public safety risks along HWY 93
- BLM is not able to achieve the rangeland health standards for the public lands in and around the Silver King HMA or ensure a thriving natural ecological balance without removing the excess wild horses

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 FONSI will be prepared to document that determination, and a Decision Record issued providing the rationale for approving the chosen alternative.

The Silver King HMA is located approximately 70 miles south of Ely, Nevada, and 16 miles north of Caliente, Nevada, within Lincoln County. The Silver King HMA is approximately 606,000 acres in size.

The Silver King Herd Management Preliminary Environmental Assessment DOI-BLM-NV-L020-2010-0039-EA Comments will be accepted for 30 days until July, 16, 2010. Interested individuals should may mail written comments to the BLM Ely District Office, HC 33 Box 33500, Ely, NV 89301 attn: Mary D'Aversa, Schell Field Manager or send an e-mail to: silverkinghma@blm.gov
Comments need to be post marked (if mailed), faxed, or emailed to silverkinghma@blm.gov no later than 7-16-2010. **The only email comments that will be considered are emails sent to silverkinghma@blm.gov. Email comments sent to any other email address WILL NOT be considered.**

If you have any questions on this matter, please contact Ben Noyes, BLM Ely District Wild Horse and Burro Specialist, at (775) 289-1800.

Sincerely,

Mary D'Aversa
Field Manager
Schell Field Office

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

Preliminary Environmental Assessment
DOI-BLM-NV-L020-2010-0039-EA
June 10, 2010

SILVER KING HERD MANAGEMENT AREA
WILD HORSE GATHER

Location: Lincoln County

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

1.0 Introduction

This Environmental Assessment (EA) has been prepared to analyze the Bureau of Land Management (BLM) Schell Field Office (SFO) and Caliente Field Office (CFO) proposal to gather and remove 445 excess wild horses from within and outside the Silver King Herd Management Area (HMA) in September 2010.

This EA is a site-specific analysis of the potential impacts that could result with the implementation of the Proposed Action or alternatives to the Proposed Action. The EA assists the BLM Schell and Caliente Field Offices 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. 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 Action or alternative actions would not result in "significant environmental impacts" or "significant environmental impacts beyond those already addressed in the RMP/EIS and MFP", a FONSI will be prepared to document that determination, and a Decision Record issued providing the rationale for approving the chosen alternative.

1.1 Background

The Silver King HMA is located approximately 70 miles south of Ely, Nevada, and 16 miles north of Caliente, Nevada, within Lincoln County (Figure 1). The Silver King HMA is approximately 606,000 acres in size. Table 1 shows the acres, population estimate and Appropriate Management Levels (AML) within the HMA.

1.2 Appropriate Management Level (AML)

The 2008 Ely District Record of Decision and Approved Resource Management Plan ("Ely RMP"), combined three existing HMAs (the Dry Lake HMA, portions of the Rattlesnake HMA, and Highland Peak HMA) into the Silver King HMA. The decision to combine all or portions of the three HMAs was due to the historical interchange of wild horses between the three HMAs and was also based on an in-depth analysis of habitat suitability and monitoring data as set forth in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) ("EIS") table 3.8-2 and page 4.8-2. The 2007 EIS evaluated each herd management area for five essential habitat components and herd characteristics: forage, water, cover, space, and reproductive viability. Through this analysis and subsequent Record of Decision (ROD) and Environmental Impact Statement (EIS), the boundaries of the Silver King HMA were established to ensure sufficient habitat for wild horses and an AML was set that would achieve a thriving natural ecological balance and rangeland health.

Table 1 Herd Management Area, Acres, AML, Estimated Population

Herd	Total Acres Public land	Appropriate Management Level	Estimated Population	Removal	% of AML
Silver King HMA	606,000	60-128	505	445	394-841

The Appropriate Management Level (AML) is defined as the number of wild horses that can be sustained within a designated HMA which achieves and maintains a thriving natural ecological balance in keeping with the multiple-use management concept for the area. The range of AML for the Silver King HMA is 60-128 wild horses. This population range is based on in-depth analysis of habitat suitability and monitoring data to maintain healthy wild horses and rangelands over the long-term and as established through the Record of Decision (ROD) and Approved Ely District Resource Management Plan (August 2008).

There have been several prior gathers from the HMAs that were combined to form the Silver King HMA in the past 10 years. In August 2008, BLM removed 67 wild horses from within and outside the Highland Peak HMA. In December 2006, wild horses from the Dry Lake Complex (Dry Lake Rattlesnake and Highland Peak HMAs) were gathered and 200 excess wild horses were removed from the HMAs at that time. In 2003, 323 excess wild horses were removed from the Dry Lake HMA. The Highland Peak HMA had an emergency gather in the fall 2002 due to drought. Rattlesnake HMA historically has been included within the Dry Lake gathers due to the wild horses utilizing the northern portion of the HMA.

An aerial direct count population inventory of the Silver King HMA in April 2010 observed 505 adult wild horses. Currently the Silver King HMA wild horse population is more than 8 times the low limit of the AML range. Approximately 191 of the 505 wild horses observed during the April 2010 population inventory were located outside the HMA boundary and utilization in this area was heavy.

Rangeland resources and wild horse health have been and are currently being affected within the Silver King HMA. Utilization data using Range Utilization Key Forage Plant Method (KFPM) over the last three years has indicated moderate (41-60%) and heavy (61-80%) utilization attributable to wild horses. Monitoring in April 2010 shows that wild horse use has resulted in moderate (41-60%) utilization of vegetation on 36% of the HMA, heavy utilization (61-80%) in 36% of the HMA, and severe (81-100%) utilization in 10% of the HMA. In 2006, during the first year of the Kixmiller Fire Emergency Stabilization and Rehabilitation project, although livestock were entirely excluded from the area under a three-year closure agreement, utilization of key forage species was still found to be in the moderate range due to wild horses and elk. Utilization levels have been light to moderate within other areas of the HMA that are not key wild horse use areas. Multiple rangeland health evaluation and riparian write-ups identify wild horses as one of the contributing factors in non-achievement of rangeland health management objectives. These evaluations and write-up are available at the SFO and CFO Offices.

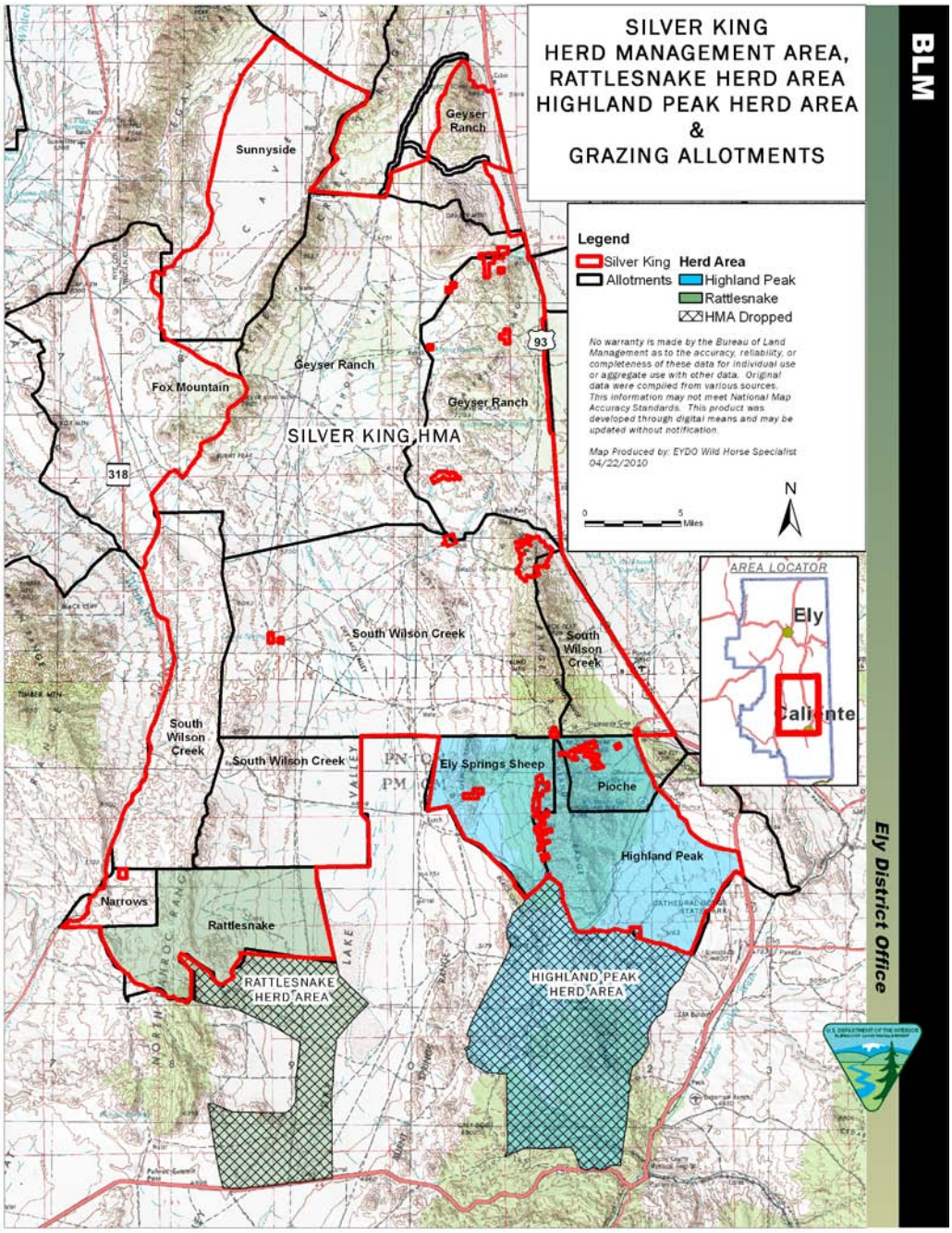
Photograph showing Winterfat site Dry Lake Valley (severe horse use) 4-8-2010

Photograph showing Kixmiller fire rehabilition area
4-18-2010(heavy/severe horse use).

Based upon all information available at this time, the BLM has determined that 445 excess wild horses exist within this HMA and need to be removed in order to achieve the established AMLs, restore a Thriving Natural Ecological Balance and prevent further degradation of rangeland resources resulting from the current overpopulation of wild horses. This assessment is based on factors including, but not limited to the following rationale:

- Silver King's direct count of 505 wild horses in April 2010, showed 445 horses in excess of the AML lower limit
- Moderate to Heavy utilization is evident on key forage species
- Excess horse numbers have resulted in horses residing outside HMA boundaries
- The excess wild horse population is adversely impacting fire rehabilitation efforts
- The excess wild horse population poses public safety risks along HWY 93
- BLM is not able to achieve the rangeland health standards for the public lands in and around the Silver King HMA or ensure a thriving natural ecological balance without removing the excess wild horses

Map 1



1.3 Purpose and Need

The purpose and need of the Proposed Action is to remove excess wild horses from within the Silver King HMA and to remove all horses that have moved outside the HMA. This action is needed in order to achieve a population size within the established AML, protect rangeland resources from further deterioration or impacts associated with excess wild horses within the HMA, and restore a thriving natural ecological balance and multiple use relationship in the area under consistent with the provisions of Section 3(b) (2) of the *Wild Free-Roaming Horses and Burros Act of 1971* (1971 WFRHBA).

The need for the action is to prevent unnecessary or undue degradation of the public lands and to protect rangeland resources from deterioration associated with excess populations of wild horses within the HMA and use of rangeland resources by horses outside the HMA boundaries.

The Proposed Action would help achieve objectives identifies through the Record of Decision (ROD) and Approved Ely District Resource Management Plan (August 2008). WH-4 Manage wild horses within six herd management areas designated from herd areas…. WH-5 Remove wild horses and drop herd management area status for those areas that do not provide sufficient habitat resources to sustain healthy populations…

1.4 Conformance with BLM Land Use Plan(s)

The Proposed Action is in conformance with the 2008 Ely District ROD and Approved RMP (August 2008) as required by regulation (43 CFR 1610.5-3(a)) as follows:

- **Goal:** "Maintain and manage health, self-sustaining wild horse herds inside herd management areas within appropriate management levels to ensure a thriving natural ecological balance while preserving a multiple-use relationship with other uses and resources."
- **Objective:** "To maintain wild horse herds at appropriate management levels within herd management areas where sufficient habitat resources exist to sustain healthy populations at those levels."

1.5 Relationship to Statutes, Regulations, or other Plans

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

- Lincoln 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)
- Mojave/Southern Great Basin Resource Advisory Council (RAC) Standards and

Guidelines (February 12, 1997)
- Lincoln County Elk Management Plan (2006 revision)
- Endangered Species Act – 1973
- Wilderness Act – 1964
- National Environmental Policy Act of 1969 (as amended
- Migratory Bird Treaty Act (1918 as amended) and Executive Order 13186 (1/11/01)
- Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.)
- Lincoln County Public Land and Natural Resource Management Plan as adopted by the Board of County Commissioners of Lincoln County (December 5, 1997).
- Taylor Grazing Act (TGA) of 1934
- Federal Land Policy and Management Act (FLPMA) of 1976 (43 U.S.C. 1701 et seq.)
- Public Rangelands Improvement Act (PRIA) of 1978
- Title 43 CFR 4100 Grazing Administration-Exclusive of Alaska
- American Indian Religious Freedom Act of 1979
- Archaeological Resource Protection Act of 1979
- National Historic Preservation Act of 1966, as amended
- Appropriations Act, 2001 (114 Stat. 1009) (66 Fed. Reg. 753, January 4, 2001)
- United States Department of the Interior Manual (910 DM 1.3).
- Fundamentals of Rangeland Health (43 CFR 4180)

The Proposed Action is consistent with all applicable regulations at 43 CFR (Code of Federal Regulations) 4700 and policies. The proposed action is also consistent with the Wild Free Roaming Horse and Burro Act of 1971, which mandates the Bureau to "*prevent the range from deterioration associated with overpopulation*", and "*remove excess horses in order to preserve and maintain a thriving natural ecological balance and multiple use relationships in that area"*. Additionally, Promulgated Federal Regulations at Title 43 CFR 4700.0-6 (a) state "*Wild horses shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat* (emphasis added)."

The proposed action is in conformance with both statute and regulations.

2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION

2.1 Introduction:

2.2 Alternative A: Proposed Action – Selective Removal of Excess Animals (Low Point AML); Apply Two-Year Fertility Control, & 60% Male Sex Ratio

The Proposed Action would gather and remove approximately 85-88% of the current population or approximately 445 excess wild horses within the Silver King HMA and apply population controls for up to 20 wild horses remaining in the HMA. If gather efficiencies exceed 445 wild horses, selective removal criteria would be used to return horses to the range. Of these, about 60% would be studs, with the remainder of these being mares treated with fertility control

(Porcine Zona Pellucida (PZP-22)) prior to their return. In compliance with the Ely District RMP, the southern portions of the Highland Peak and Rattlesnake HAs that are no longer going to be managed for wild horses will be gathered to an AML of zero at this time. If gather efficiencies do not allow for the attainment of the Proposed Action in Fall 2010, the Ely District will return to the Silver King HMA in 2012 or 2013 to remove any additional wild horses necessary in order to achieve the the low range of AML as well as to allow BLM to gather a sufficient number of wild horses so as to implement the population control component of the proposed action (fertility control treatments (PZP-22) and sex ratio adjustments for wild horses remaining in the HMA). Any follow-up gather activities in either Fall 2012 or 2013 would be conducted in a manner consistent with those described for the Fall 2010 gather. A follow-up gather would be implemented two years after the Fall 2010 gather because the remaining and released wild horses would have a heightened response to human presence and be more difficult to gather in the year immediately following the Fall 2010 gather. Funding limitations and competing priorities might also require pushing out the follow-up gather and population control component of the Proposed Action to Fall 2013.

Excess wild horses would be selected for removal from the range based on the following priority: age class 4 and younger would be removed first, animals age 5-10 are the lowest priority for removal and would only be removed if needed to achieve AML, animals 11-19 would only be removed if needed to achieve AML, and animals 20 and older should not be removed from the HMA unless specific exceptions prevent them from being turned back and left on the range. Animals displaying characteristics associated with Spanish Barb descent, regardless of age, would be selected for release back to the range, unless the lower limit of AML could not be achieved without their removal. Herd health, and characteristics data would be collected as part of continued monitoring of the wild horse herd.

Due to the mountainous terrain and heavy tree cover, it may not be possible to achieve the necessary gather efficiency to achieve the proposed gather in the Fall of 2010. Population gather projections show that at 80% gather efficiency (i.e, 80% of the current population of 505 or 404 horses gathered) an insufficient number of wild horses may be gathered to allow for the release of horses back onto the range to implement fertility control and sex ratios adjustments and still achieve the low range of AML. It may therefore be necessary to return for a second, more limited, gather after BLM completes a post-gather census and the wild horses have had an opportunity to return to their normal routines. Because wild horses will remain skittish for a period following a gather, BLM would return in fall 2011 or 2012 to complete the proposed action of bringing the wild horse population to low range AML and applying population controls to slow the rate of population growth among the Silver King HMA herd.

Wild horses residing outside the Silver King HMA would be gathered and removed. Approximately fifty of these horses routinely move into the Hwy 93 corridor and cause public safety issues. Numerous reports have been brought to the Ely District's attention about horses being hit or spotted on the highway. Excess wild horses have negatively impacted the range conditions in the area.

The primary gather technique would be the helicopter-drive trapping method. The use of roping from horseback could also be used when necessary. Multiple gather sites (traps) would be used to gather wild horses both from within or outside the HMA. Bait or water trapping may be used at a later date in order to achieve AML after the initial gather attempt or to remove animals causing public safety problems. No trap sites would be set up in sage grouse leks, riparian areas, cultural resource sites, or Congressionally Designated Wilderness Areas. Gather sites would be located in previously disturbed areas. All trap sites, holding facilities, and camping areas on public lands would be recorded with Global Positioning System equipment and monitored during the next several years for noxious weeds. All gather and handling activities (including gather site selections) will be conducted in accordance with Standard Operating Procedures (SOPs) in Appendix IV.

Other data, including sex and age distribution, reproduction, condition class information (using the Henneke rating system), color, size and other information may also be recorded.

Gathered wild horses would be transported to BLM holding facilities where they will be prepared for adoption and/or sale to qualified individuals who can provide them with a good home or to long term holding (grassland pastures).

Temporary closure of roads within the HMA during gather operations may be Instituted as necessary under 43 C.F.R. 8364.1, to allow for safe and effective operations to proceed.

2.3 Alternative B: Remove Excess Animals (Low Point AML) Without Fertility Control

Alternative B would be similar to Alternative A. Once approximately 445 excess wild horses are gathered and removed, the gather would conclude. No wild horses would be released with PZP - 22 fertility control and sex ratios would not be adjusted. All wild horses residing outside the Silver King HMA would be gathered and removed. All the wild horses would be transported to BLM holding facilities where they will be prepared for adoption and/or sale to qualified individuals who can provide them with a good home or to long term holding (grassland pastures). These actions would be the same as in the proposed action.

2.4 No Action Alternative – Continuation of Existing Management

Under the No Action Alternative, a gather to remove excess wild horses would be deferred. Damage to the range as a result of the current wild horse population would continue to increase as wild horse populations grow at an average rate of 20-25% per year. In two years, the wild horse population would exceed 728 head or 6 times over AML (upper limit). The BLM would continue vegetation and population monitoring. Wild horses currently residing outside the Silver King HMA would remain outside the HMA boundaries impacting rangeland resources and continuing to pose a safety concern along Highway 93.

As monitoring data shows rangeland deterioration resulting from the current population of wild horses and BLM has determined that excess wild horses are present in the Silver King HMA, and continue to pose a safety concern.
The No Action Alternative would not be in conformance with existing law and regulation which requires the authorized officer to remove the animals immediately upon determination that excess wild horses are present. However, the No Action Alternative is required by National Environmental Policy Act (NEPA) analysis to provide a baseline for impact analysis.

The No Action is also contrary to the management decisions set in the Record of Decision (ROD) and Approved Ely District Resource Management Plan (August 2008) by allowing wild horses to remain outside the boundaries of the HMA and by failing to remove excess horses so as to achieve a population range within the established AML. Under the no action alternative, the Ely RMP decision WH-4 Manage wild horses within six herd management areas designated from herd areas….and WH-5 Remove wild horses and drop herd management area status for those areas that do not provide sufficient habitat resources to sustain healthy populations…would not be achieved at this time.

2.5 Alternatives Considered But Eliminated From Detailed Analysis

Use of Bait and/or Water Trapping

An alternative considered but dismissed from detailed analysis was use of bait and/or water trapping as the primary gather method. This alternative was dismissed from detailed study for the following reasons: (1) the size of the area at 606,000 acres is too large to use this method; (2) access for vehicles necessary to safely transport gathered wild horses is limited ; and (3) the presence of water sources on both private and public lands inside and outside the HMA would make it almost impossible to restrict wild horse access to only water trap sites to the extent needed to effectively gather and remove the excess animals. For these reasons, this alternative was determined to not be an effective or feasible method for gathering wild horses from the Silver King HMA.

Gather and Remove Excess Wild Horses Ages 0-4 years and Apply Two-Year PZP on a Three Year Gather Cycle

An alternative proposal raised in scoping comments to gather as many wild horses within the HMA as possible, apply two-year PZP (PZP-22) to breeding age mares, and only remove excess horses ranging from 0 to 4 years old was modeled using a three year gather/treatment interval over a 10 year period. Based on this modeling, this alternative would not result in attainment of the AML ranges for the HMAs and the wild horse populations would continue to have an average population growth rate of 7.8% to 13.9%, adding to the current wild horse overpopulation, albeit at a slower rate of growth than the No Action alternative. This alternative would not resolve the existing overpopulation of wild horses, resource concerns and rangeland deterioration would continue, and implementation of this alternative would result in significantly increased gather and fertility control costs relative to the alternatives that remove excess wild horses to the AML range. For these reasons, this alternative was eliminated from detailed

analysis.

Gather and Release Excess Wild Horses Every Two Years and Apply Two-Year PZP to Horses For Release.

Another alternative to gather a significant portion of the existing population (90%) and implement fertility control treatment only, without removal of excess horses was modeled using a two-year gather/treatment interval over a 10 year period. Based on WinEquus population modeling, this alternative would not result in attainment of AML for the HMA and the wild horse population would continue to have an average population growth rate of 2.5-11.5% adding to the current wild horse overpopulation, albeit at a slower rate of growth than the No Action Alternative. The modeling reflected an average population size in 11 years of 560 to 1152 wild horses under a two year treatment interval. This alternative would not decrease the existing overpopulation of wild horses, resource concerns and Rangeland deterioration would continue, and implementation would result in significantly increased gather and fertility control costs relative to the alternatives that remove excess wild horses to the AML range. In addition to not achieving AML, the time needed to complete a gather would also increase over time, because the more frequently an area is gathered, the more difficult wild horses are to trap. They become very evasive, and learn to evade the helicopter by taking cover in treed areas and canyons. Wild horses would also move out of the area when they hear a helicopter, thereby further reducing the overall gather efficiency. Frequent gathers would increase the stress to wild horses, as individuals and as entire herds. It would become increasingly more difficult over time to repeat gathers every two years to successfully treat a large portion of the population. For these reasons, this alternative was dropped from detailed study.

Remove or Reduce Livestock within the HMAs

This alternative would involve no removal of wild horses and instead address the excess wild horse numbers through the removal or reduction of livestock within the HMAs. This alternative was not brought forward for detailed analysis because it is outside of the scope of the analysis, and is inconsistent with the 2008 Ely District ROD Approved RMP (August 2008), and the WHBA which directs the Secretary to immediately remove excess wild horses, and is inconsistent with multiple use management. Livestock grazing can only be reduced or eliminated following the process outlined in the regulations found at 43 CFR Part 4100 and would require a change in the recently approved Ely RMP. Such changes to livestock grazing cannot be made through a wild horse gather decision.

Final Multiple Use Decisions (FMUDs) were issued for allotments within the Silver King HMA. These decisions established stocking rates for wild horses and livestock. The decisions also established seasons of use, areas of use, kind and class of livestock and management actions to improve livestock distribution. These management actions included the establishment of grazing systems, allowable use levels, salting and herding practices. Livestock reductions through the Multiple Use Decision process were implemented on allotments within the Silver King HMA. Livestock grazing continues to be evaluated for allotments and use areas within the Silver King HMA. Monitoring and evaluation of livestock grazing is in accordance with the Ely District

Record of Decision and Approved Resource Management Plan dated August 20, 2008. This action is specifically provided for in Management Decisions LG-4 and LG-5.

The goals and objectives for livestock grazing found in the Ely District Record of Decision and Approved Resource Management Plan signed August 20, 2008, states, "Manage livestock grazing on public lands to provide for a level of livestock grazing consistent with multiple use, sustained yield, and watershed function and health." In addition, "To allow livestock grazing to occur in a manner and at levels consistent with multiple use, sustained yield, and the standards for rangeland health (p 85-86)."

Management Action LG-4 states, "Continue to monitor and evaluate allotments to determine if they are continuing to meet or are making significant progress toward meeting the standards for rangeland heath. Table E-1 in Appendix E shows the current grazing preference, season-of-use, and kind of livestock for those allotments that currently are evaluated for meeting standards, are making progress toward achieving the standards, or are in conformance with the policies as determined either through the allotment evaluation process or associated with fully processed term permit renewals. Changes, such as improved livestock management, new range improvement projects, and changes in the amount and kinds of forage permanently available for livestock use, can lead to changes in preference, authorized season-of-use, kind of livestock. Such changes will continue to meet the RMP goals and objectives, including the standards for rangeland health."

Management Action LG-5 states, "Maintain the current grazing preference, season-of-use, and kind of livestock until the allotments that have not been evaluated for meeting or making progress toward meeting the standards or are in conformance with the policies are evaluated. Depending on the results of the standards assessment, maintain or modify grazing preference, seasons-of-use, kind of livestock and grazing management practices to achieve the standards for rangeland health. Changes, such as improved livestock management, new range improvement projects, and changes in the amount and kinds of forage permanently available for livestock use, can lead to changes in preference, authorized season-of-use, or kind of livestock. Ensure changes continue to meet the RMP goals and objectives, including the standards for rangeland health."

The BLM is currently authorized to remove livestock from HMA "if necessary to provide habitat for wild horses or burros, to implement herd management actions, or to protect wild horses or burros from disease, harassment or injury" under CFR 4710.5. This authority is usually applied in cases of emergency and not for general management of wild horses or burros in a manner that would be inconsistent with the land-use plan and separate decisions establishing the appropriate levels of livestock grazing and wild horse use respectively. Available data also indicates that wild horse use – including where livestock use has been excluded – has resulted in excessive vegetative utilization and impacts to rangelands that are recovering from wildfire.

Gathering the HMA to upper range of AML

A post-gather population size at the upper level of the AML range would result in the AML

being exceeded with the next foaling season (summer 2011). This would be unacceptable for several reasons.
The AML represents "that 'optimum number' of wild horses which results in a thriving natural ecological balance and avoids a deterioration of the range." Animal Protection Institute, 109 IBLA 119 (1989). The Interior Board of Land Appeals has also held that "Proper range management dictates removal of horses before the herd size causes damage to the range land. Thus, the optimum number of horses is somewhere below the number that would cause resource damage" Animal Protection Institute, 118 IBLA 63, 75 (1991).

The upper level of the AML established for the HMA within the HMA represent the maximum population for which thriving natural ecological balance would be maintained. The lower level represents the number of animals to remain in the HMA following a wild horse gather in order to allow for a periodic gather cycle, and to prevent the population from exceeding the established AML between gathers.

Additionally, gathering to the upper range of AMLs, would result in the need to follow up with another gather within one year (with resulting stress on the wild horse population), and could result in overutilization of vegetation resources and damage to the rangeland if BLM is unable to gather the excess horses in the HMA on an annual basis. This alternative would not reduce the wild horse population growth rate of 20-25% in the Silver King HMA and BLM would not be able to conduct periodic gathers and still maintain a thriving natural ecological balance. For these reasons, this alternative did not receive further consideration in this document.

Wild Horse Numbers Controlled by Natural Means
This alternative was eliminated from further consideration because it is contrary to the WFRHBA which requires the BLM to prevent the range from deterioration associated with an overpopulation of wild horses. It is also inconsistent with the 2007 Ely RMP and 2003 Wild Horse Amendment which directs that Ely District BLM conduct gathers as necessary to achieve and maintain AML. The alternative of using natural controls to achieve a desirable AML has not been shown to be feasible in the past. Wild horses in the Silver King HMA are not substantially regulated by predators. In addition, wild horses are a long-lived species with documented foal survival rates exceeding 95% and they are not a self-regulating species. This alternative would result in a steady increase in numbers which would continually exceed the carrying capacity of the range until severe and unusual conditions that occur periodically-- such as blizzards or extreme drought-- cause catastrophic mortality of wild horses.

3.0 AFFECTED ENVIRONMENT/ENVIRONMENTAL EFFECTS

General Setting

The Silver King HMA is located in northeastern Lincoln County, Nevada approximately 60 air miles south of Ely, and 10 miles northwest of Caliente. The area is within the Great Basin physiographic regions, characterized by a high, rolling plateau underlain by basalt flows covered

with a thin loess and alluvial mantle. On many of the low hills and ridges that are scattered throughout the area, the soils are underlain by bedrock. Elevations within the Silver King HMA range from approximately 5,000 feet to 9,500 feet. Annual precipitation ranges from approximately 7 inches on some of the valley bottoms to 20 inches on the mountain peaks. Most of this precipitation comes during the winter and spring months in the form of snow, supplemented by localized thunderstorms during the summer months. Temperatures range from greater than 100 degrees Fahrenheit in the summer months to minus 20 degrees in the winter. The area is also utilized by domestic livestock under terms and conditions outlined in grazing permits and numerous wildlife species.

Table 2 summarizes which of the critical elements of the human environment and other resources of concern within the project area are present, not present or not affected by the proposed action.

Identification of Issues:

Internal scoping was conducted by an interdisciplinary (ID) team on May 10, 2010 that analyzed the potential consequences of the Proposed Action. 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 Schell and Caliente Field Offices in particular.

Table 2. Summary of Critical and Other Elements of the Human Environment

Resource/Concern	Issue(s) Analyzed? (Y/N)	Rationale for Dismissal from Detailed Analysis or Issue(s) Requiring Detailed Analysis
Air Quality	N	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. Particulate matter (dust) from the wild horse gather is expected to be similar to that occurring from normal herd movements, and any increase in particulate matter that might occur from herding the horses to the trap sites would be short term (temporary) and minimal in nature.
Areas of Critical Environmental Concern (ACEC)	N	Not present in the designated HA boundaries.
Cultural Resources	N	All cultural sites would be avoided through a pre-gather survey. Cultural resources around springs would be better protected with excess wild horse removal. A needs Assessment has been completed.
Forest Health	N	Project has a negligible impact directly, indirectly and cumulatively to forest health. Detailed analysis not

		required.
Migratory Birds	N	Proposed action would be planned to occur outside of Migratory Bird nesting season.
Native American Religious and other Concerns	N	No potential traditional religious or cultural sites of importance have been identified in the project according to the Ely District RMP Ethnographic report (2003).
Wastes, Hazardous or Solid	N	No hazardous or solid wastes exist on the permit renewal area, nor would any be introduced.
Water Quality, Drinking/Ground	N	No affects to water quality are expected. Project would avoid spring, riparian, and stream locations.
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.
Farmlands, Prime and Unique	N	There are soils within the HMA that have been designated by the Natural Resource Conservation Service as meeting the requirements to be considered prime farmlands. Localized trampling of these soils may occur at the trap sites. The proposed action will not contribute either directly or indirectly to loss of these potential farmlands. Effects resulting from the proposed action would not alter the composition or character of potential prime or unique farmlands.
Threatened and Endangered Species	N	Not present.
Wetlands/Riparian Zones	Y	Analysis in EA
Non-native Invasive and Noxious Species	Y	Analysis in EA
Wilderness/WSA	Y	Analysis in EA
Human Health and Safety	N	No analysis needed as no safety concerns are expected, but a risk management worksheet will be prepared to mitigate any hazards that may present themselves
Wild and Scenic Rivers	N	Not Present
Special Status Animal Species, other than those listed or proposed by the FWS as threatened or Endangered.	Y	Analysis in EA
Special Status Plant Species, other than those listed or proposed by the FWS as Threatened or Endangered.	Y	Analysis in EA

Also, ACECs designated to protect special status plant species.		
Fish and Wildlife	Y	Analysis in EA
Wild Horses	Y	Analysis in EA
Soils/Watershed	Y	Analysis in EA
Livestock Grazing	Y	Analysis in EA
Water Resources (Water Rights)	N	No effects to water rights will occur. See analysis of riparian zones for impacts to water resources.
Mineral Resources	N	There would be no modifications to mineral resources through the proposed action.
Vegetative Resources	Y	Analysis in EA

4.0 Affected Environment and Environmental Consequences

The following critical or other elements of the human environment are present and may be affected by the proposed action or the alternatives. The affected environment is described as a baseline for the impact analysis.

A. Wild Horses

Affected Environment

Wild horses are introduced species within North America and have few natural predators. Few natural controls act upon wild horse herds making them very competitive with native wildlife and other living resources managed by the BLM. Population inventory flights have been conducted in the Silver King HMA every two to three years. These population inventory flights have provided information pertaining to population numbers, foaling rates, distribution, and herd health. A population inventory was conducted in April 2010 on the Silver King HMA the and using a direct count method, BLM observed 505 wild horses. The current wild horse population of 505 wild horses is approximately 8.4 times over the low range of - AML including - wild horses currently residing outside the - HMA boundaries. The horses residing outside the Silver King HMA are located along Hwy 93 and causing public safety issues. Numerous reports have been brought to the Ely District attention about horses being hit or spotted on the highway. Monitoring data shows that wild horses have negatively impacted range conditions in the area. The horses within the HMA have a Body Condition Score (BCS) of 3-4 based on the Henneke Body Condition Chart. Genetic baseline data will need to be collected to establish the genetic diversity of the wild horses within the Silver King HMA. Last winter, wild horse use of many key areas of the HMA was moderate to heavy. Above average moisture received in the spring increased forage production, which prevented a catastrophic loss of wild horses in the HMA. If the area receives less moisture than average or a really cold winter the horse's lives may be at risk.

Population modeling was completed for the Silver King HMA to analyze how the alternatives would affect the wild horse population. This modeling analyzed removals of excess wild horses with no fertility control, as compared to removals of excess wild horses with fertility control and sex ratio adjustments for released horses. The No Action (no removal) alternative was also modeled. One objective of the modeling was to identify if any of the alternatives "crash" the population or cause extremely low population numbers or growth rates. Minimum population levels and growth rates were found to be within reasonable levels and adverse impacts to the population are not likely. Graphic and tabular results are also displayed in detail in Appendix V.

Table 10. WinEquus Population Model Results for Silver King HMA

Alternative	Minimum Populations	Average Populations	Maximum Populations	Average Growth Rates	Gathered	Removed	Treated
Alternative A Proposed Action (Remove to Low point of AML, Adjust Sex raito 60-40 & Fertility Control	46-79	139-204	506-720	7.0-19.0	631-935	439-768	39-93
Alternative B Remove Excess Animals (Low Point AML Without Fertility Control)	49-79	137-191	508-739	14.0-25.9	527-826	509-801	0
Alternative C No Action (No Removal & No Fertility Control)	506-790	1250-2474	2522-6123	16.3-24.9	0	0	0

Environmental Impacts

Proposed Action – The Proposed Action would remove excess wild horses within the HMA and outside the Silver King HMA boundary. Under this alternative, excess wild horses would be removed to the lower range of the AML. The Sex ratio of animals released back to the range following the gather would be slightly adjusted in favor of males, and fertility control would be applied to all breeding age mares that are released. Successful implementation of this alternative requires a 90-95% gather rate in order to have enough animals available for release post-gather. Historically, gather efficiencies have averaged about 80% on this HMA; at this level of efficiency, all the wild horses gathered would need to be removed in order to restore population

size to within the established AML. If gather efficiencies do not allow for the attainment of the Proposed Action in Fall 2010, the Ely District will return to the Silver King HMA in Fall 2012 or Fall 2013 to gather wild horses from the HMA in order to achieve the desired goal of reaching the low range of AML as well as to gather a sufficient number of remaining horses to implement fertility control treatments and make sex ratio adjustments to control population growth.

Assuming enough animals could be gathered in Fall 2010 or in a follow-up gather in Fall 2012 or 2013 to allow animals to be released post gather all mares selected for release would be treated with a two-year PZP-22 or similar vaccine and released back to the range. Immunocontraceptive treatments would be conducted in accordance with the approved standard operating and post-treatment monitoring procedures (SOPs, Appendix II). Mares would be selected to maintain a diverse age structure, herd characteristics and conformation (body type).

Studs selected for release would be released to increase the post-gather sex ratio to approximately 60% studs in the remaining herds. Studs would be selected to maintain a diverse age structure, herd characteristics and body type (conformation).

Decreased competition for forage, coupled with reduced reproduction as a result of fertility control should result in improved health and condition of mares and foals and in maintaining healthy range conditions over the longer-term. Additionally, reduced reproduction rates would be expected to extend the time interval between gathers and reduce disturbance to individual animals as well as herd social structure over the foreseeable future.

This would reduce damage to the range from the current overpopulation of wild horses and allow vegetation resources time to recover over the next 4-5 years, without the need for additional gathers once the proposed action is complete. As a result, there would be fewer disturbances to individual animals and the herd, and a more stable wild horse social structure would be provided.

Removal of excess wild horses would also improve herd health. Less competition for forage and water resources would reduce stress and promote healthier animals. Mares would continue to foal normally following the gather.

Impacts to individual animals may occur as a result of handling stress associated with the gather, gather, processing, and transportation of animals. The intensity of these impacts varies by individual and is indicated by behaviors ranging from nervous agitation to physical distress. Mortality to individuals from this impact is infrequent but does occur in one half to one percent of wild horses gathered in a given gather. Other impacts to individual wild horses include separation of members of individual bands of wild horses and removal of animals from the population. The impacts to individual animals from a follow-up gather are expected to be the same as those from the Fall 2010 gather.

Indirect impacts can occur to horses after the initial stress event, and may include increased social displacement, or increased conflict between studs. These impacts are known to occur

intermittently during wild horse gather operations. Traumatic injuries may occur, and typically involve biting and/or kicking bruises, which do not break the skin.

Temporary Holding Facilities During Gathers
Wild horses gathered would be transported from the trap sites to a temporary holding corral within the HMA in goose-neck trailers or straight-deck semi-tractor trailers. At the temporary holding corral, the wild horses will be aged and sorted into different pens based on sex. The horses will be provided ample supply of good quality hay and water. Mares and their un-weaned foals will be kept in pens together. All horses identified for retention in the HMA will be penned separately from those animals identified for removal as excess. All mares identified for release will be treated with fertility control vaccine in accordance with the Standard Operating Procedures (SOPs) for Fertility Control Implementation in Appendix II.

At the temporary holding facility, a veterinarian, when present, will provide recommendations to the BLM regarding care, treatment, and if necessary, euthanasia of the recently captured wild horses. Any animals affected by a chronic or incurable disease, injury, lameness or serious physical defect (such as severe tooth loss or wear, club foot, and other severe congenital abnormalities) would be humanely euthanized using methods acceptable to the American Veterinary Medical Association (AVMA).

Transport, Short Term Holding, and Adoption Preparation
Wild horses removed from the range as excess would be transported to the receiving short-term holding facility in a goose-neck stock trailer or straight-deck semi-tractor trailers. Trucks and trailers used to haul the wild horses will be inspected prior to use to ensure wild horses can be safely transported. Wild horses will be segregated by age and sex when possible and loaded into separate compartments. Mares and their un-weaned foals may be shipped together. Transportation of recently captured wild horses is limited to a maximum of 8 hours. During transport, potential impacts to individual horses can include stress, as well as slipping, falling, kicking, biting, or being stepped on by another animal. Unless wild horses are in extremely poor condition, it is rare for an animal to die during transport.

Upon arrival, recently captured wild horses are off-loaded by compartment and placed in holding pens where they are fed good quality hay and water. Most wild horses begin to eat and drink immediately and adjust rapidly to their new situation. At the short-term holding facility, a veterinarian provides recommendations to the BLM regarding care, treatment, and if necessary, euthanasia of the recently captured wild horses. Any animals affected by a chronic or incurable disease, injury, lameness or serious physical defect (such as severe tooth loss or wear, club foot, and other severe congenital abnormalities) that was not diagnosed previously at the temporary holding corrals at the gather site would be humanely euthanized using methods acceptable to the AVMA. Wild horses in very thin condition or animals with injuries are sorted and placed in hospital pens, fed separately and/or treated for their injuries. Recently captured wild horses, generally mares, in very thin condition may have difficulty transitioning to feed. A small percentage of animals can die during this transition; however, some of these animals are in such

poor condition that it is unlikely they would have survived if left on the range.

After recently captured wild horses have transitioned to their new environment, they are prepared for adoption or sale. Preparation involves freeze-marking the animals with a unique identification number, vaccination against common diseases, castration, and de-worming. During the preparation process, potential impacts to wild horses are similar to those that can occur during transport. Injury or mortality during the preparation process is low, but can occur.

At short-term corral facilities, a minimum of 700 square feet is provided per animal. Mortality at short-term holding facilities averages approximately 5% (GAO-09-77, Page 51), and includes animals euthanized due to a pre-existing condition, animals in extremely poor condition, animals that are injured and would not recover, animals which are unable to transition to feed; and animals which die accidentally during sorting, handling, or preparation.

Adoption
Adoption applicants are required to have at least a 400 square foot corral with panels that are at least six feet tall. Applicants are required to provide adequate shelter, feed, and water. The BLM retains title to the horse for one year and the horse and facilities are inspected. After one year, the applicant may take title to the horse at which point the horse become the property of the applicant. Adoptions are conducted in accordance with 43 CFR § 5750.

Sale with Limitation
Buyers must fill out an application and be pre-approved before they may buy a wild horse. A sale-eligible wild horse is any animal that is more than 10 years old; or has been offered unsuccessfully for adoption at least 3 times. The application also specifies that all buyers are not to sell to slaughter buyers or anyone who would sell the animals to a commercial processing plant. Sale of wild horses are conducted in accordance with the 1971 WFRHBA and congressional limitations.

Long Term Pastures
During the past 3 years, the BLM has removed 19,414 excess wild horses or burros from the Western States. Most animals not immediately adopted or sold have been transported to long-term grassland pastures in the Midwest.

Potential impacts to wild horses from transport to adoption, sale or Long Term Pastures (LTP) are similar to those previously described. One difference is that when shipping wild horses for adoption, sale or LTP, animals may be transported for a maximum of 24 hours. Immediately prior to transportation, and after every 24 hours of transportation, animals are offloaded and provided a minimum of 8 hours on-the-ground rest. During the rest period, each animal is provided access to unlimited amounts of clean water and 2 pounds of good quality hay per 100 pounds of body weight with adequate bunk space to allow all animals to eat at one time. The rest period may be waived in situations where the anticipated travel time exceeds the 24-hour limit but the stress of offloading and reloading is likely to be greater than the stress involved in the

additional period of uninterrupted travel.

Long-term grassland pastures are designed to provide excess wild horses with humane, and in some cases life-long care in a natural setting off the public rangelands. There wild horses are maintained in grassland pastures large enough to allow free-roaming behavior and with the forage, water, and shelter necessary to sustain them in good condition. About 22,700 wild horses, that are in excess of the current adoption or sale demand (because of age or other factors such as economic recession), are currently located on private land pastures in Oklahoma, Kansas, and South Dakota. Establishment of LTP was subject to a separate NEPA and decision-making process. Located in mid or tall grass prairie regions of the United States, these LTP are highly productive grasslands compared to more arid western rangelands. These pastures comprise about 256,000 acres (an average of about 10-11 acres per animal). Of the animals currently located in LTP, less than one percent is age 0-4 years, 49 percent are age 5-10 years, and about 51 percent are age 11+ years.

Mares and sterilized stallions (geldings) are segregated into separate pastures except at one facility where geldings and mares coexist. Although the animals are placed in LTP, they remain available for adoption or sale to qualified individuals; and foals born to pregnant mares in LTP are gathered and weaned when they reach about 8-12 months of age and are also made available for adoption. The LTP contracts specify the care that wild horses must receive to ensure they remain healthy and well-cared for. Handling by humans is minimized to the extent possible although regular on-the-ground observation by the LTP contractor and periodic counts of the wild horses to ascertain their well being and safety are conducted by BLM personnel and/or veterinarians. A very small percentage of the animals may be humanely euthanized if they are in very poor condition due to age or other factors. Although horse residing on LTP facilities live longer, on the average, than wild horses residing on public rangelands, natural mortality of wild horses in LTP averages approximately 8% per year, but can be higher or lower depending on the average age of the horses pastured there (GAO-09-77, Page 52).

Euthanasia and Sale Without Limitation
While euthanasia and sale without limitation has been limited by Congressional appropriations, it is allowed under the WFRHBA. Neither option is available for horses under the Department of the Interior's fiscal year 2010 budgetary appropriations.

Wild Horses Remaining or Released into the HMA following Gather
Under the Proposed Action, the post-gather population of wild horses would be about 60 wild horses, which is the low range of the AML for the Silver King HMA. Reducing population size would also ensure that the remaining wild horses are healthy and vigorous, and not at risk of death or suffering from starvation due to insufficient habitat coupled with the effects of frequent drought (lack of forage and water).

The wild horses that are not captured may be temporarily disturbed and move into another area during the gather operations. With the exception of changes to herd demographics, direct

population wide impacts have proven, over the last 20 years, to be temporary in nature with most if not all impacts disappearing within hours to several days of when wild horses are released back into the HMA. No observable effects associated with these impacts would be expected within one month of release, except for a heightened awareness of human presence.

As a result of lower density of wild horses across the HMA following the removal of excess horses, competition for resources would be reduced, allowing wild horses to utilize preferred, quality habitat. Confrontations between stallions would also become less frequent, as would fighting among wild horse bands at water sources. Achieving the AML and improving the overall health and fitness of wild horses could also increase foaling rates and foaling survival rates over the current conditions.

The primary effects to the wild horse population that would be directly related to this proposed gather would be to herd population dynamics, age structure or sex ratio, and subsequently to the growth rates and population size over time.

The remaining wild horses not captured would maintain their social structure and herd demographics (age and sex ratios). No observable effects to the remaining population associated with the gather impacts would be expected except a heightened shyness toward human contact.

Impacts to the rangeland as a result of the current overpopulation of wild horses would be reduced under the two gather and removal alternatives. Fighting among stud horses would decrease since they would protect their position at water sources less frequently; injuries and death to all age classes of animals would also be expected to be reduced as competition for limited forage and water resources is decreased.

Indirect individual impacts are those impacts which occur to individual wild horses after the initial stress event, and may include spontaneous abortions in mares, and increased social displacement and conflict in studs. These impacts, like direct individual impacts, are known to occur intermittently during wild horse gather operations. An example of an indirect individual impact would be the brief skirmish which occurs among older studs following sorting and release into the stud pen, which lasts less than two minutes and ends when one stud retreats. Traumatic injuries usually do not result from these conflicts. These injuries typically involve a bite and/or kicking with bruises which don't break the skin. Like direct individual impacts, the frequency of occurrence of these impacts among a population varies with the individual.

Spontaneous abortion events among pregnant mares following capture is also rare, though poor body condition can increase the incidence of such spontaneous abortions. Given the timing of this gather, spontaneous abortion is not considered to be an issue for the proposed gather.

A few foals may be orphaned during gathers. This may occur due to:

- The mare rejects the foal. This occurs most often with young mothers or very young foals,

- The foal and mother become separated during sorting, and cannot be matched,
- The mare dies or must be humanely euthanized during the gather,
- The foal is ill, weak, or needs immediate special care that requires removal from the mother,
- The mother does not produce enough milk to support the foal.

Oftentimes, foals are gathered that were already orphans on the range (prior to the gather) because the mother rejected it or died. These foals are usually in poor, unthrifty condition. Orphans encountered during gathers are cared for promptly and rarely die or have to be euthanized.

Nearly all foals that would be gathered would be over four months of age and some would be ready for weaning from their mothers. In private industry, domestic horses are normally weaned between four and six months of age.

Gathering the wild horses during the Fall reduces risk of heat stress, although this can occur during any gather, especially in older or weaker animals. Adherence to the SOPs as well and techniques used by the gather contractor help minimize the risks of heat stress. Heat stress does not occur often, but if it does, death can result.

Through the capture and sorting process, wild horses are examined for health, injury and other defects. Decisions to humanely euthanize animals in field situations would be made in conformance with BLM policy. BLM Euthanasia Policy IM-2009-041 is used as a guide to determine if animals meet the criteria and should be euthanized (refer to SOPs Appendix II). Animals that are euthanized for non-gather related reasons include those with old injuries (broken hip, leg) that have caused the animal to suffer from pain or which prevent them from being able to travel or maintain body condition; old animals that have lived a successful life on the range, but now have few teeth remaining, are in poor body condition, or are weak from old age; and wild horses that have congenital (genetic) or serious physical defects such as club foot, or sway back and should not be returned to the range.

Alternative B – Impacts from this alternative would be similar to the Proposed Action, however there would be no horses released, no sex ratios would be adjusted, and fertility control would not be applied. AMLs may be achieved but would exceed the high end of AMLs sooner than the proposed action.

No Action Alternative – If No Action is taken, excess wild horses would not be removed from within or outside the Silver King HMA at this time. The animals would not be subject to the individual direct or indirect impacts as a result of a gather operation in September 2010. Over the short-term, individuals in the herds would be subject to increased stress and possible death as a result of increased competition for water and forage as the wild horse population continues to grow. The number of areas experiencing severe utilization by wild horses would increase over

time. This would be expected to result in increasing damage to rangeland resources throughout the HMA. Trampling and trailing damage by wild horses in/around riparian areas would also be expected to increase, resulting in larger, more extensive areas of bare ground. Competition for the available water and forage between wild horses, domestic livestock, and native wildlife would increase.

Wild horses are a long-lived species with documented survival rates exceeding 92% for all age classes and do not have the ability to self-regulate their population size. Predation and disease have not substantially regulated wild horse population levels within or outside the Silver King HMA. Some mountain lion predation occurs, but does not appear to be substantial. Coyote are not prone to prey on wild horses unless young, or extremely weak. Other predators such as wolf or bear do not exist. As a result, there would be a steady increase in wild horse numbers for the foreseeable future, which would continue to exceed the carrying capacity of the range. Individual horses would be at greater risk of death by starvation and lack of water. The population of wild horses would compete for the available water and forage resources, affecting mares and foals most severely. Social stress would increase. Fighting among stud horses would increase as they protect their position at scarce water sources, as well as injuries and death to all age classes of animals. Significant loss of the wild horses in the HMA due to starvation or lack of water would have obvious consequences to the long-term viability of the herd. Continued decline of rangeland health and irreparable damage to vegetative, soil and riparian resources, would have obvious impacts to the future of the HMA and all other users of the resources, which depend upon them for survival. As a result, the No Action Alternative would not ensure healthy rangelands, would not allow for the management of a healthy, self-sustaining wild horse population, and would not promote a thriving natural ecological balance.

As populations increase beyond the capacity of the available habitat, more bands of horses would leave the boundaries of the HMA in search of forage and water. This alternative would result in increasing numbers of wild horses in areas not designated for their use, would be contrary to the Wild Free-Roaming Horse and Burro Act and would not achieve the stated objectives for wild horse herd management areas, to “prevent the range from deterioration associated with overpopulation”, and “preserve and maintain a thriving natural ecological balance and multiple use relationship in that area”.

B. Riparian/Wetland Areas and Surface Water Quality

Affected Environment

Riparian areas at high elevations support cottonwood and aspen woodlands. Small riparian areas and their associated plant species occur throughout the HMA near seeps, springs, and along sections of perennial drainages. Many of these areas support limited riparian habitat and water flows. Available data shows that, wild horse use of the majority of these areas currently ranges between heavy and severe use. Trampling and trailing damage by wild horses is evident at most locations; soil compaction and surface and rill erosion is evident. The current overpopulation of wild horses is increasing resource damage and preventing recovery of key sites.

Environmental Impacts

Proposed Action – To avoid the direct and indirect impacts potentially associated with the gather operation, temporary trap sites and holding/processing facilities would not be located within riparian areas.

Managing the wild horse populations within the established AML over the next 4 years would be expected to initiate recovery of damaged riparian habitats. The amount of trampling/trailing would be reduced. Utilization of the available forage within the riparian areas would also be reduced to within allowable levels. Over the longer-term, continued management of wild horses within the established AML would be expected to result in healthier, more vigorous vegetative communities. Hoof action on the soil around unimproved springs and stream banks would be lessened which should lead to increased stream bank stability and decreased compaction and erosion. Improved vegetation around riparian areas would dissipate stream energy associated with high flows, and filter sediment that would result in some associated improvements in water quality. The Proposed Action would make progress towards achieving and maintaining proper functioning condition at riparian areas. There would also be reduced competition among wildlife, wild horses, and domestic livestock for the available water.

Alternative B –Impacts from this alternative would be similar to the Proposed Action, AML would be achieved but may exceed the high end of AML sooner than the proposed action. When the wild horse population exceeds the high end of the range, damage to riparian areas may occur.

No Action Alternative – Wild horse populations would continue to grow. Increased wild horse use throughout the HMA would continue to adversely impact riparian resources and their associated surface waters. Over the longer-term, as native plant health continues to deteriorate and plants are lost, soil erosion would increase. With the No Action alternative, the localized trampling associated with trap sites would not occur, but this alternative would not make progress towards achieving and maintaining a thriving natural ecological balance since riparian resources would continue to deteriorate. An opportunity to make progress toward achieving and maintaining properly functioning condition riparian areas would be foregone.

C. Wildlife, including Migratory Birds

Affected Environment

The Silver King HMA provides habitat for many species of wildlife, including large mammals like mule deer, pronghorn antelope, and Rocky Mountain elk. Yearlong habitat for mule deer occurs throughout the HMA, with large areas of crucial summer range occurring in the upper elevations and crucial winter range along the benches. The northern portion of the Silver King HMA is Rocky Mountain elk yearlong habitat. Year round pronghorn habitat is predominantly located in valley bottoms and benches.

The Silver King HMA additionally provides habitat for small mammals, birds (including

migratory birds), reptiles, amphibians, and insects common to the Great Basin.

Environmental Impacts

Proposed Action – Wildlife will be temporarily disturbed or displaced during gather operations. There would be no impact to animal populations as a result of gather operations. Removing excess wild horses from the Silver King HMA would result in reduced competition between wild horses and wildlife, especially large mammals, for available forage and water resources. Managing wild horses within the AML range would result in improved habitat conditions for all species of wildlife by increasing herbaceous vegetative cover and improving riparian vegetation and water quality at springs and seeps.

Given the time of year and the use of previously disturbed areas, no impacts to individuals, populations, or migratory bird habitat are anticipated for this project.

Alternative B– Impacts from Alternative B would be similar to the Proposed Action. AML would be achieved but may exceed the high end of AML sooner than the Proposed Action. When AML is nearing its maximum or exceeded, improved wildlife habitat conditions will deteriorate due to increased competition for forage and water resources.

No Action Alternative –Under the No Action (no removal) alternative, wildlife would not be temporarily displaced or disturbed. However, as wild horse numbers continued to grow, competition between wild horses and wildlife for water and forage resources would increase. As competition increases, some wildlife species may not be able to compete successfully, leading to increased stress and possible dislocation or death of native wildlife species over the long-term

D. Special Status Plant and Animal Species

Affected Environment

The BLM 6840 Manual (2008) describes special status species as: 1) species listed or proposed for listing under the Endangered Species Act (ESA), and 2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA, which are designated as Bureau sensitive by the State Director(s). All Federal candidate species, proposed species, and delisted species in the 5 years following delisting will be conserved as Bureau sensitive species. Data pertaining to special status species occurrence in Nevada are maintained by the BLM, U.S. Fish and Wildlife Service (FWS), Nevada Department of Wildlife (NDOW), and Nevada Natural Heritage Program (NNHP). Table 3 identifies BLM special status species that may occur within the Silver King HMA.

Table 3. BLM Sensitive Species that have the potential to occur within the project area.

Common Name	Scientific Name
Birds	
Bald eagle	*Haliaectus leucocephalus*

Black rosey finch	*Leucosticte atrata*
Burrowing owl	*Athene cunicularia*
Ferruginous hawk	*Buteo regalis*
Golden eagle	*Aquila chrysaetos*
Gray vireo	*Vireo vicinior*
Greater sage-grouse	*Centrocercus urophasianus*
Juniper titmouse	*Baeolophus griseus*
Lewis's woodpecker	*Melanerpes lewis*
Loggerhead shrike	*Lanius ludovicianus*
Long-billed curlew	*Numenius americanus*
Long-eared owl	*Asio otus*
Pinyon jay	*Gymnorhinus cyanocephalus*
Prairie falcon	*Falco mexicanus*
Red-naped sapsucker	*Sphyrapicus nuchalis*
Short-eared owl	*Asio flammeus*
Swainson's hawk	*Buteo swainsoni*
Vesper sparrow	*Pooecetes gramineus*
Yellow breasted chat	*Icteria virens*
Mammals	
Desert Valley kangaroo mouse	*Microdipodops megacephalus albiventer*
Desert bighorn sheep	*Ovis Canadensis nelsoni*
Plants	
Long-calyx eggvetch	*Astragalus oophorus* var. *lonchocalyx*
Pioche blazingstar	*Mentzelia argillicola*
Schlesser pincushion	*Sclerocactus schlesseri*
Tiehm blazingstar	*Mentzelia tiehmii*

Sage grouse use the northern portion of the Silver King HMA throughout the year for all of their seasonal habitat needs. These habitats needs include breeding (i.e., strutting grounds or leks), nesting, brood-rearing, and winter habitat. The Silver King HMA is located within the Lincoln Population Management Unit (PMU) identified in the local sage grouse conservation plan. There is one known active sage grouse lek within the Silver King HMA and five active leks within five miles of the HMA boundary.

Desert bighorn sheep inhabit the upper elevations of the Schell Creek Range and North Pahroc Range within the Silver King HMA. Bald eagles are a winter resident of this area of Nevada and can be observed from November thru May. Three ferruginous hawk, two prairie falcon, and two burrowing owl nests have been documented within the HMA. There is potential pygmy rabbit habitat with in the area.

There are four Special Status Plant Species located within the Silver King HMA: long-calyx

eggvetch, Pioche blazingstar, Schlesser pincushion, and Tiehm blazingstar. The eastwood milkweed (*Asclepias eastwoodiana*) is located approximately 1 mile outside the HMA boundary.

Environmental Impacts

Proposed Action – Individual wildlife species may be disturbed or temporarily displaced during gather operations due to increased activity associated with trap setup, helicopters, and vehicle traffic. Once gather is complete, wildlife should return to normal activities. Because trap sites and holding corrals would not be located where sensitive animal and plant species are known to occur (i.e. sage-grouse strutting grounds), there would be no impact from these activities. There would be no impact to populations of special status species as a result of gather operations.

Removing excess wild horses from the Silver King HMA and managing wild horses within AML would result in decreased competition between wild horses and wildlife for available forage and water resources, improved habitat conditions, better nesting, cover and safety for wildlife. Over the long-term, both riparian and habitat conditions (forage quantity and quality) for wildlife would improve. Sensitive plant species would be less likely to be grazed or trampled after removing excess wild horses.

Alternative B – Impacts would be the same as in the Proposed Action; however, improved habitat conditions for wildlife and for all special status animal species may not last as long because wild horse populations may exceed the high end of AML sooner.

No Action Alternative – Under the No Action Alternative, individual animals would not be disturbed or displaced because gather operations would not occur. Habitat conditions for all special status animal species would continue to deteriorate as wild horse numbers above AML reduce herbaceous vegetative cover. Sensitive plant species would continue to be grazed and trampled under the No Action Alternative due to the overpopulation of wild horses and the continued increase in the wild horse both within and outside the boundaries of the HMA.

E. Livestock

Affected Environment

The Silver King HMA includes portions of eight livestock grazing allotments (see Map I). Permitted livestock grazing use in the HMA includes both cattle and sheep grazing during all seasons (table 4). Rangeland Heath and Term permits have been completed for five of the eight allotments. Permitted livestock grazing use has generally been reduced in recent years in a majority of the allotments. BLM's issuance of grazing Term Permit Renewals has continued to analyze and adjust livestock stocking levels, established deferred seasons of grazing, rotated grazing areas, and established water hauling areas that result in distributed livestock grazing that allows BLM to meet or make significant progress in meeting the standards for rangeland health. Since the last gather, licensed livestock use, or actual use, has generally been substantially less than permitted use for each of the grazing allotments, in part due to persistent drought, and the

livestock grazing systems that are in place provide for periodic rest and deferment of key range sites.

Table 4. Silver King Herd Management Area

Allotment	Season of Use	Total Acres	% of Allotment in HMA	Ten Year Average AUM Use	Total AUM's	Percent of Permit Use
Wilson Creek	Cattle and Sheep: 3/1 to 2/28	846,246	25%	15086	48,250	31%
Geyser Ranch	3/1 to 2/28	539,941	36%	8837	18,927	47%
Pioche	3/1 to 2/28	13,440	80%	114	402	28%
Rattlesnake	10/1 to 4/30	28,426	98%	692	1,180	59%
Ely Spring Sheep	3/1 to 2/28	22,927	100%	228	1,802	13%
Highland Peak	Sheep 10/16 to 5/15	45,542	70%	1647	3,704	44%
Fox Mountain	3/1 to 2/28	73,412	4%	2121	6,322	34%
Sunnyside	6/1 to 10/31	219,519	24%	2313	5,402	43%

Total acres include Private, State and Federal Acres for the Allotment or Pasture

Environmental Impacts

Proposed Action –Livestock located near gather activities may be temporarily disturbed or displaced by the helicopter and the increased vehicle traffic during the gather operation. This displacement would be temporary; and the livestock would move back into the area once gather operations moved. Past experience has shown that gather operations have little impacts to grazing cattle and sheep. No increases in permitted livestock use would occur as a result of the Proposed Action. Direct impacts of the gather activities itself would be minor and short-term. Indirect impacts to livestock grazing would be an increase in forage availability and quality, reduced competition for water and forage, and improved vegetative resources that would lead to a thriving ecological condition.

Alternative B – Impacts would be the same as in the Proposed Action, however, wild horse populations may increase at a faster rate and exceed the high end of AML sooner.

No Action Alternative – Livestock would not be displaced or disturbed due to gather operations under the No Action Alternative. However, forage conditions (quality and quantity) would continue to deteriorate on the range. As wild horse numbers increase, livestock grazing within the HMA may have to be further reduced in an effort to slow the deterioration of the range to the

greatest extent possible or because rangeland conditions do not support the multiple uses for which the public lands are being managed.

G. Noxious Weeds and Invasive Non-Native Species

Affected Environment

The following noxious weed species are documented within the Silver King HMA: Dalmatian toadflax, diffuse knapweed, musk thistle, Russian knapweed, salt cedar, Scotch thistle, spotted knapweed, tall white top, and hoary cress (See Appendix IV for weed risk assessment). Most of the weed infestation occurs along the highway.

Proposed Action – The proposed gather may spread existing noxious or invasive weed species. This could occur if vehicles drive through infestations and spread seed into previously weed-free areas. This would likely have only minor impacts to weed spread since disturbance areas would be minimal. To further minimize the potential for weeds to spread stipulations have been outlined in a weed risk assessment for the Proposed Action. The contractor together with the contracting officer's representative or project inspector (COR/PI) would examine proposed trap sites and holding corrals for noxious weeds prior to construction. If noxious weeds are found, the location of the facilities would be moved. Any off-road equipment exposed to weed infestations would be cleaned before moving into weed free areas. All trap sites, holding facilities, and camping areas on public lands would be monitored for weeds during the next several years. Measures identified in the weed risk assessment will help prevent weed establishment and spread. Despite short-term risks of additional weed spread, over the long term the reduction in wild horse numbers and the subsequent recovery of the native vegetation would result in decreased susceptibility for non-native plant species to invade.

Alternative B – Impacts would be the same as in the proposed action.

No Action Alternative – Under this alternative, the wild horse gather would not take place at this time. The likelihood of noxious weeds being spread by gather operations would not exist. However, continued overgrazing, by excess wild horses, of the present native plant communities could lead to an expansion of noxious weeds and invasive non-native species.

H. Vegetation Resources

Vegetation within the Silver King HMA varies with elevation, soil type, and precipitation. The vegetation is diverse with desert shrub/sagebrush/grass plant communities dominating the lower elevations while sagebrush/mountain shrub/grass/pinyon-juniper/mountain mahogany plant communities dominate the benches and higher elevation sites.

The plant species dominating the lower elevations include Wyoming big sagebrush, black sagebrush, winterfat, shadscale, budsage, sickle saltbush, black greasewood, rabbitbrush, Indian ricegrass, Sandburg bluegrass, bottlebrush squirreltail, needlegrass, and assorted forb species.

The plant species dominating the higher elevations include Wyoming big sagebrush, mountain sagebrush, black sagebrush, low sagebrush, antelope bitterbrush, Utah serviceberry, snowberry, golden and squaw currant, pinyon pine, Utah juniper, curlleaf mountain-mahogany, limber pine, white fir, bluebunch wheatgrass, needlegrass, and assorted forb species.

The impacts to vegetation based on the removal of wild horses from the Silver King HMA and outside the HMA boundary were analyzed on pages 4.5-7-27 of the Ely District Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007). The proposed action would impact vegetation temporarily as a result of trampling and disturbance of vegetation occurring at trap sites. The direct and indirect effects of such disturbance would be minimal.

Rangeland or wild horse monitoring data collected from the HMA shows that vegetative utilization attributable to wild horses has increased from 2007 through 2010 in portions of the HMA. During this time period, wild horse numbers have increased while livestock and wildlife numbers have remained fairly constant. Forage utilization is exceeding allowable use levels and is reaching moderate to heavy use in established key grazing areas in portions of the HMA. Excess utilization in key grazing areas and trampling in riparian areas by wild horses is currently impacting rangeland health and inhibiting recovery of both uplands and riparian areas.

Environmental Impacts

Proposed Action – Removal of excess wild horses and implementation of the proposed action would reduce the wild horse population within the Silver King HMA within AML, thereby reducing stress on vegetative communities. Rangeland health and vegetative resources would improve with the reduced population. Vegetative species would not experience over-utilization by wild horses, which would lead to healthier, more vigorous forage plants and plant communities. This would result in an increase in forage availability, vegetation density, vigor, productivity, cover, and plant reproduction.

Impacts to vegetation with implementation of the Proposed Action would include disturbance of native vegetation immediately in and around temporary trap sites, and holding and processing facilities. Impacts would be by vehicle traffic and the hoof action of penned horses, and would be locally severe in the immediate vicinity of the corrals or holding facilities. Generally, these activity sites would be small (less than one half acre) in size. Since most trap sites and holding facilities are previously disturbed areas and would be re-used during recurring wild horse gather operations, any impacts would remain site-specific and isolated in nature. In addition, most trap sites or holding facilities are selected to enable easy access by transportation vehicles and logistical support equipment and would generally be adjacent to or on roads, pullouts, water haul sites, or other flat spots that were previously disturbed.

Implementation of the proposed action would reduce the current wild horse population to the

established AML and provide the opportunity for the vegetative communities to progress toward achieving a thriving natural ecological balance. By achieving AML, vegetative utilization by wild horses would be reduced, which would result in improved forage availability, improved vegetation density, increased vegetation cover, increased plant vigor, and improved seed production, seedling establishment, and forage production over current conditions. Higher quality forage species (grasses) would be available. Competition for forage among wild horses, wildlife, and livestock would be reduced as utilization levels decrease and rangeland health improves; thereby promoting healthier habitat and healthier animals. Allotment specific utilization objectives would not be exceeded due to wild horse numbers. Reduced concentrations of wild horses following removal of excess horses would contribute to the recovery of the vegetative resource. Physical damage to shrubs and herbaceous vegetation associated with the physical passage of wild horses (as wild horse bands move through the HMA) would be decreased.

Alternative B – Impacts would be the same as in the proposed action. However, without slowing reproduction, a steady increase in the number of wild horses through natural foaling rates would result in impacts to vegetation. Removal of excess wild horses would be beneficial to vegetative resources, but plant communities may not get as much opportunity to recover as would occur under the proposed action.

No Action Alternative – With the no action alternative, wild horse populations would continue to grow. Increased wild horse use throughout the HMA would adversely impact vegetation health, especially around riparian resources. As native plant health deteriorates and plants are lost especially around water sources, an increase in invasive, non-native plant species invade new areas following increased soil disturbance and reduced native plant vigor and abundance. Wild horses likely transport weed propagules, and this transport would increase as horse numbers increase. This would lead to both a shift in plant composition towards weedy species. With the no action alternative, the severe localized trampling associated with trap sites would not occur, but this alternative would not make progress towards achieving and maintaining a thriving natural ecological balance.

I. Soil Resources

Affected Environment

The Silver King HMA occurs within Major Land Resource Area (MLRA) 028B, the Central Nevada Basin and Range Area, and MRLA 029, Southern Nevada Basin and Range first described by the U.S. Department of Agriculture in the early 1960's. The Natural Resource Conservation Service (NRCS) has extensively described the topography, geology, soils, climate, and range sites of each MLRA. The NRCS periodically updates information concerning each MLRA as new data becomes available. NRCS data summarized below will be used in this analysis.

Soils within the HMA are typical of the Great Basin and vary with elevation. Soils range in

depth from very shallow (below 20 inches to bedrock) to deep (greater than 60 inches to bedrock) and are typically gravelly, sandy and/or silty loams. Soils located on low hill slopes, upland terraces, and fan piedmont remnants are typically shallow to deep over bedrock or indurated lime hardpan. They are highly calcareous and medium textured with gravel. Soils on mountain slopes are also calcareous and range from shallow to deep over limestone. Some of the mountain soils have high rock fragment content, and support pinyon and juniper trees. Mountain soils typically have gravelly to very gravelly silt loam textures. Soils on floodplains and fan skirts are deep, have silty textures, are highly calcareous, and are susceptible to erosion when disturbed.

Environmental Impacts

Proposed Action – General impacts to soil resources based on the removal of wild horses from this HMA were disclosed on pages 4.4-3-12 and pages 4.`9-5-14 of the Ely District Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007). The proposed action would impact soil with minor trampling and disturbance occurring at trap sites and holding facilities. Any direct, indirect, and cumulative effects to soil resources resulting from the proposed action would be minor and short-term. The project implementation would stay on existing roads, combined with the relative small areas used for gathering and holding operations.

Removing excess wild horses would make progress towards achieving a "thriving natural ecological balance." Implementation of the proposed action would reduce the wild horse population within the HMA within AML. It would reduce further impacts to soil resources, and be in compliance with the Wild Free Roaming Horse and Burro Act, Mojave-Southern Great basin RAC Standards, and land use plan management objectives. Rangeland health and soil resources would improve with the reduced population in the long-term.

Overall, soil conditions are expected to improve after wild horse numbers are reduced. Fewer numbers of wild horses using riparian systems would result in a lessening of soil compaction in riparian areas where the soils are most susceptible due to their higher moisture content. Compression related impacts to biological soil crusts from horses would be lessened over the area with horse removal, and crust cover on the highly calcareous soils would increase. Following wild horse removal, increased vegetative and biological soil crust cover should reduce wind and water erosion.

Impacts to soils with implementation of the Proposed Action would include disturbance around temporary trap sites, and holding and processing facilities. Impacts would be by vehicle traffic and the hoof action of penned horses, and would be locally severe in the immediate vicinity of the corrals or holding facilities. Generally, these activity sites would be small (less than one half acre) in size. Soil compaction, localized wind erosion, and destruction of biological soil crusts where present, would occur at the trap sites. Since most trap sites and holding facilities would be re-used during recurring wild horse gather operations, any impacts would remain site-specific

and isolated in nature. In addition, most trap sites or holding facilities are selected to enable easy access by transportation vehicles and logistical support equipment and would generally be adjacent to or on roads, pullouts, water haul sites, or other flat spots that were previously disturbed. Vehicles used in the horse gather would also cause soil compaction and increased erosion in a small area. By adhering to the SOPs, adverse impacts to soils would be minimized.

***Alternative* B**– Impacts would be the same as in the proposed action. However, without slowing reproduction, a steady increase in the number of wild horses through natural foaling rates would have a more steady impact on soils. Removal of excess wild horses would be beneficial to soils, but soil resources may not get as much recovery as in the proposed action.

No Action Alternative – With the no action alternative, wild horse populations would continue to grow. Increased horse use throughout the HMA would adversely impact soils health, especially around riparian resources. As native plant health deteriorates and plants are lost, soil erosion would increase. Continued heavy wild horse use, especially around water sources, would cause further compaction, reduced infiltration, increased runoff and erosion, and loss of biological soil crusts. Compaction caused impacts would be greatest on moist soils and soils with few surface coarse fragments. The greatest disturbance impacts to crusts would occur when the soils are dry and on highly calcareous sites. The shallow soils typical of this region cannot tolerate much loss without losing productivity and thus the ability to be re-vegetated with native plants. Invasive, non-native plant species would increase and invade new areas following increased soil disturbance and reduced native plant vigor and abundance. Wild horses likely transport weed propagules, and this transport would increase as horse numbers increase. This would lead to both a shift in plant composition towards weedy species and an irreplaceable loss of topsoil and productivity due to erosion. With the no action alternative, the severe localized trampling associated with trap sites would not occur, but this alternative would not make progress towards achieving and maintaining a thriving natural ecological balance.

5.0 Cumulative Impacts

The National Environmental Policy Act (NEPA) regulations define cumulative impacts as impacts on the environment that result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such actions (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The area of cumulative impact analysis is the Silver King HMA (See map appendix I).

Past, Present, and Reasonably Foreseeable Actions

The Past, Present, and Reasonably Foreseeable Future Actions applicable to the assessment area are identified as the following:
Table 6.

Project -- Name or Description	Status (x)		
	Past	Present	Future
Issuance of multiple use decisions and grazing permits for ranching operations through the allotment evaluation process and the reassessment of the associated allotments.	x	x	x
Livestock grazing	x	x	x
Wild Horse and Burro Gathers	x	x	x
Mineral Exploration / Geothermal Exploration/Abandoned mine land reclamation	x	x	x
Recreation	x	x	x
Spring development/spring source protection (fencing water sources)	x	x	x
Wildlife guzzler construction	x	x	x
Invasive weed inventory/treatments	x	x	x
Wild Horse and Burro issues, issuance of Multiple use decisions AML adjustments and planning	x	x	x
Southern Nevada Water Authority Pipeline			x
Wind Energy Production projects			x
South West Intertie Project			x

Any future proposed projects within the Silver King HMA would be analyzed in an appropriate environmental document following site specific planning. Future project planning would also include public involvement.

Past Actions

Past actions include establishment of wild horse Herd Management Areas, establishment of AML for wild horses, wild horse gathers, mineral extraction, oil and gas exploration, livestock grazing and recreational activities throughout the area. Some of these activities have increased infestations of invasive plants, noxious weeds, and pests and their associated treatments.

Present Actions

Today the Silver King HMA has an estimated population of 505 adult wild horses. Resource damage is occurring in portions of the HMA and areas adjacent to the HMA due to excess animals. 191 wild horses have been routinely moving outside the HMA boundary of these approximately 50 wild horses are residing outside the HMA these horses are located between the Eagle and Silver King HMAs posing a safety issue with Hwy 93. Current BLM policy is to conduct removals targeting portions of the wild horse population based upon age, and allowing the correction of any sex ratio problems that may occur. Further, the BLM's policy is to conduct gathers in order to facilitate a four-year gather cycle. Program goals have expanded beyond establishing a "*thriving natural ecological balance*" (by setting appropriate management level (AML)) for individual herds, to include achieving and maintaining healthy, viable, vigorous, and stable populations. (See appendix I)

Current mandates prohibit the destruction of healthy animals that are removed or deemed to be excess. Only sick, lame, or dangerous animals can be euthanized, and destruction is no longer used as a population control method. A recent amendment to the Wild Free-Roaming Horses and Burro Act allows the sale of excess wild horses that are over 10 years in age or have been offered unsuccessfully for adoption three times. BLM is adding additional long-term holding grassland pastures in the Midwest to care for excess wild horses for which there is no adoption or sale demand.

Today public interest in the welfare and management of wild horses is currently as high as it has ever been. Many different values pertaining to wild horse management form current wild horse perceptions. Wild horses are viewed as nuisances, as well as living symbols of the pioneer spirit.

The BLM is continuing to modify grazing permits and conduct vegetation treatments to improve watershed health. Monitoring of vegetative resources, vegetative treatments, rangeland health, and watershed health continues. Currently within the Silver King HMA sheep and cattle grazing occurs on a yearly basis.

The focus of wild horse management has also expanded to place more emphasis on achieving rangeland health as measured through the RAC Standards. Mojave-Southern Great Basin Resource Advisory Councils (RAC) developed standards and guidelines for rangeland health that have been the current basis for managing wild horse and livestock grazing within the Ely District. Adjustments in numbers, season of use, grazing season, and allowable use are based on evaluating progress toward reaching the standards.

Reasonably Foreseeable Future Actions

In the future, the BLM would manage wild horses within HMAs that have suitable habitat for a population range, while maintaining genetic diversity, age structure, and sex ratios. Current policy is to express all future wild horse AMLs as a range, to reduce population growth, as well as better management of populations rather than individual HMAs. The Ely BLM District completed the *Ely Proposed Resource Management Plan/Final Environmental Impact Statement* (RMP/EIS, 2007) released in November 2007 which analyzed AMLs expressed as a range and addressed wild horse management on a programmatic basis. Future wild horse management would focus on an integrated ecosystem approach with the basic unit of analysis being the watershed. The BLM would continue to conduct monitoring to assess progress toward meeting rangeland health standards. Wild horses would continue to be a component of the public lands, managed within a multiple use concept.

While there is no anticipation for amendments to the Wild and Free-Roaming Horses and Burros Act that would change the way wild horses could be managed on the public lands, the Act has been amended three times since 1971. Therefore, there is potential for amendment as a reasonably foreseeable future action.

As the BLM achieves AML on a Bureau wide basis gathers should become more predictable due to facility space. This should increase stability of gather schedules. Fertility control should also become more readily available as a management tool, with treatments that last between gather cycles, reducing the need to remove as many wild horses, and possibly extending the time between gathers.

The removal area contains a variety of resources and supports a variety of uses. Any alternative course of wild horse management has the opportunity to affect and be affected by other authorized activities ongoing in and adjacent to the area. Future activities which would be expected to contribute to the cumulative impacts of implementing the Proposed Action include: future wild horse gathers, continuing livestock grazing in the allotments within the area, development of range improvements, continued development of mineral extraction, oil and gas exploration, new or continuing infestations of invasive plants, noxious weeds, and pests and their associated treatments, and continued native wildlife populations and recreational activities historically associated with them.

Impacts

Cumulative effects expected when incrementally adding either the Proposed Action or Alternative B to the Cumulative Effect Study Area (CESA) would include continued improvement riparian vegetation conditions, which would in turn benefit current livestock management, native wildlife, water resources and wild horses populations as forage (habitat) quantity and quality is improved over the current level. Benefits from reduced wild horse populations would include fewer animals competing for limited water quantity and at limited sites. Cumulatively there should be more stable wild horse populations, healthier rangelands, healthier wild horses, and fewer multiple use conflicts within the cumulative area over the short and long-term. Gathering and removing excess wild horses from the Silver King HMA and treating gathered wild horses that are released back would also likely benefit resources in the adjoining areas, as horse populations would be in the range of AML, wild horses would not need to travel outside of the HMA in search of additional forage, water and space due to overpopulation.

Cumulatively over the next 10-15 year period, continuing to manage wild horses within the established AML ranges would result in improved vegetation condition (i.e. forage availability and quantity), which in turn would result in improved vegetation density, cover, vigor, seed production, seedling establishment and forage production over current conditions. Increased coordinated management of wild horses over the entire CESA would allow a free roaming behavior amongst existing herds and therefore lead to a thriving natural ecological balance. Managing wild horse populations within the established AMLs would allow the primary forage plant species to return more rapidly and allow for improvements to riparian habitat, even though some vegetation conditions may never be able to return to their potential. Maintaining AMLs over a sustained period of time throughout the CESA would allow for the collection of scientific data to evaluate AML levels.

Cumulatively over the next 10-15 years, fewer gathers should result and less frequent disturbance to individual wild horses and the herd's social structure would occur. Individual and

herd health would be maintained.
The ability to gather a higher percentage of the total population in future gathers would allow the increased use of fertility control and sex ratio adjustments in an effort to slow population growth. However, return of wild horses back into the HMA may lead to the decreased ability to gather horses in the future as released horses learn to evade the helicopter.

No Action Alternative:
Under the No Action alternative, the wild horse population in the Silver King HMA could exceed 1,046 head in about four years. Increased movement of horses outside the boundaries of the Silver King HMA can be expected as the number of horse's increase they will move in search for sufficient resources and habitat for survival, thus impacting larger areas of public lands within the CESA. Heavy utilization of available forage and insufficient water would be expected. Allowing the wild horse population to continue to grow beyond the current population numbers would be likely to result in a population crash during the next decade. Wild horses, wildlife and livestock would not have sufficient forage or water. All animals would experience suffering and possible death. Ecological communities and habitat resources would not be sustainable. Rangeland health would degrade, possibly below biological thresholds, making recovery unlikely if not impossible as cheatgrass, and other invasive non native species could dominate the understory degrading ecological conditions.

Emergency removals could be expected in order to prevent individual animals from suffering or death as a result of insufficient forage and water. These emergency removals could occur as early as this summer season if the area experiences normal or below normal precipitation. During emergency conditions, competition for available forage and water resources is heightened and generally impacts the older and youngest horses as well as lactating mares first. These groups would experience significant weight loss and diminished health, which could result in prolonged suffering and their eventual death. If emergency actions are not taken (prior to or in response to these events), the overall population could be affected by severely skewed sex ratios towards stallions (generally the strongest and healthiest portion of the population) and a significantly altered age structure. In addition, habitat resources would be over-utilized and progress toward rangeland health standards would not be met.
Cumulative impacts would result in foregoing an opportunity to improve rangeland health and to properly manage wild horses in balance with the available water and forage. Over-utilization of vegetation and other habitat resources would occur as wild horse populations continued to increase. Wild horse populations would be expected to eventually crash at some ecological threshold; however wild horse, livestock, and wildlife would all experience suffering and possible death as rangeland resources continued to degrade. Attainment of RMP objectives and Standards for Rangeland Health and Wild Horse and Burro Populations would not be achieved. AML would not be achieved or sustained throughout the CESA and therefore the collection of scientific data necessary to evaluate AML levels, in relationship to rangeland health standards and thriving natural ecological balance being met or achieved, would not be attainable.
Impacts to the human environment across the CESA would be compounded should the current population of horses be allowed to remain and expand.

The combination of the past, present, and reasonably foreseeable future actions, along with the proposed action and Alternative B, should result in more stable wild horse populations, healthier rangelands, healthier wild horses, and fewer multiple-use conflicts within the Silver King HMA.

6.0 Mitigation Measures and Suggested Monitoring

Proven measures to mitigate impacts of the gather on wild horses and on rangeland resources, along with monitoring are incorporated into the proposed action through standard operating procedures, which have been developed over time. These SOPs (Appendix II, III and IV) represent the "best methods" for reducing impacts associated with gathering, handling, and transporting wild horses and for collecting herd data. Hair samples to establish a genetic baseline for the Silver King HMA wild horses will be collected; additional samples will be collected during future gathers (in 10-15 years) to determine trend. Should monitoring indicate genetic diversity is not being adequately maintained, 2-10 mares and/or studs from HMAs in similar environments would be added every generation (every 8-10 years) to avoid inbreeding depression/maintain acceptable genetic diversity. Ongoing resource monitoring, including climate (weather), and forage utilization, population inventory, and distribution data will continue to be collected.

7.0 Consultation and Coordination

Public hearings are held annually on a state-wide basis regarding the use of motorized vehicles, including helicopters and fixed-wing aircraft, in the management of wild horses (or burros). During these meetings, the public is given the opportunity to present new information and to voice any concerns regarding the use of the motorized vehicles. The Nevada BLM State Office held a meeting on May 20, 2009; numerous written comments were entered into the record for this hearing. Specific concerns included: (1) the use of helicopters and motorized vehicles is inhumane and results in injury or death to significant numbers of wild horses and burros; (2) population inventory methods using helicopters and fixed wing aircraft; (3) reported reproduction and mortality rates; (4) providing the public with pertinent information regarding gather plans at site-specific locations; (5) statistics or statements relating to impacts of helicopter driving, distances, terrain, etc. on wild burro herds; (6) studies on impacts to wild horses and burros on the use of helicopters and helicopter driving during gather. Standard Operating Procedures were reviewed in response to these concerns and no changes to the SOPs were indicated based on this review.

The use of helicopters and motorized vehicles has proven to be a safe, effective and practical means for the gather and removal of excess wild horses and burros from the range. Since July 2004, Nevada has gathered 26,000 animals with a total mortality of 1.1% (of which .5% was gather related) which is very low when handling wild animals. BLM also avoids gathering wild horses prior to or during the peak foaling season and does not conduct helicopter removals of

wild horses during March 1 through June 30.

The Schell and Caliente Field Offices have coordinated with Nevada Department of Wildlife (NDOW) during the yearly coordination meeting on these gathers.

A Tribal Coordination meeting was held in Ely on May 20, 2010. No issues were identified during this meeting.

The Silver King Herd Management Preliminary Environmental Assessment DOI-BLM-NV-L020-2010-0039-EA Comments will be accepted for 30 days until July, 16, 2010. Interested individuals should may mail written comments to the BLM Ely District Office, HC 33 Box 33500, Ely, NV 89301 attn: Mary D'Aversa, Schell Field Manager or send an e-mail to: silverkinghma@blm.gov
EA is also posted at http://www.blm.gov/nv and click on the Ely District. Comments need to be post marked (if mailed), faxed, or emailed to silverkinghma@blm.gov no later than 7-16-2010. **The only email comments that will be considered are emails sent to silverkinghma@blm.gov. Email comments sent to any other email address WILL NOT be considered.**

Internal District Review

Name	Title	Responsible for the Following Section(s) of this Document
Ben Noyes	**Wild Horse Specialist**	**Project Lead/ Wild Horse**
Nancy Williams	**Wildlife Biologist**	**Wildlife, Migratory Birds, Special Status Species**
Mindy Seal	**Natural Resource Specialist**	**Non-native Invasive Species Including Noxious Weeds**
Zach Peterson	**Forester**	**NEPA, Air Quality, Environmental Justice, Forestry**
Melanie Peterson	**Environmental Protection Specialist**	**Human Health and Safety, Hazardous Wastes**
Dave Jacobson	**Wilderness Planner**	**Wilderness**
Mark D'Aversa	**Hydrologist**	**Soil, Water, Wetlands and Riparian, Floodplains**
Shirley Johnson Chelsy Simerson	**Rangeland Management Specialist**	**Livestock Grazing**
Shawn Gibson	**Archaeologist**	**Cultural Resources**
Elvis Wall	**Native American Coordinator**	**Native American Religious Concerns**

8.0 REFERENCES, GLOSSARY AND ACRONYMS

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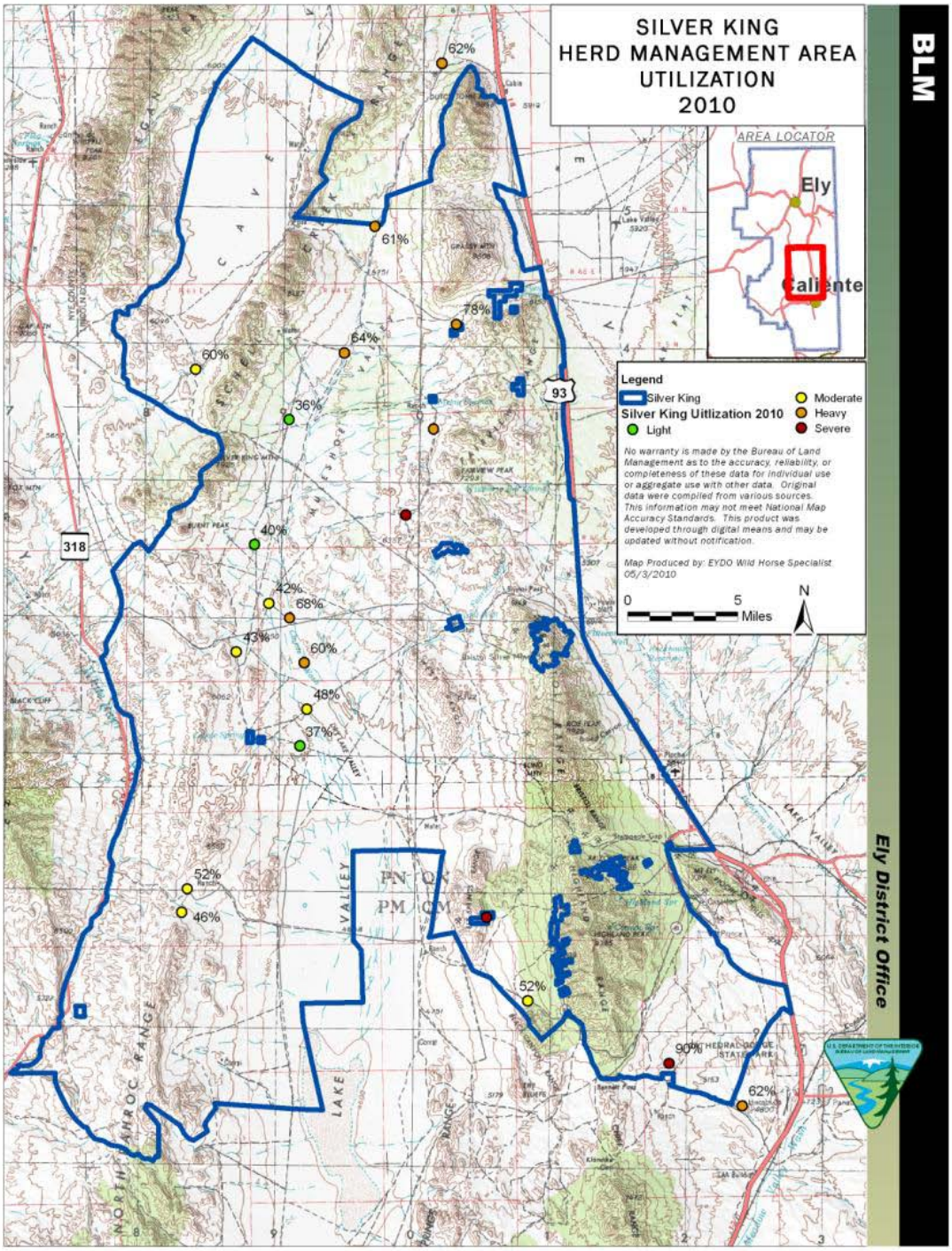
USDOI, Bureau of Land Management. 1994. Guidelines for assessing and documenting cumulative impacts. WO-IB-94-310.6.2 Acronyms

BLM-Bureau of Land Management
CFR-Code of Federal Regulations
DR-Decision Record
EA-Environmental Assessment
EIS-Environmental Impact Statement
FLPMA-Federal Land Policy and Management Act
FONSI-Finding of No Significant Impact
HA – Herd Area
HMA – Herd Management Area
ID-Interdisciplinary
IM-Instructional Memorandum
NEPA-National Environmental Policy Act
RFS-Reasonably Foreseeable Future Action
RMP-Resource Management Plan

APPENDIX I:
Utilization Map



APPENDIX II
Standard Operating Procedures for Population-level Porcine Zona Pellucida (PZP) Fertility Control Treatments

22-month time-release pelleted Porcine Zona Pellucida (PZP) vaccine:

The following implementation and monitoring requirements are part of the Proposed Action:

1. PZP vaccine would be administered only by trained BLM personnel or collaborating research partners.
2. The fertility control drug is administered with two separate injections: (1) a liquid dose of PZP is administered using an 18-gauge needle primarily by hand injection; (2) the pellets are preloaded into a 14-gauge needle. These are delivered using a modified syringe and jabstick to inject the pellets into the gluteal muscles of the mares being returned to the range. The pellets are designed to release PZP over time similar to a time-release cold capsule.
3. Mares that have never been treated would receive 0.5 cc of PZP vaccine emulsified with 0.5 cc of Freund's Modified Adjuvant (FMA) and loaded into darts at the time a decision has been made to dart a specific mare. Mares identified for re-treatment receive 0.5 cc of the PZP vaccine emulsified with 0.5 cc of Freund's Incomplete Adjuvant (FIA).
4. Delivery of the vaccine would be by intramuscular injection into the gluteal muscles while the mare is restrained in a working chute. With each injection, the liquid or pellets would be injected into the left hind quarters of the mare, above the imaginary line that connects the point of the hip (hook bone) and the point of the buttocks (pin bone).
5. In the future, the vaccine may be administered remotely using an approved long range darting protocol and delivery system if or when that technology is developed.
6. All treated mares will be freeze-marked on the hip or neck HMA managers to positively identify the animals during the research project and at the time of removal during subsequent gathers.

Monitoring and Tracking of Treatments:

1. At a minimum, estimation of population growth rates using helicopter or fixed-wing surveys will be conducted before any subsequent gather. During these surveys it is not necessary to identify which foals were born to which mares; only an estimate of population growth is needed (i.e. # of foals to # of adults).
2. Population growth rates of herds selected for intensive monitoring will be estimated every year post-treatment using helicopter or fixed-wing surveys. During these surveys it is not necessary to identify which foals were born to which mares, only an estimate of population growth is needed (i.e. # of foals to # of adults). If, during routine HMA field monitoring (on-the-ground), data describing mare to foal ratios can be collected, these data should also be shared with the NPO for possible analysis by the USGS.
3. A PZP Application Data sheet will be used by field applicators to record all pertinent data relating to identification of the mare (including photographs if mares are not freeze-marked) and date of treatment. Each applicator will submit a PZP Application Report and accompanying narrative and data sheets will be forwarded to the NPO (Reno, Nevada). A copy of the form and data sheets and any photos taken will be maintained at the field office.

4. A tracking system will be maintained by NPO detailing the quantity of PZP issued, the quantity used, disposition of any unused PZP, the number of treated mares by HMA, field office, and State along with the freeze-mark(s) applied by HMA and date.

Appendix III
STANDARD OPERATING PROCEDURES

Gathers would be conducted by utilizing contractors from the Wild Horse Gathers-Western States Contract, or BLM personnel. The following procedures for gathering and handling wild horses would apply whether a contractor or BLM personnel conduct a gather. For helicopter gathers conducted by BLM personnel, gather operations will be conducted in conformance with the *Wild Horse Aviation Management Handbook* (January 2009).

Prior to any gathering operation, the BLM will provide for a pre-gather evaluation of existing conditions in the gather area(s). The evaluation will include animal conditions, prevailing temperatures, drought conditions, soil conditions, road conditions, and a topographic map with wilderness boundaries, the location of fences, other physical barriers, and acceptable trap locations in relation to animal distribution. The evaluation will determine whether the proposed activities will necessitate the presence of a veterinarian during operations. If it is determined that a large number of animals may need to be euthanized or gather operations could be facilitated by a veterinarian, these services would be arranged before the gather would proceed. The contractor will be apprised of all conditions and will be given instructions regarding the gather and handling of animals to ensure their health and welfare is protected.

Trap sites and temporary holding sites will be located to reduce the likelihood of injury and stress to the animals, and to minimize potential damage to the natural resources of the area. These sites would be located on or near existing roads whenever possible.

The primary gather methods used in the performance of gather operations include:

1. Helicopter Drive Trapping. This gather method involves utilizing a helicopter to herd wild horses into a temporary trap.
2. Helicopter Assisted Roping. This gather method involves utilizing a helicopter to herd wild horses or burros to ropers.
3. Bait Trapping. This gather method involves utilizing bait (e.g., water or feed) to lure wild horses into a temporary trap.

The following procedures and stipulations will be followed to ensure the welfare, safety and humane treatment of wild horses in accordance with the provisions of 43 CFR 4700.

A. Gather Methods used in the Performance of Gather Contract Operations

1. The primary concern of the contractor is the safe and humane handling of all animals gathered. All gather attempts shall incorporate the following:

   All trap and holding facilities locations must be approved by the Contracting Officer's Representative (COR) and/or the Project Inspector (PI) prior to construction. The Contractor may also be required to change or move trap locations as determined by the COR/PI. All traps and holding facilities not located on public land must have prior written approval of the landowner.

2. The rate of movement and distance the animals travel shall not exceed limitations set by the COR/PI who

will consider terrain, physical barriers, weather, condition of the animals and other factors. Under normal circumstances this travel should not exceed 10 miles and may be much less dependent on existing conditions (i.e. ground conditions, animal health, extreme temperature (high and low)).

3. All traps, wings, and holding facilities shall be constructed, maintained and operated to handle the animals in a safe and humane manner and be in accordance with the following:

    a. Traps and holding facilities shall be constructed of portable panels, the top of which shall not be less than 72 inches high for horses and 60 inches for burros, and the bottom rail of which shall not be more than 12 inches from ground level. All traps and holding facilities shall be oval or round in design.

    b. All loading chute sides shall be a minimum of 6 feet high and shall be fully covered, plywood, metal without holes larger than 2"x4".

    c. All runways shall be a minimum of 30 feet long and a minimum of 6 feet high for horses, and 5 feet high for burros, and shall be covered with plywood, burlap, plastic snow fence or like material a minimum of 1 foot to 5 feet above ground level for burros and 1 foot to 6 feet for horses. The location of the government furnished portable fly chute to restrain, age, or provide additional care for the animals shall be placed in the runway in a manner as instructed by or in concurrence with the COR/PI.

    d. All crowding pens including the gates leading to the runways shall be covered with a material which prevents the animals from seeing out (plywood, burlap, plastic snow fence, etc.) and shall be covered a minimum of 1 foot to 5 feet above ground level for burros and 2 feet to 6 feet for horses

    e. All pens and runways used for the movement and handling of animals shall be connected with hinged self-locking or sliding gates.

4. No modification of existing fences will be made without authorization from the COR/PI. The Contractor shall be responsible for restoration of any fence modification which he has made.

5. When dust conditions occur within or adjacent to the trap or holding facility, the Contractor shall be required to wet down the ground with water.

6. Alternate pens, within the holding facility shall be furnished by the Contractor to separate mares or jennies with small foals, sick and injured animals, estrays or other animals the COR determines need to be housed in a separate pen from the other animals. Animals shall be sorted as to age, number, size, temperament, sex, and condition when in the holding facility so as to minimize, to the extent possible, injury due to fighting and trampling. Under normal conditions, the government will require that animals be restrained for the purpose of determining an animal's age, sex, or other necessary procedures. In these instances, a portable restraining chute may be necessary and will be provided by the government. Alternate pens shall be furnished by the Contractor to hold animals if the specific gathering requires that animals be released back into the gather area(s). In areas requiring one or more satellite traps, and where a centralized holding facility is utilized, the contractor may be required to provide additional holding pens to segregate animals transported from remote locations so they may be returned to their traditional ranges. Either segregation or temporary marking and later segregation will be at the discretion of the COR.

7. The Contractor shall provide animals held in the traps and/or holding facilities with a continuous supply of fresh clean water at a minimum rate of 10 gallons per animal per day. Animals held for 10 hours or more

in the traps or holding facilities shall be provided good quality hay at the rate of not less than two pounds of hay per 100 pounds of estimated body weight per day. The contractor will supply certified weed free hay if required by State, County, and Federal regulation.

An animal that is held at a temporary holding facility through the night is defined as a horse/burro feed day. An animal that is held for only a portion of a day and is shipped or released does not constitute a feed day.

8. It is the responsibility of the Contractor to provide security to prevent loss, injury or death of gathered animals until delivery to final destination.

9. The Contractor shall restrain sick or injured animals if treatment is necessary. The COR/PI will determine if animals must be euthanized and provide for the destruction of such animals. The Contractor may be required to humanely euthanize animals in the field and to dispose of the carcasses as directed by the COR/PI.

10. Animals shall be transported to their final destination from temporary holding facilities as quickly as possible after gather unless prior approval is granted by the COR for unusual circumstances. Animals to be released back into the HMA following gather operations may be held up to 21 days or as directed by the COR. Animals shall not be held in traps and/or temporary holding facilities on days when there is no work being conducted except as specified by the COR. The Contractor shall schedule shipments of animals to arrive at final destination between 7:00 a.m. and 4:00 p.m. No shipments shall be scheduled to arrive at final destination on Sunday and Federal holidays, unless prior approval has been obtained by the COR. Animals shall not be allowed to remain standing on trucks while not in transport for a combined period of greater than three (3) hours in any 24 hour period. Animals that are to be released back into the gather area may need to be transported back to the original trap site. This determination will be at the discretion of the COR/PI or Field Office horse specialist.

B. Gather Methods That May Be Used in the Performance of a Gather

1. Gather attempts may be accomplished by utilizing bait (feed, water, mineral licks) to lure animals into a temporary trap. If this gather method is selected, the following applies:

    a. Finger gates shall not be constructed of materials such as "T" posts, sharpened willows, etc., that may be injurious to animals.

    b. All trigger and/or trip gate devices must be approved by the COR/PI prior to gather of animals.

    c. Traps shall be checked a minimum of once every 10 hours.

2. Gather attempts may be accomplished by utilizing a helicopter to drive animals into a temporary trap. If the contractor selects this method the following applies:

    a. A minimum of two saddle-horses shall be immediately available at the trap site to accomplish roping if necessary. Roping shall be done as determined by the COR/PI. Under no circumstances shall animals be tied down for more than one half hour.

    b. The contractor shall assure that foals shall not be left behind, and orphaned.

3. Gather attempts may be accomplished by utilizing a helicopter to drive animals to ropers. If the contractor, with the approval of the COR/PI, selects this method the following applies:

a. Under no circumstances shall animals be tied down for more than one hour.

b. The contractor shall assure that foals shall not be left behind, or orphaned.

c. The rate of movement and distance the animals travel shall not exceed limitations set by the COR/PI who will consider terrain, physical barriers, weather, condition of the animals and other factors.

C. Use of Motorized Equipment

1. All motorized equipment employed in the transportation of gathered animals shall be in compliance with appropriate State and Federal laws and regulations applicable to the humane transportation of animals. The Contractor shall provide the COR/PI, if requested, with a current safety inspection (less than one year old) for all motorized equipment and tractor-trailers used to transport animals to final destination.

2. All motorized equipment, tractor-trailers, and stock trailers shall be in good repair, of adequate rated capacity, and operated so as to ensure that gathered animals are transported without undue risk or injury.

3. Only tractor-trailers or stock trailers with a covered top shall be allowed for transporting animals from trap site(s) to temporary holding facilities, and from temporary holding facilities to final destination(s). Sides or stock racks of all trailers used for transporting animals shall be a minimum height of 6 feet 6 inches from the floor. Single deck tractor-trailers 40 feet or longer shall have at least two (2) partition gates providing at least three (3) compartments within the trailer to separate animals. Tractor-trailers less than 40 feet shall have at least one partition gate providing at least two (2) compartments within the trailer to separate the animals. Compartments in all tractor-trailers shall be of equal size plus or minus 10 percent. Each partition shall be a minimum of 6 feet high and shall have a minimum 5 foot wide swinging gate. The use of double deck tractor-trailers is unacceptable and shall not be allowed.

4. All tractor-trailers used to transport animals to final destination(s) shall be equipped with at least one (1) door at the rear end of the trailer which is capable of sliding either horizontally or vertically. The rear door(s) of tractor-trailers and stock trailers must be capable of opening the full width of the trailer. Panels facing the inside of all trailers must be free of sharp edges or holes that could cause injury to the animals. The material facing the inside of all trailers must be strong enough so that the animals cannot push their hooves through the side. Final approval of tractor-trailers and stock trailers used to transport animals shall be held by the COR/PI.

5. Floors of tractor-trailers, stock trailers and loading chutes shall be covered and maintained with wood shavings to prevent the animals from slipping as much as possible during transport.

6. Animals to be loaded and transported in any trailer shall be as directed by the COR/PI and may include limitations on numbers according to age, size, sex, temperament and animal condition. The following minimum square feet per animal shall be allowed in all trailers:

   11 square feet per adult horse (1.4 linear foot in an 8 foot wide trailer);
   8 square feet per adult burro (1.0 linear foot in an 8 foot wide trailer);
   6 square feet per horse foal (.75 linear foot in an 8 foot wide trailer);
   4 square feet per burro foal (.50 linear feet in an 8 foot wide trailer).

7. The COR/PI shall consider the condition and size of the animals, weather conditions, distance to be transported, or other factors when planning for the movement of gathered animals. The COR/PI shall

provide for any brand and/or inspection services required for the gathered animals.

8. If the COR/PI determines that dust conditions are such that the animals could be endangered during transportation, the Contractor will be instructed to adjust speed.

D. Safety and Communications

1. The Contractor shall have the means to communicate with the COR/PI and all contractor personnel engaged in the gather of wild horses utilizing a VHF/FM Transceiver or VHF/FM portable Two-Way radio. If communications are ineffective the government will take steps necessary to protect the welfare of the animals.

    a. The proper operation, service and maintenance of all contractor furnished property is the responsibility of the Contractor. The BLM reserves the right to remove from service any contractor personnel or contractor furnished equipment which, in the opinion of the contracting officer or COR/PI violate contract rules, are unsafe or otherwise unsatisfactory. In this event, the Contractor will be notified in writing to furnish replacement personnel or equipment within 48 hours of notification. All such replacements must be approved in advance of operation by the Contracting Officer or his/her representative.

    b. The Contractor shall obtain the necessary FCC licenses for the radio system

    c. All accidents occurring during the performance of any task order shall be immediately reported to the COR/PI.

2. Should the contractor choose to utilize a helicopter the following will apply:

    a. The Contractor must operate in compliance with Federal Aviation Regulations, Part 91. Pilots provided by the Contractor shall comply with the Contractor's Federal Aviation Certificates, applicable regulations of the State in which the gather is located.

    b. Fueling operations shall not take place within 1,000 feet of animals.

G. Site Clearances

No personnel working at gather sites may excavate, remove, damage, or otherwise alter or deface or attempt to excavate, remove, damage or otherwise alter or deface any archaeological resource located on public lands or Indian lands.

Prior to setting up a trap or temporary holding facility, BLM will conduct all necessary clearances (archaeological, T&E, etc). All proposed site(s) must be inspected by a government archaeologist. Once archaeological clearance has been obtained, the trap or temporary holding facility may be set up. Said clearance shall be arranged for by the COR, PI, or other BLM employees.

Gather sites and temporary holding facilities would not be constructed on wetlands or riparian zones.

H. Animal Characteristics and Behavior

Releases of wild horses would be near available water. If the area is new to them, a short-term adjustment period may be required while the wild horses become familiar with the new area.

I. Public Participation

Opportunities for public viewing (i.e. media, interested public) of gather operations will be made available to the extent possible; however, the primary considerations will be to protect the health, safety and welfare of the animals being gathered and the personnel involved. The public must adhere to guidance from the on-site BLM representative. It is BLM policy that the public will not be allowed to come into direct contact with wild horses or burros being held in BLM facilities. Only authorized BLM personnel or contractors may enter the corrals or directly handle the animals. The general public may not enter the corrals or directly handle the animals at anytime or for any reason during BLM operations.

J. Responsibility and Lines of Communication

Contracting Officer's Representative/Project Inspector

Ruth Thompson, Wild Horse and Burro Specialist, Ely District
Ben Noyes, Wild Horse and Burro Specialist, Ely District
Alan Shepherd, NV WH&B Program Lead

The Contracting Officer's Representatives (CORs) and the project inspectors (PIs) have the direct responsibility to ensure the Contractor's compliance with the contract stipulations. The Schell Supervisory Natural Resource Specialist and the Schell Field Managers will take an active role to ensure the appropriate lines of communication are established between the field, Field Office, State Office, National Program Office, and BLM Holding Facility offices. All employees involved in the gathering operations will keep the best interests of the animals at the forefront at all times.

All publicity, formal public contact and inquiries will be handled through the Field Manager and/or the Supervisory Natural Resource Specialist and Field Office Public Affairs. These individuals will be the primary contact and will coordinate with the COR/PI on any inquiries.

The COR will coordinate with the contractor and the BLM Corrals to ensure animals are being transported from the gather site in a safe and humane manner and are arriving in good condition.

The contract specifications require humane treatment and care of the animals during removal operations. These specifications are designed to minimize the risk of injury and death during and after gather of the animals. The specifications will be vigorously enforced.

Should the Contractor show negligence and/or not perform according to contract stipulations, he will be issued written instructions, stop work orders, or defaulted.

Appendix IV

RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS
Silver King HMA Gather
White Pine County, Nevada

On May 5, 2010 a Noxious & Invasive Weed Risk Assessment was completed for the wild horse gather for the Silver King Herd Management Area (HMA) wild horse gather.
Alternative A: Proposed Action gather and remove approximately 85-88% of the population or approximately 445 excess wild horses within the Silver King HMA. If gather efficiencies exceed 445 wild horses, selective removal criteria would be used to return horses to the range. Of these, about 60% would be studs, with the remainder mares treated with fertility control (PZP-22) prior to their return.

The primary gather technique would be the helicopter-drive trapping method. The use of roping from horseback could also be used when necessary. Multiple gather sites (traps) would be used to gather wild horses both from within or outside the HMA. Gather sites would be located in previously disturbed areas. All trap sites, holding facilities, and camping areas on public lands would be recorded with Global Positioning System equipment, given to the weed coordinator, and then assigned for monitoring during the next several years for noxious weeds.

Alternative B: once 445 wild horses are gathered and removed the gather would conclude. No wild horses would be released with (PZP -22) fertility control and sex ratios would not be adjusted.

No Action Alternative: a gather to remove excess wild horses would be deferred. Damage to the range as a result of the current wild horse population would continue to increase as wild horse populations grow at 20-25% per year. In two years, the wild horse population would exceed 728 head or 7 times over AML. The BLM would continue vegetation and population monitoring. Wild horses currently residing outside the Silver King HMA would remain.

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

Linaria dalmatica	Dalmation Toadflax
Centaurea diffusa	Diffuse Knapweed
Carduus nutans	Musk Thistle
Acroptilon repens	Russian Knapweed
Tamarix ssp.	Salt Cedar
Onopordum acanthium	Scotch Thistle
Centaurea stoebe	Spotted Knapweed
Lepidium latifolium	Tall Whitetop
Lepidium draba	Whitetop/Hoary Cress

The following noxious and non-native, invasive species are found along roads and drainages leading to the project area:

Cirsium vulgare	Bull Thistle
Linaria dalmatica	Dalmation Toadflax
Centaurea diffusa	Diffuse Knapweed
Carduus nutans	Musk Thistle
Tribulus terrestris	Punturevine

Acroptilon repens	Russian Knapweed
Tamarix spp.	Salt Cedar
Onopordum acanthium	Scotch Thistle
Centaurea stoebe	Spotted Knapweed
Lepidium latifolium	Tall Whitetop
Lepidium draba	Whitetop/Hoary Cress

The project area was last inventoried for noxious weeds in 2008. While not officially documented the following non-native invasive weeds probably occur in or around the project area:

Bromus tectorum	Cheatgrass	*Marrubium vulgare*	Horehound
Ceratocephala testiculata	Bur buttercup	*Salsola kali*	Russian thistle
Convolvulus arvensis	Field bindweed	*Sysimbrium altissimum*	Tumble mustard
Halogeton glomeratus	Halogeton	*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 the propose action, the factor rates as Moderate (5) at the present time. Given the concentrated use around capture sites could result in new infestations, specifically at the capture sites and holding pens. However, by removing excess horses, native plant communities should have increased vigor and outcompete weeds. For Alternative B the results would be similar. For the no action alternative, no gather operation would occur to spread weeds, and excess horses would remain on the range, native plants could decrease due to overgrazing and weeds would be more competitive.

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 Moderate (5) at the present time. The project area has several noxious weed infestations, especially along the highway. New weed infestations could spread to the area and then there would be adverse effects to the surrounding native vegetation. An increase in cheatgrass could alter the fire regime in the area. The potential to spread weeds would be limited primarily to identified areas making follow up monitoring and treatment,

if necessary, more manageable.

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 (25). This indicates that the project can proceed as planned as long as the following measures are followed:

- Gather capture sites will be chosen in previously disturbed areas which are free from noxious weed infestations, to the greatest extent possible.
- Where appropriate, 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. 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 Ely District Office Weed Coordinator or designated contact person.
- Prior to 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.
- Keep 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.)
- Monitoring of the capture sites and holding pens on public lands will be conducted for at least three years and will include weed detection. Any newly established populations of noxious/invasive weeds discovered will be communicated to the Ely District Noxious and Invasive Weeds Coordinator for treatment.

The Ely District normally requires that all hay, straw, and hay/straw products use in project be free of plant species listed on the Nevada noxious weed list. However, this gather is being implemented through the National Wild Horse & Burro Gather Contract and there are no stipulations in this national contract that require the contractor to provide certified weed-free forage.

Until weed free hay such a time as weed free hay is required, the Ely District encourages the contractor to acquire locally produced hay from the valleys nearest to the project area. Although it may not be required to feed weed free hay, by using locally produced hay it would prevent the introduction of weeds from other areas.

Reviewed by: /s/Mindy Seal 5/7/2010

Mindy Seal Date
Natural Resource Specialist

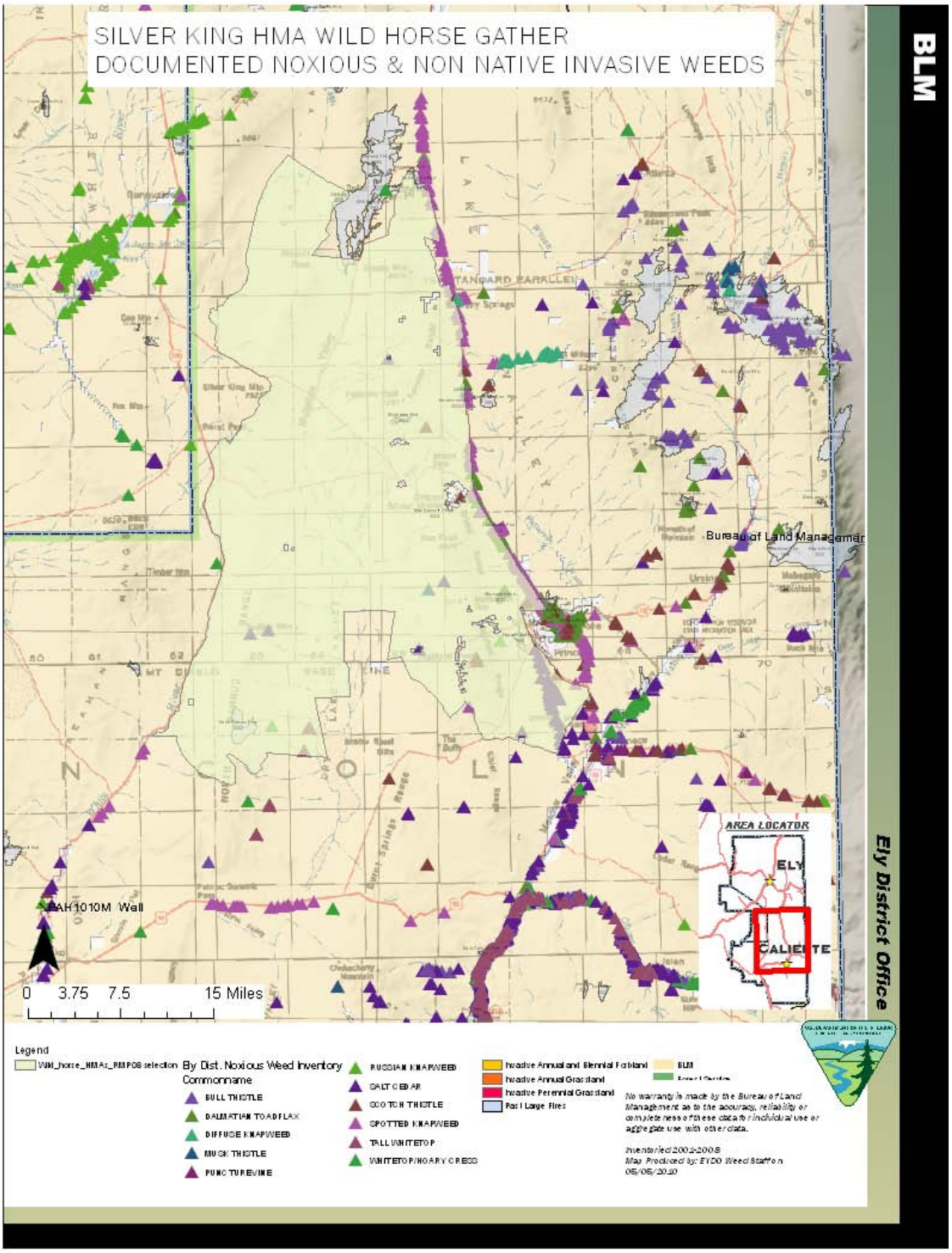


Figure 1. Map of Documented Noxious and Invasive Weeds

Appendix V
Population Model
Silver King 2010 Population Modeling

To complete the population modeling for the Silver King Herd Management Area, version 1.40 of the WinEquus program, created April 2, 2002, was utilized.

Objectives of Population Modeling
Review of the data output for each of the simulations provided many use full comparisons of the possible outcomes for each alternative. Some of the questions that need to be answered through the modeling include:

- Do any of the Alternatives "crash" the population?
- What effect does fertility control have on population growth rate?
- What effects do the different alternatives have on the average population size?
- What effects do the different alternatives have on the genetic health of the herd?

Population Data, Criteria, and Parameters utilized for Population Modeling
All simulations used the survival probabilities, foaling rates, and sex ratio at birth that was supplied with the WinnEquus population for the Garfield HMA.

Sex ratio at Birth:
43% Females
57% Males

The following percent effectiveness of fertility control was utilized in the population modeling for Alternative I:

Year 1: 94%, Year 2: 82%, Year 3: 68%

The following table displays the contraception parameters utilized in the population model for Alternative I:

Contraception Criteria
(Alternative I)

Age	Percentages for Fertiltiy Treatment
1	0%
2	100%
3	100%
4	100%

5	100%
6	100%
7	100%
8	100%
9	100%
10-14	100%
15-19	100%
20+	100%

Population Modeling Criteria

The following summarizes the population modeling criteria that are common to the Proposed Action and all alternatives:

- Starting year: 2010
- Intial Gather Year: 2010
- Gather interval: regular interval of three years
- Gather for fertility treatment regardless of population size: No
- Continue to gather after reduction to treat females: Yes
- Sex ratio at birth: 57% males
- Percent of the population that can be gathered: 80%
- Minimum age for long term holding facility horses: Not Applicable
- Foals are not included in the AML
- Simulations were run for 10 years with 100 trials each

The following table displays the population modeling parameters utilized in the model:

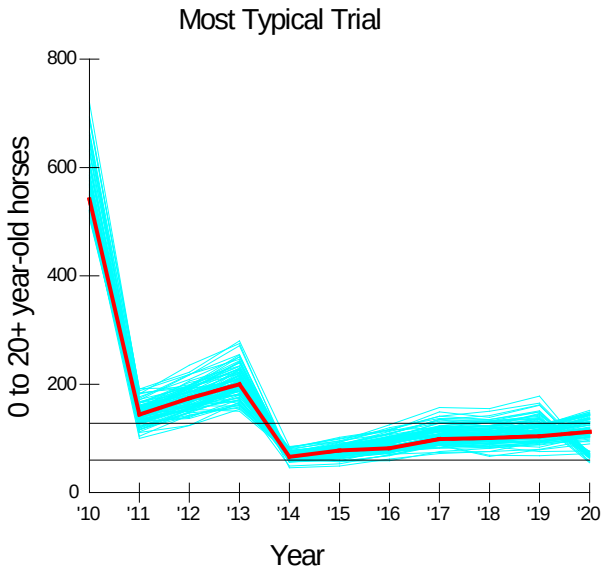
Population Modeling Parameters

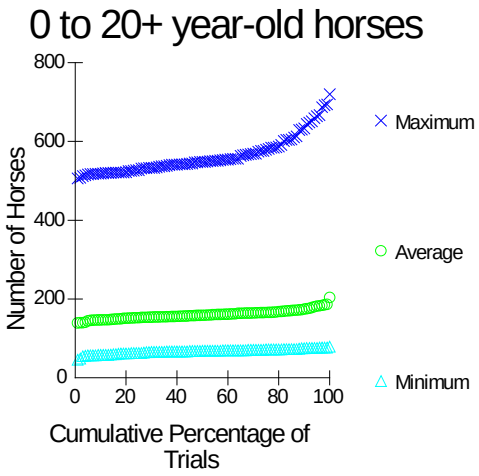
Modeling Parameter	Alternative A Proposed Action (Remove to Low point of AML, Adjust sex ratio 60-40 & Fertility Control)	Alternative B Remove Excess Animals (Low Point AML) Without Fertility Control)	Alternative C No Action (No Removal & No Fertility Control)
Management by removal, 60:40 adjustment in sex ratio, and fertility control	Yes	No	N/A
Management by removal only	No	Yes	N/A
Threshold Population Size Following Gathers	128	128	N/A
Target Population Size Following gather	60	60	N/A
Gather for fertility control regardless of population size	No	No	N/A
Gather continue after removals to treat additional females	Yes	No	N/A

Effectiveness of Fertility Control: Year 1	94%	N/A	N/A
Effectiveness of Fertility Control: Year 2	82%	N/A	N/A
Effectiveness of Fertility Control: Year 3	68%	N/A	N/A

Results- Alternative A: Proposed Action – Selective Removal of Excess Animals (Low Point AML); Apply Two-Year Fertility Control, & 60% Male Sex Ratio

Population Size





Population Sizes in 11 Years*

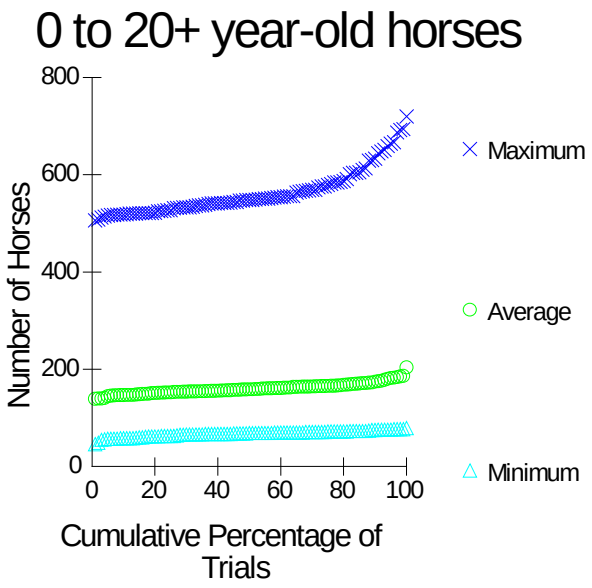
	Minimum	Average	Maximum
Lowest Trial	46	139	506
10th Percentile	58	147	518
25th Percentile	63	153	529
Median Trial	69	159	548
75th Percentile	72	166	580
90th Percentile	76	175	638
Highest Trial	79	204	720

* 0 to 20+ year-old horses

In 11 years and 100 trials, the lowest number 0 to 20+ year-old horses ever obtained was 46 and the

highest was 720. In half the trials, the minimum population size in 11 years was less than 69 and the maximum was less than 548. The average population size across 11 years ranged from 139 to 204.

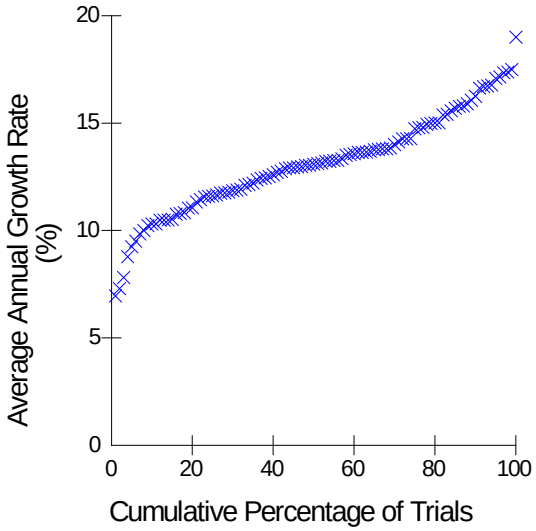
Gather



Totals in 11 Years*	Gathered	Removed	Treated
Lowest Trial	631	439	39
10th Percentile	652	464	49
25th Percentile	674	482	54
Median Trial	699	504	66
75th Percentile	740	572	78
90th Percentile	794	614	88
Highest Trial	935	768	93

* 0 to 20+ year-old horses

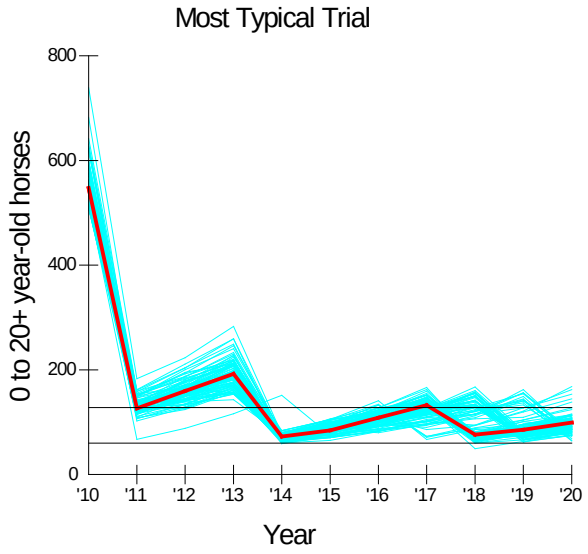
Growth Rate

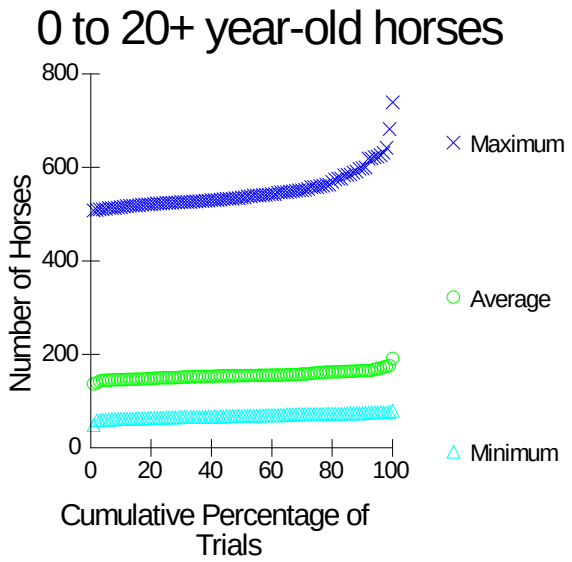


Average Growth Rate in 10 Years	
Lowest Trial	7.0
10th Percentile	10.3
25th Percentile	11.6
Median Trial	13.1
75th Percentile	14.8
90th Percentile	16.4
Highest Trial	19.0

Results Alternative B Remove Excess Animals (Low Point AML) Without Fertility Control

Population Size





Population Sizes in 11 Years*

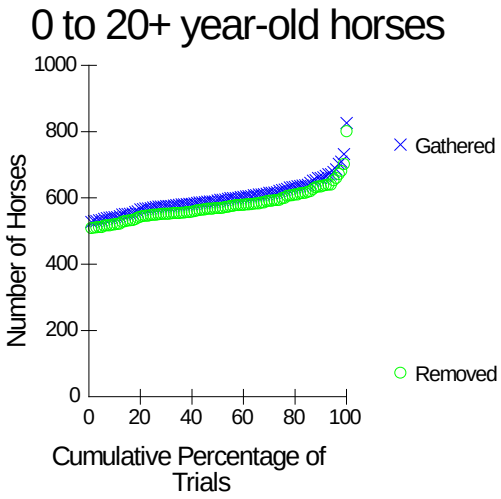
	Minimum	Average	Maximum
Lowest Trial	49	137	508
10th Percentile	62	146	516
25th Percentile	65	150	524
Median Trial	68	154	536
75th Percentile	72	160	559
90th Percentile	74	165	599
Highest Trial	79	191	739

* 0 to 20+ year-old horses

In 11 years and 100 trials, the lowest number of 0 to 20+ year-old horses ever obtained was 49 and the highest was 739. In half the trials, the minimum population size in 11 years was less than

68 and the maximum was less than 536. The average population size across 11 years ranged from 137 to 191.

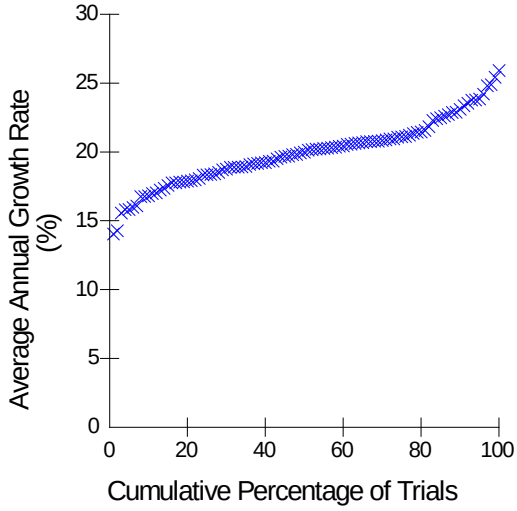
Gather



	Totals in 11 Years*	
	Gathered	Removed
Lowest Trial	527	509
10th Percentile	542	520
25th Percentile	572	549
Median Trial	593	569
75th Percentile	624	600
90th Percentile	661	636
Highest Trial	826	801

* 0 to 20+ year-old horses

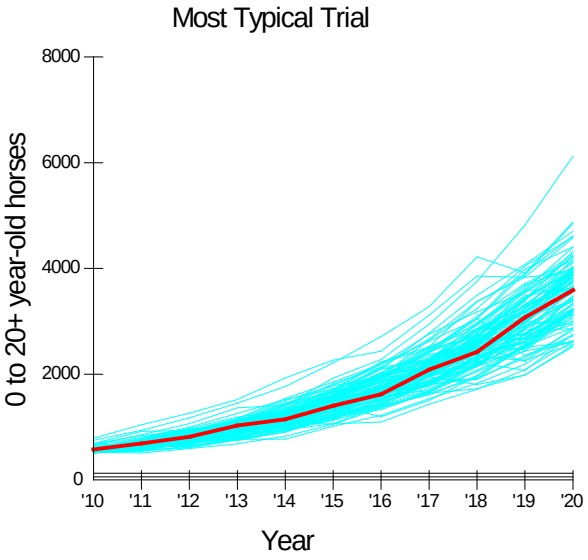
Growth Rate

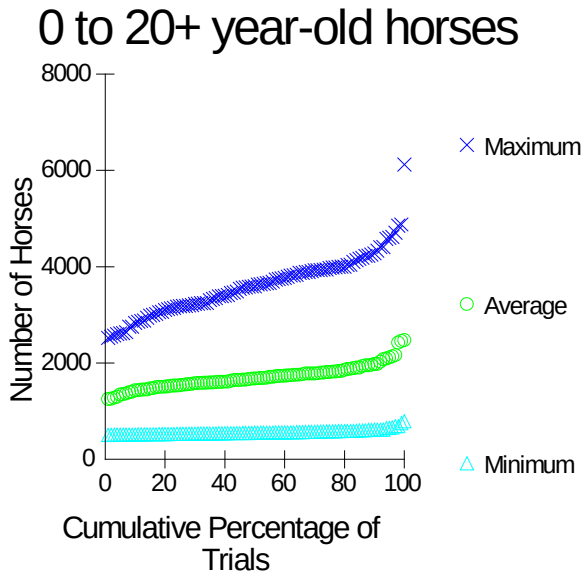


Average Growth Rate in 10 Years	
Lowest Trial	14.0
10th Percentile	16.9
25th Percentile	18.4
Median Trial	20.1
75th Percentile	21.1
90th Percentile	23.2
Highest Trial	25.9

Results - No Action

Population Size





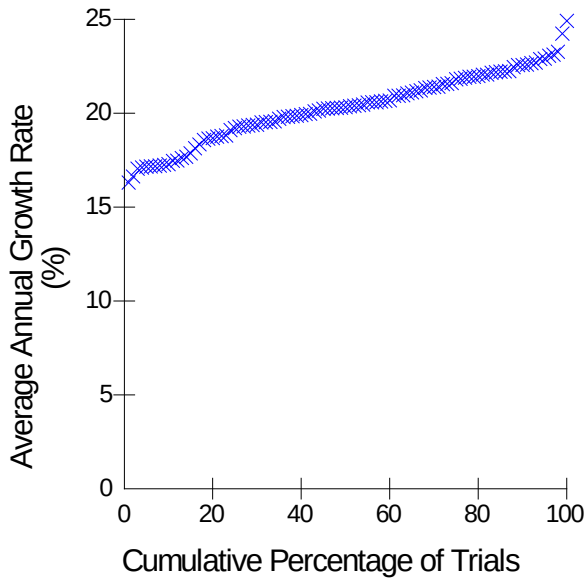
Population Sizes in 11 Years*

	Minimum	Average	Maximum
Lowest Trial	506	1250	2522
10th Percentile	516	1433	2844
25th Percentile	528	1541	3182
Median Trial	551	1679	3612
75th Percentile	582	1815	3976
90th Percentile	615	1980	4306
Highest Trial	790	2474	6123

* 0 to 20+ year-old horses

In 11 years and 100 Trials, the lowest number of 0 to 20+ year-old horses ever obtained was 506 and the highest was 6123. In half the trials, the minimum population size in 11 years was less than 551 and the maximum was less than 3612. The average population size across 11 years ranged from 1250 to 2474.

Growth Rate



Average Growth Rate in 10 Years	
Lowest Trial	16.3
10th Percentile	17.4
25th Percentile	19.2
Median Trial	20.3
75th Percentile	21.8
90th Percentile	22.6
Highest Trial	24.9