BLM

Sierra Front Field Office, Nevada

ENVIRONMENTAL ASSESSMENT

Lahontan Herd Management Area Gather Plan

DOI-BLM-NV-C020-2010-0018-EA

U.S. Department of the Interior
Bureau of Land Management
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NATIONAL SYSTEM OF PUBLIC LANDS

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AML	Appropriate Management Levels
AUM	Animal Unit Months
AVMA	American Veterinary Medical Association
BLM	Bureau of Land Management
CCDO	Carson City District Office
CRMP	Carson City Field Office Consolidated Resource Management Plan
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
LGA	Lahontan Grazing Allotment
HMA	Herd Management Area
HMAP	Herd Management Area Plan
IM	Instructional Memorandum
KFPM	Range Utilization Key Forage Plant Method
LTP	Long Term Pastures
MUD	Multiple Use Decision
NEPA	National Environmental Policy Act
SFFO	Sierra Front Field Office
SOP	Standard Operating Procedures
LSRA	Lahontan State Recreation Area
WFRHBA	Wild Free-Roaming Horses and Burros Act

1.0 Introduction

This Environmental Assessment (EA) has been prepared to analyze the Bureau of Land Management (BLM) Sierra Front Field Office (SFFO) proposal to gather and remove up to 94 excess wild horses from within and outside the boundaries of the Lahontan Herd Management Area (HMA) on or about December 2, 2010. Excess wild horses are utilizing rangelands inside the HMA.

This EA is a site-specific analysis of the potential impacts that could result from the implementation of the Proposed Action or No Action Alternative. This EA assists the SFFO 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 Proposed Action.

Should a determination be made that implementation of the Proposed Action would not result in "significant environmental impacts," a Finding of No Significant Impact (FONSI) would be prepared to document that determination, and a Decision Record (DR) would be issued providing the rationale for approving the selected alternative.

1.1 Background

With passage of the Wild Free-Roaming Horses and Burros Act of 1971 (WFRHBA) (Public Law 92-195), Congress found that: "Wild free-roaming wild horses and burros are living symbols of the historic and pioneer spirit of the West." The Act states that wild free-roaming wild horses are to be considered in the area where presently found, as an integral part of the natural ecosystem of the public lands. The Secretary was ordered to "manage wild free- roaming wild horses and burros in a manner that is designed to achieve and maintain a thriving natural ecological balance on the public lands." The terms "horse" and "wild horse" (*Equus caballus*) are used synonymously throughout this document.

The BLM National Wild Horses and Burros Strategy includes: establishing and achieving Appropriate Management Levels (AML) on all Herd Management Areas managed by the BLM, and to achieve and maintain AML on all HMA's implementing a four year gather cycle.

1.2 Location

The HMA is situated within the administrative jurisdiction of Carson City District Office (CCDO). The Lahontan HMA is located near Silver Springs, Lyon County, Nevada. The HMA is located south of the Lahontan State Recreation Area, and is mostly within the Lahontan Grazing Allotment (LGA) (Figure 1). Wild horses in the area likely originated from released ranch stock. The HMA is 11,029 acres in size, of which 583 acres are on private lands (Table 1).

Table 1. Herd Management Area Description.

Herd	Total Acres	Appropriate Management Level	Estimated Population	Removal
HMA	11,029	7-10	104	94

A Herd Management Area Plan/Capture Plan (HMAP) was originally prepared for this HMA in 1991 and was updated in 2003. These plans presented management direction for managing the horse population.

1.3 Appropriate Management Level

The 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. At the time of enactment of the WFRHBA in 1971, it was estimated that four wild horses occupied the HMA. The AML range for the HMA, established in 1993 by the Multiple Use Decision (MUD), is set at 7-10 wild horses. The 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.

The MUD divided the available forage between wildlife, wild horses and livestock. The AML for the HMA was set at 7-10 wild horses or 120 Animal Unit Months (AUM's), and livestock was allocated 122 AUM's. The available AUMs were essentially divided equally between livestock and wild horses.

Data from prior gathers in the HMA is listed below in Table 2.

Table 2. Population and Removal Data.

Census Date	Number of Wild Horses Counted Inside and Outside the HMA	No. Removed
1971	4	-
1982	42	-
1986	130	-
1987	143	-
1988	172	-
1989	185	-
1991	233	-
1991	-	146
1991	87	-
1993	112	-
1994	-	69
1994	43	-
1995	71	-
1996	-	29
2003	261	-
2004	-	269
2004	25	-
2010	104	-

A direct aerial population inventory of the HMA was conducted in May, 2010. The count was 104 wild horses outside of the boundaries of the HMA. Wild horses were observed in the LGA, immediately east/northeast of the HMA, and Lahontan State Recreation Area, north of the HMA. No wild horses were observed within the HMA. Utilization and wild horse sign clearly indicate that heavy use is occurring throughout the HMA. The wild horse population is more than 10 times higher than the upper limit set for the AML. Poor forage availability has prevented livestock from being placed on the LGA since March 2007.

Rangeland resources and wild horse health have been and are currently being affected within the boundaries of the HMA. Utilization data using the Range Utilization Key Forage Plant Method (KFPM) and monitoring indicates heavy (61-80 percent) use attributable to wild horses over most of the HMA (Figure 2).

Based upon information available at this time, the BLM has determined that 94 excess wild horses exist within and outside of the boundaries of the HMA. These excess animals need to be removed in order to achieve the established AMLs, and to restore a thriving natural ecological balance and prevent further degradation of rangeland resources. This assessment is based on factors including, but not limited to the following rationale:

- Direct count of 104 wild horses, 94 wild horses in excess of the AML upper limit.
- Heavy utilization is evident on key forage species.
- Excess horse numbers have resulted in wild horses residing outside HMA boundaries.

1.4 Purpose and Need

The purpose of the Proposed Action is to remove excess wild horses from within the HMA and to remove all wild horses outside the HMA. The Proposed Action is needed to achieve: the established population AML approved by the LGA MUD; to achieve full compliance with the Carson City Field Office Consolidated Resource Management Plan (CRMP) (2001); to prevent continued unnecessary degradation of public lands both within and outside of the boundaries of the HMA; to restore a healthy natural ecological balance; and to reestablish a multiple use doctrine consistent with the provisions of Section 1333 (a) of the WFRHBA.

1.5 Conformance with BLM Land Use Plan(s)

The Proposed Action is to remove excess wild horses from within the HMA and to remove all wild horses residing outside the HMA, and is in conformance with the CRMP.

The following decisions from the CRMP affect the HMA:

1. **WHB-2**: decision 2 - "Maintain sound thriving populations of wild horses within HMAs."
2. **WHB-2**: decision 1 - "Develop and implement an HMAP for the HMA."
3. **WLD-2**: decision 4 - "Maintain and improve wildlife habitat, and reduce habitat conflicts while providing for other appropriate resource uses."

4. **WLD-2**, decision 6 - "Maintain or improve the condition of the public rangelands so as

to enhance productivity for all rangeland values (including wildlife)."

1.6 Conformance with Rangeland Health Standards and Guidelines

The HMA has not been assessed for conformance with Rangeland Health Standards. A rangeland health assessment is tentatively planned for no later than 2016. For a summary of the applicable Rangeland Health Standards refer to:
http://www.blm.gov/nv/st/en/res/resource_advisory/sierra_front-northwestern/standards_and_guideline.html

1.7 Relationship to Statutes, Regulations, or other Plans

The Proposed Action is in compliance with the following federal, State, and local plans to the maximum extent possible:

- State Protocol Agreement between the BLM, Nevada and the Nevada Historic Preservation Office (2009)
- Endangered Species Act – 1973
- National Environmental Policy Act of 1969 (as amended)
- Migratory Bird Treaty Act (1918 as amended) and Executive Order 13186
- Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.)
- 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)
- 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 WFRHBA, which mandates the Bureau to "*prevent the range from deterioration associated with overpopulation,*" and "*remove excess wild horses in order to preserve and maintain a thriving natural ecological balance and multiple use relationships in that area."* Additionally, 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*."

1.8 Decision to be Made

The BLM Authorizing Official will determine whether to implement the proposed gather of up to 94 excess wild horses within and outside the boundaries of the HMA to maintain the population size within the established AML and avoid the further deterioration of the range that results from

horse overpopulation. The Authorized Officer's decision would not set or adjust the AML, adjust livestock use on the LGA, or change the MUD, as these were set through previous decisions.

2.0 Description of Alternatives

2.1 Alternative A: Proposed Action

The Proposed Action is to gather and remove up to 94 excess wild horses that exist within and outside the boundaries of the HMA. A direct aerial population inventory of the HMA was conducted in May, 2010. The count was 104 wild horses outside of the boundaries of the HMA. Wild horses were observed in the LGA north/northeast of the HMA, and in LSRA north of the HMA. No wild horses were observed within the HMA. Utilization and wild horse sign clearly indicate that heavy use is occurring throughout the HMA. The wild horse population is approximately 10 times higher than the upper limit set for the AML (10 animals). Although no wild horses were observed within the HMA in May, 2010, the Proposed Action would be to gather any wild horses within the HMA above the upper limit of the AML. No continuous fencing exists that prevents the movement of wild horses outside the HMA. Wild horses utilize the LSRA because of the availability of water. Previous decisions had been made to allow for movement of horses to access water.

The Proposed Action is designed to achieve and maintain the HMA in a state of thriving natural ecological balance and multiple use relationship between the wild horse population, wildlife, livestock and plant communities. Conducting a gather at this time is necessary to resolve the issues of over-utilization within the HMA.

The primary gather technique would be the helicopter-drive trapping method. The use of roping from horseback could also be used when necessary. One or two gather sites (traps) would be used to gather wild horses both from within or outside the boundaries of the HMA. All efforts would be made to locate trap sites in previously disturbed areas on public lands. 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 trap site selections) would be conducted in accordance with Standard Operating Procedures (SOPs) in Appendix A.

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

Gathered wild horses would be transported to BLM holding facilities where they would 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 or other restrictions may be implemented on public lands during gather operations as necessary, to allow for safe and effective operations to proceed. Any closure or restriction would require separate notices including publication in the *Federal Register* and additional NEPA compliance. Public observation of the gather would be consistent with BLM IM No. 2010-164.

2.2 Alternative B: No Action Alternative

Under the No Action Alternative, a gather to remove excess wild horses would be deferred. Damage to the range within the HMA would continue to increase, as wild horse populations can grow at an average rate of 20 to 25 percent per year. In two years, the wild horse population could exceed 162 head or 16 times above the AML (upper limit). Under the No Action Alternative, BLM would continue to monitor range health and wild horse populations.

The No Action Alternative would not be in conformance with existing laws and regulations, which require the Authorized Officer to remove the animals immediately upon determination that excess wild horses are present. The No Action Alternative is required by NEPA to provide a baseline for impact analysis.

The No Action Alternative is contrary to the management decisions in the CRMP and would not include any of the objectives and management actions outlined in this EA. The horse population has already exceeded the capacity of the HMA to provide forage. As the population increases there is increased pressure on the rangeland in the LSRA and LGA. Wild horses utilize the rangeland of the LSRA because of the availability of water. No continuous fencing exists between the HMA and LSRA. Previous decisions had been made to allow for movement of horses to access water. Eventually the wild horse population would disrupt the natural vegetative community to such an extent that it would no longer provide forage for wildlife, livestock, and wild horses. In addition, invasive and noxious weed species would expand and once established in areas disturbed by overgrazing would be very difficult or practically impossible to remove. Complete eradication of invasive weeds once established over large areas is very expensive and may not be 100 percent effective.

2.3 Alternatives Considered, But Eliminated From Detailed Analysis

Water Trapping

An alternative considered but dismissed from detailed analysis was the use of water trapping as the primary gather method. This alternative was dismissed from detailed study because wild horses obtain water from the Lahontan Reservoir therefore fencing of the water source is not feasible.

Gather and Remove Excess Wild Horses and Apply Two-Year PZP on a Three Year Gather Cycle

This alternative is not practical in order to ensure a viable population due to the small AML (7-10 animals).

Remove or Reduce Livestock Grazing within the HMA

This alternative would still involve removing the majority of wild horses as they have established home ranges outside of the HMA. This alternative was not brought forward for detailed analysis because it is outside of the scope of the analysis, and is inconsistent with the decisions incorporated in the CRMP and the WFRHBA, 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 CRMP. Such changes to livestock grazing cannot be made through a wild horse gather plan.

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. The alternative of using natural controls to achieve a desirable AML has not been shown to be feasible in the past. Few adult wild horses or foals within this HMA succumb to predation; the only natural population regulating mechanism would be the availability of forage. Livestock and wildlife species would be impacted as a result of limited forage prior to affecting the wild horse population. Many native plants would decline, facilitating the establishment and expansion of non-native noxious weeds. When unchecked, a population of wild horses can have adverse effects on native vegetation, wildlife and livestock.

3.0 Affected Environment/Environmental Consequences

General Setting

The HMA is located mostly within the LGA, and is south of the Lahontan Reservoir and the Carson River Delta. The average elevation is approximately 4,500 feet above sea level. The dominant vegetation consists of Bailey's greasewood (*Sarcobatus baileyi*), shadscale (*Atriplex confertifolia*), bottlebrush squirreltail (*Hesperashpa cormata),* Indian ricegrass (*Achnatherum hymenoides*), and needle-and-thread (*Elymus elymoides*).

Annual precipitation averages 7.5 inches per year. Most of this precipitation comes during the winter and spring months in the form of snow and rain, supplemented by localized thunderstorms during the summer months. Temperatures range from greater than 100 degrees Fahrenheit (°F) in the summer months to 0°F in the winter however, for the most part temperatures range from a low of 23 to a high of 94°F depending on the month. The area is also utilized by livestock (under terms and conditions outlined in grazing permits) and wildlife. Due to poor forage availability, livestock grazing has not occurred on the LGA since March of 2007.

Identification of Issues:

Internal scoping was conducted by an interdisciplinary team on March 22, 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 BLM's NEPA Handbook (H-1790-1) (BLM, 2008) to determine if detailed analysis was required.

SUPPLEMENTAL AUTHORITIES

Appendix 1 of BLM's NEPA Handbook identifies Supplemental Authorities that are subject to requirements specified by statute or executive order and must be considered in all BLM environmental documents Supplemental Authorities that may be affected by the Proposed Action are further described in this EA.

Table 3. Supplemental Authorities Considered for Analysis.

Supplemental Authority*	Not Present **	Present/ Not Affected	Present/ May Be Affected ***	Rationale and/ or Reference Section
Air Quality	X			The project 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 wild horses to the trap sites would be temporary and minimal in nature.
Areas of Critical Environmental Concern	X			Not Present.
Cultural Resources	X			A cultural resource review was conducted for both the holding facility and the trap site. The holding facility location has been previously inventoried and the trap site is within an existing area of disturbance. In the event these locations need to be relocated cultural resource staff will facilitate that process.
Environmental Justice	X			No environmental justice issues are present at or near the project.

Farm Lands (prime or unique)	X			Not Present.
Forests and rangelands (HFRA Projects Only)	X			Not Present.
Human Health and Safety (Herbicide Projects)	X			No analysis needed as no safety concerns are expected, but a risk management worksheet would be prepared to mitigate any hazards that may present themselves.
Floodplains	X			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.
Invasive, Nonnative and Noxious Species			X	Analysis in EA.
Migratory Birds			X	The Proposed Action would be planned to occur outside of Migratory Bird nesting season. However, habitat may be affected.
Native American Religious Concerns	X			During a face to face meeting (May 26, 2010) with the Fallon Paiute-Shoshone Tribe a discussion of the gather was brought forward. There were no concerns identified for the horse gather, however a copy of the EA will be provided to the Tribe for review prior to the horse gather.
Threatened and/or Endangered Species	X			After consulting with the BLM wildlife biologist and the USFWS website for Nevada, there are no federally listed threatened or endangered species within the project area. (http://www.fws.gov/nevada/protected_species/species_by_county.html).
Wastes, Hazardous or Solid	X			No hazardous or solid wastes exist on the permit renewal area, nor would any be introduced.
Water Quality (Surface/Ground)	X			No affects to water quality are expected.
Riparian/Wetland Areas			X	Present on adjacent LSRA lands.
Wild and Scenic Rivers	X			Not Present.
Wilderness	X			Not Present.

**See H-1790-1 (January 2008) Appendix 1 Supplemental Authorities to be Considered.*
***Supplemental Authorities determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.*
****Supplemental Authorities determined to be Present/May Be Affected must be carried forward in the document.*

RESOURCES OR USES OTHER THAN SUPPLEMENTAL AUTHORITIES

The following resources or uses, which are not Supplemental Authorities as defined by BLM's Handbook H-1790-1, are present in the area. BLM specialists have evaluated the potential impact of the Proposed Action on these resources and documented their findings in the table below. Resources or uses that may be affected by the Proposed Action are further described in this EA.

Table 4. Other Resources Considered for Analysis.

Resource or Issue	Present/Not Affected#	Present/May Be Affected##	Rationale
BLM Sensitive Species		X	Analysis in EA.
General Wildlife		X	Analysis in EA.
Livestock Grazing		X	Analysis in EA.
Public Health and Safety		X	Analysis in EA.
Soil Resources		X	Analysis in EA.
Vegetation		X	Analysis in EA.
Visual Resources	X		
Wild Horses		X	Analysis in EA.

#Resources or uses determined to be Present/Not Affected need not be carried forward or discussed further in the document.
##Resources or uses determined to be Present/May Be Affected must be carried forward in the document.

A. Wild Horses

Affected Environment

Wild horses are an introduced species within North America. Few natural controls act upon wild horse herds making them very competitive with native wildlife. Population inventory flights are conducted in the HMA every two to six years. The population inventory flights provide information pertaining to population numbers, foaling rates, distribution, and herd health. A population inventory was conducted in May 2010 on the HMA using a direct count method. The BLM observed 104 wild horses, all residing outside the HMA boundaries. This is approximately 10 times over the AML (upper limit). Monitoring data shows that wild horses have negatively impacted range conditions in the HMA. In March of 2010, wild horse use of the HMA was heavy based on use pattern mapping completed.

Population modeling (Table 4) was completed for the HMA to analyze possible outcomes of how the Proposed Action would affect the wild horse population. The modeling also analyzed removal of excess wild horses. The No Action Alternative (no gather) was also modeled. One objective of the modeling was to identify if either of the alternatives would adversely impact 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 B.

Table 4. WinEquus Population Model Results for HMA.

Alternative	Minimum Population	Average Population	Maximum Population	Average Growth Rate (in %)	Gathered	Removed
A. Proposed Action	11	28	56	20	104	84
B. No Action	11	125	450	20	0	0

Environmental Consequences

Proposed Action

The Proposed Action would gather and remove excess wild horses within the HMA and outside the HMA boundary. Under this alternative, excess wild horses would be removed to the upper limit of the AML. Historically, gather efficiencies have averaged about 90 percent 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.

Decreased competition for forage should result in improved health and condition of mares and foals and in maintaining healthy range conditions over the long-term.

The Proposed Action would reduce damage to the range from the current excess population of wild horses and allow vegetation to recover over time, without the need for additional gathers

once the Proposed Action is complete. As a result, there would be fewer disturbances to individual animals, the herd, and a stable wild horse social structure would be provided.

The removal of excess wild horses would reduce competition for forage, reduce animal stress levels and improve herd health.

Impacts to individual animals may occur as a result of handling stress associated with the gather, sorting, 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.

Indirect impacts can occur to wild horses after the initial stress event, and may include increased social displacement, and 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 which often result in bruises, which do not break the skin.

Temporary Holding Facilities During Gathers

Wild horses gathered would be transported from the gather sites to a temporary holding corral in goose-neck trailers or straight-deck semi-tractor trailers. At the temporary holding facility, the wild horses would be aged and sorted into different pens based on sex. The wild horses would be provided ample supply of good quality hay and water. Mares and their unweaned foals would be kept in pens together. All wild horses identified for retention would be penned separately from those animals identified for removal as excess.

At the temporary holding facility, a veterinarian would 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 Facility, and Adoption Preparation

Wild horses removed from the range 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 would be inspected prior to use to ensure wild horses can be safely transported. Wild horses would be segregated by age and sex when possible and loaded into separate compartments. Mares and their unweaned foals may be shipped together. Transportation of wild horses is limited to a maximum of eight hours. During transport, potential impacts to individual wild 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 at short-term holding facility, 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. 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. Mares in very thin condition may have difficulty transitioning to feed. A small percentage of animals can die during this transition.

After 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 a short-term holding facility, a minimum of 700 square feet is provided per animal. Mortality averages approximately 5 percent (GAO, 2008), and includes animals euthanized due to a pre-existing conditions, 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

Applicants for adoption 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 receive title and the horse becomes the property of the applicant. Adoptions are conducted in accordance with 43 CFR § 4750.

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 three times. The application also specifies that all buyers are not to sell to slaughter houses or anyone who would sell the animals to a commercial processing plant. The sale of wild horses are conducted in accordance with the WFRHBA and any Congressional limitations.

Long-Term Pastures

During the past three 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 (LTPs) 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 off-loaded and provided a minimum of eight hours on-the-ground rest. During the rest period, each animal is provided access to unlimited amounts of clean water and two 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 off-loading and reloading is likely to be greater than the stress involved in the additional period of uninterrupted travel.

LTPs are designed to provide excess wild horses with humane, and in some cases life-long care in a natural setting off the public rangelands. 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 privately-owned pastures in Oklahoma, Kansas, and South Dakota. Establishment of LTPs was subject to a separate NEPA and decision-making process. Located in mid or tall grass prairie regions of the United States, these LTPs 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 LTPs, 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 LTPs, they remain available for adoption or sale to qualified individuals; and foals born to pregnant mares in LTPs 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 wild horses residing on LTP facilities live longer on average, than wild horses residing on public rangelands, natural mortality of wild horses in LTPs averages approximately 8 percent per year, but can be higher or lower depending on the average age of the wild horses pastured there (GAO, 2008).

Euthanasia and Sale Without Limitation

While euthanasia and sale without limitation is allowed under the WFRHBA, this action has been limited by Congressional appropriations. These options are not available under the Department of the Interior's Fiscal Year 2010 budget appropriations.

Wild Horses Remaining or Released into the HMA following a Gather

Under the Proposed Action, the post-gather population of wild horses would be about ten wild horses, which is at the upper range of the AML for the 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.

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 area following the removal of excess wild 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 excess population of wild horses would be reduced under the Proposed Action. Fighting among studs 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 the gather. 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 orphaned 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.

Gathering the wild horses during the winter 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; 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. 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.

No Action Alternative

Under the No Action Alternative, excess wild horses would not be removed from within or outside the boundaries of the HMA at this time. The animals would not be subject to the individual direct or indirect impacts as a result of a gather operation. Over the short-term, individuals in the herds would be subject to increased stress and higher mortality as a result of increased competition for water and forage as the wild horse population continues to grow. The number of areas experiencing severe over-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 in the LSRA would also be expected to increase, resulting in larger, more extensive areas of bare ground. Competition for the available forage between wild horses, livestock, and native wildlife would increase.

Wild horses are a long-lived species with documented survival rates exceeding 92 percent 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. Coyotes are not prone to

prey on wild horses unless they are young or extremely weak and other large predators are not common. 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 wild horses would be at greater risk of death by starvation. The population of wild horses would compete for the available forage resources, affecting mares and foals most severely. Social stresses would increase. Fighting among male wild horses would increase as they protect their position at water sources, as well as injuries and death to all age classes of animals. Significant losses of wild horses due to starvation would have obvious consequences to the long-term viability of the herd. Decline of rangeland health and irreparable damage to vegetation, soil and riparian resources (on LSRA lands), would cause significant impacts to the future of the HMA and surrounding area. 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 wild horses would leave the boundaries of the HMA in search of forage and water. The No Action Alternative would result in increasing numbers of wild horses in areas not designated for their use. This would be contrary to the WFRHBA 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."

If the population of wild horses were allowed to increase unchecked, most of the palatable forage plants would eventually be replaced by unpalatable, and in many cases noxious weeds, negatively affecting wildlife. Noxious, non-native weeds prevent the re-colonization of disturbed areas by native plants. As noxious, non-native weeds increase, native wildlife populations may decline due to deteriorating habitat conditions.

B. Riparian/Wetland Areas

Affected Environment

There are no water sources within the HMA; the wild horses obtain their water from the nearby Carson River and Lahontan Reservoir. No continuous fencing exists to prevent wild horses from moving into the LSRA. Wild horses use the riparian areas along the Carson River and shores of the Lahontan Reservoir, and a seasonably flooded area to the east of the HMA which supports many mature cottonwood trees. When cattle are on the LGA (which has not occurred since 2007), wild horses may also utilize well water pumped for livestock purposes.

Environmental Consequences

Proposed Action

Managing wild horse populations within the established AML would be expected to initiate recovery of damaged riparian habitats. Trampling of riparian vegetation would be reduced. Utilization of the available forage areas would also be reduced to within allowable levels. Over the long-term, continued management of wild horses within the established AML would be

expected to result in healthier, more vigorous vegetation communities. There would also be reduced competition among wildlife, wild horses, and livestock.

No Action Alternative

Under the No Action Alternative, wild horse populations would continue to grow. Over the long-term, as riparian areas deteriorate and vegetation is lost, soil erosion would increase. Under 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.

C. General Wildlife

Affected Environment

Based on the Southwest Regional GAP Analysis Project, the Nevada Department of Wildlife's Wildlife Action Plan (2006) characterized Nevada's vegetative land cover into eight broad ecological system groups and linked those with key habitat types, which are further refined into ecological systems characterized by plant communities or associations (USGS, 2005). Key habitats can be used to infer likely occurrences of wildlife species assemblages when survey data are lacking. Key habitat types and associated ecological systems (plant communities) that potentially could be affected directly or indirectly by the Proposed Action are displayed in Table 5. A few of the known or potential wildlife species that could be supported by the plant communities are displayed in Table 6. Because intensive plant and animal surveys have not been completed, not all species in the tables may currently exist within or outside the HMA.

Mule deer (*Odocoileus hemionus*) generally feed on forbs, grasses and shrubs depending on the time of year. Forbs and grasses are most important in spring and summer, while shrubs are most utilized during the winter and dry summer months. Approximately 12 percent (1,375 acres) of the HMA is mule deer habitat (NDOW, 2004). Occupancy is limited by forage and water availability. The HMA is not within delineated desert bighorn sheep, pronghorn, or black bear habitat (NDOW 2005, 2006a, 2006b).

Table 5: Key Habitat Types and Ecological Systems (Plant Communities) in the HMA that Could Potentially be Affected Based on SWReGAP Descriptions (USGS, 2005).

Key Habitat and Associated Ecological Systems	Potential Plant Species	Scientific name
Key Habitat — Intermountain Cold Desert Scrub	Alkali Sacoton	*Sporobolus airoides*
	Big Galleta	*Pleuraphis rigida*
Ecological System — Intermountain Basins Mixed Salt Desert Scrub	Bud Sagebrush	*Picrothamnus desertorum*
Ecological System — Intermountain Basins Greasewood Flat	Common Spikerush	*Eleocharis palustris*
	Fourwing Saltbush	*Atriplex canescens*
Key Habitat — Desert Playas and Ephemeral Pools	Galleta	*Pleuraphis jamesii*
	Greasewood	*Sarcobatus vermiculatus*
Ecological System — Intermountain Basins Playas	Great Basin Wildrye	*Leymus cinereus*
	Indian Ricegrass	*Achnatherum hymenoides*
	Lemon's Alkali Grass	*Puccinellia lemmonii*

Key Habitat and Associated Ecological Systems	Potential Plant Species	Scientific name
	Nevada Jointfir	*Ephedra nevadensis*
	Pickle Weed	*Allenrolfea occidentalis*
	Rubber Rabbitbrush	*Ericameria nauseosa*
	Salt Grass	*Distichlis spicata*
	Saltbush Spp	*Atriplex spp*
	Saltgrass	*Distichlis spicata*
	Sandberg Bluegrass	*Poa secunda*
	Shadscale Saltbush	*Atriplex confertifolia*
	Spiny Hopsage	*Grayia spinosa*
	Western Wheatgrass	*Pascopyrum smithii*
	Winterfat	*Krascheninnikovia lanata*
	Yellow Rabbitbrush	*Chrysothamnus viscidiflorus*

Table 6: General wildlife, BLM Sensitive Species, and migratory bird species of conservation concern that may use components of the habitat within the HMA (BLM 2003, 2007).

Key Habitats	Potential Wildlife Species	Scientific name	BLM Sensitive Species	Listed as per IM 2008-050 (Dec. 2007)	Primary Habitat Use Affected
Key Habitat — Intermountain Cold Desert Scrub	Black-tailed Jack Rabbit	*Lepus californicus*	No	N/A	Food sources and thermal cover
	Black-throated Sparrow	*Amphispiza bilineata*	No	No	Increased nesting cover
	Brewer's Sparrow	*Spizella breweri*	No	Yes	Increased nesting cover
Key Habitat — Desert Playas and Ephemeral Pools	Burrowing owl	*Athene cunicularia*	Yes	Yes	Increased food sources
	Coachwhip	*Masticophisflagellum*	No	N/A	Food sources and thermal cover
	Common Side-blotched Lizard	*Uta stansburiana*	No	N/A	Food sources and thermal cover
	Dark Kangaroo Mouse	*Microdipodops megacephalus*	No	N/A	Food sources and thermal cover
	Desert Horned Lizard	*Phrynosoma platyrhinos*	No	N/A	Food sources and thermal cover
	Desert Spiny	*Sceloporus magister*	No	N/A	Food sources and thermal cover
	Ferruginous hawk	*Buteo regalis*	Yes	Yes	Increased prey base
	Golden eagle	*Aquila chrysaetos*	Yes	Yes	Increased prey base
	Great Basin Collared Lizard	*Crotaphytus bicinctores*	No	N/A	Food sources and thermal cover
	Great Basin Rattlesnake	*Crotalus viridis lutosus*	No	N/A	Food sources and thermal cover

	Kit Fox	*Vulpes macrotis*	No	N/A	Increased prey base
	Loggerhead shrike	*Lanius ludovicianus*	Yes	Yes	Increased nesting cover and prey base
	Long-nosed Leopard Lizard	*Gambelia wislizenii*	No	N/A	Food sources and thermal cover
	Pale Kangaroo Mouse	*Microdipodops pallidus*	No	N/A	Food sources and thermal cover
	Pallid bat	*Antrozous pallidus*	Yes	N/A	Increased prey base
	Prairie Falcon	*Falco mexicanus*	Yes	Yes	Increased prey base
	Sage sparrow	*Amphispiza belli*	No	Yes	Increased nesting cover
	Western Fence Lizard	*Sceloporus occidentalis*	No	N/A	Food sources and thermal cover
	Western Whiptail	*Cnemidophorus tigris*	No	N/A	Food sources and thermal cover
	Zebra-tailed Lizard	*Callisaurus draconoides*	No	N/A	Food sources and thermal cover

Environmental Consequences

Proposed Action

Under the Proposed Action, beneficial indirect effects to wildlife resources would be expected from a reduction in horse numbers to within the AML. Beneficial effects would be related to a reduction in the heavy utilization that is occurring and prevention of the overall habitat degradation associated with excess wild horse populations. Over-utilization of forage is occurring and habitat degradation results in decreased forage and cover available to wildlife. This may be resulting in a depressed prey base for wildlife species that forage in the HMA and surrounding area. Continued over-utilization of the rangeland could decrease the abundance of wildlife species that inhabit the area over time. Under the Proposed Action, managing horses within AML should provide adequate habitat requirements of forage, cover, and space for wildlife species. Benefits would also be expected to vegetation and wildlife outside the HMA at the Carson River and Lahontan Reservoir where horses obtain water. Management of horses within AML would likely result in healthier, more vigorous riparian vegetation in these areas.

Overall, if the gather is successful, less competition for forage would benefit species dependent on these key habitats for food and cover. Additionally, small mammals are a prey base for many species. Thus, species such as raptors and carnivores that prey on wildlife that inhabit these plant communities may benefit from an increase in prey abundance over time.

No Action Alternative

Under the No Action Alternative, the prevention of wildlife habitat degradation associated with excess wild horse populations would not occur. Wild horses primarily eat native bunchgrasses;

consequently dietary overlap between wild horses and mule deer has been documented as minimal (one percent) (Hanley and Hanley 1982, Hansen et al. 1977). However, utilization of forage by wild horses within the HMA has been documented as heavy (61 – 80 percent) (Figure 2) and shrubs would be eaten if there are no grasses. Livestock grazing has been in voluntary non-use since 2007 due to poor forage availability. Over-utilization of vegetation and water sources by wild horses is a factor in decreasing plant diversity and in turn changing habitat structure (Beever and Brussard 2000). A less diverse plant community can be vulnerable to fire and in turn invasive grasses such as cheatgrass. This invasive annual grass displaces native perennial shrub, grass, and forb species because of its ability to germinate quicker and earlier than native species, thus outcompeting natives for water and nutrients. Cheatgrass is also adapted to recurring fires that are perpetuated in part by the fine dead fuels that it leaves behind. In general, most native wildlife has a difficult time thriving in these altered fire regimes because diverse native vegetation is required for food and cover. Beever et al. (2008) conducted a study of vegetation response to removal of wild horses in 1997 and 1998. The paper concluded that horse-removed sites exhibited 1.1–1.9 times greater shrub cover, 1.2–1.5 times greater total plant cover, 2–12 species greater plant species richness, and 1.9–2.9 times greater cover and 1.1–2.4 times greater frequency of native grasses than did horse-occupied sites.

While no water exists within the HMA, wild horses obtain water from the Carson River and Lahontan Reservoir. They utilize the riparian areas along the Carson River and shores of the Lahontan Reservoir and a seasonably flooded area to the east of the HMA which supports many mature cottonwood trees. Decreased cover and diversity of grasses and shrubs as well as decreased mammal burrow density have been documented from wild horses at water sources (Beever and Brussard 2000, Ganskopp and Vavra 1986).

Under the No Action Alternative, continued over-utilization of forage by wild horses would further degrade wildlife habitat by decreases forage and cover available to wildlife. Over time this would likely decrease the abundance of most wildlife species that inhabit the HMA and surrounding area.

D. BLM Sensitive Species

Affected Environment

BLM Sensitive species must be native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management, and either:

1. There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range, or

2. The species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk.

A list of sensitive animal and plant species associated with BLM lands in Nevada was signed in 2003. Many of these species that depend on desert scrub ecosystems which are currently impacted through decreased plant species diversity within the project area. No BLM Sensitive plant species are known to occur in the project area. The key habitat types within the HMA are described in the General Wildlife section. The BLM Sensitive Species that occur or are likely to occur in the HMA are listed in Table 6.

Environmental Consequences

Proposed Action

Under the Proposed Action, impacts would generally be the same to BLM Sensitive Species as described in the General Wildlife section. For reasons described in the General Wildlife section, managing horses within AML should lead to better habitat conditions that, over time, may benefit Sensitive Species by providing a more diverse vegetation structure and composition that provides for life history requirements of any given species.

If the gather is successful, less utilization of forage would benefit BLM Sensitive Species dependant on the vegetation for food and cover. Additionally, BLM Sensitive Species such as golden eagle or burrowing owl that prey on wildlife that inhabit the HMA may benefit from an increased prey base over time.

No Action Alternative

Under the No Action Alternative, continued over-utilization of forage by wild horses would further degrade habitat which would decrease forage and cover available to BLM Sensitive Species. The prey base for BLM Sensitive Species that forage in the area could also decline. Over time, this could decrease the abundance of BLM Sensitive Species that inhabit the HMA and surrounding area.

E. Migratory Birds

Affected Environment

On January 11, 2001, President Clinton signed Executive Order 13186 (Land Bird Strategic Project) placing emphasis on conservation and management of migratory birds. Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 and the E.O. addresses the responsibilities of federal agencies to protect them by taking actions to implement the MBTA.BLM management for these species is based on Instruction Memorandum – IM 2008-050 dated December 18, 2007 (BLM, 2007). The key habitat types within the HMA are described in the Affected Environment of the General Wildlife section. The migratory bird species that occur or are likely to occur in the project area is shown in Table 6.

Environmental Consequences

Proposed Action

Under the Proposed Action, the gather operation would not be expected to directly impact breeding populations of migratory birds because it would occur in winter, outside the breeding season. Direct, short-term, localized impacts could occur to resident birds during the gather from potential displacement of individual birds. For reasons described in the General Wildlife section, managing horses within AML should lead to better habitat conditions that, over time, may benefit migratory bird species by providing a more diverse vegetation structure and composition that provides for life history requirements of any given species. If the gather is successful, less utilization of forage would benefit migratory birds dependant on the vegetation for food and cover.

No Action Alternative

Under the No Action Alternative, while no direct, short-term, localized impacts from potential displacement would occur to migratory birds because no gather operations would occur, the excess horse populations could indirectly have long-term adverse impacts to wildlife resources. Continued over-utilization of forage by horses would further degrade the habitat and decrease food sources and cover available to migratory birds that may nest and forage within the HMA and surrounding area. Over time, this could decrease the abundance of species that inhabit the area.

F. Livestock Grazing

Affected Environment

The LGA encompasses most of the HMA (Figure 1). Permitted use on the LGA is for cattle grazing, from November 1 through March 31 each year (Table 7). Available AUMs within the HMA are divided between wild horses (120 AUMs) and livestock (122 AUMs). Due to poor forage availability, cattle grazing has not occurred on the LGA since March of 2007.

Table 7. Grazing Allotment Details.

Allotment	Season of Use	Total Acres	% of Allotment in HMA	Ten Year Average AUM Use	Total Permitted AUM's	Percent of Permit Use
Lahontan	11/1 to 3/31	52,910	21%	343	1155	30%

Environmental Consequences

Proposed Action

Livestock have not been placed on the LGA since March of 2007 due to poor forage availability. If livestock were to be present during gather operations, they may be temporarily disturbed or displaced by the helicopter and the increased vehicle traffic during the gather operation. Once the gather operations are over, livestock would move back into the area.

The indirect effects of achieving the established AML would include promotion of improved rangeland health throughout the area. Managing wild horses within the established AML would help promote an increase in forage availability and quality. Removing excess wild horses from both within and outside the HMA boundaries would reduce competition for forage and permit rest periods from grazing, thus allowing for the improvement of rangeland health.

No Action Alternative

Under the No Action Alternative, livestock would not be displaced or disturbed because gather operations would not take place. The indirect effects of implementation of the No Action Alternative would be continued population increases of wild horses within and outside the boundaries of the HMA. Affects to rangeland health would be proportionate with population size and increasing utilization levels. A decline in rangeland health due to plant stress and deterioration of desirable plant species would affect the use of the area by permitted livestock.

G. Noxious Weeds and Invasive Non-Native Species

Affected Environment

Within Nevada, noxious weeds are defined in the Nevada Revised Statutes (NRS) 555.05 as "any species of plant which is, or is likely to be, detrimental or destructive and difficult to control or eradicate." Noxious weed species documented within the area are tall white top (*Lepidium latifolium*) and hoary cress (*Lepidium draba*). Changes in plant community composition from non-native plants can negatively affect wildlife, livestock and wild horses by changing fire regimes, habitat structure, and available forage.

Proposed Action

The Proposed Action 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. 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. 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 could result in decreased susceptibility for non-native plant species to invade.

No Action Alternative

Under the No Action Alternative, the wild horse gather would be deferred. Noxious weeds being spread by gather operations would occur. However, continued overgrazing by excess wild horses of the native plant communities could lead to an expansion of noxious weeds and invasive non-native species.

H. Vegetation

Vegetation within the HMA consists mainly of black greasewood, Indian ricegrass, bottlebrush squirreltail, and assorted forb species.

The Proposed Action would impact vegetation temporarily as a result of trampling and disturbance of vegetation 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 to heavy use in most parts of the HMA. This has occurred even though no livestock grazing has occurred within the LGA since March of 2007 during to poor forage availability.

Environmental Consequences

Proposed Action

Removal of excess wild horses and implementation of the Proposed Action would reduce the wild horse population to within AML, thereby reducing stress on vegetation communities. Rangeland health and vegetation 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 wild 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 located on 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 wild 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.

No Action Alternative

Under the No Action Alternative, wild horse populations would continue to increase above the AML. Increased wild horse use throughout the area would adversely impact vegetation health. As native plant health deteriorates and plants are lost, invasive, non-native plant species colonize new areas following soil disturbance and reduced native plant vigor and abundance. Wild horses likely transport weed propagules, and this seed dispersing would increase as horse numbers increase. This would lead to a shift in plant composition towards non-native weedy species. Under the No Action Alternative, 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 majority of the HMA consists of deep sandy soils (Patna, Hough, Isolde, and Rusty soil series) that are intermixed with areas of small sand dunes, badlands and playettes. The hazard of wind erosion is moderate to high, and soil reaction ranges from mildly alkaline or neutral, to strongly saline in the playettes.

The southeastern portion of the HMA consists of deep, fine-textured soils (Lahontan, Orizaba, and Delp soil series) that are strongly alkaline to strongly saline. The hazard of water or wind erosion is slight in this area and soil permeability is very slow. Water may pond for short periods following precipitation events. Precipitation in the area is low, averaging 7.5 inches per year.

Three major range sites (27-009, 27-018 and 27-025) comprise 95 percent of the HMA and are described below:

Sandy Soil, 5-8 in., precipitation zone. (027XY 009NV)

1. Associated species: Indian ricegrass, needle-and-thread, four-wing salt brush, Winterfat, Nevada delea and spiny Hopsage.

2. Occurs on sand sheets deposited over various land forms. Slopes rage from 0 to 30 percent. Elevations are 3,500 ft to 4,500 ft.

3. Soils are deep, excessively drained and formed in alluvium.

4. Annual production in average years is 450 lb/acre.

Gravelly Loam, 4 to 6 in. precipitation zone. (027XY 018NV)

1. Associated species: Indian ricegrass, bottlebrush squirreltail, shadscale, Bailey greasewood and bud sagebrush.

2. Occurs on fan piedmonts. Slopes range from 0 to 30 percent, but slope gradients of 2 to 15 percent are most typical. Elevations are 3,400 ft to 5,000 ft.

3. Soils are typically shallow to a restrictive layer, well drained and formed in alluvium.

4. Annual production in average years is 250 lb/acre.

Sodic Flat, 4 to 8 in. precipitation zone. (027XY 025NV)

1. Associated species: Inland Saltgrass, black greasewood, shadscale and seepweed.

2. Occurs on the lower portion of lake plains and alluvial flats. Slopes range from 0 to 4 percent. Elevations are 3,300 ft to 4,000 ft.

3. Soils are deep, well drained and formed in mixed alluvium.

4. Annual production in average years is 350 lb/acre.

Environmental Consequences

Proposed Action

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 to within the AML. 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. Compression related impacts to biological soil crusts from wild horses would be lessened over the area with horse removal, and crust cover 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 wild 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, potential adverse impacts to soils would be minimized.

No Action Alternative

Under the No Action Alternative, excess wild horse populations would continue to grow. Increased horse use throughout the area would adversely impact soils. As native plant health deteriorates and plants are lost, soil erosion would increase. Continued heavy and severe wild horse use would cause further compaction, reduced infiltration, increased runoff and erosion, and loss of biological soil crusts. The greatest disturbance impacts to crusts would occur when the soils are dry. 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. Under 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.

J. Public Health and Safety

Affected Environment

In recent gathers, members of the public have increasingly traveled to the public lands to observe BLM's gather operations. While many members of the public cause no problems as a result of their presence and follow BLM's directions during the gathers, a few members of the public have actively taken or attempted to take actions to obstruct or interfere with the wild horse gather operations. For example, during recent past gathers such individuals have attempted to drive into unauthorized areas or have attempted to enter into or be close to the pens where wild horses are being held following the gather. Members of the public can also inadvertently wander into areas that put them in the path of wild horses that are being herded or handled during the gather operations. Such activities, whether intentional or accidental, not only hamper the gather operations, but more importantly, create the potential for injury to the wild horses or burros and to the BLM employees and contractors conducting the gather and/or handling the horses as well as to the public themselves. Because these horses are wild animals, there is always the potential for injury when individuals get too close or inadvertently get in the way of gather activities.

The helicopter work is done at various heights above the ground, from as little as 10-15 feet (when herding the animals the last short distance to the gather corral) to several hundred feet (when doing a recon of the area). While helicopters are highly maneuverable and the pilots are very skilled in their operation, unknown and unexpected obstacles in their path can impact their ability to react, creating an extreme safety concern. These same unknown and unexpected obstacles can impact the wild horses or burros being herded by the helicopter in that they may

not be able to react and can be potentially harmed or caused to flee which can lead to injury and additional stress. When the helicopter is working close to the ground, the rotor wash of the helicopter is a safety concern by potentially causing loose vegetation, dirt, and other objects to fly through the air which can strike or land on anyone in close proximity as well as cause decreased vision**.**

Environmental Consequences

Proposed Action

Public safety as well as that of the BLM and contractor staff is a concern during gather operations. During the herding process, wild horses or burros will try to flee if they perceive that something or someone suddenly blocks or crosses their path. Fleeing horses can go through wire fences, traverse unstable terrain, and go through areas that they normally don't travel in order to get away, all of which can lead them to injure people by striking or trampling them if they are in the animals path.

Disturbances in and around the gather and holding corral have the potential to injure the BLM and contractor staff who are trying to sort, move and care for the horses and burros by causing them to be kicked, struck, and possibly trampled by the animals trying to flee. Such disturbances also have the potential for similar harm to the public themselves.

Temporary closure of roads or other restrictions may be implemented on public lands during gather operations as necessary, to allow for safe and effective operations to proceed. Any closure or restriction would require separate notices including publication in the *Federal Register* and additional NEPA compliance. Public observation of the gather would be consistent with BLM IM No. 2010-164.

No Action Alternative

Under the No Action Alternative, the gather would be deferred. There would be no safety concerns to BLM employees, contractors and the general public as no gather activities would occur.

4.0 Cumulative Effects

A cumulative impact is defined under NEPA as "the change in the environment which results from the incremental impact of the action, decision, or project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other action" (40 CFR Part 1508.7). "Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7).

The area of cumulative impact analysis area is the HMA, the LGA and adjacent LSRA (Figure 1).

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 8.

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
Wild horse gathers.	X	X	X
Recreation.	X	X	X
Invasive weed inventory/treatments.	X	X	X
Wild horse issues, issuance of multiple use decisions AML adjustments and planning.	X	X	X

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

4.1 Past Actions

Past actions included the establishment of wild horse HMAs, establishment of AML for wild horses, wild horse gathers, 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 remedies.

4.2 Present Actions

The HMA and surrounding area has an estimated population of 104 wild horses. Resource damage is occurring in the HMA. Wild horses in this area have established home ranges that include areas outside of the HMA, including the other portions of the LGA and adjacent LSRA. Horse movement outside the HMA is occurring because no continuous fencing exists and water

is available. Program goals have expanded beyond establishing a "thriving natural ecological balance" (by setting the AML) for individual herds, to include achieving and maintaining healthy, viable, vigorous, and stable populations.

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 WFRHBA 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.

Public interest in the welfare and management of wild horses is 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.

Monitoring of vegetation resources, vegetative treatments, rangeland health, and watershed health continues. Within the HMA wild horse grazing occurs on a yearly basis, whereas livestock grazing is normally permitted between November 1 and March 31. Due to poor forage availability, livestock grazing has not occurred on the LGA since March of 2007.

The focus of wild horse management has also expanded to place more emphasis on achieving rangeland health as measured through the Resource Advisory Council standards.

4.3 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. 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 WFRHBA 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 the reliability of gather schedules.

The gather 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 effects of implementing the Proposed Action include: future wild horse gathers, continuing livestock grazing within the area, development of range improvements, 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.

4.4 Cumulative Effects

Proposed Action

Cumulative beneficial effects would be expected from implementation of the Proposed Action. Vegetation conditions would improve, which would in turn positively impact livestock, native wildlife, water resources and wild horses populations as forage (habitat) quantity and quality is improved. Gathering and removing excess wild horses from within and outside the boundaries of the HMA would likely benefit resources in the adjoining areas, as horse populations would be in the range of AML. Over the next 10 to 15 year period, continuing to manage wild horses within the established AML ranges would result in improved vegetation condition, which in turn would result in improved vegetation density, cover, vigor, seed production, seedling establishment and forage production over current conditions. Managing wild horse populations within the established AML would allow the primary forage plant species to return more rapidly even though some vegetation conditions may never be able to return to their potential. Maintaining AML over a sustained period of time would allow for the collection of scientific data to evaluate AML levels.

No Action Alternative

Under the No Action Alternative, the wild horse population in the HMA and surrounding area could exceed 162 head in two years. Increased movement of wild horses outside the boundaries of the HMA can be expected as the number of horses within the HMA increase. Horses would move in search of sufficient resources and habitat for survival, thus impacting larger areas of public lands within the LGA. Heavy and severe utilization of available forage 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. All animals would experience higher mortality. 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. During emergency conditions, competition for available forage is heightened and generally impacts the older and youngest wild 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.

Adverse cumulative effects would result in foregoing an opportunity to improve rangeland health and to properly manage wild horses in balance with the available forage. Over-utilization of vegetation and other habitat resources would occur as wild horse populations continue to increase. Wild horse populations would be expected to eventually crash at some ecological

threshold; however wild horse, livestock, and wildlife would all experience higher mortality as rangeland resources continued to degrade. Attainment of CRMP objectives and Standards for Rangeland Health and Wild Horses and Burros Populations would not be achieved. The AML would not be achieved or sustained.

The combination of the past, present, and reasonably foreseeable future actions, along with the Proposed Action, should result in more stable and healthier wild horse populations, healthier rangelands, and fewer multiple-use conflicts within the HMA and surrounding area.

4.5 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 A) 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 HMA wild horses would be collected; additional samples would be collected during future gathers (in 10 to 15 years) to determine trend. Should monitoring indicate genetic diversity is not being adequately maintained, one to two mares and/or studs from HMAs in similar environments would be added every generation (every 8 to 10 years) to avoid inbreeding depression/maintain acceptable genetic diversity. Ongoing resource monitoring, including climate (weather), and forage utilization, population inventory, and distribution data would continue to be collected.

5.0 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 Elko District Office held the state-wide meeting on July 1, 2010; thirteen public participants attended and their comments were entered into the record for this hearing. Most were in support of the use of helicopters and the gathering of excess wild horses. 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 mortality rate of 1.1 percent (of which .5 percent was gather related) which is very low when handling wild animals. BLM also avoids gathering wild horses prior to and during the peak foaling season and does not conduct helicopter removals of wild horses during March 1 through June 30.

Comments will be accepted on the *Lahontan Herd Management Area Gather Plan Environmental Assessment*, DOI-BLM-NV-C020-2010-0018-EA, for 30 days until the close of business on September 21, 2010. Interested individuals should mail written comments to the BLM Carson City District Office, 5665 Morgan Mill Rd., Carson City, NV 89701 attn: Linda J. Kelly, Sierra Front Field Manager or send an e-mail to: lahonEA_2010@blm.gov. Note there is an underscore between EA_2010. Please note that the only email comments received through the identified email address will be considered. Comments can also be faxed to: (775) 885-6147 attn: Linda J. Kelly. If you have any questions on this matter, please contact Alan Bittner, Natural Resources Specialist Supervisor, at: (775) 885-6177.

The EA is also posted at http://www.blm.gov/nv/st/en/fo/carson_city_field.html.

5.1 List of Preparers

Bureau of Land Management

Name	Title	Specialty
John Axtell	Wild Horse & Burro Specialist	Wild Horse & Burro Specialist
John Wilson	Wildlife Biologist	Wildlife, Migratory Birds, Special Status Species
Jim DeLaureal	Soil Scientist	Non-Native Invasive Species, Including Noxious Weeds, Soil, Water
Chip Kramer	NEPA Coordinator	NEPA, Air Quality, Environmental Justice, Human Health and Safety
Linda Appel	Rangeland Management Specialist	Livestock Grazing
Susan McCabe	Archaeologist	Cultural Resources, Native American Religious Concerns
Brian Buttazoni	NEPA Coordinator	NEPA
Katrina Leavitt	Rangeland Management	Livestock Grazing

	Specialist	
Pilar Ziegler	Wildlife Biologist	Wildlife, Migratory Birds, Special Status Species
Alan Sheperd	Wild Horse & Burro Program Lead	Nevada State Office Wild Horse & Burro Program Lead

5.2 Tribes, Individuals, Organizations or Agencies Consulted

Tribes

Fallon Paiute-Shoshone Tribe
Pyramid Lake Paiute Tribe
Yerington Paiute Tribe

Individuals

Adams, Pauline
Barnard, Harmon
Bennett, William
Brooks, Elaine
Butler, Etta
Butte, Virginia
Cormack, Ray
Dahl, Joe
Downer, Craig
Drews, Michael
Dufurrena, Tim
Faria, Gregory
Freeman, Virginia
Glass, Alana Mae
Hall, Anne
Hana, Jo Ann
Herzog, Patricia
Kelly, Betty
Kirk, Michael
Kunow, Rebecca
Lamm, Willis
Laybourne, Dennis
Manning, Pat
Martins, Anne
Matton, Bonie
Matton, Charles
McNitt, Mandy
Molini, William
Nappe, Tina
Paine, Ernest
Peterson, William
Reeves, Elnoma

Robison, Mark
Rochanne, Downs
Royle, Roberta
Siegel, Steven
Strykowski, Vicki
Warner, Barbara
Young, Craig

Organizations

American Horse Protection Association
Animal Welfare Institute
Center for Biological Diversity
Cooperative Extension
Nevada Cattlemen's Association
Nevada Farm Bureau
National Wildlife Federation
Nevada Woolgrowers Association
Sierra Club
Sierra Club, Toiyabe Chapter
Sustainable Grazing Coalition
The Fund for Animals
Western Watersheds Project
Wild Horses Forever
Walking Horses Owner Association (WHOA)

Agencies

Lyon County Commissioners
Lyon County Manager
Nevada Commission for the Preservation of Wild Horses
Nevada Department of Wildlife
Nevada Grazing Board
Nevada State Clearinghouse
U.S. House of Representatives, Honorable Dean Heller
U.S. Senate, Honorable Harry Reid
U.S. Senate, Honorable John Ensign
U.S. Bureau of Reclamation, Lahontan Area Office

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Beever E.A., Tausch R.J., Thogmartin, W.E. 2008. *Multi-Scale Responses of Vegetation to Removal of Horse Grazing from Great Basin (USA) Mountain Ranges*. Plant Ecology. 196:163–184.

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APPENDIX A

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 substantially 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 wild 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 wild 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 wild 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 wild 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, strays 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-wild 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
John Axtell, Wild Horse and Burro Specialist, Carson City 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 Stillwater Supervisory Natural Resource Specialist and the Stillwater 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 B

Wild Horse Population Modeling

A program developed by Stephen Jenkins (WinEquus, version 1.40, April 2002) was used to compare possible outcomes of various management scenarios designed to provide individuals interested in population dynamics an understanding of possible population responses to various management strategies was run for the targeted population levels of this HMA using several scenarios, namely: removals only, and no management. Dr. Jenkins does make the disclaimer that this model should not be used to make management decisions, the intended use is to convey a range of possible population responses to certain perturbations. These different scenarios provide a forecast regarding the number of expected excess wild horses in the future, which would be considered when selecting the preferred alternative.

Objectives of Population Modeling

Review of the data output for each of the simulations provided useful comparisons of the possible outcomes for each alternative.

All simulations used the survival probabilities, foaling rates, and sex ratio at birth that was supplied with the WinEquus population for the Garfield HMA.

Population Modeling Criteria

The following summarizes the population modeling criteria used for the Proposed Action:

- Starting year: 2010
- Initial Gather Year: 2010
- Gather interval: regular interval of four years
- Sex ratio at birth: 57 percent males
- Percent of the population that can be gathered: 100 percent
- Foals are not included in the AML
- Simulations were run for 20 years with 100 trials each

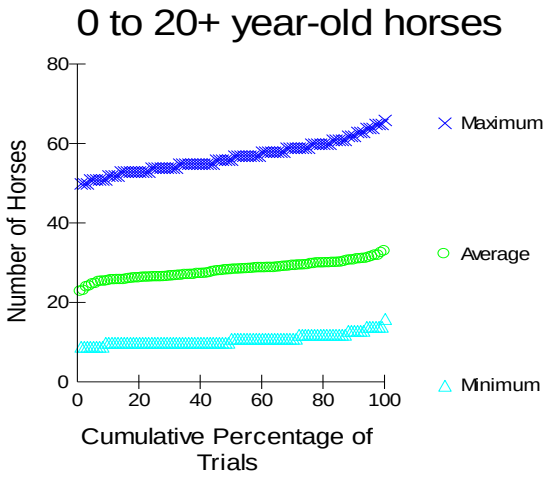
Population Modeling Parameters

Modeling Parameter	Alternative A Proposed Action Remove to High point of AML	Alternative B No Action No Removal & No Fertility Control
Management by removal only	Yes	N/A
Threshold Population Size Following Gathers	50	N/A
Target Population Size Following gather	10	N/A

The AML of the HMA is 7-10 animals, however, for the purpose of the model 50 was used since in the foreseeable future a gather would not be conducted for only a few wild horses.

Results- Alternative A: Proposed Action

Population Size



Population Sizes in 21 Years*

	Minimum	Average	Maximum
Lowest Trial	9	23	50
10th Percentile	10	26	52
25th Percentile	10	26	54
Median Trial	11	28	56
75th Percentile	12	30	60
90th Percentile	13	31	62
Highest Trial	16	33	66

*0 to 20+ year-old wild horses

Totals in 21 Years*

	Gathered	Removed
Lowest Trial	45	33
10th Percentile	57	46
25th Percentile	100	79
Median Trial	104	84
75th Percentile	111	91
90th Percentile	118	98
Highest Trial	166	138

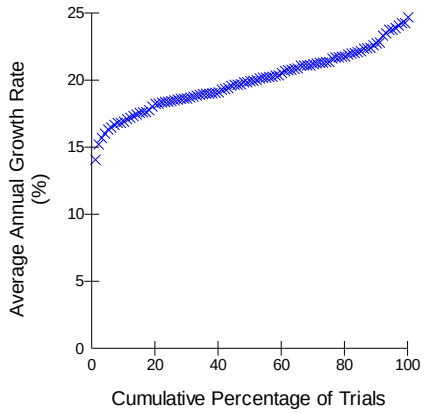
*0 to 20+ year-old wild horses

Average Growth Rate in 20 Years

	Minimum
Lowest Trial	5.5
10th Percentile	13.7
25th Percentile	17.6
Median Trial	20.1
75th Percentile	22.6
90th Percentile	24.7
Highest Trial	28.3

Results – Alternative B: No Action

Population Size High AML



Population Sizes in 21 Years*

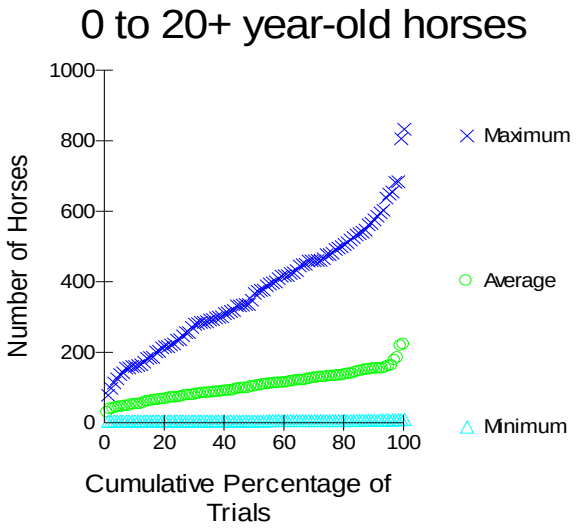
	Minimum	Average	Maximum
Lowest Trial	8	46	154
10th Percentile	10	84	273
25th Percentile	10	94	318
Median Trial	11	125	450
75th Percentile	12	161	574
90th Percentile	13	184	705
Highest Trial	17	293	1132

*0 to 20+ year-old wild horses

Average Growth Rate in 20 Years

	Minimum
Lowest Trial	14.1
10th Percentile	17.0
25th Percentile	18.5
Median Trial	20.0
75th Percentile	21.5
90th Percentile	22.8
Highest Trial	24.7

Population Size Low AML



Population Sizes in 21 Years*

	Minimum	Average	Maximum
Lowest Trial	6	29	80
10th Percentile	7	52	164
25th Percentile	7	74	244
Median Trial	7	104	372
75th Percentile	8	132	481
90th Percentile	9	154	583
Highest Trial	12	223	835

*0 to 20+ year-old wild horses

Average Growth Rate in 20 Years

	Minimum
Lowest Trial	12.2
10th Percentile	16.8
25th Percentile	19.0
Median Trial	21.1
75th Percentile	23.1
90th Percentile	24.5
Highest Trial	25.8