

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

**Environmental Assessment
DOI-BLM-NV-WO10-2010-0013-EA**

**Augusta Mountains HMA
Wild Horse Gather Plan**



Wild Horses in the Augusta Mountain HMA, November 2010

Prepared by:
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1.0 Introduction

The Augusta Mountains Herd Management Area (HMA) gather is proposed to begin in January 2011. The Augusta Mountains HMA is situated within the administrative boundaries of the Bureau of Land Management (BLM), Battle Mountain, Carson City, and Winnemucca Districts. The Winnemucca District, Humboldt River Field Office is the administrative lead for this plan.

The BLM is proposing to gather 275 wild horses from the Augusta Mountains HMA Wild Horse Gather area. The gather area is made up of the Augusta Mountains HMA and most of the Fish Creek Mountains. Presently the estimated population is 294 horses within the HMA and 50 excess wild horses (totaling 344 wild horses) that have established home ranges well outside of the HMA in the adjoining Fish Creek Mountains. All of the wild horses gathered from within the HMA would be released back in the HMA following applicable fertility treatment. Approximately 118 mares from the HMA (anticipated to be approximately 50% of the gathered horses) would be vaccinated with Porcine Zona Pellucida (PZP-22) fertility control prior to release, in order to slow population growth, maintain population size within the appropriate management level (AML) and extend the time before another gather to remove excess wild horses would be needed. Approximately 40 excess wild horses gathered from outside of the HMA would be removed from the range. A 100% gather efficiency from this area is not possible due to the size of the area, terrain, and anticipated weather. Expected gather efficiency is more likely to be 80%, making the anticipated wild horses gathered approximately 275.

The intent of the gather is not to remove any horses from within the HMA. However, any weaned foals that cannot survive on their own, or orphan foals would be removed and would be placed in foster care or made available for adoption to qualified individuals. Any old, sick or lame horses unable to maintain an acceptable body condition (greater than or equal to a Henneke body condition score (BCS) of 3) or with serious physical defects such as club feet, severe limb deformities, or sway back would be humanely euthanized as an act of mercy.

This Environmental Assessment (EA) is a site-specific analysis of the potential impacts that could result with the implementation of the Proposed Action or the No Action Alternative. Preparation of an EA assists the BLM authorized officer to determine whether to prepare an Environmental Impact Statement (EIS) if significant impacts could result, or a Finding of No Significant Impact (FONSI) if no significant impacts are expected.

This document is tiered to the Sonoma-Gerlach Management Framework Plan/Final EIS (MFP/EIS, 1980) (refer to section 1.3).

1.1. Background

The Augusta Mountains HMA Wild Horse Gather Plan comprises approximately 330,000 acres of public and other land. The gather area is located in Churchill, Lander and Pershing Counties; about 75 miles southeast from Winnemucca, Nevada (see Map 1).

The HMA is managed for an AML range for wild horses of 185-308. The AML was established in the Cottonwood (Battle Mountain District Office) Final Multiple Use Decision (FMUD) August 1994, Hole-In-The-Wall FMUD January 1997, Home Station Gap FMUD January 1997, and the Jersey Valley FMUD January 1997. AML is established following an in-depth analysis of habitat suitability utilizing resource monitoring and population inventory data, with public involvement. The upper limit of the AML is the maximum number of wild horses that can graze in a thriving natural ecological balance and multiple use relationship on the public lands in the area. Establishing AML as a population range allows for the periodic removal of excess animals (to the low range) and subsequent population growth (to the high range) between removals.

The BLM prepared an EA No. NV062-EA07-188 to analyze the potential impacts associated with the previous gather within the Augusta Mountains HMA which was completed in November 2007; this analysis is incorporated into this EA by reference. At that time, 267 wild horses were gathered, 228 were removed from the range during the gather, and 39 released back to the range. Of 39 wild horses released back into the Augusta Mountains HMA, no mares were treated with fertility control PZP-22. In the above mentioned EA NV062-EA07-188 both PZP-22 contraceptive vaccine and sex ratio adjustments to favor males to a 60/40 ratio were analyzed in detail. PZP-22 was not administered to released mares due to non availability of the vaccine and the lack of availability of a trained technician to administer the vaccine. An estimated 178-192 wild horses remained within the HMA after the gather. Data indicates that wild horse numbers have increased an average of 20 to 24% per year based on the ratio of foals to adults during the last two gathers.

The current estimated population of 344 wild horses within the gather area consists of 294 within the HMA boundary and an additional 50 residing outside of the HMA boundary. The estimated HMA population is based on the April 2009 aerial survey which counted 191 horses and the estimated 2009 and 2010 foal counts, 46 and 57 respectively. Outside the HMA, the estimated 50 wild horses are based on field observations in 2010.

1.2. Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to gather, treat, and release approximately 235 wild horses from within the HMA, and gather and remove approximately 40 excess wild horses residing outside of the HMA beginning in January 2011. Of those wild horses released back into the HMA, approximately 118 mares would be vaccinated with PZP-22. These numbers represent an 80% expected gather efficacy.

This action is needed to slow population growth, maintain population size within AML, manage wild horses within the management areas designated for wild horse management and extend the time before another gather would be needed to remove excess wild horses. By maintaining population size within AML, rangeland resources would be sustained and protected from the deterioration associated from wild horse overpopulation. This strategy ensures a thriving natural ecological balance and multiple use relationship on public lands in the area and is consistent with the provisions of Section 1333(a) of the Wild Free-Roaming Horses and Burros Act of 1971 (WFRHBA). The action would also result in fewer wild horses being placed in short or long-term holding or the adoption and sale programs over the next 5 to 10 years. Another need is to control wild horse population growth over time to allow fire rehabilitation vegetative treatments to become established and successfully re-vegetate areas burned in 2007 wildfires.

1.3. Land Use Plan Conformance

The Proposed Action and the No Action Alternative are in conformance with the Sonoma-Gerlach (SG) Environmental Impact Statement (EIS) and the associated Record of Decision (ROD) for the *Sonoma-Gerlach Resource Area Management Framework Plan (MFP) III* approved July 9, 1982.

The wild horse and burro section of the Sonoma-Gerlach ROD, July 1982, *Plan and Implementation* consists of the integration of the Proposed Actions and the Livestock Reduction/Maximizing Wild Horses and Burros Alternative with the following modifications:

“4. Wild horse and burro herds will be maintained in the areas described in the Livestock Reduction/Maximizing Wild Horse and Burro Alternative. However, numbers will be determined by the following criteria: Existing/current WH&B [wild horse and burro] numbers (as of July 1, 1982) will be used as a starting point for monitoring purposes except where one of the following exists:

- a. Numbers are established by adequate and supportable resource data.
- b. Numbers are established through the CRMP [Coordinated Resource Management Plan] process as documented in CRMP recommendations and agreed to by the District Manager.
- c. Numbers are established by formal signed agreement between affected interests.
- d. Numbers are established through previously developed interim capture/management plans. Plans are still supportable by parties consulted in the original plan. EA’s (*sic*) (EAR’s [*sic*]) were prepared and are still valid.
- e. Numbers are established by court order.”

The following is Wild Horse and Burro Objective 1 from the Sonoma-Gerlach MFP III, 1982:

“**WHB-1:** Maintain a viable population of wild horses and burros on public lands where there was wild horse and burro use as of December 15, 1971, and achieve and maintain a thriving natural ecological balance on the forage resource.”

1.4. Relationship to Laws, Regulations, and Other Plans

Statutes and Regulations

The Proposed Action is in conformance with the Wild Free Roaming Horses and Burros Act (WFRHBA) (as amended), applicable regulations at 43 CFR § 4700 and BLM policies. Applicable regulations and BLM policies include:

- ❑ “**43 CFR 4710.3-1: Herd management areas.** Herd management areas shall be established for the maintenance of wild horse and burro herds. In delineating each herd management area, the authorized officer shall consider the appropriate management level for the herd, the habitat requirements of the animals, the relationships with other uses of the public and adjacent private lands, and the constraints contained in 4710.4. The authorized officer shall prepare a herd management area plan, which may cover one or more herd management areas.”
- ❑ “**43 CFR 4710.4: Constraints on management.** Management of wild horses and burros shall be undertaken with limiting the animals’ distribution to herd areas. Management shall be at the minimum feasible level necessary to attain the objectives identified in approved land use plans and herd management area plans.”
- ❑ “**43 CFR 4740.1: Use of motor vehicles or aircraft.** (a) Motor vehicles and aircraft may be used by the authorized officer in all phases of the administration of the Act, except that no motor vehicle or aircraft, other than helicopters, shall be used for the purpose of herding or chasing wild horses or burros for capture or destruction. All such use shall be conducted in a humane manner. (b) Before using helicopters or motor vehicles in the management of wild horses or burros, the authorized officer shall conduct a public hearing in the area where such use is to be made.”
- ❑ “**43 CFR 4700.0-6:** (a) Wild horses shall be managed as self-sustaining populations of healthy animals in balance with other uses and productive capacity of their habitat.”

1.5. Conformance with Rangeland Health Standards and Guidelines

Maintaining wild horse populations within AML sustains a healthy horse population, ensures a thriving natural ecological balance, and prevents the degradation of rangeland resources that can result from wild horse over population. Utilization monitoring is in compliance with applicable FMUDs. Damage results from over utilization of resources when populations exceed the carrying capacity of the

rangeland.

Managing vegetation utilization within the moderate or less categories is important to establishing a viable rangeland plant community. When plants are not over utilized there is an adequate amount of photosynthetic material remaining for the production of carbohydrates to meet the vegetations growth and respiration demands. As a result, the plants enter dormancy with more root reserves for next year's growth and reproduction.

1.6. Decision to be Made

The authorized officer will determine whether to implement the proposed action, which includes gather of wild horses within the Augusta Mountains HMA in order to vaccinate all of the released mares with fertility control vaccine, to maintain population size within the established AML and avoid the deterioration of the range that can result from wild horse overpopulation. Approximately 40 excess wild horses, residing outside the HMA boundary would be removed from the range. The authorized officer's decision would not set or adjust AML or adjust livestock use, as these were set through previous decisions.

1.7. Scoping and Identification of Issues

The following issues were identified as a result of internal scoping relative to the BLM's proposed fertility control treatment of wild horses (mares) in the planning area:

1. Impacts to individual wild horses and the herd. Measurement indicators for this issue include:
 - Projected population size and annual growth rate (WinEquus population modeling)
 - Expected impacts to individual wild horses from handling stress
 - Expected impacts to herd social structure
 - Expected effectiveness of proposed fertility control application
 - Potential effects to genetic diversity
 - Potential impacts to animal health and condition
2. Impacts to vegetation/soils, riparian/wetland, and cultural resources (*as applicable*). Measurement indicators for this issue include:
 - Expected forage utilization;
 - Potential impacts to vegetation/soils and riparian/wetland resources.
3. Impacts to wildlife, migratory birds, and threatened, endangered, and special status species and their habitat (*as applicable*). Measurement indicators for this issue include:

- Potential for temporary displacement, trampling or disturbance
- Potential competition for forage and water over time.

Coordination has occurred with United States Fish and Wildlife Service (USFWS), interested Wilderness Groups for the Wilderness Study Area (WSA) through a Notice of Proposed Action (NOPA), and with the following tribes: Yomba Tribal Council, Battle Mountain Band Tribal Council, Fallon Paiute Shoshone Tribe, Pyramid Lake Paiutes, and Reno-Sparks Indian Colony. No issues were identified through this coordination.

2.0 Proposed Action and Alternatives

2.1. Introduction

This section of the EA describes the Proposed Action and alternatives, including any that were considered but eliminated from detailed analysis. Two alternatives are considered in detail:

Proposed Action Alternative: Subject to “Standard Operating Procedures for Population-Level Fertility Control Treatments,” (Appendix A) and “Standard Operating Procedure for Wild Horse (or burro) Gathers, (Appendix B), the BLM proposes to gather approximately 275 wild horses in order to gather and release all wild horses within the HMA after applying PZP-22 fertility control vaccine to approximately 118 mares and to remove 40 excess animals from outside of the HMA.

No Action Alternative: No gather would be conducted to apply fertility control vaccine to mares or remove excess horses outside the HMA at this time; however, future gathers to remove excess wild horses would be scheduled when the AML upper limit is exceeded and/or other resource management objectives are not being met. This would likely require the removal of over 200 wild horses from within and outside of the HMA boundaries within the next two to three years.

The Proposed Action was developed to respond to the Purpose and Need. The No Action Alternative would not achieve the identified Purpose and Need. However, it is analyzed in this EA to provide a basis for comparison with the Proposed Action, and to assess the effects of not conducting a gather at this time.

2.2. Description of Alternatives Considered in Detail

2.2.1. Proposed Action Alternative

Under the Proposed Action, approximately 275 wild horses would be gathered from the Augusta Mountains HMA and surrounding areas within the gather area beginning in January 2011. Of these, approximately 40 excess wild horses residing outside the HMA boundary would be removed from the

range. All of the wild horses gathered from within the HMA would be released after approximately 118 mares are treated with fertility control vaccine as follows:

- All of the release mares would be treated with a two-year PZP-22 or similar vaccine and released back to the range. Fertility control treatment would be conducted in accordance with the approved standard operating and post-treatment monitoring procedures (SOPs, Appendix A).
- Post-gather, every effort would be made to return the released horses to the same general area from which they were gathered.

The gather would begin in January 2011 and take about 8-10 days to complete. Several factors such as animal condition, herd health, weather conditions, or other considerations could result in adjustments in the schedule. Gather operations would be conducted in accordance with the Standard Operating Procedures (SOPs) described in the National Wild Horse and Burro Gather Contract (Appendix B).

The primary gather (gather) methods would be the helicopter drive method with occasional helicopter assisted roping (from horseback). Gather sites and temporary holding facilities would be located in previously used sites or other disturbed areas (Map 1) whenever possible. Undisturbed areas identified as potential gather sites or holding facilities would be inventoried for cultural resources. If cultural resources are encountered, these locations would not be utilized unless they could be modified to avoid any impacts to cultural resources. Private property has been utilized in previous gathers for gather sites and temporary holding facilities due to greater accessibility and/or prior disturbance and may be used during this gather if necessary for a successful gather.

An Animal and Plant Inspection Service (APHIS) veterinarian would be on-site during the gather to examine animals and make recommendations to the BLM for care and treatment of wild horses. At this time, an APHIS veterinarian is scheduled to be at the gather. Any wild horses residing outside the HMA boundary, and any weaned foals that cannot survive on their own, or orphan foals would be removed and would be made available for adoption to qualified individuals. Any old, sick or lame horses unable to maintain an acceptable body condition (greater than or equal to a Henneke body condition score (BCS) of 3) or with serious physical defects such as club feet, severe limb deformities, or sway back would be humanely euthanized as an act of mercy. Decisions to humanely euthanize animals in field situations will be made in conformance with BLM policy (Washington Office Instruction Memorandum 2009-041).

Data including sex and age distribution, condition class information (using the Henneke rating system), color, size and other information would also be recorded for all gathered animals. Hair samples would be collected on about 25-50 animals to assay the genetic diversity of the herd.

2.2.2. No Action Alternative

Under the No Action Alternative, no gather would occur and fertility control vaccination would not be applied to control the size of the wild horse population within the established AML range at this time. Wild horses residing outside the HMA would not be removed.

2.3. Alternatives Considered but Dismissed from Detailed Analysis

2.3.1. Use of Bait and/or Water Trapping

It would not be timely, cost-effective or practical to use bait and/or water trapping as the primary gather method because of the number of wild horses and the size of the gather area. As a result, this alternative was dismissed from detailed analysis.

2.3.2. Remove or Reduce Livestock within the HMA

This action would not be in conformance with the existing land use plan and is contrary to the BLM's multiple-use mission as outlined in the 1976 Federal Land Policy and Management Act (FLPMA), and would be inconsistent with the WFRHBA, which directs the Secretary to immediately remove excess wild horses once it is determined excess wild horses exist. Additionally this would only be effective for the very short term as the horse population would continue to increase. Eventually the HMA and adjacent lands would no longer be capable of supporting the horse populations due to limited resources and limited space.

3.0 Affected Environment

In accordance with the BLM's NEPA Handbook (H-1790) (BLM, 2008) internal scoping was conducted by an interdisciplinary team to identify potential natural resources and Supplemental Authorities that may or may not be impacted by the consequences of the Proposed and No Action Alternatives. Relevant components of the human environment which would be either affected or potentially affected by the Proposed Action or No Action alternatives are briefly discussed below.

3.1. General Description of the Affected Environment

The Augusta Mountains HMA Wild Horse Gather Plan area is located approximately 75 miles southeast of Winnemucca, Nevada, within Churchill, Lander, and Pershing counties. It overlaps the boundaries of three districts (Battle Mountain, Carson City, and Winnemucca) and four allotments (Cottonwood, Hole-in-the-Wall, Home Station Gap, and Jersey Valley). It is bordered on the east by Antelope Valley; the west by Dixie Valley; the north by Jersey Valley and the southern end of the Tobin Range; and the south by the Clan-Alpine and New Pass Ranges. The elevation ranges from 3,640 feet in Dixie Valley to 8,645 feet at Mt. Moses. The gather area is comprised of approximately 330,000 acres. Temperatures range from lows around -20°F to highs of around 105°F. Annual precipitation averages from 4 to 6 inches with a slightly higher precipitation at upper elevations.

3.2. Supplemental Authorities (Formerly referred to as Critical Environmental Elements of the Human Environment)

To comply with the National Environmental Policy Act, the following elements of the human environment are subject to requirements specified in statute, regulation or executive order and must be considered.

Table 1: Supplemental Authorities (Critical Elements of the Human Environment)

Supplemental Authorities	Present	Affected	Rationale
Air Quality	YES	NO	The proposed gather area is not within an area of non-attainment or areas where total suspended particulates exceed Nevada air quality standards. Areas of disturbance would be small and temporary in nature.
Areas of Critical Environmental Concern (ACEC's)	NO	NO	Not present.
Cultural Resources	YES	YES	Gather sites and/or holding corrals would be placed in already disturbed areas or would be inventoried prior to use to avoid cultural resource sites. However, other potential impacts are analyzed below.
Environmental Justice	NO	NO	Not affected.
Floodplains	NO	NO	Resource not present.
Invasive, Nonnative Species	YES	NO	Any noxious weeds or non-native invasive weeds would be avoided when establishing gather sites and/or holding facilities, and would not be driven through. Noxious weed monitoring at gather/holding sites would be conducted and applicable treatment of weeds would occur per Noxious Weed Control EA#NV-020-02-19 as needed.
Migratory Birds	YES	YES	Analyzed below.
Native American Religious Concerns	YES	YES	Analyzed in section 4.3

Supplemental Authorities	Present	Affected	Rationale
Prime or Unique Farmlands	NO	NO	Resource not present.
Threatened & Endangered Species	NO	NO	Discussion provided in section 3.2.4
Wastes, Hazardous or Solid	NO	NO	Not present.
Water Quality (Surface/Ground)	YES	NO	No impacts are anticipated. Gather sites will not be located near surface water sources. Ground water will be unaffected.
Wetlands and Riparian Zones	YES	YES	Analyzed below.
Wild and Scenic Rivers	NO	NO	Resource not present.
Wilderness	NO	NO	Resource not present.

3.2.1. Cultural Resources

A range of prehistoric and historic sites are located within the Augusta Mountains HMA and adjoining territory. Prehistoric sites are represented by a number of small light densities to extensive high density lithic scatter sites at lower elevations. While several of the lithic scatter sites were most likely seasonal camps located near water sources such as springs and hot springs, others appear to be single-event lithic reduction stations. Several sites are associated with groundstone and one has indications of numerous hearths on the surface. Historic sites are less common in the HMA and mostly consist of mining camps, trash scatters and historic roads largely considered non-eligible to the National Register of Historic Places. One historic mining camp with partially intact buildings is considered eligible and would be avoided during the gather.

A review of all previous cultural resource inventories was conducted for the holding and gather sites as identified for the current gathers. The locations are within previously inventoried locations or areas of existing disturbance. In the event that any location is relocated a member of the cultural resource staff, or a designated District Archaeological Technician, would inventory the area prior to approving the site for use.

3.2.2. Migratory Birds

Migratory birds are protected and managed under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et. seq.*) and Executive Order 13186. Under the MBTA nests (nests with eggs or young) of migratory birds may not be harmed, nor may migratory birds be killed. Executive Order 13186 directs federal agencies to promote the conservation of migratory bird populations. All birds in the Winnemucca District are considered migratory birds with the exception of gallinaceous birds such as the California quail (*Lophortyx californicus*), Chukar (*Alectoris graeca*), and Sage-Grouse (*Centrocercus urophasianus*). Migratory birds may be found in any area of the district as either seasonal residents or as migrants.

Migratory birds associated with the predominant vegetative communities of sagebrush and salt desert shrub within the project area may include: Black-throated sparrow (*Amphispiza bilineata*), Brewer's blackbird (*Euphagus cyanocephalus*), Brewer's sparrow (*Spizella breweri*), Burrowing owl (*Athene cunicularia*), Canyon wren (*Catherpes mexicanus*), Gray flycatcher (*Empidonax wrightii*), Green-tailed towhee (*Pipilo chlorurus*), Loggerhead shrike (*Lanius ludovicianus*), Rock wren (*Salpinctes obsoletus*), Sage sparrow (*Amphispiza belli*), Sage thrasher (*Oreoscoptes montanus*), Western meadowlark (*Sturnella neglecta*), Horned lark (*Eremophila alpestris*), and Vesper sparrow (*Pooecetes gramineus*) (Great Basin Bird Observatory, 2003).

The burrowing owl, loggerhead shrike, and vesper sparrow are BLM designated sensitive species. Most of these species require a diversity of plant structure and herbaceous understory. Good diversity provides sufficient habitat for nesting, foraging and cover.

3.2.3. Native American Religious Concerns

Numerous laws and regulations require consideration of Native American concerns. These include the National Historic Preservation Act of 1966 as Amended (NHPA), the American Indian Religious Freedom Act of 1978 (AIRFA) as amended, Executive Order 13007 (Indian Sacred Sites), Executive Order 13175 (Consultation and Coordination with Tribal Governments), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), the Archaeological Resources Protection Act of 1979 (ARPA) as well as NEPA and FLPMA.

Native Americans utilize a variety of plants for medicinal and other uses. They also consider all water to be sacred. Several springs are located within the gather area. Both of these resources can be adversely affected by domestic and wild horses.

Horses are believed to have been introduced into the Paiute and Shoshone societies from trade with the Comanche and other Plains groups (Shimkin 1986). By the mid-19th century, the horse had a significant impact on the political organization of the Paiute and Shoshone, plus their subsistence and trade. The ethnographic literature presents no clear cut trend on whether horses were used as food by the Northern Paiutes and Shoshone.

Letters requesting consultation meetings were sent to the following tribes in early September, 2010:

Battle Mountain Band Tribal Council, Fallon Paiute-Shoshone Tribe, Pyramid Lake Paiutes, Reno-Sparks Indian Colony, and the Yomba Tribal Council. This proposal was discussed with the Fallon tribe in a consultation meeting on September 22nd, 2010. Fallon had no concerns on the gather and understood it was being done to help preserve range resources for other animals. Pyramid Lake Paiutes, Battle Mountain Band Tribal Council, Reno-Sparks Indian Colony, and the Yomba Tribal Council have not responded to requests for consultation.

3.2.4. Threatened & Endangered Species

A list of federally listed, proposed or candidate species was requested from the U.S. Fish and Wildlife Service for the proposed project area; no response was received nor were comments to the preliminary EA. The Nevada Natural Heritage Program (NNHP) database (April, 2008) and the Nevada Department of Wildlife (NDOW) Diversity database (January, 2009) were consulted, with negative results, regarding the presence of threatened or endangered plant or animal species.

The candidate species Greater Sage-grouse (*Centrocercus urophasianus*), as well as several other special status species, were identified within the project area. See Section 3.3.4 Special Status Species for discussion on sage-grouse and these other species.

3.2.5. Wetlands and Riparian Zones

The HMA contains few wetland and riparian resources, including both lentic zones consisting of areas with low flows or standing water such as ponds, seeps, and meadows and lotic zones with running water such as creeks, streams and springs. The lentic areas consist of primarily hot springs in the Jersey Valley allotment. Lotic areas would consist of portions of Home Station Wash and Cedar Canyon primarily in the Home Station Gap allotment. Maintaining horse populations within appropriate management levels will allow for maintenance and recovery of wetlands and riparian areas.

Proper Functioning Condition (PFC) monitoring on the three main spring areas located on public lands within the Jersey Valley Allotment was conducted on August 19, 2010. Stremler Spring, located in the east portion of the allotment, was rated at PFC, the complex of springs located in the central part of the allotment, just west of the ranch headquarters, were rated functioning at risk – static, and Hyder Hot Springs, located on the southern border in the west portion of the allotment, was rated at PFC.

Currently Home Station Wash shows heavy horse use during summer and fall months. Prior to cattle turn out BLM staff performed a site visit of Home Station Wash on August 08, 2010. Observed stubble height was four inches or less and the stream bed and banks were heavily impacted by hoof action by wild horses.

3.3. Additional Affected Resources

In addition to the supplemental authorities listed above, the following resources are present and may be affected by the Action Alternatives (Alternatives 1-2) and/or the No Action Alternative: Fire resources – Fuels and Emergency Stabilization and Rehabilitation, Paleontology, Rangeland Management, Special Status Species, Soils, Vegetation, Wild Horses, Wilderness Study Areas and Wildlife.

Table 2: Other Resources Checklist

OTHER RESOURCES	Present	Affected
Wild Horses	YES	YES
Fire Resources - Fuels and Emergency Stabilization & Rehabilitation	YES	YES
Health and Safety	YES	YES
Paleontology	YES	NO*
Rangeland Management	YES	YES
Special Status Species	YES	YES
Soils	YES	YES
Vegetation	YES	YES
Wilderness Study Area	YES	YES
Wildlife	YES	YES

* Several paleontological sites are recorded within, or in close proximity to, the HMA, most notably in the Favret Canyon formation of the Augusta Mountains. These include the location from which the important scientific find *Augustasaurus hagdorni*, a close relative of plesiosaurs, was recovered in 1993. *Augustasaurus* dates to the Middle Triassic, 235 million years ago. More recently, a new species of ichthyosaurus was removed by a team from the University of Chicago in 2008, with plans to remove another such fossil during the summer of 2011. As these important fossil sites are largely imbedded in hard rock, no impacts to them are anticipated.

3.3.1. Wild Horses

The following table summarizes the AML, current population, and estimated removal numbers for the affected HMA under the Proposed Action. These numbers for proposed gather reflect 80% gather efficiency.

Table 3: Population Estimates

HMA	Current Estimate*	AML Range	Proposed Gather	Horses Removed	Mares Treated	Horses Released

Augusta Mountains	294	185-308	235	0	≈118	235
Outside HMA	50	0	40	40	0	0
Total	344	185-308	275	40	≈118	235

*Population estimates are based on an annual rate of increase of 24% since the last population inventory.

Appropriate Management Level (AML) range for wild horses is 185-308 for the Augusta Mountains HMA. The AML was established in the Cottonwood (Battle Mountains District Office) Final Multiple Use Decision (FMUD) August 1994, Hole-In-The-Wall FMUD January 1997, Home Station Gap FMUD January 1997, and the Jersey Valley FMUD January 1997. AML is established following an in-depth analysis of habitat suitability utilizing resource monitoring and population inventory data, and following public involvement in the decision-making process.

AMLs are established in order to ensure a thriving natural ecological balance and multiple-use relationship within the HMA. BLM manages wild horses and burros at the established AMLs and removes excess wild horses and burros above established AML range. Managing wild horses at AML would help ensure healthy horse herds and healthy rangelands, while maintaining multiple uses on the public lands.

The Augusta Mountains HMA was last gathered to remove excess wild horses in 2008; 267 horses were gathered and 228 of these were removed in response to a wildfire which burned a portion of the HMA in 2007. In 2003, 313 excess wild horses were removed from the Augusta Mountains HMA.

Results of WinEquus Population Modeling

The Proposed Action and No Action Alternatives were modeled using Version 3.2 of the WinEquus population model (Jenkins, 2000). This is a model designed to project how wild horse populations may react to different management techniques. Results from the model show that over the next ten years the rate of increase can be reduced for the HMA with PZP-22 contraception boosters given every three years. This equates to approximately 370 fewer excess wild horses that would need to be gathered and placed into the adoption program or sanctuaries. To review the complete results of the alternatives modeled see Appendix C.

3.3.2. Fire Resources

The proposed gather is located within four fire management units (FMU). Two FMUs, the Reese River/Grass Valley #NV-060-18 and the Fish Creek/Shoshone Mountains #NV-060-29 FMUs are administered by the Battle Mountain District. The Sonoma #NV-020-22 and the Stillwater #NV-020-23 are administered by the Winnemucca District. Fire regimes within each FMU vary based on vegetation type. A natural fire regime is a general classification of the role fire would play across a landscape in

absence of modern human mechanical intervention. Fire regimes are classified based on the average number of years between fires (fire frequency) combined with severity (amount of replacement) of the fire on dominant vegetation. Cheatgrass invasion alters fire frequency from historic regime intervals to shorter cycles of 5 years or less. The following table describes the Fire Regimes within the HMA and gather area.

Table 4: Fire Regime and Frequency

Fire Regime Number	Frequency (years)	Severity
I	0-35	Low & Mixed
II	0-35	Replacement
III	35-100	Mixed
IV	35-100	Replacement
V	200+	Replacement

Historic fires have converted areas within the FMUs to cheatgrass dominated sites, which has increased fire frequency.

A fire regime conditions class (FRCC) is a classification of the amount of departure from the natural regime (Hann and Bunnell 2001). This classification is based on a relative measure describing the degree of departure for the natural (historical) fire regimes. FRCC class 3 is a high departure from the central tendency of the natural regime, primarily due to the effects from wildfire and areas converted to cheatgrass. The following describes vegetation communities and applicable fire regimes and condition classes with approximate acreages present within each FMU that is present within the HMA and gather area.

Table 5: Vegetation Communities with Applicable Fire Regimes

Veg. Community	Reese River/Grass Valley#60-18	Fish Creek/Shoshone Mtns.#60-29	Stillwater #20-23	Sonoma #20-22
Sagebrush	450,838 acres Fire Regime II, Condition Class 3	393,423 acres Fire Regime II, Condition Class 3	43,330 acres Fire Regime II, Condition Class 3	366,881 acres Fire Regime II, Condition Class 3
Salt-Desert Shrub	315,373 acres Fire Regime IV, Condition Class 3	25,035 acres Fire Regime IV, Condition Class 3	33,604 acres Fire Regime IV, Condition Class 3	92,812 acres Fire Regime IV, Condition Class 3
Pinyon Juniper	11,609 acres Fire Regime II, Condition Class 2	87,796 acres Fire Regime II, Condition Class 2	2,845 acres Fire Regime II, Condition Class 2	17,467 acres Fire Regime II, Condition Class 2
Grass	19,879 acres Fire Regime I, Condition Class 3	5,394 acres Fire Regime I, Condition Class 3	1,401 acres Fire Regime I, Condition Class 3	32,073 acres Fire Regime I, Condition Class 3

Levels of departure from the natural (historical) fire regime. FRCC-1 Low, FRCC-2 Moderate, FRCC-3 High

Since 2007, three larger fires have burned within the HMA. The 2007 Cain fire burned approximately 15,098 acres within the HMA. The Paris Fire also occurred in 2007 and burned about 2,945 acres. Emergency stabilization and rehabilitation treatments included 1,664 acres aerially seeding on the Cain fire and 1,904 acres aerial seeding on the Paris Fire. About 1,362 acres of drill seeding was also implemented on the Paris Fire.

3.3.3. Health and Safety

In recent gathers, members of the public have increasingly traveled to the public lands to observe BLM's gather operations. While most members of the public follow BLM's directions which are necessary to ensure the safety of the public, BLM staff, contractors and wild horses 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. These actions consist of driving into unauthorized areas or attempting 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 to 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 in time to avoid members of the public in their path. 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.

Public observation of the gather activities on public lands would be allowed, subject to restrictions necessary to ensure the health and safety of the public, BLM employees and contractors and the wild horses, and would be consistent with BLM IM No. 2010-164.

Private property has been utilized in previous gathers for gather sites and temporary holding facilities and may be used during this gather if necessary. If private property is utilized during the gather operations every attempt by BLM personnel to escort public observers to these sites would be made if such access is requested and if the private land owner does not prohibit public access as a condition of

allowing use of the private property.

3.3.4. Rangeland Management

Livestock grazing occurs within the Augusta Mountains HMA as authorized in grazing permits as summarized below (see LLNV-W01000-2009-0003-EA for further discussion of livestock grazing within the HMA).

Table 6: Authorized livestock use occurs within the Augusta Mountains HMA as shown below.

Allotment	% of Allotment Within HMA	Active Preference	Actual use AUMs 2009-2010	Season of use
Hole- in-the-Wall	98	1221	437	03/01 – 04/30
Jersey Valley	59	932	429	05/01 – 07/31
Home Station Gap	100	914	466	08/01 – 11/30
Hole-in-the-Wall	98	1221	728	12/01 – 02/28
*Cottonwood (MLFO)	41	4,780	3,906	05/01-02/28
*Cottonwood (MLFO)	41	903	0	03/01-03/31 11/01-2/28

*Cottonwood listed twice because there are two separate livestock grazing permits within the allotment

3.3.5. Soils

The majority of soils in the HMA were developed under low precipitation with minimal topsoil development. Erosion hazard potential for water and wind are grouped into broad classes based on landforms. Erosion hazard potential is slight for water and moderate for wind in lake plains and lake terraces soils; moderate for water erosion and slight for wind in fan piedmonts soils; and moderate or high for water and slight for wind in mountains soils.

Potential for biological soil crusts occurrence is highest on the upper lake plain terraces. Potential biological soil crusts occurrence is lowest on the lower lake plains terrace and mountain slopes. Fan piedmonts have moderate occurrence of biological soil crusts.

3.3.6. Sensitive Species

Bats - Several species of bats may occur in the project area. Most bats in Nevada are year-round residents. In general terms, bats eat insects and arthropods during the warmer seasons and hibernate in underground structures during the cooler seasons. Bats commonly roost in caves, mines, outcrops, buildings, trees and under bridges. Bats may eat flies, moths, beetles, ants, scorpions, centipedes, grasshoppers, and crickets. Bats thrive where the plant communities are healthy enough to support a large population of prey (Bradley et. al 2006).

Burrowing Owl - Burrowing owls prefer open, arid, treeless landscapes with low vegetation. They are dependent upon burrowing mammal populations for maintenance of nest habitat and choose nesting areas based on burrow availability (Floyd et al. 2007). These birds are highly adaptable and readily nest in open, disturbed areas such as golf-courses, runways, and industrial areas that border suitable habitat (Neel, 1999). Dense stands of grasses and forbs within owl home ranges support populations of rodent and insect prey. Urbanization is the biggest threat to this species as suitable habitat is converted to non-habitat by human use (Floyd et al. 2007).

Golden Eagle - Golden eagles are primarily cliff nesters and would utilize the area to forage for prey species such as jackrabbits and other small mammals. Golden eagles are protected under the Bald and Golden Eagle Protection Act. Nevada's golden eagle population is thought to be stable to increasing. They are widespread and frequently encountered (Floyd et al. 2007).

Lahontan Beardtongue - The Lahontan beardtongue is a perennial herb with wand-like stems and showy pink flowers. It is found along washes, roadsides and canyon floors, particularly on carbonate-containing substrates, usually where subsurface moisture is available throughout most of the summer. Little survey attention has been given to this rare plant but it is presumed extant (Nevada Natural Heritage Program, 2001).

Loggerhead Shrike - Loggerhead shrikes may be found in sagebrush/bunchgrass and salt desert scrub vegetative communities, so it is possible that they occur on these allotments. Loggerhead shrikes tend to favor arid, open country with just a few perches or lookouts. They nest in isolated trees and large shrubs and feed mainly on small vertebrates and insects. The species is relatively common and well distributed across the state (Neel, 1999). These birds benefit from habitat with a diverse structure and species composition. Healthy sagebrush communities provide these habitat characteristics. According to Paige and Ritter (1999), "Long-term heavy grazing may ultimately reduce prey habitat and degrade the vegetation structure for nesting and roosting. Light to moderate grazing may provide open foraging habitat".

Mountain Quail - Habitats for the mountain quail include brushy mountainsides, coniferous forest, forest and meadow edges, dense undergrowth, and, in more arid conditions, sagebrush, pinyon and juniper. It favors areas with tall dense shrubs, close to water and usually nests under protective cover of a tree, shrubs, fallen branches, etc. within a few hundred meters of water. In spring and summer it feeds on herbaceous vegetation especially leaves, buds, flowers of legumes and some insects (grasshoppers, beetles, ants). It eats seeds, acorns, and fruits during the rest of the year. Chicks eat mainly flower heads, seeds, and relatively few insects (Natureserve 2009).

Prairie Falcon - The prairie falcon may be found foraging in sagebrush habitats that have cliffs in close proximity for nesting. They prey on small mammals and birds, especially horned lark. Populations experienced declines in the 60's and 70's but appear to be stable now in the West (Paige and Ritter, 1999).

Pygmy Rabbit - In the Great Basin, the pygmy rabbit is typically restricted to the sagebrush-grass complex. A dietary study of pygmy rabbits showed that they are dependent on sagebrush year round. Sagebrush was eaten throughout the year as 51% of the diet in summer and 99% in the winter. They also showed a preference for grasses and to lesser extent forbs in the summer (Green and Flinders, 1980). These data seem to indicate that pygmy rabbits require sagebrush stands with an understory of perennial grasses to meet their seasonal dietary requirements. Pygmy rabbits have been documented near the headwaters of Fish Creek in the Fish Creek Mountains.

Sage-Grouse - The sage-grouse is a sagebrush obligate species and is strictly associated with sagebrush/grasslands. Sage-grouse may eat a variety of grasses, forbs and insects during the breeding season. However, they feed almost entirely on sagebrush during the winter months, selecting shrubs with high protein levels (Paige and Ritter, 1999),

Portions of the Fish Creek and Clan Alpine PMUs lie within the project area. Most of this sage-grouse habitat has been classified as summer range and occurs at higher elevations which receive more precipitation. There is a relatively small area of nesting habitat in the upper elevations of the Fish Creek Mountains and an area of winter habitat in the Augusta Mountains, at elevations where sagebrush usually does not become covered in snow.

Springsnails – Springsnails are freshwater mollusks (genus *Pyrgulopsis* [Pyrg]). While some species are montane, springsnails generally occur on valley floors or along the base of mountain blocks at springs less than 2400 m (~8000 ft) elevation (Hershler 1998, Sada 2008). Pyrgs generally inhabit springs with medium (10-21°C) to thermal (greater than 21°C) temperatures (Hershler 1998). Modifications to springs that negatively impact *Pyrgulopsis* species include livestock grazing (which tramples vegetation and pollutes the spring with excrement), recreational activities (such as bathing), diversion of water source, and introduction of non-native or invasive species (Hershler 1998, Sada and Vinyard 2002).

Vesper Sparrow - The vesper sparrow may be found in the project area since it typically inhabits sagebrush-grass vegetative communities at the higher elevations. The vesper sparrow responds negatively to heavy grazing in sagebrush/grasslands. It prefers mixed grass and sagebrush habitat where shrub cover is limited and bare ground is often present (Floyd et al. 2007). It forages on the ground and eats mostly seeds from grasses and forbs and will also eat insects when they are available. In these habitats, it benefits from open areas with scattered shrubs and a cover of good bunchgrasses for nest concealment, since it is a ground nester (Paige and Ritter, 1999).

Windloving Buckwheat - This is a low perennial herb with leafless flower stalks rising about 6.5 cm above clumps of white-hairy leaves. The stalks bear a terminal, globular cluster of white flowers. It blooms in late June and July. At high elevations, it inhabits dry, exposed, relatively barren and undisturbed, gravelly, limestone or volcanic ridges and ridgeline knolls, on outcrops or shallow rocky soils over bedrock. At low elevations it inhabits dry, relatively barren and undisturbed knolls and slopes of light-colored, platy volcanic tuff weathered to form stiff clay soils, on all aspects (Nevada Natural Heritage Program, 2001).

3.3.7. Vegetation

The potential natural vegetation primary consists of shadscale saltbush (*Atriplex confertifolia*)/budsage (*Picrothamnus desertorum*), shadscale saltbush/black greasewood (*Sarcobatus vermiculatus*), single leaf Pinyon (*Pinus monophylla*)/Utah Juniper (*Juniperus osteosperma*), black sagebrush (*Artemisia nova*), and Wyoming big sagebrush (*Artemisia tridentate wyomingensis*). Grasses common to this area include Thurber’s needlegrass (*Achnatherum thurberianum*), Basin wildrye (*Leymus cinereus*), Indian ricegrass (*Achnatherum hymenoides*), Bluebunch wheatgrass (*Pseudoroegneria spicata*), and Bottlebrush squirreltail (*Elymus elymoides*). Potential vegetation communities were derived from information extracted from Soil Surveys.

Monitoring data collected for utilization of vegetative resources within the project area are presented in Table 8. These data include utilization attributed to livestock, wild horses or to both livestock and wild horses.

Table 7: Monitoring and Actual Use 2001-2010

Allotment	Year	Use Levels/Utilization Objectives Met or Not Met/Dates Monitored/Production	Actual Use - Cattle
Hole in the Wall	2003-04	Slight to Moderate Use. Utilization Objectives Met. Monitored 09/17/04.	1,176 AUMs 12/20/03 to 05/31/04
	2004-05	Slight Use. Utilization Objectives Met. Monitored 05/25/05.	1,221 AUMS 12/01/04 to 04/30/05
	2005-06	Slight Use. Utilization Objectives Met. Monitored 05/19/06.	1,221 AUMs 12/01/05 to 04/30/06
	2006-07	Not monitored.	1,221 AUMs 12/01/06 to 04/30/07
	2007-08	Slight Use. Utilization Objectives Met. Monitored 04/17/08.	1,089 AUMs 12/01/07 to 04/30/08
	2008-09	Slight to Moderate Use. Utilization Objectives Met. Monitored 05/19/09.	1,082 AUMs 12/01/08 to 04/30/09
	2009-10	Slight Use. Utilization Objectives Met. Monitored 05/25/10.	1,221 AUMs 12/01/09 to 04/30/10
Home Station Gap	2001	Slight to Moderate Use in the Uplands. Monitored 01/10/01.	No Actual Use
	2003	Rested	0 AUMs
	2004	Rested	0 AUMs
	2005	Slight Use. Utilization Objectives Met in the Uplands. Riparian not Monitored. Monitored 09/08/05.	916 AUMS 05/23/05 to 07/31/05

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Allotment	Year	Use Levels/Utilization Objectives Met or Not Met/Dates Monitored/Production	Actual Use - Cattle
	2006	Light to Heavy Use. Utilization Objectives not Met in the Uplands or Riparian. Monitored 09/21/06.	932 AUMs 06/16/06 to 08/31/06
	2007	Slight to Heavy Use. Utilization Objectives not Met in the Uplands or Riparian. Monitored 10/30/2007.	931 AUMs 05/01/07 to 06/30/07
	2008	Utilization Objectives were met on riparian when monitored 8/14/08. Riparian stubble height was 6 to 7 inches. No upland monitoring was conducted in 2008.	521 AUMs 08/01/08 to 11/30/08
	2009	Slight to Light Use. Utilization Objectives being met on uplands and riparian when monitored on 05/21/09.	466 AUMS 05/01/09 to 06/15/09
Jersey Valley	2002	Light to moderate use. Utilization levels met on upland and riparian but heavy impacts (mainly hoof action) at Stremler Spring. Monitored 10/31/02 and 02/24/03.	No Actual Use Report
	2003	Rested	
	2004	Rested	
	2005	Not Monitored	914 AUMs 08/01/05 to 11/30/05
	2006-07	BRTE averaged 400 lbs an acre dry weight in March of 2007 after the allotment was grazed by cattle from 09/01/06 to 11/30/06. Stremler Spring observed with heavy mechanical damage 05/22/07. Slight to moderate use on uplands when monitored on 11/28/07. Upland utilization objectives met.	933 AUMs 09/01/06 to 11/30/06 914 AUMs 08/01/07 to 11/30/07
	2008	Not Monitored	314 AUMs 05/01/08 to 05/31/08 17 AUMS 07/19/08 to 07/31/08
	2009	Slight Use. Upland Utilization Objectives met. Monitored 05/20-21/09.	84 AUMs 09/14/09 to 10/15/09 345 AUMs

Allotment	Year	Use Levels/Utilization Objectives Met or Not Met/Dates Monitored/Production	Actual Use - Cattle
			10/16/09 to 11/30/09
	2010	Slight Use. Upland Utilization Objectives met. Monitored 03/09/10	
Cottonwood	2010	Utilization was collected on 3/31/2010 on all key management areas (KMAs) within the Cottonwood Allotment. All KMAs that are located within the HMA boundary happened to be under a fire closure and excluded from livestock grazing. There was 0% utilization recorded at those KMAs (a total of 3).	3,906 AUMs 05/01/2009 to 02/28/2010
Slight = 1-20%, Light = 21-40%, Moderate = 41-60%, Heavy = 61-80%, Severe 81-100%			

3.3.8. Wilderness Study Areas (WSAs)

One WSA exists within the project area: Augusta Mountains WSA (NV-030-108). Section 603 (c) of the Federal Land Policy Management Act directs how the BLM is to manage “lands under wilderness review,” which includes WSAs. These lands are to be managed in a manner that does not impair the suitability of such areas for preservation as wilderness. Consequently, actions proposed within WSAs are to be evaluated on the basis of their possible direct and indirect impacts on wilderness values of naturalness, solitude and primitive or unconfined recreation, and special features. All of the temporary gather sites and/or holding corrals will be located outside the WSA boundaries.

No gather sites and holding facilities would be allowed within the WSA and motorized vehicles would be restricted to authorized designated (cherry stemmed) roads within the WSA.

3.3.9. Wildlife

Terrestrial wildlife resources in the project area are typical of the Northern Great Basin. A wide variety of wildlife species common to the Great Basin ecosystem can be found within the project area. Common large and small wildlife species occurring in the area include mule deer (*Odocoileus hemionus*), pronghorn antelope (*Antilocapra americana*), coyote (*Canis latrans*), blacktail jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus auduboni*), bobcat (*Lynx rufus*), numerous raptors, reptiles, and other small mammal species.

Mule Deer - The Augusta and Fish Creek Mountains provide mule deer with year-round habitat within the project area. Mule deer 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 winter and dry summer months.

Pronghorn Antelope – There are areas of year-round pronghorn habitat on the majority of the eastern edge and northwest corner of the project area. Rangelands with a mixture of grasses, forbs, and shrubs provide the best habitat for pronghorn. Pronghorn seem to prefer habitats with shrub heights between 10-25 inches.

4.0 Environmental Consequences

Direct impacts are those that result from the actual gather and removal of excess wild horses and treatments to decrease the annual wild horse population growth rate. Indirect impacts are those impacts that occur once the excess animals are removed. Direct impacts and indirect impacts regarding the Proposed Action (Action Alternatives) and Alternative 2 (No Action) are discussed in each resource section (alphabetically) below.

4.1. Cultural Resources

Proposed Action

Because many of the cultural resource sites in the HMA are situated on or just below the ground surface, they are susceptible to disturbance or destruction by erosional and weathering processes. While these processes occur naturally, heightened trampling at holding and gather sites as a result from the proposed gather may impact cultural resource sites by exacerbating natural erosional processes.

Under the proposed action horses would be driven into previously used holding areas; if circumstances require, new holding and gather areas might be required. If such is the case, a district archaeological technician will be on the scene to ensure avoidance of cultural resources and sites.

Areas in the vicinity of permanent and intermittent water sources (i.e. springs and riparian areas) have the highest potential for cultural resource sites. It is anticipated that these environments would be avoided during the gather and no holding or gather facilities would be sited in proximity to such water sources.

Alternative 2. No Action. Defer Capture/Treat/Release (CTR) and Removal.

There would be no direct impacts under this alternative. However indirect impacts described above may increase as wild horse populations continue to increase and as higher numbers of wild horses concentrate at riparian areas, thereby disturbing or destroying cultural resources that may be present in these areas.

4.2. Migratory Birds

Proposed Action

This alternative would not directly impact most migratory birds since the gather would occur when the

majority of migratory species have already left the northern Nevada area. However, some bird species remain in Nevada as year-round residents. Birds may be temporarily displaced in areas of noise and activity associated with the horse gather. Small areas of migratory bird habitat would be impacted by trampling at gather sites and holding facilities. This impact would be minimal (generally less than 0.5 acre/gather site), temporary, and short-term (two weeks or less) in nature. Indirect impacts would occur due to the removal of wild horses from the area outside of the HMA and elimination of their impacts to upland and riparian vegetative communities. Fertility treatment of the mares within the HMA would slow reproduction for the next two years and reduce impacts to bird habitats and postpone the need for horse removal. These actions are expected to improve habitat for migratory birds by reducing wild horse impacts to rangeland resources.

Alternative 2. No Action. Defer CTR and Removal.

This alternative would have no direct impacts. Indirect impacts would be the continued impacts to vegetative communities by wild horses outside of the HMA. There would also be more rapid increase in herd size within the HMA over the next two years and therefore, increasingly heavier impacts to and potential degradation of migratory bird habitat.

4.3. Native American Religious Concerns

Proposed Action

No direct impacts to areas of Native American concern would occur because gather sites and holding areas would be placed in previously disturbed areas and/or in areas where there are no known Native American concerns. Indirect impacts from wild horse grazing to plants in riparian zones used by Native Americans for medicinal and other purposes would be reduced.

Alternative 2. No Action. Defer CTR and Removal.

There would be no direct impacts under this alternative. Wild horses would continue to inhabit areas within the HMA. As the wild horse population continues to increase and as greater numbers of wild horses concentrate at riparian areas, this could have adverse impacts on plants in riparian zones that are used by Native Americans.

4.4. Wetlands and Riparian Zones

Proposed Action

Direct impacts to wetlands or riparian zones occur when wild horses cross wetland or riparian zones as they are herded to temporary gather sites. This impact would be temporary and relatively short-term in nature. Indirect impacts would be related to wild horse population size. Reduction of wild horse populations from current levels would decrease hoof action around unimproved springs, improve stream bank stability, and improve riparian habitat condition due to decreased utilization of riparian plants.

Decreased utilization would lead to increased residual stubble height; less soil compaction; decreases in bare ground, surface disturbance, and soil erosion; and would support improved wetland and riparian conditions on spring meadow systems.

Alternative 2. No Action. Defer CTR and Removal.

There would be no direct impacts. In the absence of a wild horse gather, indirect impacts would be increased degradation to riparian habitats as the wild horse population continues to grow each year that a gather is postponed. Conditions of wetland and riparian areas would remain below potential on heavily grazed spring sources and brooks due to removal of residual stubble height and compaction, leading to increased disturbance and levels of bare ground. Based on spring inventory assessments, increasing wild horse populations would accelerate degradation of riparian conditions, thereby reducing the value of these sites for other uses.

4.5. Wild Horses

Direct and Indirect Gather Impacts

Over the past 35 years, various impacts to wild horses as a result of gather activities have been observed. Under the Proposed Action, impacts to wild horses would be both direct and indirect, occurring to both individual horses and the population as a whole.

The BLM has been conducting wild horse gathers since the mid-1970s. During this time, methods and procedures have been identified and refined to minimize stress and impacts to wild horses during gather implementation. The SOP in Appendix B would be implemented to ensure a safe and humane gather occurs and would minimize potential stress and injury to wild horses.

According to a 2008 Government Accountability Office Report, gather-related mortality for wild horses gathered using the helicopter drive gathering method averages only about one half of one percent (0.5%), which is very low when handling wild animals. Approximately, another six-tenths of one percent (0.6%) of the gathered animals could be humanely euthanized due to pre-existing conditions and in accordance with BLM policy (GAO-09-77). These data affirm that the use of helicopters and motorized vehicles has proven to be a safe, humane, effective, and practical means for the gather and removal of excess wild horses (and burros) from the public lands. BLM policy prohibits the gathering of wild horses with a helicopter, (unless under emergency conditions), from March 1 to June 30, which includes and covers the six weeks that precede and six weeks after the peak of foaling period (mid-April to mid-May).

Individual, direct impacts to wild horses include the handling stress associated with the roundup, gather, sorting, handling, and transportation of the animals. The intensity of these impacts varies by individual animal, and is indicated by behaviors ranging from nervous agitation to physical distress. When being herded to gather site corrals by the helicopter, injuries sustained by wild horses may include bruises, scrapes, or cuts to feet, legs, face, or body from rocks, brush or tree limbs. Rarely, wild horses will

encounter barbed wire fences and will receive wire cuts. These injuries are very rarely fatal and are treated on-site until a veterinarian can examine the animal and determine if additional treatment is indicated.

Other injuries may occur after a horse has been gathered and is either within the gather site corral, the temporary holding corral, during transport between facilities, or during sorting and handling. Occasionally, horses may sustain a spinal injury or a fractured limb but based on prior gather statistics, serious injuries requiring humane euthanasia occur in less than 1 horse per every 100 gathered. Similar injuries could be sustained if wild horses were gathered through bait and/or water trapping, as the animals still need to be sorted, aged, transported, and otherwise handled following their gather. These injuries result from kicks and bites or from collisions with corral panels or gates.

To minimize the potential for injuries from fighting, the animals are transported from the gather site to the temporary (or short-term) holding facility where they are sorted as quickly and safely as possible, then moved into large holding pens where they are provided with hay and water. On many gathers, no wild horses are injured or die. On some gathers, due to the temperament of the horses, they are not as calm and injuries are more frequent. Overall, direct gather-related mortality averages less than 1%.

Indirect individual impacts are those which occur to individual wild horses after the initial gather event. These may include miscarriages in mares, 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 1-2 minute skirmish between older studs which ends when one stud retreats. Injuries typically involve a bite or kick with bruises which do not break the skin. Like direct individual impacts, the frequency of these impacts varies with the population and the individual animal. Observations following gather indicate the rate of miscarriage varies, but can occur in about 1 to 5% of the gathered mares, particularly if the mares are in very thin body condition or in poor health.

A few foals may be orphaned during a gather. This can occur if the mare rejects the foal, the foal becomes separated from its mother and cannot be matched up following sorting, the mare dies or must be humanely euthanized during the gather, the foal is ill or weak and needs immediate care that requires removal from the mother, or the mother does not produce enough milk to support the foal. On occasion, foals are gathered that were previously orphaned on the range (prior to the gather) because the mother rejected it or died. These foals are usually in poor, unthrifty condition. Every effort is made to provide appropriate care to orphan foals. Veterinarians may administer electrolyte solutions or orphan foals may be fed milk replacer as needed to support their nutritional needs. Orphan foals may be placed in a foster home in order to receive additional care. Despite these efforts, some orphan foals may die or be humanely euthanized as an act of mercy if the prognosis for survival is unlikely. Due to the timing of the proposed gather, it is unlikely that orphan foals will be encountered as the majority of the current year's (2010) foals will be weaned already from their mothers.

In some areas, gathering wild horses during the winter may avoid the stress that could be associated with

a summer gather. Water requirements are lower during the winter months, making distress from heat exhaustion extremely rare. By fall and winter, foals are of good body size and sufficient age to be easily weaned or have already been weaned by their mothers. Winter gathers are often preferred when terrain and higher elevations make it difficult to gather wild horses during the summer months. Under winter conditions, horses are often located in lower elevations due to snow cover at higher elevations. This typically makes the horses closer to the potential gather sites and reduces the potential for fatigue and stress. While deep snow can tire horses as they are moved to the gather site, the helicopter pilots allow the horses to travel slowly at their own pace. Trails in the snow are often followed to make it easier for horses to travel to the gather site. On occasion, trails can be plowed in the snow to facilitate the safe and humane movement of horses to a gather site.

Through the gather and sorting process, wild horses are examined for health, injury and other defects. Decisions to humanely euthanize animals in field situations would be made in conformance with BLM policy. BLM Euthanasia Policy IM-2009-041 is used as a guide to determine if animals meet the criteria and should be euthanized (refer to SOPs, Appendix A). Animals that are euthanized for non-gather related reasons include those with old injuries (broken or deformed limbs) that cause lameness or prevent the animal from being able to maintain an acceptable body condition (greater than or equal to BCS 3); old animals that have serious dental abnormalities or severely worn teeth and are not expected to maintain an acceptable body condition, and wild horses that have serious physical defects such as club feet, severe limb deformities, or sway back. Some of these conditions have a causal genetic component and the animals should not be returned to the range to prevent suffering, as well as to avoid amplifying the incidence of the problem in the population.

Wild horses not gathered may be temporarily disturbed and moved into another area during the gather operation. With the exception of changes to herd demographics from removals, direct population impacts have proven to be temporary in nature with most, if not all, impacts disappearing within hours to several days of release. No observable effects associated with these impacts would be expected within one month of release, except for a heightened awareness of human presence.

It is not expected that genetic health would be impacted by the Proposed Action. The AML range of 185-308 should provide for acceptable genetic diversity.

Results of WinEquus Population Modeling

The Proposed Action and the No Action Alternative plus a Gather Only Alternative were modeled using Version 3.2 of the WinEquus population model (Jenkins, 2000). The Proposed Action was run out to 10 years and continued with CTR and removal of wild horses over high AML. The normal gather only was run to show the number of horses that would be required to be removed over the next decade. Assuming that the BLM periodically gathers wild horses in excess of AML, 371 fewer horses would need to be gathered using the CTR management strategy. Running the no action alternative shows the average number of horses that may be within the HMA, which would be over three times the high end of AML if excess horses are not gathered. All numbers in the following table are the medium average number, for complete results refer to Appendix C.

Table 8: Summary of Population Modeling Results

Alternative	Pop. Size in (11 years)	Next Projected Gather (Year)	Number Removed (11 years)
Proposed Action	<310	3	221
No Action	963	0	0
Gather Only	<350	4	592

The highest success for fertility control has been obtained when applied during the timeframe of November through February. The efficacy for the application of the two-year PZP vaccine based on winter applications follows:

<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>
Normal	94%	82%	94%

One-time application at the gather site would not affect normal development of the fetus, hormone health of the mare or behavioral responses to stallions, should the mare already be pregnant when vaccinated (Kirkpatrick, 1995). The vaccine has also proven to have no apparent effect on pregnancies in progress, the health of offspring, or the behavior of treated mares (Turner, 1997). Mares would foal normally in 2011 (Year 1).

The injection would be controlled, handled, and administered by a trained BLM employee. Mares receiving the vaccine would experience slightly increased stress levels associated with handling while being vaccinated and freeze-marked. Serious injection site reactions associated with fertility control treatments are rare in treated mares. Any direct impacts associated with fertility control, such as swelling or local reactions at the injection site, would be minor in nature and of short duration. Most mares recover quickly once released back to the HMA, and none are expected to have long term consequences from the fertility control injections.

By maintaining wild horse population size within the AML, there would be a lower density of wild horses across the HMA, reducing competition for resources and allowing wild horses to utilize their preferred habitat. Maintaining population size within the established AML would be expected to improve forage quantity and quality and promote healthy, self-sustaining populations of wild horses in a thriving natural ecological balance and multiple use relationship on the public lands in the area. Deterioration of the range associated with wild horse overpopulation would be avoided. Managing wild horse populations in balance with the available habitat and other multiple uses would lessen the potential for individual animals or the herd to be affected by drought, and would avoid or minimize the need for emergency gathers, which would reduce stress to the animals and increase the success of these herds

over the long-term.

Over the next 5 years, implementation of the Proposed Action would result in fewer excess wild horses which would require removal from the range.

Temporary Holding Facilities During Gathers

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

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

Transport, Short Term Holding, and Adoption (or Sale) Preparation

About 40 excess horses from outside of the HMA would be removed. Animals would be transported from the gather/temporary holding corrals to the designated BLM short-term holding corral facility(s) or an approved fostering location. From there, they would be made available for adoption or sale to qualified individuals or for shipment to long-term holding (grassland) pastures. Wild horses selected for removal from the range are transported to the receiving short-term holding facility in a straight deck semi-trailers or goose-neck stock trailers. Vehicles are inspected by the BLM Contracting Officer Representative (COR) or Project Inspector (PI) prior to use to ensure wild horses can be safely transported and that the interior of the vehicle is in a sanitary condition. Wild horses are segregated by age and sex and loaded into separate compartments. A small number of mares may be shipped with foals. Transportation of recently gathered wild horses is limited to a maximum of 8 hours. During transport, potential impacts to individual horses can include stress, as well as slipping, falling, kicking, biting, or being stepped on by another animal. Unless wild horses are in extremely poor condition, it is rare for an animal to be seriously injured or die during transport.

Upon arrival at the short term holding facility, recently gathered 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 examines each load of horses and provides recommendations to the BLM regarding care, treatment, and if necessary, euthanasia of the recently gathered 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 feet, and other severe congenital abnormalities) would be humanely euthanized using methods acceptable to the American Veterinary Medical Association (AVMA).

Wild horses in very thin condition or animals with injuries are sorted and placed in hospital pens, fed separately and/or treated for their injuries as indicated. Recently gathered wild horses, generally mares, in very thin condition may have difficulty transitioning to feed. Some of these animals are in such poor condition that it is unlikely they would have survived if left on the range. Similarly, some mares may lose their pregnancies. Every effort is taken to help the mare make a quiet, low stress transition to captivity and domestic feed to minimize the risk of miscarriage or death.

After recently gathered wild horses have transitioned to their new environment, they are prepared for adoption or sale (with limitations). Preparation involves freeze-marking the animals with a unique identification number, drawing a blood sample to test for equine infectious anemia, 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 handling and transportation. Serious injuries and deaths from injuries during the preparation process are rare, but can occur.

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

Adoption

Adoption applicants are required to have at least a 400 square foot corral with panels that are at least six feet tall. Applicants are required to provide adequate shelter, feed, and water. The BLM retains title to the horse for one year and the horse and facilities are inspected. After one year, the applicant may take title to the horse at which point the horse become the property of the applicant. Adoptions are conducted in accordance with 43 CFR § Subpart 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 3 times. The application also specifies that all buyers are not to sell to slaughter buyers or anyone who would sell the animals to a commercial processing plant. Sale of wild horses is conducted in accordance with the 1971 WFRHBA and congressional limitations.

Long Term Pastures

During the past 3 years, the BLM has removed approximately 19,000 excess wild horses or burros from the Western States. Most animals not immediately adopted or sold have been transported to long-term grassland pastures in the Midwest.

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

Long-term grassland pastures are designed to provide excess wild horses with humane, and in some cases life-long care in a natural setting off the public rangelands. There, wild horses are maintained in grassland pastures large enough to allow free-roaming behavior (i.e., the horses are not kept in corrals) and with the forage, water, and shelter necessary to sustain them in good condition. About 22,700 wild horses that are in excess of the current adoption or sale demand (because of age or other factors such as economic recession), are currently located on private land pastures in Oklahoma, Kansas, and South Dakota. Establishment of a LTP is 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 the more arid western rangelands. These pastures comprise about 256,000 acres (an average of about 10-11 acres per animal). Of the animals currently located in LTP, less than one percent is age 0-4 years, 49 percent are age 5-10 years, and about 51 percent are age 11+ years.

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

Euthanasia and Sale without Limitation

While humane euthanasia and sale without limitation of healthy horses for which there is no adoption demand is authorized under the WFRHBA, Congress prohibited the use of appropriated funds between 1987 and 2004 and again in 2010 for this purpose. It is unknown if a similar limitation will be placed on the use of FY2011 appropriated funds.

No Action Alternative (No Wild Horse Gather)

Under the No Action alternative, AML would not be achieved within the HMA and wild horses would not be removed from areas outside of the boundaries of designated HMA. There would be no active management to control the size of the population at this time, and wild horse populations would continue to increase at an average rate of 20-24% per year. Without a gather and removal now, there is greater potential for impacts to rangeland resources before the next gather occurs. The wild horse population in the HMA, if not gathered, could also exceed 900 head within ten years based on population annual rate estimates. At some time, the BLM would be required to gather and remove excess wild horses, and the number of horses that would need to be gathered would be significantly greater than those under the proposed action. The excess animals would be transported to BLM short-term corral facilities where they would be prepared for adoption, sale or long-term holding.

High end of AML is the maximum population at which a thriving natural ecological balance would be maintained and that is necessary to avoid deterioration of the rangeland. The increasing population of wild horses in excess of AML would over-extend and deplete water and forage resources. Excessive utilization, trampling, and trailing by wild horses would further degrade the vegetation, prevent improvement of range that is already in less than desirable or degraded condition, would degrade currently healthy rangelands, and would not allow for sufficient availability of forage and water for wild horses or other ungulates, especially during drought years or severe winter conditions. Winter range within the HMA lacks abundant forage and waters are limited. Wild horses are already congregating in high densities within portions of the HMA and this will be further exacerbated if the wild horse population continues to grow.

Throughout the HMAs administered by the Winnemucca District few predators exist to control wild horse or burro populations. Some mountain lion predation occurs, but does not appear to be substantial. Coyote are not prone to prey on wild horses unless young, or extremely weak. Other predators such as wolf or bear do not exist.

Wild horses are a long-lived species with documented foal survival rates exceeding 95%. Survivability rates collected through research efforts are as follows:

Pryor Mountain Wild Horse Range, Montana: >95%; 15 years and younger, except for foals, both sexes: 93%;

Granite Range HMA, Nevada: >95%; 15 years and younger, except for male foals: 92%;

Garfield Flat HMA, Nevada: > 95%; 24 years and younger, except for foals, both sexes: 92%.

If unconstrained, wild horse population growth, overpopulation, or adverse conditions may lead to death of wild horses in the HMA due to starvation or lack of water, this would have obvious consequences to the long-term viability of the herd. If AML is not maintained, a continued decline of rangeland health and irreparable damage to vegetative, soil and riparian resources is likely to occur. As a result, the No Action Alternative, by allowing the population to grow in excess of AML, would not ensure healthy rangelands that would allow for the management of a healthy, self-sustaining wild horse population, and

would not promote a thriving natural ecological balance.

While some members of the public have advocated “letting nature take its course”, allowing horses to die of dehydration and starvation would be inhumane treatment and would be contrary to the WFRHBA, which mandates removal of excess wild horses. The damage to rangeland resources that results from excess numbers of wild horses is also contrary to the WFRHBA, which mandates the Bureau to “*protect the range from the deterioration associated with overpopulation*”, “*remove excess animals from the range so as to achieve appropriate management levels*”, and “*to preserve and maintain a thriving natural ecological balance and multiple-use relationship in that area*”.

Federal Regulations at Title 43 CFR § 4700.0-6 (a) state “*Wild horses shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat*” (emphasis added). Allowing excess wild horses to exceed appropriate management levels and potentially cause rangeland to deteriorate would be inconsistent with the mandates of the WFRHBA and implementing regulations.

4.6. Fire Resources

Proposed Action

There would be no direct impacts from the proposed action. Indirect impacts would be reduced impacts to reseeded and recovering burned areas if wild horses are not allowed to become overpopulated. The proposed action would limit growth of horse populations within the HMA. By so doing, fire rehabilitation treatments would be allowed to further establish and not be vulnerable to overgrazing from excess wild horses. Improved rehabilitation success should occur. Successful fire rehabilitation treatments could lead to improved condition classes of vegetation over the long run if wild horse populations are managed within AML. There would be no new impacts within treated areas from those ongoing at the time of the gather as the wild horse population growth would be curtailed and the horse population would be maintained within AML.

Alternative 2. No Action. Defer CTR and Removal.

Wild horse populations would continue to expand quickly and seeded areas would be more vulnerable to over grazing as horse populations increase. The severity and extent of impacts would depend on when horses are gathered and if AML is exceeded prior to such gather.

4.7. Public Health and Safety

Proposed Action

Public safety, as well as that of the BLM staff 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.

BLM's Observation Protocols will ensure public safety during gather operations and if these protocols are not sufficient (or if members of the public fail to abide by such protocols), BLM may implement a temporary closure of roads or put in place other restrictions during the gather operations to allow for safe and effective operations to proceed. Public observation of the gather would be consistent with BLM IM No. 2010-164.

No Action Alternative (No Wild Horse CTR and Removal)

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.

4.8. Range Management

Proposed Action

The wild horse gather activities may result in direct impacts to livestock. Operations during the gather have the potential to disturb livestock in the area thus affecting livestock distribution. Direct impacts of gather activities would be minor and short-term. Only two of the four grazing allotments could potentially have livestock present during the gather (refer to Table 7).

Livestock are currently experiencing direct competition by wild horses for available forage and water resources, especially outside HMA boundaries. The gather would result in a decrease in competition for available forage and water resources. This decreased competition could indirectly impact forage and water quality, thus providing for progress towards meeting the Resource Advisory Council (RAC) standards and guidelines for rangeland health.

Alternative 2. No Action. Defer CTR and Removal.

Under the no action alternative wild horse numbers may continue to grow. This would lead to an increase in competition between livestock and wild horses for space, water and forage resources. In areas where wild horses are approaching high AML as well as areas outside the designated HMA, competition for these resources has been increasing. This increase in competition has forced livestock permittees to shift use within the allotment, within their permitted dates, or to take voluntary non-use in order to limit negative impacts to rangeland health within the respective allotments as indicated by the monitoring data (see table 8). Heavy to severe use also has been observed on intermingled private lands where livestock and wild horse use overlaps. The indirect impacts include continued resource

degradation and reduced quantity and quality of forage, particularly if the livestock operators were not taking voluntary non-use.

4.9. Soils

Proposed Action

Direct impacts associated with the action alternatives would consist of disturbance to soil surfaces immediately in and around the temporary gather site(s) and holding facilities. Impacts to soils would occur due to vehicle traffic and hoof action as a result of concentrating horses, and could be high in the immediate vicinity of the gather site(s) and holding facilities. Generally, these sites would be small (less than one half acre) in size. Any impacts would remain site specific and isolated in nature. Impacts would be minimal as herding to the gather sites is of short duration.

In addition, most gather sites and holding facilities would be selected to enable easy access by transportation vehicles and logistical support equipment. Soil surface disturbance due to hoof action and vehicle use from the gather would be limited to gather sites. Normally, they are located near or on roads, pullouts, water haul sites or other flat areas, which have been previously disturbed. These common practices would minimize the long-term effects of these impacts. Potential water and wind erosion hazards associated with the gather sites is slight to moderate. Disturbance to biological crust should be minimal.

Implementation of the action alternatives would reduce the current wild horse population. Reduced concentrations of wild horses would contribute to reducing soil erosion. This reduction would be most notable and important in the vicinity of small spring meadows where there are currently high levels of disturbance and bare ground.



1. Unnamed spring in Home Station Wash



2. Cage at unnamed spring in Home Station Wash

The above photos were taken in November 2010. Although cattle were authorized in the Home Station Gap Allotment during the 2010 grazing season, the permittee utilized the Jersey Valley Allotment

during this time instead, as outlined in 1997 FMUD, due to drought conditions and limited water in the Home Station Gap Allotment. Impacts to riparian soils are predominantly caused by wild horses (as evidenced by horse hoof prints observed on the site) in the Augusta Mountain HMA within the Home Station Gap Allotment.

Alternative 2. No Action. Defer CTR and Removal.

No direct impacts are expected under this alternative. Without a gather, there would be no direct impacts to soils from gather activities; however, the horse population would continue to grow and high AML would be exceeded. Additional grazing pressure from increasing numbers of wild horses may lead to a loss of perennial native grasses and invasion of undesired plant species due to over-utilization of vegetation and heavy trailing. This may result in soil loss from wind and water erosion. This would be most notable in the vicinity of small spring meadows and other water sources with high levels of wild horse use.

4.10. Special Status Species

As the impacts to special status species are similar to those described for migratory birds and wildlife, see Sections 4.2 Migratory Birds above and 4.13 Wildlife for a discussion of these impacts.

4.11. Vegetation

Proposed Action

Direct impacts associated with the Proposed Action would consist of disturbance to vegetation immediately in and around the temporary gather site(s) and holding facilities. Impacts would be created by vehicle traffic and hoof action as a result of concentrating horses during the gather operations, and could be high in the immediate vicinity of the gather site(s) and holding facilities. Generally, these sites would be small (less than one half acre) in size. Any impacts would remain site specific and isolated in nature. These impacts would include trampling of vegetation. Impacts would be minimal as herding would have a short-term duration.

In addition, most gather sites and holding facilities would be selected to enable easy access by transportation vehicles and logistical support equipment. Normally, they are located near or on roads, pullouts, water haul sites or other flat areas, which have been previously disturbed. These common practices would minimize the long-term effects of these impacts.

Implementation of the Proposed Action would maintain the current wild horse population at the established AML and provide an opportunity for the vegetative communities to progress toward achieving a thriving natural ecological balance. Removal of wild horses would prevent over utilization of vegetative resources by wild horses.

By maintaining horse numbers within the AML range for longer periods of time, utilization by wild horses would be reduced. This 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. Reduced concentrations of wild horses would contribute to the recovery of the vegetative resource. Trampling of shrubs and herbaceous vegetation associated with the passage of horses would be decreased.

Alternative 2. No Action. Defer CTR and Removal.

There would be no direct impacts expected under this alternative. However, as a result of the increasing wild horse population within the HMA, due to a 20-24% annual population growth rate, numbers would soon exceed AML and wild horses would continue to trail farther out from limited waters to foraging areas potentially broadening the areas receiving heavy grazing. Indirect impacts include increased competition for forage among multiple-uses (livestock, wildlife, and wild horses) as wild horse populations continue to increase. Forage utilization would continue to exceed the capacity of the range resulting in a loss of desired forage species from plant communities as plant health and watershed conditions deteriorate. Abundance and long-term production potential of desired plant communities may be compromised over time, particularly in areas burned during recent wildfires, potentially precluding the return of these vegetative communities to their full potential as identified in ecological site descriptions published by the Natural Resource Conservation Service.

Indirect impacts as described in section 4.4 (Wetlands and Riparian Zones) would mean degradation to riparian vegetation as the wild horse population increases each year that a gather is postponed.

4.12. Wilderness Study Areas

Proposed Action

In the short-term, the sight and noise of helicopters would be noticeable throughout the wilderness study area during the gather and would reduce opportunities for solitude. However, conducting the gather during the winter months when visitation is at its lowest levels would minimize these effects to the extent possible. Over the long-term, controlling the population would indirectly decrease trampling, trailing, hedging, and forage utilization of native grasses thereby maintaining vegetative cover and natural conditions. The Proposed Action would not impair suitability of the WSA for preservation as wilderness, should Congress decide to designate the area as such in the future.

As identified in Chapter 2 under the Proposed Action, no motorized vehicles would be used in Wilderness Study Area in association with the gather operation unless such use is consistent with the minimum requirements for management of wilderness study areas and is preapproved by the authorized officer. A Minimum Requirement/Tool analysis was conducted for the proposed action.

No Action Alternative (No Wild Horse Gather)

The deferred gather under the No Action Alternative would result in the impacts described under the sections above. These impacts represent continued and increasing degradation of natural conditions as the wild horse population continues to increase over time and are inconsistent with current policy for the

management of wild horse and burro populations within wilderness study areas. Because this alternative would defer the gather until a later date, impacts to the area's untrammled character would continue to occur and could increase in scope and severity over time.

4.13. Wildlife

Proposed Action

In addition to impacts discussed for Migratory Birds in Section 4.2 above, direct impacts would consist primarily of disturbance and displacement to wildlife by the low-flying helicopter and from construction of temporary gather/holding facilities. These impacts would be minimal, temporary, and of short duration.

Indirect impacts would result from the removal of wild horses outside of the HMA and the temporary control of horse numbers within the HMA by decreasing competition for available cover, space, forage, and water between wild horses and other wildlife. By slowing down the rate of wild horse population growth within the HMA, there would be a reduction in utilization of vegetation by wild horses that would result in increased plant vigor, production, seedling establishment, and ecological health of wildlife habitat. Resident populations of mule deer and pronghorn antelope would benefit from such habitat improvement, as would other wildlife including migratory birds, special status and sensitive species.

No Action Alternative (No Wild Horse CTR and Removal)

The impacts to wildlife under this alternative are similar to those described for migratory birds in Section 4.2 above.

5.0 Cumulative Impacts

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

The Cumulative Assessment Area (CAA) for the purpose of this analysis is the Augusta Mountains and most of the Fish Creek Mountains (refer to Map 2). This CAA fully encompasses the areas where wild horses are managed within the Augusta Mountains HMA and the area outside the HMA where horses have established residency.

5.1. Past and Present Actions

Wild Horses

Past

In 1971, Congress introduced and passed *The Wild Free-Roaming Horses and Burros Act*. President

Richard M. Nixon signed the new Act into law (Public Law 92-195) on December 15, 1971. *The Wild Free-Roaming Horses and Burros Act* required the protection, management and control of wild free-roaming horses and burros. Local livestock operators now had to claim and permit their private horses and burros grazing on public lands or lose ownership of them. After a specified time period following passage of the Act, any remaining unbranded and unclaimed herds inhabiting BLM or Forest Service lands were declared “wild free-roaming horses and burros” and became the property of the federal government.

The actions which have influenced today’s wild horse population are primarily wild horse gathers, which have resulted in the gather of some 1,749 wild horses, the removal of 1,397 excess horses, and release of 352 horses back into the Augusta Mountains HMA since 1977.

Present

Management of the Augusta Mountains HMA and wild horse population is guided by the Sonoma-Gerlach MFP. At present, the HMA has an estimated population of 294 wild horses within the HMA (which is close to the high end of AML) and 50 wild horses residing outside the HMA boundary on public lands that are not designated for wild horse management. The current sex ratio of males/females is within the expected range (40-60% in favor of either males or females) with young, middle and older age class animals well represented. All horses observed in 2010 from the ground and air appeared to be in good to excellent body condition.

Vegetation, Riparian and Water Resources

Past

Forage utilization during the 1900’s was high when thousands of cattle, sheep, and horses grazed lands in northern Nevada. In the 1930s when overgrazing threatened to reduce Western rangelands to a dust bowl, Congress approved the Taylor Grazing Act (TGA) of 1934 which, for the first time, regulated grazing on public lands. The TGA required ranchers who grazed horses or livestock on public lands to have a permit and to pay a grazing fee, but by that time, thousands of horses roamed the Nevada desert unbranded and unclaimed.

Prior to the TGA, unregulated livestock grazing practices caused significant impacts to soil resources. The soil tolerance was exceeded and the soil medium for plant growth was not maintained. As a result, past livestock grazing activities had significant impacts to the vegetation resources within the impact assessment area by eliminating or greatly reducing the primary understory plants. Cheat grass was introduced into the area in the late 1800s.

Prior to the TGA, unregulated livestock grazing practices also significantly impacted wetland and riparian zones. Wetland and riparian zones declined, riparian vegetation was insufficient to dissipate energy or to filter sediments, increasing erosion and destabilizing stream banks and meadows. Destabilization of streams and meadows led to incised channels and gullies resulting in lowered water table. In order to support and better distribute livestock, so as to prevent adverse impacts to rangeland health, a variety of range improvement projects have been implemented through the years dating back to the 1930s. These include fences, cattle guards, wells, spring developments, reservoirs, water pipelines

and corrals.

Permitted livestock grazing has been reduced by 43% since 1982. A final multiple use decision issued on January 9, 1997, adjusted wild horse and livestock numbers and changed season of use within the grazing allotments to promote rangeland health.

Present

The present livestock grazing system and efforts to manage the wild horse population within AML has reduced past historic soil impacts and has improved vegetation, riparian and water resource conditions. These management practices should allow the BLM to manage for rangeland health and for a thriving natural ecological balance.

A geothermal plant, infrastructure and associated activities in the area are primarily located in the Jersey Valley area. Vegetation in this area is comprised of the salt desert shrub ecotype.

Dispersed recreation occurs within the assessment areas and includes wildlife and horse viewing, hunting, off-highway vehicle use and camping.

Wildfires have impacted the assessment areas in recent years resulting in large areas dominated by cheatgrass. Natural recovery of native vegetation has been slow and efforts to re-establish native vegetation have had minimal success.

5.2. Reasonable Foreseeable Future Actions

Wild Horses

Over the next 10-20 year period, reasonably foreseeable future actions include gathers about every 4 to 5 years to remove excess wild horses in order to manage population size within the established AML range. Or, after monitoring the results of the PZP treatment of this plan, with favorable results a gather may take place every 3 years to reapply fertility control and remove a limited number of excess wild horses. The modeling shows a decrease of nearly 400 horses that would need to be removed over a 10 year period using the fertility control plan. A Herd Management Area Plan (HMAP) could also be completed which would establish short and long-term management and monitoring objectives for the herd and its habitat. Any future wild horse management would be analyzed in appropriate environmental documents following site-specific planning with public involvement.

Other reasonably foreseeable future actions include the transport, handling, care, and disposition of the excess wild horses removed from the range. Initially wild horses would be transported from the gather/temporary holding corrals to a designated BLM short-term holding corral facility. From there, the animals would be made available for adoption or sale to individuals who can provide a good home, or to LTH pastures.

Vegetation, Riparian and Water Resources

Livestock grazing is expected to continue at similar stocking rates for cattle. Over the next 5-10 year

period, continued management of wild horses within the established AML range would result in improved vegetation condition (i.e. forage availability and quantity) by increasing seed production and improving plant vigor. Improved plant vigor and overall plant community diversity will promote proper functioning condition of riparian areas.

It is expected that interest in exploration and development of geothermal energy sources would continue at the same rate or possibly a greater rate in the future.

Recreational use is expected to increase an average of 5 percent annually as a result of such factors as population growth and family oriented activities. (Winnemucca RMP AMS, 2005).

While the occurrence of wildfire is unpredictable, it is likely based on historical patterns, that wildfire would again burn parts of the assessment area. BLM fire management policy states that wildfire would be aggressively suppressed, which makes it likely that suppression techniques such as the construction of dozer lines, the cross-country travel of engines, the implementation of retardant drops, and the establishment of base camps for fire fighters are reasonably foreseeable.

Depending on the severity of the fire, and the nature of topography and soils, it is also reasonably foreseeable that some combination of rehabilitation and stabilization treatments such as dozer line stabilization, road repair, the construction of erosion or sediment control structures, the repair of damaged range improvements and facilities, drill and/or aerial seeding, range closures, greenstripping and nonnative weed control would be implemented.

5.3. Cumulative Impacts (For all affected resources analyzed in Chapter 4)

Proposed Action Alternative

This combination of the past, present and reasonably foreseeable future actions, along with implementation of the Proposed Action, should result in more stable wild horse populations, healthier rangelands, healthier wild horses, and fewer multiple use conflicts within the HMA over the short and long-term.

Cumulative impacts from the Proposed Action would include continued improvement of upland and riparian vegetation conditions, which would in turn benefit permitted livestock grazing, native wildlife habitat, and maintain healthy wild horse populations as forage quantity and quality is improved over the current level. Impacts to indigenous plants used by Native Americans would decrease under this alternative. Maintaining wild horse populations within AML would result in fewer animals competing for limited available water.

Alternative 2. No Action: Defer CTR and Removal

If a gather is postponed and wild horse populations grow in excess of AML, emergency removals could be necessary to prevent individual animals from suffering or death if climatic conditions result in

insufficient forage and/or water availability. These emergency removals could potentially occur as early as fall 2011 if the area continues to experience drought conditions. During emergency conditions, competition for available forage and water resources is heightened and generally impacts the oldest and youngest horses as well as lactating mares first. These groups would experience significant weight loss and diminished health, which could result in prolonged suffering and 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.

This combination of the past, present and reasonably foreseeable future actions, along with a No Action Alternative would result in the foregone opportunity to improve rangeland health and to properly manage wild horses in balance with the available water and forage resources. Over-utilization of vegetation and other habitat resources would occur as wild horse populations continue to increase and exceed AML. Wild horse populations would be expected to crash at some ecological threshold; however, wild horses, livestock, and wildlife would all experience suffering and possible mortality and/or morbidity as rangeland resources continued to degrade. Attainment of FMUD objectives and Standards for Rangeland Health and Wild Horse and Burro Populations would not be achieved.

AML would not be sustained; therefore, any scientific data collected could not determine if the established AML is making significant progress towards achieving rangeland health standards and a thriving natural ecological balance.

6.0 Monitoring and Mitigation Measures

The BLM Contracting Officer’s Representative (COR) and Project Inspectors (PIs) assigned to the gather would be responsible for ensuring contract personnel abide by the contract specifications and the SOPs (Appendix B). Ongoing monitoring of forage condition and utilization, water availability, aerial population surveys, and animal health would continue. Fertility control monitoring would be conducted in accordance with the SOPs (Appendix A).

Primary Field Office COR, Jerome Fox
 Primary State Office COR, Alan Shepherd
 Primary Project Inspectors would be assigned from the Winnemucca District.

7.0 List of Preparers

The following list identifies the interdisciplinary team member’s area of responsibility:

Internal WDO Review

Name	Title	Responsible for the Following Section(s) of this Document
Jerome Fox	Wild Horse and Burro Specialist	Project Lead/ Wild Horse
Mandy DeForest	Supervisory Natural	Editing/Review

	Resource Specialist	
Celeste Mimnaugh	Wildlife Biologist	Wildlife, Migratory Birds, and Special Status Species
Ken Vicencio	Rangeland Management Specialist	Soils, Wetlands, and Riparian and Winnemucca District Rangeland Management
Casey Johnson	Rangeland Management Specialist	Mount Lewis Field Office Rangeland Management
Dr. Patrick Haynal	Archaeologist	Cultural Resources and Paleontology
Dr. Mark Hall	Archaeologist	Native American Consultation and Native American Religious Concerns
Joey Carmosino	Outdoor Recreation Planner	Wilderness Study Areas
Jeff Johnson	Fuels Management Specialist	Fire/Fuels/Rehab
Tessa Teems	NEPA Coordinator	NEPA Compliance

8.0 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 motorized vehicles. The Elko District Office held a state-wide public hearing 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 safe, effective and practical means for 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 0.5 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 period and does not conduct helicopter removals of wild horses during March 1 through June 30 unless under emergency situations.

9.0 Public Involvement

On October 6, 2010, the Preliminary EA DOI-BLM-NV-WO10-2010-0013-EA, Augusta Mountain HMA Wild Horse Gather Plan along with supplemental information was posted to the web for public review. These documents plus the “Dear Reader” letter were posted at:

http://www.blm.gov/nv/st/en/fo/wfo/blm_information/nepa0/wild_horse_and_burro/Augusta.html.

Forty eight certified letters were sent to the interested parties’ mailing list informing them of the posting

and where to send comments. The comment period was open for thirty days and ended at midnight November 5, 2010.

Approximately 3,000 comments were received following the Notice of Availability of the Preliminary EA. The majority of these comments were three mass form letters from animal welfare organizations. These form letters were reviewed and considered. These included only nine distinct comments. In addition, unique comments or letters were received from approximately 10 individuals, agencies or organizations. Comments ranged from requests for additional information or clarifications on specific subjects to generalized opinions. Many comments were not specific to this Proposed Action but were general comments about the BLM's wild horse and burro program. All comments were reviewed prior to finalizing the EA. Some additions were made to the EA for clarification purposes; however, no substantive modifications were made to the EA as a result of the comments received.

10.0 List of References

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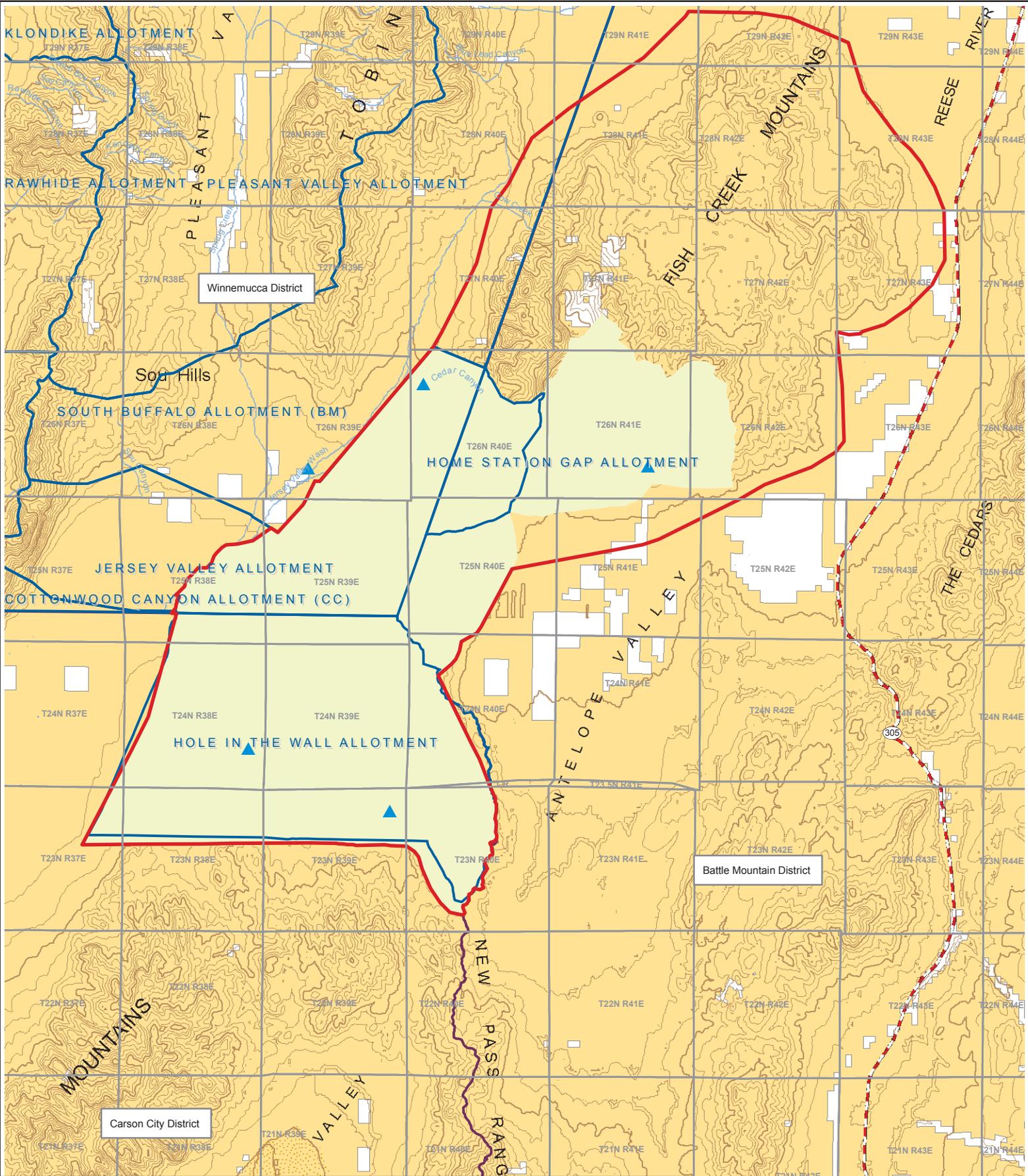
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11.0 Maps

Augusta Mountains HMA CTR- Map 2

Humboldt River Field Office

09/15/2010



Area of Interest

Legend

- ▲ Gather Sites
- Gather Area
- Grazing Allotments
- Augusta Mountains HMA

BLM District Boundaries

District Name

- Battle Mountain District
- Carson City District
- Winnemucca District

Land Status

ABBR

- BLM
- FS
- PVT

Winnemucca District
5100 E. Winnemucca Blvd.
Winnemucca, NV 89445

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet national map accuracy standards. This product was developed through digital means and may be updated without notification.

12.0 Appendices

Appendix A - Standard Operating Procedures (Fertility Control Application and Monitoring)

Appendix B - Standard Operating Procedures (Gather Operation)

Appendix C - WinEquus Population Modeling Results

Appendix D - Wild Horse Gather Public Observation Protocol

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

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

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

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

Monitoring and Tracking of Treatments:

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

narrative and data sheets will be forwarded to the NPO (Reno, Nevada). A copy of the form and data sheets and any photos taken will be maintained at the field office.

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

APPENDIX B

Standard Operating Procedures for Wild Horse (or Burro) Gathers

Gathers are conducted by utilizing contractors from the Wild Horse (or Burros) Gathers-Western States Contract or BLM personnel. The following procedures for gathering and handling wild horses 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 gather 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.

Gather 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 Gathering. This gather method involves utilizing a helicopter to herd wild horses into a temporary gather site.
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 gather site.

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 gather sites 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 gather locations as determined by the COR/PI. All

gather sites 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 who will consider terrain, physical barriers, access limitations, weather, extreme temperature (high and low), condition of the animals, urgency of the operation (animals facing drought, starvation, fire rehabilitation, etc.) and other factors. In consultation with the contractor the distance the animals travel will account for the different factors listed above and concerns with each HMA.
3. All gather sites, 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. Gather sites and holding facilities shall be constructed of portable panels, the top of which shall not be less than 72 inches high for horses and 60 inches for burros, and the bottom rail of which shall not be more than 12 inches from ground level. All gather sites and holding facilities shall be oval or round in design.
 - b. All loading chute sides shall be a minimum of 6 feet high and shall be fully covered, plywood, metal without holes larger than 2"x4".
 - c. All runways shall be a minimum of 30 feet long and a minimum of 6 feet high for horses, and 5 feet high for burros, and shall be covered with plywood, burlap, plastic snow fence or like material a minimum of 1 foot to 5 feet above ground level for burros and 1 foot to 6 feet for horses. The location of the government furnished portable fly chute to restrain, age, or provide additional care for the animals shall be placed in the runway in a manner as instructed by or in concurrence with the COR/PI.
 - d. All crowding pens including the gates leading to the runways shall be covered with a material which prevents the animals from seeing out (plywood, burlap, plastic snow fence, etc.) and shall be covered a minimum of 1 foot to 5 feet above ground level for burros and 2 feet to 6 feet for horses
 - e. All pens and runways used for the movement and handling of animals shall be connected with hinged self-locking or sliding gates.
4. No modification of existing fences will be made without authorization from the COR/PI. The Contractor shall be responsible for restoration of any fence modification which he has made.
5. When dust conditions occur within or adjacent to the gather site or holding facility, the Contractor shall be required to wet down the ground with water.
6. Alternate pens, within the holding facility shall be furnished by the Contractor to separate mares or jennies with small foals, sick and injured animals, estrays or other animals the COR

determines need to be housed in a separate pen from the other animals. Animals shall be sorted as to age, number, size, temperament, sex, and condition when in the holding facility so as to minimize, to the extent possible, injury due to fighting and trampling. Under normal conditions, the government will require that animals be restrained for the purpose of determining an animal's age, sex, or other necessary procedures. In these instances, a portable restraining chute may be necessary and will be provided by the government. Alternate pens shall be furnished by the Contractor to hold animals if the specific gathering requires that animals be released back into the gather area(s). In areas requiring one or more satellite gather site, 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 gather sites 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 gather site 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 gather sites 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 gather 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 gather site. 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. Gather sites 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 gather site. If the contractor selects this method the following applies:
 - a. A minimum of two saddle-horses shall be immediately available at the gather 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 gather 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 gather site 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 gather site 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 when possible. 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

Jerome Fox

Contracting Officer's Representative/Project Inspector

Alan Shepherd

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 Field Manager for the Humboldt River Field Office will take an active role to ensure the appropriate lines of communication are established between the field, Field Office, District 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 District Public Affairs Officer. 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 C
WinEquus Population Modeling Results

The WinEquus Population Model was used in the most appropriate and effective way to compare population growth under various conditions. In order to achieve results that can be used for population comparison in relation to management actions a set of assumptions about survival, reproduction, environmental variability are constant. By inserting the different management actions of no action, normal gather cycle, and CTR gathers as the sole variable in the model, rates of population growth were obtained. Even though the numbers cannot be used for specificity and concreteness a trend can be inferred. Under the CTR gathers fewer horses will need to be removed while maintaining AML.

Augusta Mountains Population Sizes in 11 Years*. No Action Alternative (No Gathers)

	Population Sizes in 11 Years*		
	Minimum	Average	Maximum
Lowest Trial	296	672	1320
10th Percentile	303	810	1618
25th Percentile	310	887	1818
Median Trial	321	963	2068
75th Percentile	344	1057	2380
90th Percentile	363	1155	2591

* 0 to 20+ year-old horses

Augusta Mountains Gather Only in 11 years (Normal Gather Cycle)

	Totals in 11 Years*	
	Gathered	Removed
Lowest Trial	482	369
10th Percentile	559	429
25th Percentile	720	548
Median Trial	782	592
75th Percentile	815	621
90th Percentile	850	645
Highest Trial	919	709

* 0 to 20+ year-old horses

Augusta Mountains Gather/Remove/Treat in 11 years (C/T/R Gather)
 Totals in 11 Years*

	Gathered	Removed	Treated
Lowest Trial	805	0	178
10th Percentile	858	176	250
25th Percentile	895	194	278
Median Trial	938	221	297
75th Percentile	986	260	326
90th Percentile	1054	369	351
Highest Trial	1206	506	497

* 0 to 20+ year-old horses

APPENDIX D

Augusta Mountains HMA Wild Horse Gather Observation Protocol

BLM recognizes and respects the right of interested members of the public and the press to observe the Augusta Mountains wild horse gather. At the same time, BLM must ensure the health and safety of the public, BLM's employees and contractors, and America's wild horses. Accordingly, BLM developed these rules to maximize the opportunity for reasonable public access to the gather while ensuring that BLM's health and safety responsibilities are fulfilled. Failure to maintain safe distances from operations at the gather and temporary holding sites could result in members of the public inadvertently getting in the path of the wild horses or gather personnel, thereby placing themselves and others at risk, or causing stress and potential injury to the wild horses.

- Observation days and gather operations may be suspended if bad weather conditions create unsafe flying conditions. A **Wild Horse Gather Info Line will be set up for daily updates.**
- Observers must provide their own 4-wheel drive high clearance vehicle, appropriate shoes, clothing, food and water.
- Observers are prohibited from riding in government and contractor vehicles and equipment.
- BLM will establish one or more observation areas, in the immediate area of the gather and holding sites, to which individuals will be directed. These areas will be placed so as to maximize the opportunity for public observation while providing for a safe and effective horse gather. The utilization of such observation areas is necessary due to the use and presence of heavy equipment and aircraft in the gather operation and the critical need to allow BLM personnel and contractors to fully focus on attending to the needs of the wild horses while maintaining a safe environment for all involved. In addition, observation areas will be sited so as to protect the wild horses from being spooked, startled or impacted in a manner that results in increased stress.
- BLM representatives will escort visitors to and from the gather and/or temporary holding facility during designated observation days.
- Visitors will be assigned to a specific BLM representative and must stay with that person at all times.
- Individuals will be directed to the designated observation area by BLM personnel and informed of behavioral rules (such as remaining quiet and still to ensure a safe and effective gather operation).
- BLM will delineate observation areas with yellow caution tape (or a similar type of tape or ribbon).
- Visitors are **NOT** permitted to walk around the gather site unaccompanied by their BLM representative.
- Observers are prohibited from climbing/trespassing onto or in the trucks, equipment or corrals, which is the private property of the contractor.
- When BLM is using a helicopter or other heavy equipment in close proximity to a designated observation area, members of the public may be asked to stay by their vehicle

for some time before being directed to an observation area once the use of the helicopter or the heavy machinery is complete.

- When given the signal that the helicopter is close to the gather site bringing horses in, visitors must sit down in areas specified by BLM representatives and must not move or talk as the horses are guided into the corral.
- Visitors must direct their questions/comments to either their designated BLM representative or the BLM spokesperson on site, and not engage other BLM/contractor staff and disrupt their gather duties/responsibilities - professional and respectful behavior is expected of all.
- BLM may make the BLM/contractor staff available during down times for a Q&A session.
- Individuals attempting to move outside a designated observation area will be requested to move back to the designated area or to leave the site. Failure to do so may result in citation or arrest. It is important to stay within the designated observation area to safely observe the wild horse gather.
- Visitors who do not cooperate and follow the rules will be escorted off the gather site by BLM law enforcement personnel, and will be prohibited from participating in any subsequent observation days.
- BLM reserves the right to alter these rules based on changes in circumstances that may pose a risk to health, public safety or the safety of wild horses (such as weather, lightening, wildfire, etc.)