

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

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Environmental Assessment  
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## Pancake Complex *Location: White Pine and Nye Counties*

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## **1.0 Introduction**

This Environmental Assessment (EA) has been prepared to analyze the Bureau of Land Management's (BLM) Ely District, Egan Field Office and Battle Mountain District, Tonopah Field Office proposal to gather and remove excess wild horses from within and outside the Pancake, and Sand Springs West Wild Horse Herd Management Areas (HMAs), and the Jakes Wash Wild Horse Herd Area (HA) (Pancake Complex). The gather and removal of excess wild horses from the U.S. Forest Service's (USFS) Monte Cristo Wild Horse Territory (WHT) is also included in the proposed action and is covered by an existing USFS decision document. The Monte Cristo WHT is managed in accordance with an Interagency Agreement between the BLM and the USFS and is included for informational purposes and cumulative impact analysis.

This EA is a site-specific analysis of the potential impacts that could result from implementation of the Proposed Action or alternatives to the Proposed Action. The EA assists the BLM Egan and Tonopah Field Offices (FOs) in project planning, ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any significant impacts could result from the analyzed actions. An EA provides analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of "Finding of No Significant Impact" (FONSI).

This document is tiered to the *Ely Proposed Resource Management Plan/Final Environmental Impact Statement* (RMP/EIS, 2007) released in November 2007, Ely District Record of Decision and Approved Resource Management Plan (2008) (Ely RMP), and the Tonopah RMP and subsequent Record of Decision dated October 1997.

## **1.1 Background**

The Pancake Complex is located approximately 30 miles west, southwest of Ely, Nevada, and 10 miles southeast of Eureka, Nevada, and 80 miles northwest of Tonopah Nevada within White Pine and Nye Counties (Map 1). Table 1 below displays the total acreage and established Appropriate Management Levels (AML) for each of the HMAs and WHT.

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

Jakes Wash Herd Management Area has been returned to Herd Area Status consistent with the Record of Decision (ROD) and the 2008 Approved Ely District Resource Management Plan (RMP) at management action WH-5, which states: "*Remove wild horses and drop herd management area status for those ... as listed in Table 13.*" Removal of all excess wild horses

from the Jakes Wash HA is needed at this time in order to implement this management direction and to prevent damage to the range resulting from the current overpopulation while achieving and maintaining a multiple-use relationship within the area.

The proposed wild horse gather of the Pancake HMA would be conducted in coordination and in conjunction with the Tonopah Field Office and Humboldt-Toiyabe National Forest, due to historic movement and continuing interchange of wild horses between the Pancake HMA (approximately 855,000 acres of public land), Sand Springs West HMA (approximately 157,436 acres of private/public land), Jakes Wash HA (approximately 153,663 acres of private/public land) and Monte Cristo WHT (approximately 93,640 acres of private/public land).

**Table 1 Herd Management Area, Acres, AML, Estimated Population, and Estimated Numbers for Removal**

Herd	Total Acres Private/Public land	Appropriate Management Level	Estimated* Population	Removal
Pancake	855,000	240-493	1,653	1,413
Sand Springs West	157,436	49	153	104
Jakes Wash	153,663	0	132	132
Monte Cristo WHT	93,640	72-96	270	198
Total	1,259,739	361-638	2,208***	1,847

\* Estimated Population is based on the May 2011 Direct Count. Based on seasonal movement wild horses numbers will fluctuate among the HMAs and WHT.

\*\*\*At the time of implementation of the proposed gather operation, it is estimated that the population within the combined area will be approximately 2,208 wild horses (which includes the 2011 foal crop).

Since the passage of the *Wild Free-Roaming Horses and Burros Act of 1971*, management knowledge regarding wild horse population levels has increased. For example, it has been determined that wild horses are capable of increasing their numbers by 18% to 25% annually, resulting in the doubling of wild horse populations about every 4 years. This has resulted in the BLM shifting program emphasis beyond just establishing appropriate management level (AML) and conducting wild horse gathers to include a variety of management actions that further facilitate the achievement and maintenance of viable and stable wild horse populations and a “thriving natural ecological balance”. Management actions resulting from shifting program emphasis include: increasing fertility control, adjusting sex ratio and collecting genetic baseline data to support genetic health assessments.

The AML is defined as the number of wild horses that can be sustained within a designated HMA which achieves and maintains a thriving natural ecological balance<sup>1</sup> in keeping with the multiple-use management concept for the area. The Pancake Complex has a cumulative AML range of

<sup>1</sup> The Interior Board of Land Appeals (IBLA) defined the goal for managing wild horse (or burro) populations in a thriving natural ecological balance as follows: “As the court stated in *Dahl v. Clark*, *supra* at 594, the ‘benchmark test’ for determining the suitable number of wild horses on the public range is ‘thriving ecological balance.’ In the words of the conference committee which adopted this standard: ‘The goal of WH&B management \*\*\*should be to maintain a thriving ecological balance between WH&B populations, wildlife, livestock and vegetation, and to protect the range from the deterioration associated with overpopulation of wild horses and burros.’” (*Animal Protection Institute of America v. Nevada BLM*, 109 IBLA 115, 1989).

361-638 wild horses which has been established through land use plans, Final Multiple Use Decisions, and Wild Horse Territory Management Plan. The range of AML for the Pancake HMA is 240-493 wild horses. This population range was established at a level that would maintain healthy wild horses and rangelands over the long-term based on monitoring data collected over time as well as an in-depth analysis of habitat suitability. The AML range was established through prior decision-making processes and re-affirmed through the Record of Decision (ROD) and Approved Ely District Resource Management Plan (August 2008).

Under the 2008 Ely District RMP, no wild horses are to be managed within the Jakes Wash HA based on analysis of habitat suitability and monitoring data; which indicates insufficient forage, water, space, cover, and reproductive viability to maintain healthy wild horses and rangelands over the long-term.

The Sand Springs West AML of 49 wild horses was established through a stipulated agreement (Consent Decision) between BLM, E. Wayne Hage, Colvin and Son Cattle Co., and Russell Ranches through the Department of the Interior Office of Hearings and Appeals, Hearings Division, and later confirmed by the Tonopah Resource Management Plan (RMP) approved October 6, 1997. The Tonopah RMP stated that adjustments to AML will be based on monitoring and grazing allotment evaluations. A Rangeland Health Evaluation is currently scheduled for the grazing allotments associated with the Sand Springs West HMA in 2014. At present, no need has been identified to increase or decrease AML, however achieving and maintaining AML is critical for the conservation of rangeland resources and healthy wild horses. The wild horses from Sand Springs West HMA travel back and forth across the Pancake HMA boundary lines, mixing with the wild horses from the Pancake HMA. The population within these HMAs can fluctuate depending on the seasonal movement of these wild horses.

The Monte Cristo Wild & Free Roaming Horses Management Plan established a baseline AML of 72 – 120 wild horses, with an average of 96 head being maintained. These numbers were based on proper use studies conducted on the natural horse concentration areas. The baseline AML was adjusted to 72 – 96 through the Humboldt National Forest Land & Resource Management Plan in 1986. Range conditions had not improved with the number of horses occupying the area. The population within this HMA can fluctuate depending on the seasonal movement of the wild horses.

This complex was last gathered in January 2006 and Jakes Wash HA was last gathered in August 2007. An aerial direct count population inventory of the project area in May 2011 observed 1,837 adult wild horses. At the time of implementation of the proposed gather operation, it is estimated that the population within the combined area will be approximately 2,208 wild horses (which includes the 2011 foal crop). A direct count method counts every horse seen on the flight without double counting or adjusting any numbers.

Wild horse numbers have increased an average of 20-25% annually since the Complex was last gathered and are projected (with the 2011 foal crop) to be about 5 times over the low limit of the AML ranges. By comparison, livestock use has remained at or below permitted use levels. Livestock use has generally been in compliance with the grazing systems outlined in Final Multiple Use Decisions, Agreements, and Term Permit conditions which provide for periodic rest

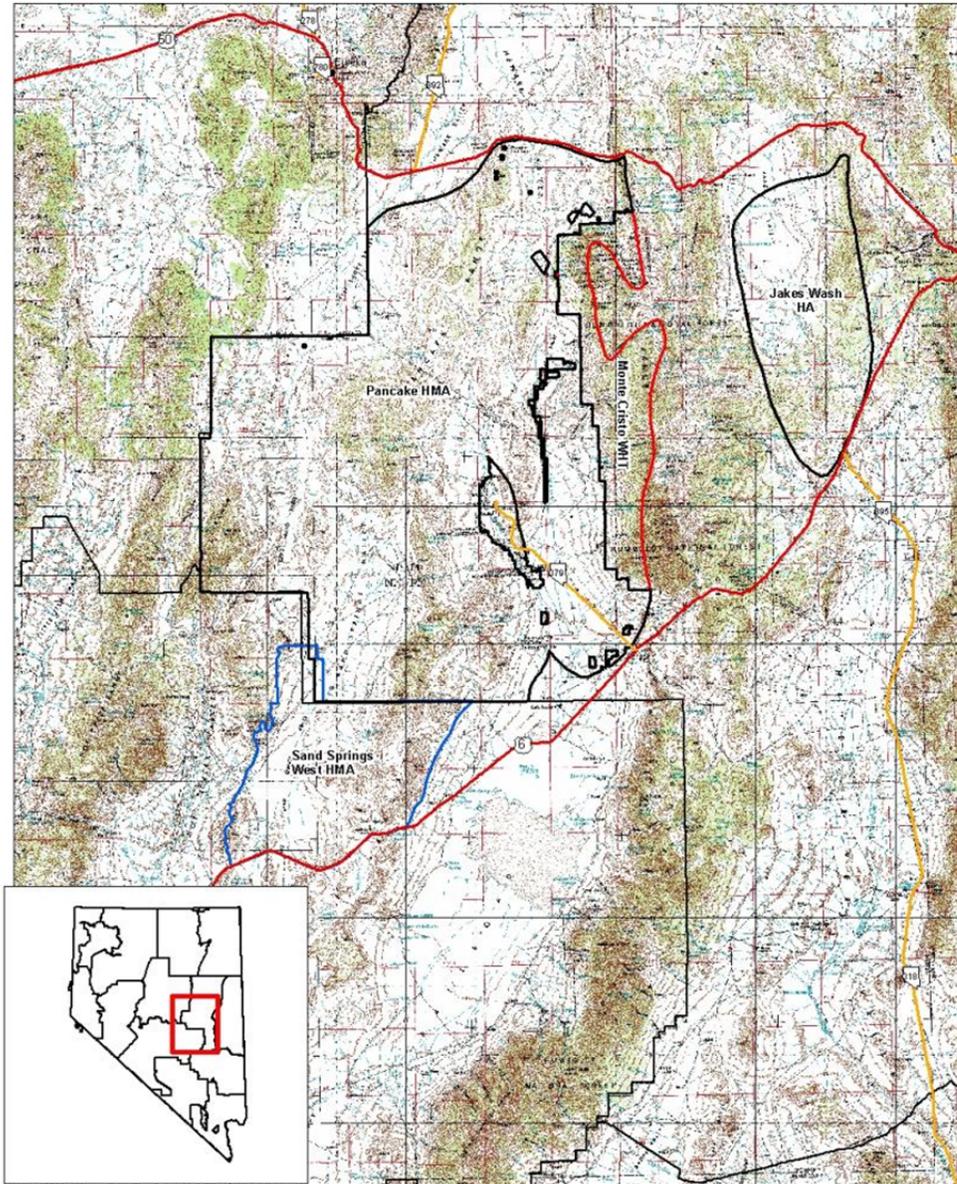
and deferment of key range sites.

Based upon all information available at this time, the BLM has determined that approximately 1,847 (which includes the 2011 foal crop) excess wild horses above the low end of AML exist within the Pancake Complex. These excess wild horses need to be removed in order to achieve the established AML, restore a thriving natural ecological balance (TNEB) and prevent degradation of rangeland resources. This assessment is based on factors including, but not limited to the following rationale:

- Pancake Complex estimated populations exceed the established AML range for the project area (Table 1).
- Excess wild horses are establishing populations outside of identified HMA and HA boundaries.
- Use by wild horses is exceeding the forage allocated to their use by approximately 3 times over the high end of AML.
- Moderate to heavy utilization is evident on key forage species within HMAs and HA.
- Wild horses are contributing to not meeting Rangeland Health Standards throughout most of the Pancake HMA and in some cases are the sole contributor.
- Use by wild horses has caused damage to the water development at Young Florio Spring and has caused water source damage at Martletti Spring.

Map 1

Pancake Complex



Legend

- |  |                                   |             |
|--|-----------------------------------|-------------|
| <b>Ely District</b>                        | <b>NDOT Roads - Scaled Labels</b> | State Route |
| Pancake                                    | <b>TYPE</b>                       |             |
| <b>Herd Area</b>                           | Interstate                        |             |
| Jakes Wash                                 | US Highway                        |             |
| <b>Battle Mountain District</b>            |                                   |             |
| Sand Springs West                          |                                   |             |
| <b>Forest Service Wild Horse Territory</b> |                                   |             |
| MONTE CRISTO                               |                                   |             |

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.

Egan Field Office  
May 4, 2011

## 1.2 Purpose and Need

The purpose of the Proposed Action is to remove excess wild horses from within and outside the HMAs, to manage wild horses at the established AML ranges for the HMAs and to reduce the wild horse population growth rate in order to prevent undue or unnecessary degradation of the public lands by protecting rangeland resources from deterioration associated with excess wild horses within and outside the HMAs, and to restore a thriving natural ecological balance and multiple use relationship on the public lands consistent with the provisions of Section 1333 (a) of the *Wild Free-Roaming Horses and Burros Act of 1971*.

The need for the Proposed Action is to protect rangeland resources and to prevent undue or unnecessary degradation of the public lands associated with excess population of wild horses within the HMAs and use of rangeland resources by wild horses outside of HMA boundaries.

## 1.3 Conformance with BLM Land Use Plan(s)

The Proposed Action is in conformance with the 2008 Ely District ROD and Approved RMP (August 2008) on page 46, as required by regulation (43 CFR 1610.5-3(a)) as follows:

- **Goal:** “Maintain and manage healthy, self-sustaining wild horse herds inside herd management areas within appropriate management levels to ensure a thriving natural ecological balance while preserving a multiple-use relationship with other uses and resources.”
- **Objective:** “To maintain wild horse herds at appropriate management levels within herd management areas where sufficient habitat resources exist to sustain healthy populations at those levels.”
- **Management Action WH-5:** “Remove wild horses and drop herd management area status for those...as listed in Table 13.”

The Proposed Action is in conformance with the Tonopah Resource Management Plan (RMP) and subsequent Record of Decision dated October 1997.

- **Objective:** “To manage wild horse and/or burro populations within Herd Management Areas at levels which will preserve and maintain a thriving natural ecological balance consistent with other multiple-use objectives.”

## 1.4 Relationship to Statutes, Regulations, or other Plans

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

- White Pine County Portion (Lincoln/White Pine Planning Area) Sage Grouse Conservation Plan (2004)
- State Protocol Agreement between the Bureau of Land Management, Nevada and the Nevada Historic Preservation Office (1999)
- Northeastern Great Basin Resource Advisory Council (RAC) Standards and Guidelines (February 12, 1997)
- Mojave Southern Great Basin Resource Advisory Council (RAC) Standards and Guidelines (1997)
- White Pine County Elk Management Plan (2006 revision)

- Endangered Species Act – 1973
- Wilderness Act – 1964
- Migratory Bird Treaty Act (1918 as amended) and Executive Order 13186 (1/11/01)
- White Pine County Public Land and Natural Resource Management Plan as adopted by the Board of County Commissioners of White Pine County (2007).
- Nye County Public Lands Policy Plan (Nye County Natural Resource Management Advisory Commission, 1985)
- Nevada Statewide Policy Plan for Public Lands (Nevada Division of State Lands, 1986)
- Bureau of Land Management “Management Guidelines for Sage Grouse and Sagebrush Ecosystems in Nevada” (October 2000)
- Western Association of Fish and Wildlife Agencies (WAFWA) Guidelines to Manage Sage Grouse Population and their Habitats (2004).
- Federal Land Policy and Management Act of 1976

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

The Interior Board of Land Appeals (IBLA) in Animal Protection Institute et al., (118 IBLA 75 (1991)) found that under the Wild Free-Roaming Horses And Burros Act of 1971 (Public Law 92-195) “excess animals” must be removed from an area in order to preserve and maintain a thriving natural ecological balance and multiple-use relationship in that area. Regulations at 43 CFR 4700.0-6(a) also direct that wild horses be managed in balance with other uses and the productive capacity of their habitat. The Proposed Action is in conformance with federal statute, regulations and case law.

## **2.0 DESCRIPTION OF ALTERNATIVES, INCLUDING PROPOSED ACTION**

### **Introduction:**

This chapter of the EA describes the Proposed Action and Alternatives, including any that were considered but eliminated from detailed analysis. Alternatives analyzed in detail include the following: A. Phased-in Gather and Population Growth Control Alternative; B. Selective Removal to Low AML with fertility control and sex ratio adjustment; C. Gather and Remove Approximately 800-1,000 Excess Wild Horses, Apply Two-Year Fertility Control (PZP-22) to All Released Mares, Manage for a Core Breeding Population at low AML with a 60% Male Sex Ratio; D. Removal to Low AML without fertility control or sex ratio adjustment; E. Gather Every Two or Three Years, Remove Excess Wild Horses to Low AML and Apply Two-Year Fertility Control (PZP-22) to Horses for Release and sex ratio adjustment; and No Action Alternative. Alternatives A and C reflect the proposed management strategies contained within

the BLM Director's proposed new WH&B strategy and allow for reduced levels of removals in order to reach AML over a several year period versus reaching AML in a single gather. Alternatives B, D and E were developed to meet the purpose and need (i.e. to remove excess wild horses, maintain AML, ensure a thriving natural ecological balance, and to meet the Standards and Guidelines for Rangeland Health) and in consideration of the issues identified during internal scoping and agency consultation.<sup>2</sup> Although the No Action Alternative does not comply with the WFRHBA of 1971 and does not meet the purpose and need for action, it is included as a basis for comparison with the Proposed Action.

### **2.1 Alternative A. Proposed Action – Phased-in Gather and Population Growth Control Alternative.**

The Proposed Action (Alternative A) would be a pilot management alternative designed to address large scale wild horse gathers while still achieving BLM's management goals of attaining AML, reducing population growth rates, and obtaining a thriving natural ecological balance on the range as identified within the WFRHBA and the Director's new Strategy. The pilot alternative would also address holding capacity limitations within short and long-term holding facilities by gradually removing the excess wild horses rather than removing the full number of excess wild horses necessary to immediately reach low range AML.

Under the Proposed Action, the BLM would gather approximately 65-70% of the existing wild horses (approximately 1,435-1,540 animals in the initial 2012 gather) every two to three years, with a target removal of approximately 800-1,000 excess wild horses per gather and application of population control measures to the other gathered horses over a period of six to ten years. After the first two gathers the target removal number would be adjusted accordingly based off population inventories for the complex. The principal management goal for the Complex would be to retain a core breeding population of 361 wild horses, which is low end of AML. To help reduce population growth rates, the core breeding population would be managed to achieve a 60% male sex ratio and all mares released back to the Complex would be treated with fertility control (PZP-22 or most current formulation). The combination of these actions should lower the population growth rate within the Complex. In addition, it is proposed to manage for a non-breeding component of 200 geldings, which would bring the overall population that would be managed within the Complex to approximately 561 wild horses, is the mid-range of the AML<sup>3</sup>.

Since the first phase of the proposed action in winter 2012 would only allow for the removal of approximately 800-1,000 excess wild horses based on available short-term holding space, and would not achieve the desired low end of AML, two to four follow-up gathers over a period of six to ten years would be needed to achieve the low end of AML for the Complex based on current population estimates, projected rates of increase, and projected scheduling of future gathers. This phased approach would also allow the BLM to implement the population control

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<sup>2</sup> Referenced draft report can be viewed at <http://www.blm.gov/wo/st/en/info/newsroom/2011/july/hsusstatement.html>

<sup>3</sup> Also, a recent report received from the Humane Society of the United States (the HSUS) recommends that the BLM increase the level of use of fertility control and other population control methods [sex ratio adjustments, introduction of geldings to range in areas that were previously zeroed-out by the BLM and/or introduction into existing HMAs with self-sustaining (i.e. reproductive) wild horse population.]”

components (PZP treatments, sex ratio adjustment, and geldings) as proposed. Population inventories and routine resource/habitat monitoring would be completed between gather cycles to document current population levels, growth rates, and areas of continued resource concern (horse concentrations, riparian impacts, over-utilization, etc.) prior to any follow-up gather. The subsequent follow-up phases of the gather activities would be conducted in a manner consistent with those described for the initial winter 2012 gather and would be conducted during the period of November through February which is identified as the period of maximum effectiveness of fertility control application. Funding limitations and competing priorities may require delaying the follow-up gather and population control component of the Proposed Action.

Under the Proposed Action a sufficient number of wild horses would be gathered primarily from heavily concentrated areas within the project area to reduce resource impacts in the most impacted areas and all wild horses residing in areas adjacent to the HMAs or WHT (outside established boundaries) would be gathered and removed during each phase of the gather. Fertility control (PZP-22 or most current formulation) would be applied to all released mares to decrease the future population growth rate. By completing the gather in the proposed fashion, the BLM will be able to treat a larger number of mares with fertility control and continue the treatments with future gather compared to a gather operation that goes to low AML immediately and whereby very few mares would likely be treated due to the difficulty of achieving a high enough gather efficiency during a single gather event. The procedures to be followed for implementation of fertility control is detailed in Appendix I. Stallions would be selected for release to adjust the sex ratio of the core breeding population to a 60% male sex ratio to help reduce the number of breeding mares in the population which in turn should reduce the population growth rate of the herd. At this population level and based on known seasonal movements of the horses within the HMAs, sufficient genetic exchange should occur to maintain the genetic health of the population. All horses identified to remain in the HMA population would be selected to maintain a diverse age structure, herd characteristics and body type (conformation). Approximately 200 stallions would be gelded (castrated) and released back into the HMAs to be managed as a non-reproductive component in the HMA so as to allow more wild horses to remain on the range without increasing the population growth rate and over-population concerns. The release of geldings will also reduce the need to place and maintain additional excess wild horses on BLM's long-term pastures which are having an increasing impact on the wild horse program's annual budget. The targeted number of geldings would also be phased-in over two to three gather cycles in order to observe how the geldings are transitioning into the overall population and are utilizing their habitat. By implementing the phased in approach, BLM will be able to collect information any future management of geldings in other HMAs and complexes. This information will allow BLM to determine whether it is realistic and feasible to leave more wild horses on the range through the release of sterilized animals without adversely impacting rangeland resources or increasing the breeding population. Such information will also allow BLM to determine whether gelding bands could allow BLM to manage a wild horse population in areas with severely limited habitat components (like water) that are otherwise rapidly depleted through even a lowered annual population growth and where wild horse management might have to otherwise be entirely phased out. The procedures to be followed for gelding of stallions are detailed in the Gelding SOPs in Appendix II. With this non-breeding component, the HMA could be managed at

The Proposed Action reflects the proposed management strategies contained within the BLM

Director's proposed new WH&B strategy and is consistent with the intent of the WFRHBA to use sterilization as a means of population control.

## **2.2 Alternative B: Selective Removal of Excess Animals (Low Point AML); Apply Two-Year Fertility Control, & 60% Male Sex Ratio.**

Under Alternative B, BLM would gather and remove approximately 1,847 excess wild horses (approximately 84% of projected population) within the combined project area to return the population levels to the low end of the AML range. All wild horses residing in areas outside of the Complex would be gathered and removed. Under this alternative, the BLM would also attempt to gather a sufficient number of wild horses above the excess wild horses to be removed, so as to allow for the application of fertility control (PZP-22 or most current formulation) to all breeding age mares that are released and to adjust the sex ratio of animals on the range following the gather to favor males (60% stallions). This is in line with the Director's proposed national WH&B strategy. The sex ratio of potential released animals will be dependent on the sex ratio of gathered wild horses. Approximately 65% or more of all released wild horses would likely be stallions, thus achieving a 60% male sex ratio on the range (including animals not gathered). Fertility control would be applied to all the released mares to decrease the future annual population growth. The procedures to be followed for implementation of fertility control are detailed in Appendix I. The combination of these actions should lower the population growth rate within the Complex.

Due to the mountainous terrain and vegetative cover, gather efficiency may be less than optimal. Population gather projections show that an 80% or greater gather efficiency is necessary to achieve the management goals for this alternative. If gather efficiency is less than 80%, an insufficient number of wild horses may be gathered to allow for the implementation of fertility control or to adjust sex ratio, or to achieve the low range of AML. If gather efficiencies do not allow for the attainment of the management goals in winter 2012, this alternative would include returning to the Complex in 2014 or 2015 to gather a sufficient number of wild horses to achieve the low range of AML as well as to allow the BLM to implement the population control component of the alternative. If a follow-up gather is necessary, the wild horses would have a heightened response to human presence and would therefore be more difficult to gather in the year immediately following the initial gather. Any follow-up gather activities during the subsequent phase for this alternative would be conducted in a manner consistent with those described for the winter 2012 gather. Funding limitations and competing priorities might also require delaying the follow-up gather and population control component of the alternative until Fiscal year 2015.

## **2.3 Alternative C. Phased-in Gather and Remove Approximately 800-1,000 Excess Wild horses, Apply Two-Year Fertility Control (PZP-22) to All Released Mares, Manage for a Core Breeding Population at Low AML with a 60% Male Sex Ratio.**

Alternative C would be similar to Alternative A except the Complex would not be managed for a non-breeding component of geldings. All other aspects of Alternative A would be carried forward in this Alternative. All wild horses residing in areas adjacent to the Complex would be gathered and removed and the wild horse population would be brought to the low range of AML through the phased gather operations.

## **2.4 Alternative D: Remove Excess Animals to Low Range AML Without Fertility Control or Sex Ratio Adjustment**

Alternative D would be similar to Alternative B. However, once a sufficient number of excess wild horses to achieve low range AML (approximately 1,847 wild horses) are gathered and removed, the gather would conclude. No wild horses would be treated with fertility control (PZP-22) and sex ratios would not be adjusted to slow the rate of wild horse population growth. All wild horses residing in areas adjacent to the Complex would be gathered and removed.

## **2.5 Alternative E: Gather Every Two or Three Years, Remove Excess Wild Horses to Low Range AML and Apply Two-Year Fertility Control (PZP-22) to Horses For Release & 60% Male Sex Ratio.**

Alternative E would be similar to Alternative B in general except the Complex would be gathered every two or three years in order to maintain AML, apply or retreat two-year fertility control (PZP-22 or most current formulation) to all mares released back to the HMA and to adjust the sex ratio within the HMA to favor males (60% stallions). This alternative would gather and remove approximately 1,847 excess animals initially, and if gather efficiency is sufficient, would include the release of animals back to the HMA, and to adjust the sex ratio of animals on the range following the gather to favor males (60% stallions).

## **2.6 Management Actions Common to Alternative A-E**

The primary gather technique would be the helicopter-drive trapping method. The use of roping from horseback could also be used when necessary. Multiple gather sites (traps) would be used to gather wild horses both from within and outside the Complex. The BLM would make every effort to place gather sites in previously disturbed areas, but if a new site needs to be used, a cultural inventory would be completed prior to using the new gather site. No gather sites would be set up near greater sage-grouse leks, known populations of sensitive species, or in riparian areas, cultural resource sites, Wilderness Study Areas (WSAs) or congressionally designated Wilderness Areas. All gather sites, holding facilities, and camping areas on public lands would be recorded with Global Positioning System equipment, given to the BLM Ely and Battle Mountain District Invasive, Non-native Weed Coordinators, and then assigned for monitoring and any necessary treatment during the next several years for invasive, non-native weeds. All gather and handling activities (including gather site selections) would be conducted in accordance with Standard Operating Procedures (SOPs) in Appendix III.

If gather efficiencies utilizing helicopter drive-trapping do not achieve the desired goals of the Alternative selected or if a helicopter gather cannot be scheduled, water/bait trapping may be utilized during the life of the plan to remove sufficient numbers of horses to achieve the management targets, to relieve resource concerns and/or concentrated groups of horses both inside and adjacent to the Complex. Any water/bait trapping activities would be scheduled during time periods that would be most effective to gather sufficient numbers of animals to achieve management targets.

Excess wild horses would be removed using a selective removal strategy. Selective removal criteria for the HMA include: (1) First Priority: Age Class – Four Years and Younger; (2) Second Priority: Age Class – Eleven to Nineteen Years; (3) Third Priority: Age Class Five to Ten Years; 4) Fourth Priority: Age Class Twenty Years and Older would not be removed from the HMA

unless specific exceptions prevent them from being turned back to the range.

Herd health and characteristics data would be collected as part of continued monitoring of the wild horse herds. Other data, including sex and age distribution, condition class information (using the Henneke rating system), color, size and other information may also be recorded for all gathered wild horses. Genetic baseline data would be collected to monitor the genetic health of the wild horses within the combined project area.

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

### **2.7 Alternative F: No Action Alternative**

Under the No Action Alternative, a gather to remove excess wild horses would not occur during winter 2012. There would be no active management to control the size of the wild horse population or to bring the wild horse population to AML at this time. The current wild horse population would continue to increase at a rate of 20-25% per year. Within two years, the wild horse population would exceed 3,137 head. Wild horses residing outside the HMAs would remain in areas not designated for management of wild horses and their numbers would continue to increase.

The No Action Alternative would not be in conformance with existing law and regulation which requires the authorized officer to remove the animals immediately upon determination that excess wild horses are present. However, the No Action Alternative is required for NEPA analysis to provide a baseline for impact analysis.

### **2.8 Alternatives Considered But Eliminated From Detailed Analysis**

#### **Use of Bait and/or Water Trapping**

An alternative considered but eliminated from detailed analysis was use of bait and/or water trapping as the primary or sole gathering method. The use of bait and water trapping, though effective in specific areas and circumstances, would not be timely, cost-effective or practical as the primary gather method for this HMA. However, water or bait trapping may be used as a supplementary approach to achieve the desired goals of Alternatives A-E if gather efficiencies are too low using a helicopter or a helicopter gather cannot be scheduled. This alternative was dismissed from detailed study as a primary or sole gather method for the following reasons: (1) the project area is too large to effectively use this gather method; (2) road access for vehicles to potential trapping locations necessary to get equipment in/out as well as safely transport gathered wild horses is limited; and (3) the presence of scattered water sources on both private and public lands inside and outside the HMAs would make it almost impossible to restrict wild horse access to the extent necessary to effectively gather and remove all of the excess animals through bait and/or water trapping to achieve management goals.

#### **Gather Excess Wild Horses Ages 0-4 years and Apply Two-Year Fertility Control (PZP-22)**

This alternative would be to gather the HMAs, apply Two-Year Fertility Control (PZP-22) to all released mares, and only remove excess horses aged 0 to 4 years old. This alternative was

modeled using a three year gather/treatment interval over a 10 year period. Based on this modeling, this alternative would not allow BLM to achieve the AML range for the HMAs and the wild horse population would continue to have an average population growth rate of 4.6% to 14.7%, adding to the current wild horse overpopulation, albeit at a slower rate of growth. This alternative is similar to Alternative C but would not decrease the existing overpopulation of wild horses to the established AML range and resource concerns would continue. Implementation would also result in significantly increased gather and fertility control costs. This alternative would not meet the purpose and need and did not receive any further consideration.

### **Gathering the HMAs to upper range of AML**

Gathering wild horses to achieve a post-gather population size at the upper level of the AML would result in AML being exceeded with the next foaling season (spring 2012). This would be problematic for several reasons.

The upper levels of the AMLs established for the HMAs represent the maximum population for which a thriving natural ecological balance can be maintained. The lower level represents the number of animals that should remain in the HMAs following a wild horse gather in order to allow for a periodic gather cycle of approximately every 4 years and to prevent the population from exceeding the established AML between gathers. The need to gather below the upper range of AML has been recognized by the IBLA, which has held that AML means, “that ‘optimum’ number of wild horses which results in a thriving natural ecological balance and avoids a deterioration of the range” (109 IBLA 119 API 1989). “Proper range management dictates removal of horses before the herd size causes damage to the range land. Thus, the optimum number of horses is somewhere below the number that would cause resource damage” (118 IBLA 75).

Additionally, gathering to the upper range of AMLs would result in the need to follow up with another gather within one year, and could result in overutilization of vegetation resources, damage to the rangeland, and increased stress to wild horses. For these reasons, this alternative did not receive further consideration in this document.

### **Control of Wild Horse Numbers by Natural Means**

This alternative would use natural means, such as natural predation and weather, to control the wild horse population. This alternative was eliminated from further consideration because it is contrary to the WFRHBA which requires the BLM to protect the range from deterioration associated with an overpopulation of wild horses. It is also inconsistent with the Ely RMP and Tonopah RMP which direct the Ely and Battle Mountain Districts of the BLM to conduct gathers as necessary to achieve and maintain AMLs. The alternative of using natural controls to achieve a desirable AML has not been shown to be feasible in the past. Wild horse populations in the Pancake Complex are not substantially regulated by predators, as evidenced by the 20-25% annual increase in the wild horse populations within these HMAs. In addition, wild horses are a long-lived species with documented foal survival rates exceeding 95% and are not a self-regulating species. This alternative would result in a steady increase in the wild horse populations which would continue to exceed the carrying capacity of the range and would cause increasing damage to the rangelands until severe range degradation or natural conditions that

occur periodically-- such as blizzards or extreme drought-- cause a catastrophic mortality of wild horses in the HMAs.

### **Raising the Appropriate Management Levels for Wild Horses**

This alternative was not brought forward for detailed analysis because it is outside of the scope of the analysis, and is inconsistent with the 2008 Ely District ROD and Approved RMP (August 2008); and the Tonopah RMP which direct the Secretary to immediately remove excess wild horses, and is inconsistent with multiple use management. Alternative D of the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) analyzed an alternative under which wild horse herds would be left largely unmanaged except for removal of wild horses outside the herd management areas and eliminated livestock grazing throughout the planning area to protect vegetation and soil resources. The analysis of this alternative concluded that this limited management approach for the herd management areas, combined with the wild horse population growth rate and the absence of fire management, would lead to rapid deterioration of ecological systems within these areas and the likely starvation of many animals as wild horse populations increased beyond the support level of their habitat.

### **Make on-the-ground and individualized excess wild horse/burro determination prior to removal**

An alternative whereby BLM would make on-the-ground and individualized excess wild horse/burro determinations prior to removal of horses from the HMAs was recommended during the public review process under the view set forth by some commenters that a tiered or phased removal of wild horses/burros from the range is mandated by the WFRHBA. Specifically, this alternative would involve a tiered gather approach, whereby BLM would first identify and remove old, sick or lame animals in order to euthanize those animals on the range prior to gathering. Second, BLM would identify and remove horses/burros for which adoption demand exists by qualified individuals, such as younger horses or horses with unusual and interesting markings. Last, BLM would remove any additional excess horses/burros necessary to bring the horse/burro population back to AML.

This proposed alternative would only be viable in situations where the project area is contained within barriers (natural and/or manmade) which prevent the animals from moving outside the project area, where the area to be gathered is readily accessible and wild horses are clearly visible, and where the number of horses to be removed is small enough that a targeted approach to removal can be implemented. Under the conditions present within the project area, however, this proposed alternative is impractical, if not impossible, and is more disruptive for the wild horses and less humane for a variety of reasons.

First, BLM does euthanize old, sick or lame animals on the range when such animals are identified. This occurs on an on-going basis and is not limited to wild horse gathers. During a gather, if old, sick or lame animals are found and it is clear that an animal's condition requires the animal to be put down, that animal is separated from the rest of the group that is being herded so that it can be euthanized on the range. However, in most cases horses that meet the criteria for humane destruction because they are old, sick or lame cannot be identified as such until they have been gathered and examined up close, so as to determine whether the horses have dental regression or damage, birth defects (i.e. club foot), injuries (old/new), and to assess the wild

horse's overall condition. Old, sick and lame horses meeting the criteria for humane euthanasia are also only a very small percentage of the total number of horses to be gathered, comprising on average about 0.5% of gathered horses. Thus, in a gather of over 1,000 horses, potentially about five of the gathered horses might meet the criteria for humane destruction. Due to the size of the Complex, access limitations associated with topographic and terrain features and the challenges of approaching horses close enough to make an individualized determination of whether a horse is old, sick or lame, it would be virtually impossible to conduct a phased culling of such horses on the range without actually gathering and examining the horses.

Similarly, rounding up and removing wild horses for which an adoption demand exists, before gathering any other excess wild horses would be both impractical and much more disruptive and traumatic for the animals. The size of the Complex, terrain challenges, difficulties of approaching the horses close enough to determine age and whether they have characteristics (such as color or markings) that make them more adoptable, the impracticalities inherent in attempting to separate the small number of adoptable horses from the rest of the herd, and the impacts to the horses from the closer contact necessary, makes such phased removal a much less desirable method for gathering excess wild horses. This approach would create a significantly higher level of disruption for the horses on the range and would also make it much more difficult to gather the remaining excess wild horses. Furthermore, if BLM plans to apply any population controls to gathered horses prior to release, it will be necessary to gather more than just the excess horses to be removed, making a phased approach to removal completely unnecessary and counter-productive.

Making a determination of excess as to a specific horse/burro under this alternative, and then successfully gathering that horse/burro would be impractical to implement (if not impossible) due to the size of the Complex, terrain challenges and difficulties approaching the wild horses close enough to make an individualized determination, would be extremely disruptive to the wild horses due to repeated culling and gather activities over a short period of time, would be cost-prohibitive, and would be unlikely to result in the successful removal of excess horses/burro or application of population controls to released horses. This approach would also be less humane and more disruptive and traumatic for the horses. This alternative was therefore eliminated from further consideration.

#### **Use alternative capture techniques instead of helicopters to capture of excess wild horses**

An alternative using capture methods other than helicopters to gather excess wild horses was suggested through the public review process. As no specific alternative methods were suggested, the BLM identified chemical immobilization, net gunning, and wrangler/horseback drive trapping as potential alternative methods for gathering horses. Net gunning techniques normally used to capture big games also rely on helicopters. Chemical immobilization is a very specialized technique and strictly regulated. Currently the BLM does not have sufficient expertise to implement either of these methods and they would be impractical to use given the size of the Complex, access limitations and approachability of the horses.

Use of wranglers on horseback drive-trapping to remove excess wild horses can be fairly effective on a small scale; but due to the large number of excess horses to be removed, the large geographic size of the Complex, access limitations and approachability of the horses this technique would be ineffective and impractical. Horseback drive-trapping is also very labor

intensive and can be very harmful to the domestic horses and the wranglers used to herd the wild horses. For these reasons, this alternative was eliminated from further consideration.

### **Letting nature take its course**

While some members of the public have advocated “letting nature take its course” to address the over-population of wild horses, 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*”. Once the vegetative and water resources become depleted due to excessive utilization by an over population of wild horses, the weaker animals, generally the older animals, and the mares and foals, are the first to be impacted. It is likely that a majority of these animals would die from starvation and dehydration. The resultant population would be heavily skewed towards the stronger stallions which would lead to significant social disruption in the HMA. By managing the public lands in this way, the vegetative and water resources will be also become heavily impacted in areas that are over-utilized by excess numbers of wild horses and would reach the point that they have no potential for recovery. Competition between wildlife and wild horses for forage and water resources would continue, and may even get worse as wild horse numbers continue to increase above AMLs. Wild horses are aggressive around water sources, and some wildlife may not be able to compete, which could lead to the death of individual animals. Wildlife habitat conditions would deteriorate as wild horse numbers above AML reduce herbaceous vegetative cover. As the vegetation resources are over utilized to the point of no recovery wild horses start showing signs of malnutrition and starvation which could lead to a catastrophic die off. This degree of resource impact would lead to management of wild horses at a greatly reduced level if BLM is able to manage for wild horses at all on the HMA in the future. For these reasons, this alternative was eliminated from further consideration.

### **Remove or Reduce Livestock within the HMAs**

This alternative was not brought forward for detailed analysis because it is outside of the scope of the analysis, and is inconsistent with the 2008 Ely District ROD and Approved RMP (August 2008) and Tonopah RMP which direct the Secretary to immediately remove excess wild horses, and is inconsistent with multiple use management. Livestock grazing is reduced or eliminated following the process outlined in the regulations found at 43 CFR Part 4100.

The allotment evaluation process has been completed for most of the livestock grazing allotments within the Pancake and Sand Springs West HMAs, and Jakes Wash HA. This process evaluated grazing use by livestock and wild horses based on monitoring data analysis and interpretation. The terms and conditions of the livestock term permits were reviewed. Terms and conditions were modified as needed to ensure that grazing management practices or levels of grazing use were in conformance with allotment objectives or in conformance with the approved Mojave and Northeastern Great Basin Area Standards and Guidelines. Terms and conditions that were reviewed, established, changed or adjusted as needed included actions to address

livestock stocking levels, grazing systems, seasons of use, areas of use, livestock distribution, kind of livestock, and salting and herding practices. Forage utilization levels were also established. Final Multiple Use Decisions (FMUDs) or Grazing Decisions have been issued as a result of these decision-making processes. Livestock grazing continues to be evaluated for allotments and use areas within the Pancake and Sand Springs West HMAs, and Jakes Wash HA.

Monitoring and evaluation of livestock grazing in allotments within the Pancake HMA and Jakes Wash HA is in accordance with the Ely District Record of Decision and Approved Resource Management Plan dated August 20, 2008. This action is specifically provided for in Management Decisions LG-4 and LG-5.

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

Management Action LG-4 states, "Continue to monitor and evaluate allotments to determine if they are continuing to meet or are making significant progress toward meeting the standards for rangeland health. Table 3, 4, 5 shows the current grazing preference, season-of-use, and kind of livestock for those allotments that currently are evaluated for meeting standards, are making progress toward achieving the standards, or are in conformance with the policies as determined either through the allotment evaluation process or associated with fully processed term permit renewals. Changes, such as improved livestock management, new range improvement projects, and changes in the amount and kinds of forage permanently available for livestock use, can lead to changes in preference, authorized season-of-use, and kind of livestock. Such changes will continue to meet the RMP goals and objectives, including the standards for rangeland health."

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

Monitoring and evaluation of livestock grazing in the Sand Springs West HMA is in accordance with the Tonopah RMP. The objectives for livestock grazing stated in the 1997 Approved Tonopah RMP and Record of Decision are, "Public rangelands are managed to: enhance the productivity of the rangelands by preventing overgrazing and soil deterioration; stabilize the livestock industry dependent on public range; provide for inventory and categorization based on conditions and trends; and provide for orderly use, improvement and development" and "To provide for livestock grazing consistent with other resource uses..." (pg17).

The BLM is currently authorized to remove livestock from HMAs, “if necessary to provide habitat for wild horses or burros, to implement herd management actions, or to protect wild horses or burros from disease, harassment or injury” under CFR 4710.5. This authority is usually applied in cases of emergency and not for general management of wild horses or burros.

### 3.0 AFFECTED ENVIRONMENT/ENVIRONMENTAL EFFECTS

#### General Setting

The Pancake Complex is located in southwestern White Pine and northeastern Nye Counties approximately 30 air miles west of Ely, Nevada, and 80 miles northeast of, Tonopah Nevada. This is within the Great Basin physiographic region, characterized by a high, rolling plateau underlain by basalt flows covered with a thin loess and alluvial mantle. On many of the low hills and ridges that are scattered throughout the area, the soils are underlain by bedrock. Elevations within the Complex range from approximately 5,000 feet to 11,000 feet. Annual precipitation ranges from approximately 5 inches or less on some of the valley bottoms to 20 inches on the mountain peaks. Most of this precipitation comes during the winter and spring months in the form of snow, supplemented by localized thunderstorms during the summer months. Temperatures range from greater than 90 degrees Fahrenheit in the summer months to minus 20 degrees in the winter. The area is also utilized by domestic livestock and numerous wildlife species.

#### Identification of Issues:

Internal scoping was conducted by an interdisciplinary (ID) team on May 9, 2011, that analyzed the potential consequences of the Proposed Action. Potential impacts to the following resources/concerns were evaluated in accordance with criteria listed in the NEPA Handbook H-1790-1 (2008) page 41, to determine if detailed analysis was required. Consideration of some of these items is to ensure compliance with laws, statutes or Executive Orders that impose certain requirements upon all Federal actions. Other items are relevant to the management of public lands in general, and to the Ely and Battle Mountain Districts BLM in particular.

Table 2 summarizes which of the supplemental authorities of the human environment and other resources of concern within the project area are present, not present or not affected by the Proposed Action.

**Table 2. Summary of Supplemental Authorities and Other Elements of the Human Environment**

Resource/Concern	Issue(s) Analyzed? (Y/N)	Rationale for Dismissal from Detailed Analysis or Issue(s) Requiring Detailed Analysis
Air Quality	N	The air quality status for the project analysis area in White Pine and Nye Counties is termed “unclassifiable” by the State of Nevada. No data is collected in White Pine County or in areas outside of Pahrump in southeastern Nye County due to the expectation that annual particulate matter would not exceed national standards. The proposed action or alternatives would not affect air quality in White Pine or Nye Counties.

<b>Resource/Concern</b>	<b>Issue(s) Analyzed? (Y/N)</b>	<b>Rationale for Dismissal from Detailed Analysis or Issue(s) Requiring Detailed Analysis</b>
Areas of Critical Environmental Concern (ACEC)	N	Not present in the designated HMA boundaries.
Cultural Resources	N	In accordance with the SOPs for Gather and Handling Activities in Appendix III (BLM/SHPO Protocol), gather facilities would be placed in previously disturbed areas. Should new, previously undisturbed gather sites or holding facility locations be required, appropriate Class III cultural resource inventories would be conducted to avoid placing gather facilities in areas with cultural resources and to ensure that measures are taken to avoid any cultural resource impacts.
Forest Health	N	Project has a negligible impact directly, indirectly and cumulatively to forest health. Detailed analysis not required.
Migratory Birds	Y	Effects to resource are analyzed in this EA.
Rangeland Standards and Guidelines	Y	See section vegetation 4.8 for discussion of S and Gs (Appendix V)
Native American Religious and other Concerns	N	No potential traditional religious or cultural sites of importance have been identified in the project according to the Ely District RMP Ethnographic Report (2003).
Wastes, Hazardous or Solid	N	No hazardous or solid wastes exist in the designated HMA boundaries, nor would any be introduced.
Water Quality, Drinking/Ground	N	The proposed action or alternatives would not affect drinking or groundwater quality. The project design would avoid surface water and riparian systems and no water wells would be affected.
Environmental Justice	N	No environmental justice issues are present at or near the project.
Floodplains	N	The project analysis area was not included on FEMA flood maps.
Farmlands, Prime and Unique	N	No unique farmlands exist in the State of Nevada. Prime Farmlands would not be affected by the proposed action or other action alternatives. The characteristics which make a soil potential Prime Farmland would not be altered. The limiting factor for the soil becoming productive Prime Farmlands would remain the future application of an adequate and dependable supply of irrigation water.
Species Threatened, Endangered or Proposed for listing under the Endangered Species Act.	N	The Railroad Valley springfish ( <i>Crenichthys nevadae</i> ), is found in two springs on the Duckwater Shoshone Reservation. The gather will take place entirely on BLM land and will therefore not affect this species.
Wetlands/Riparian Zones	Y	Effects to resource are analyzed in this EA.
Non-native Invasive and Noxious Species	Y	Impacts under each alternative could result in increasing weed populations. Analysis in EA.
Wilderness/WSA	Y	Effects to resource are analyzed in this EA.

<b>Resource/Concern</b>	<b>Issue(s) Analyzed? (Y/N)</b>	<b>Rationale for Dismissal from Detailed Analysis or Issue(s) Requiring Detailed Analysis</b>
Human Health and Safety	Y	Potential effects to human health and safety are analyzed in this EA.
Wild and Scenic Rivers	N	Not Present.
Special Status Animal Species, other than those listed or proposed by the FWS as threatened or Endangered.	Y	Effects to resource are analyzed in this EA.
Special Status Plant Species, other than those listed or proposed by the FWS as Threatened or Endangered. Also, ACECs designated to protect special status plant species.	Y	Effects to resource are analyzed in this EA.
Fish and Wildlife	Y	Effects to resource are analyzed in this EA.
Paleontology	N	There are Mollusks and Brachiopods/corals identified within the Jakes Wash HA. All known Paleontology would be avoided during the gather operations, therefore, no effects are expected from the Proposed Action
Wild Horses	Y	Effects to resource are analyzed in this EA.
Soils Resources	Y	Effects to resource are analyzed in this EA.
Water Resources (Water Rights)	N	The proposed action and alternatives would not affect water resources or water rights. Project design would avoid surface water and riparian systems. Permitted or pending water uses would not be affected.
Mineral Resources	N	There would be no modifications to mineral resources through the Proposed Action.
Vegetation Resources	Y	Impacts under each alternative could result in improving or deteriorating native plant communities. Effects to resource are analyzed in this EA.

#### **4.0 Environmental Effects**

The following critical or other elements of the human environment are present and may be affected by the Proposed Action or the alternatives. The affected environment is described for the reader to be able to understand the impact analysis.

##### **4.1. Wild Horses**

###### ***Affected Environment***

###### **Pancake HMA**

The Egan RMP (1987 Ely District) designated the Monte Cristo and Sand Springs East HMAs for the long-term management of wild horses. These HMAs were later combined into the

Pancake HMA in the August 2008 Ely District Record of Decision (ROD) and Approved Resource Management Plan (RMP) due to the interchange between the two HMAs. The HMA is nearly identical in size and shape to the original Herd Areas representing where wild horses were located in 1971. The HMAs contained within the Pancake Complex have not been designated as “ranges” under 43 CFR 4710.3-2.<sup>4</sup> Some fences exist within the HMA but do not restrict wild horse movement due to the fact of being open ended. Currently, management of HMAs and wild horse populations within the Ely District is guided by the Ely District RMP. The AML range for the HMA is 240-493 wild horses. The current estimated population at the time of gather would be 1,653 wild horses following the 2011 foal crop. This population estimate is nearly 3 times the high range of the appropriate management level and 7 times the low range.

Water available for use by wild horses within the Pancake HMA is limited to a few perennial sources. Ike Spring, Moody Spring and Indian spring tend to produce water year round. As water supplies become depleted at other smaller water sources, wild horses tend to concentrate around these primary water sources causing negative effects to riparian resources. These water sources are monitored throughout the summer to make sure water is available for wild horse. The Young Florio Spring water development has been damaged by excess numbers of wild horses as they search for water. During the summer months this spring only produces a trickle of water. This water development has been fixed several times with repairs to the pipeline. Following each repair, the wild horses have, damaged the water development by pawing and breaking the pipeline. Young Florio Well is an ephemeral water source which, depending on the year’s precipitation level in the area, may or may not produce water and during summer months helps relieve pressure from Young Florio Spring. However, it is not a reliable source of perennial water. At Martiletti Spring, wild horses are currently pawing the spring in an attempt to get adequate water from this water source, which can at times dry up to a small mud hole during the summer months. Wild horses also rely on springs located on the Forest Service lands within and outside the Monte Cristo Wild Horse Territory. The remaining springs within the Pancake HMA might have water in early spring depending on precipitation but are not reliable perennial water sources.

Rangeland resources have been and are currently being impacted within the Pancake HMA due to the over-population of wild horses. Rangeland Health Standards have found wild horses are contributing factors for not meeting these Standards. Resource monitoring data for the South Sand Springs Valley Use Area – an area that has not been grazed by cattle for the past 20 years -- has found wild horses and drought as the contributing factor in not meeting the Standards.

Utilization data was collected for Pancake HMA April 2011. The key forage species that utilization was collected in April 2011 are Indian ricegrass (*Achnatherum hymenoides*), winterfat (*Krascheninnikovia Lanata*), Squirreltail grass (*Elymus elymoides*) and Needleandthread grass (*Hesperostipa comata*). Current monitoring data collected using Range Utilization Key Forage

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<sup>4</sup>There are currently four designated Wild Horse and Burro Ranges in the Western United States that are managed principally for wild horses and burros consistent with 43 CFR 4170.3-2. These are the Pryor Mountain Wild Horse Range in Montana; the Little Book Cliffs Wild Horse Range in Colorado; the Nevada Wild Horse Range and the Marietta Wild Burro Range in Nevada. Only the BLM Director or Assistant Director (as per BLM Manual 1203: Delegation of Authority), may establish a Wild Horse and Burro Range after a full assessment of the impact on other resources through the land-use planning process.

Plant Method over the last three years has indicated Moderate (41-60%) and Heavy (61-80%) utilization directly attributable to wild horses. Use pattern mapping in April 2011 shows wild horse utilization for 29% of the monitoring locations as slight, 17% as light, 21% as moderate (41-60%), 12% as heavy (61-80%), and 6% as severe (81-100%).

#### Jakes Wash HA

The Egan RMP (1987 Ely District) designated the Jakes Wash Herd Area (HA) for the long-term management of wild horses. The August 2008 Ely District Record of Decision (ROD) and Approved Resource Management Plan (RMP) management action WH-5 states: “remove wild horses and drop herd management area status for those... as listed in Table 13.” Jakes Wash was dropped from HMA status and returned to HA status (i.e., to manage “0” wild horses) with this management action. The management action to manage for no wild horses within the Jakes Wash HA reflects the recent evaluation based on multi-tiered analysis from the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) table 3.8-2 and page 4.8-2. The components and herd characteristics assessed were: forage, water, cover, space, and reproductive viability. If one or more of these components were missing, or there was no potential for a stable shared genetic pool, the herd management area was considered unsuitable. The Jakes Wash HA has inadequate forage, water, space, and cover for long-term management of wild horses. The current estimated population in Jakes Wash HA at the start of the gather would be 132 wild horses following the 2011 foal crop.

Water available for use by wild horses within the Jakes Wash HA is very limited. Two springs located in the southern end and three stock watering ponds provide the only available water in the northern and central portions of the HA. These ponds are filled with winter/spring runoff or water released from the nearby Illipah reservoir by the water right holder and tend to go dry in mid- to late summer. As these ponds and reservoirs dry up wild horses leave the HA boundary in search of water. During the summer months wild horses can be found outside HA boundaries on US Forest Service lands which are not managed as a Wild Horse Territory. Water is also available for use by wild horses when livestock operators pump three stock-water wells (with privately held water rights) in the southern end of the HA, but that is only for a few months each year when livestock are present.

Utilization data was collected for Jakes Wash HA in March 2011. The key forage species for which BLM collected utilization data in March 2011 were Indian ricegrass and winterfat. Out of eight monitoring locations, three showed slight use (1 to 20%), three showed light use (21 to 40%), and two showed heavy use (61-80 %).

#### Sand Springs West HMA

The Sand Springs West HMA is administered by the Battle Mountain District, Tonopah Field Office. It is bordered to the northeast by the Pancake HMA, split only by the Battle Mountain and Ely District boundary. Wild horses in the Sand Springs West HMA commonly move back and forth to the Pancake HMA seeking available forage and water.

The Sand Springs West AML of 49 wild horses was initially established through a stipulated agreement (Consent Decision) between BLM, E. Wayne Hage, Colvin and Son Cattle Co., and Russell Ranches through the Department of the Interior Office of Hearings and Appeals,

Hearings Division, and was affirmed by the Tonopah Resource Management Plan (RMP) approved October 6, 1997. The RMP objectives state “to manage wild horse and/or burro populations within Herd Management Areas at levels which will preserve and maintain a thriving natural ecological balance consistent with other multiple-use objectives” and “to manage wild horses and/or burros at appropriate management levels (AML) or interim herd size (IHS) for each HMA . . . .” The current estimated population at the start of the gather would be 153 wild horses following the 2011 foal crop. This population estimate is nearly 3 times the appropriate management level.

Water in the Sand Springs West HMA is limited to man-made water-haul sites developed for grazing sheep. One site (Etcheverria Well) has a small reservoir that seasonally holds run-off water which is available to wild horses. This water accumulates from winter precipitation and snow melt, only to dry up during the hot summer months. Water is available to wild horses temporarily at water haul sites while domestic sheep are grazing; however, they are not reliable sources. Some water hauls sites have small depressions or tanks that may temporarily hold water from natural precipitation; however, they are not consistent or dependable sources. No known natural springs occur on the HMA except along Nevada State Highway 6, at which horses are rarely observed. Many of the wild horses from the Sand Springs West HMA travel into the Pancake HMA administered by BLM in the Ely District or to areas outside of the Sand Springs West HMA in search of water sources. Concentrations of wild horses and cattle around the limited water sources during the summer months increases competition with wildlife for water resources and negatively affect the associated range resources.

Forage quality and quantity on the Sand Springs HMA is generally poor due to a majority of sandy and volcanic soils and little precipitation. Drought is a common occurrence throughout Nevada and the Great Basin the Sand Springs West HMA is no different. Drought conditions during the period of March through June can substantially reduce annual production of forage, as well as have detrimental effects on vegetative health, especially under heavy or repeated grazing. As water becomes scarcer in the summer months, even less forage will be available as wild horses will travel shorter distances from the available water. With the current excess population of wild horses, severe range degradation may occur. Overall wild horse herd and individual health may also be in at risk if AML is not achieved and maintained.

The general vegetation trend for key species from 1981 to 2008 is declining among Indian Ricegrass (*Achnatherum hymenoides*), Winterfat (*Krascheninnikovia lanata*), and Squirreltail grass (*Elymus elymoides*) at most key areas. There are some areas that have increases in cheatgrass (*Bromus tectorum*) and Rabbitbrush (*Chrysothamnus viscidiflorus*) indicating overgrazed rangelands. Galleta grass (*Pleuraphis jamesii*) generally shows a stable to slight increase in trend. These decreases in key species are due in most part to grazing by cattle and wild horses. However, cattle within the HMA generally stay in the valleys where the man-made water sources are available whereas the wild horses tend to stay in the mountains, foothills, and on the mountain benches travelling greater distances to available water.

Utilization data was collected in June, 2011, on Indian ricegrass in areas of primarily wild horse use. Other key species such as Squirreltail grass were present on the sites and would also have been examined but were not encountered. Utilization data was documented for the current year

(2011) and for the previous year (2010). Utilization data for 2010 ranged from slight use (6-20%) to heavy use (61-80%) and averaged moderate (41-60%) in the hills and on the benches. Current year's use (2011) was recorded in the same geographic locations and range from negligible (0-5%) to moderate (41-60%) on the benches and negligible to light (21-40%) in the hills, with both averaging in the slight use category. Although an average of slight use was recorded in June, it is expected that use along these same transects will become heavy to severe before next year's growing season.

Utilization data were collected in areas of known primary wild horse use; there was no cattle or sheep sign present. Wild horse sign in the areas were mostly old with a little fresh sign scattered. Horses were visible from transect locations on the bench as well as the hills, but were not present in the immediate area. Vegetation on the benches is dominated by cheatgrass and galleta with very few key species (i.e. Indian ricegrass, Squirreltail grass) present. Out of 30 total points along a 300 ft. transect line representative of the ecological site, Indian ricegrass was encountered only 10 times (33%) on the bench, and 19 times (63%) in the hills. Vegetation in the hills is shrub dominated except in depressions and drainages where cheatgrass is the primary component. Plant vigor was very good on the bench on the few perennial grasses that were present; however, plant vigor was much lower in the hills, likely a result of less developed soil and harsher conditions (wind, temperature).

#### Monte Cristo WHT

The Monte Cristo Wild & Free Roaming Horses Management Plan established a baseline AML of 72 – 120 wild horses, with an average of 96 head being maintained. These numbers were based on proper use studies conducted on the natural horse concentration areas. The baseline AML was adjusted to 72 – 96 through the Humboldt National Forest Land & Resource Management Plan in 1986. Range conditions have not improved given the number of horses occupying the area. The current estimated population at the time of the gather would be 270 wild horses following the 2011 foal crop. This population estimate is nearly 3 times the high range of the appropriate management level and 4 times the low range. The population within this HMA can fluctuate depending on the seasonal movement of the wild horses.

#### Pancake Complex

Population inventory flights have been conducted in the Complex every two to three years. These population inventory flights have provided information pertaining to population numbers, foaling rates, distribution, and herd health. A population inventory was conducted May 2011 utilizing a direct count method and 1,840 wild horses (not including the 2011 foal crop) were observed throughout the project area. At the time of implementation of the proposed gather operation, the projected population within the Complex will be approximately 2,208 wild horses (which includes the 2011 foal crop), which is approximately 6 times over the low end of the AML range. Wild horse body condition scores (BCS) within the Complex currently range from a score of 3-4 based on the Henneke Body Condition Chart and some animals at time of gather may have a lower BCS of 2-3. Genetic baseline data would be collected to monitor the genetic diversity of the wild horses within the project area.

Standards determination documents and rangeland health evaluations have identified wild horses as a contributing factor for non-achievement of some standards for rangeland health and

management objectives. The achievement or non-achievement of standards for rangeland health are summarized in Appendix V. These standard determination documents, evaluations and write-ups are available at the Egan and Tonopah Field Offices.

Population Modeling

Population modeling was completed for the proposed action and alternatives to analyze how the alternatives would affect the wild horse populations. Analysis included removal of excess wild horses with no fertility control, as compared to alternatives which consider removal of excess wild horses with fertility control and sex ratio adjustments. The No Action (no removal) Alternative was also modeled (Appendix IV). The primary objective of the modeling was to identify if any of the alternatives “crash” the population or cause extremely low population numbers or growth rates. The results of population modeling show that minimum population levels and growth rates would be within reasonable levels and adverse impacts to the population would not be likely under Alternatives A, B, C, and D. Graphic and tabular results are displayed in detail in Appendix IV.

Table 2. The percent effectiveness of PZP-22 fertility control used in population modeling.

	Year 1 <sup>1</sup>	Year 2	Year 3	Year 4
Summer Application	Normal	80%	65%	50%
Winter Application	Normal	94%	82%	68%

**<sup>1</sup>Year one is the year following the gather and treatment with PZP-22.**

*Environmental Effects*

**Proposed Action** –The Proposed Action would decrease the existing overpopulation of wild horses by approximately 800-1,000 wild horses in the course of successive helicopter gather operations over a period of six to ten years and stallions would be selected for release with the objective of establishing a 60% male ratio within the core breeding population of 360 horses (low-range AML) on the range. In addition, approximately one-third of the high end of AML or 200 wild horses would be managed as a non-breeding population of geldings. The target population when the objectives of this alternative are reached is at approximately mid-range AML or 560 horses. All animals selected to remain in the core breeding population would be selected to maintain a diverse age structure, herd characteristics and body type (conformation). The Proposed Action would not reduce all of the associated impacts to the wild horses and rangeland resources as quickly as the other alternatives. Over the short-term, individuals in the herd would still be subject to increased stress and possible death as a result of continued competition for water and forage until the project area’s population can be reduced to the AML range. The areas experiencing heavy and severe utilization levels by wild horses would likely still be subject to some excessive use and impacts to rangeland resources (concentrated trailing, riparian trampling, increased bare ground, etc.) throughout the HMAs would be expected to continue until the project area’s population can be reduced to the AML range and concentration of horses can be reduced.

Because it will take several successive gather operations over a period of six to ten years to get the combined area's wild horse population to low end of AML, bands of horses would continue to leave the boundaries of the HMAs and move into areas not designated for their use in search of forage and water. This would not achieve the stated objectives for wild horse herd management areas, to "prevent the range from deterioration associated with overpopulation", and "preserve and maintain a thriving natural ecological balance and multiple use relationship in that area" until such time as the Proposed Action has been completed.

Removal of excess wild horses would improve herd health. Decreased competition for forage and water resources would reduce stress and promote healthier animals. This removal of excess animals coupled with anticipated reduced reproduction (population growth rate) as a result of fertility control should result in improved health and condition of mares and foals as the actual population comes into line with the population level that can be sustained with available forage and water resources, and would allow for healthy range conditions (and healthy animals) over the longer-term. Additionally, reduced population growth rates would be expected to extend the time interval between gathers and reduce disturbance to individual animals as well as to the herd social structure over the foreseeable future.

Bringing the reproducing wild horse population back to mid-range AML and slowing its growth rate once the proposed action has been achieved would reduce damage to the range from the current overpopulation of wild horses and allow vegetation resources to start recovering, without the need for additional gathers in the interim. As a result, there would be fewer disturbances to individual animals and the herd, and a more stable wild horse social structure would be provided. Managing a non-reproducing band of geldings would also allow BLM to manage the wild horse population at the mid-range of AML once the Proposed Action has been completed, without adversely impacting rangeland resources as a result of a more rapid population growth in excess of AML.

Impacts to individual animals may occur as a result of handling stress associated with the gathering, processing, and transportation of animals. The intensity of these impacts varies by individual animal and is indicated by behaviors ranging from nervous agitation to physical distress. Mortality to individual animals from these impacts is infrequent but does occur in 0.5% to 1% of wild horses gathered in a given gather. Other impacts to individual wild horses include separation of members of individual bands of wild horses and removal of animals from the population.

Indirect impacts can occur after the initial stress event, and may include increased social displacement or increased conflict between stallions. These impacts are known to occur intermittently during wild horse gather operations. Traumatic injuries may occur, and typically involve bruises from biting and/or kicking, which do not break the skin.

Stallions selected for release would be released to increase the post-gather sex ratio to approximately 60% stallions in the remaining herds. Stallions would be selected to maintain a diverse age structure, herd characteristics and body type (conformation). It is expected that releasing additional stallions to reach the targeted sex ratio of 60% males would result in smaller band sizes, larger bachelor groups, and some increased competition for mares. With more

stallions involved in breeding it should result in increased genetic exchange and improvement of genetic health within the herd.

### **Fertility Control treatments**

All mares selected for release would be treated with a two-year Porcine Zona Pellucida (PZP-22) or similar vaccine/fertility control and released back to the range. Immuno-contraceptive (fertility control) treatments would be conducted in accordance with the approved standard operating and post-treatment monitoring procedures (SOPs, Appendix I). Mares selected for release would be selected to maintain a diverse age structure, herd characteristics and conformation (body type).

Each released mare would receive a single dose of the two-year PZP contraceptive vaccine. When injected, PZP (antigen) causes the mare's immune system to produce antibodies; these antibodies bind to the mare's eggs and effectively block sperm binding and fertilization (Zoo Montana, 2000). PZP is relatively inexpensive, meets BLM requirements for safety to mares and the environment, and can easily be administered in the field. In addition, among mares, PZP contraception appears to be completely reversible. One-time application at the capture site would not affect normal development of a fetus should the mare already be pregnant when vaccinated, hormone health of the mare, or behavioral responses to stallions (Kirkpatrick et al, 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 et. al, 1997).

The treatment would be controlled, handled, and administered by a trained BLM employee (SOPs, Appendix I). 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 impact from the fertility control injections. Newly captured mares that do not have markings associated with previous fertility control treatments would be marked with new freeze-mark letters for tracking purposes. This information would also be used to determine the number of mares captured that were not previously treated and would provide additional insight regarding gather efficiency.

If used as the sole approach to controlling population numbers, contraception would not allow the BLM to achieve the original population objectives; however, in conjunction with other techniques (e.g., removals of excess animals and adoption) and through incorporation of other population control techniques (e.g., sex ratio adjustments, sterilization), it provides a valuable tool in a larger, adaptive management approach to wild horse and burro management.

Contraception may be a cost-effective and humane treatment to employ in horses to prevent increases in populations, or with other techniques, to reduce horse populations (Bartholow 2004). Because contraception by itself does not remove excess horses from an HMA's population, contraception would result in some continuing environmental effects by treated and released mares if the overall population is in excess of AML. Horses are long-lived, reaching 20 years of age in the wild and treated horses returned to the HMA if the population is above AML may

continue exerting throughout their life span negative effects on the environment as described above, in contrast with the removal of an excess horse. Contraception, if effective, reduces future reproduction. Limiting future population increases of horses would limit increases in environmental damage from higher densities of horses. It may also reduce the effect of horse gather activities on the environment (if it limits the numbers of horse gathers required). If application of contraception to horses requires capturing and handling horses, the risks and costs associated with capture and handling of horses may be roughly equivalent (not counting the cost of adoption). Application of contraception to older animals and returning them to the HMA may reduce risks associated with horses that are difficult to adopt or handle in captivity.

Ransom et al. (2010) found no differences in how PZP-treated and control mares allocated their time between feeding, resting, travel, maintenance, and social behaviors in three populations of wild horses, which is consistent with Powell's (1999) findings in another population. Likewise, body condition of PZP-treated and control mares did not differ between treatment groups in Ransom et al.'s (2010) study. Turner and Kirkpatrick (2002) found that PZP-treated mares had higher body condition than control mares in another population, presumably because energy expenditure was reduced by the absence of pregnancy and lactation.

In two studies involving a total of four wild horse populations, both Nunez et al. (2009) and Ransom et al. (2010) found that PZP-treated mares were involved in reproductive interactions with stallions more often than control mares, which is not surprising given the evidence that PZP-treated females of other mammal species can regularly demonstrate estrus behavior while contracepted (Shumake and Wilhelm 1995, Heilmann et al. 1998, Curtis et al. 2002). Ransom et al. (2010) found that control mares were herded by stallions more frequently than PZP-treated mares, and Nunez et al. (2009) found that PZP-treated mares exhibited higher infidelity to their band stallion during the non-breeding season than control mares. Madosky et al. (in press) found this infidelity was also evident during the breeding season in the same population that Nunez et al. (2009) studied, resulting in PZP-treated mares changing bands more frequently than control mares. Long-term implications of these changes in social behavior are currently unknown.

### **Gelding**

Stallions selected for gelding would be between 5-20 years of age and have a body condition score of 3 or above. No animals which appear to be distressed, injured or in failing health or condition will be selected for gelding. Stallions will not be gelded within 36 hours of capture and no animals that were roped during capture will be gelded at the temporary holding corrals for release. The surgery would be performed at either a temporary holding facility at the gather location or at a BLM-managed holding center by a licensed veterinarian using appropriate anesthetic agents and surgical techniques (see Gelding SOPs in Appendix II). The final determination of which specific animals will be gelded will be based on the professional opinion of the attending veterinarian in consultation with the Authorized Officer.

When gelding procedures are done in the field, geldings would be released near a water source, when possible, approximately 24 to 48 hours following surgery. When the procedures are performed at a BLM-managed facility, selected stallions would be shipped to the facility, gelded, held in a separate pen to minimize risk for disease, and returned to the range within 30 days.

Though castration (gelding) is a common surgical procedure, minor complications are not uncommon after surgery, and it is not always possible to predict when postoperative complications will occur. Fortunately the most common complications are almost always self-limiting, resolving with time and exercise. Individual impacts to the stallions during and following the gelding process should be minimal and would mostly involve localized swelling and bleeding. A small amount of bleeding is normal and generally subsides quickly, within 2-4 hours following the procedure. Some localized swelling of the prepuce and scrotal area is normal and may begin between one to 5 days after the procedure. Swelling should be minimized through the daily movements (exercise) of the horse during travel to and from foraging and watering areas. Most cases of minor swelling should be back to normal within 5-7 days, more serious cases of moderate to severe swelling are also self-limiting and resolve with exercise after one to 2 weeks. Serious complications (eviscerations, anesthetic reaction, injuries during handling, etc.) that result in euthanasia or mortality during and following surgery are rare and are expected to affect less than five percent of the animals treated. These complications are generally noted within 12 hours of surgery. If they occur they will be treated in the same manner as at BLM facilities.

Gelded animals would be monitored periodically for complications for approximately 7-10 days post-surgery and release. This monitoring will be completed either through aerial recon if available or field observations from major roads and trails. It is not anticipated that all the geldings will be observed but the goal is to detect complications if they are occurring and determine if the horses are freely moving about the HMA. Gelded animals would be freeze marked with an identifying marker high on their hip to minimize the potential for future recapture and to facilitate post-treatment and routine field monitoring. Once released, anecdotal information suggests that the geldings would form bachelor bands. Post-gather monitoring would be used to document whether or not geldings form bachelor bands as expected or intermix with the breeding population. Other periodic observations of the long term outcomes of gelding would be recorded during routine resource monitoring work. Such observations would include but not be limited to band size, social interactions with other geldings and harem bands, distribution within their habitat, forage utilization and activities around key water sources. Periodic population inventories and future gather statistics would assist BLM to determine if managing a portion of the herd as non-breeding animals is an effective approach to slowing the annual population growth rate and extending the gather cycle when used in conjunction with other population control techniques.

Surgical sterilization techniques, while not reversible, may provide reproductive control on horses without any additional handling of the horses as required in the administration of chemical contraception techniques.

It should be noted that adequate reduction of population growth of horses may only result if a large proportion of male horses in the population are sterile because of their social behavior (Garrott and Siniff 1993). By itself, it is unlikely that sterilization (gelding) would allow the BLM to achieve its horse and burro population management objectives since a single stallion is capable of impregnating multiple mares. Therefore, to be effective, use of sterilization to control population growth requires that either all the male or all the female wild horses/burros in the population be gathered and treated. If the treatment is not of a permanent nature (e.g., application

of the PZP-22 vaccine to mares), the animals would need to be gathered and treated on a cyclical basis. This would also require marking of individual animals and extensive record keeping to ensure that all animals were regularly treated and individual animals were not treated more frequently than required.

### **Water/Bait Trapping (if used)**

Bait and/or water trapping generally requires a long window of time for success. Although the trap would be set in a high probability area for capturing excess wild horses residing within the area and at the most effective time periods, time is required for the horses to acclimate to the trap and/or decide to access the water/bait.

Trapping involves setting up portable panels around an existing water source or in an active wild horse area, or around a pre-set water or bait source. The portable panels would be set up to allow wild horses to go freely in and out of the corral until they have adjusted to it. When the wild horses fully adapt to the corral, it is fitted with a gate system. The acclimatization of the horses creates a low stress trap. During this acclimation period the horses would experience some stress due to the panels being setup and perceived access restriction to the water/bait source.

When actively trapping wild horses, the trap would be checked on a daily basis. Horses would be either removed immediately or fed and watered for up to several days prior to transport to a holding facility. Existing roads would be used to access the trap sites.

Gathering of the excess horses utilizing bait/water trapping could occur at any time of the year and would extend until the target number of animals are removed to relieve concentrated use by horses in the area, reach AML, to implement population control measures, and to remove animals residing outside HMA boundaries. Generally, bait/water trapping is most effective when a specific resource is limited, such as water during the summer months. For example, in some areas, a group of wild horses may congregate at a given watering site during the summer because few perennial water resources are available nearby. Under those circumstances, water trapping could be a useful means of reducing the number of horses at a given location, which can also relieve the resource pressure caused by too many horses. As the proposed bait and/or water trapping in this area is a low stress approach to gathering of wild horses, such trapping can continue into the foaling season without harming the mares or foals.

The wild horses that are gathered would be subject to one or more of several outcomes listed below.

### **Gather related Temporary Holding Facilities (Corrals)**

Wild horses that are gathered would be transported from the gather sites to a temporary holding corral within the HMAs in goose-neck trailers. At the temporary holding corral wild horses will be sorted into different pens based on sex. The horses will be aged and provided good quality hay and water. Mares and their un-weaned foals will be kept in pens together. At the temporary holding facility, a veterinarian, when present, will provide recommendations to the BLM regarding care, treatment, and if necessary, euthanasia of the recently captured wild horses. Any animals affected by a chronic or incurable disease, injury, lameness or serious physical defect (such as severe tooth loss or wear, club foot, and other severe congenital abnormalities) would be

humanely euthanized using methods acceptable to the American Veterinary Medical Association (AVMA).

### **Transport, Short Term Holding, and Adoption Preparation**

Wild horses removed from the range would be transported to the receiving short-term holding facility in a goose-neck stock trailer or straight-deck semi-tractor trailers. Trucks and trailers used to haul the wild horses will be inspected prior to use to ensure wild horses can be safely transported. Wild horses will be segregated by age and sex when possible and loaded into separate compartments. Mares and their un-weaned foals may be shipped together.

Transportation of recently captured wild horses is limited to a maximum of 12 hours. During transport, potential impacts to individual horses can include stress, as well as slipping, falling, kicking, biting, or being stepped on by another animal. Unless wild horses are in extremely poor condition, it is rare for an animal to die during transport.

Upon arrival, recently captured wild horses are off-loaded by compartment and placed in holding pens where they are provided good quality hay and water. Most wild horses begin to eat and drink immediately and adjust rapidly to their new situation. At the short-term holding facility, a veterinarian provides recommendations to the BLM regarding care, treatment, and if necessary, euthanasia of the recently captured wild horses. Any animals affected by a chronic or incurable disease, injury, lameness or serious physical defect (such as severe tooth loss or wear, club foot, and other severe congenital abnormalities) would be humanely euthanized using methods acceptable to the AVMA. Wild horses in very thin condition or animals with injuries are sorted and placed in hospital pens, fed separately and/or treated for their injuries. Recently captured wild horses, generally mares, in very thin condition may have difficulty transitioning to feed. A small percentage of animals can die during this transition; however, some of these animals are in such poor condition that it is unlikely they would have survived if left on the range.

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

At short-term corral facilities, a minimum of 700 square feet is provided per animal. Mortality at short-term holding facilities averages approximately 5% (GAO-09-77, Page 51), which includes animals euthanized due to a pre-existing condition, animals in extremely poor condition, animals that are injured and would not recover, animals which are unable to transition to feed; and animals which die accidentally during sorting, handling, or preparation. Approximately 12,000 excess wild horses are being maintained within BLM's short-term holding facilities.

### **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 becomes the property of the

applicant. Adoptions are conducted in accordance with 43 CFR § 5750.

### **Sale with Limitation**

Buyers must fill out an application and be pre-approved before they may buy a wild horse. A sale-eligible wild horse is any animal that is more than 10 years old or has been offered unsuccessfully for adoption at least three 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. Sales of wild horses are conducted in accordance with the 1971 WFRHBA and congressional limitations.

### **Long-Term Grassland Pastures**

Since fiscal year 2008, the BLM has removed over 31,680 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 grassland 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 up to 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 two pounds of good quality hay per 100 pounds of body weight with adequate bunk space to allow all animals to eat at one time. The rest period may be waived in situations where the anticipated travel time exceeds the 24-hour limit but the stress of offloading and reloading is likely to be greater than the stress involved in the additional period of uninterrupted travel.

Long-term grassland pastures are designed to provide excess wild horses with humane, and in some cases life-long care in a natural setting off the public rangelands. There, wild horses are maintained in grassland pastures large enough to allow free-roaming behavior and with the forage, water, and shelter necessary to sustain them in good condition. About 28,600 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 LTPs was subject to a separate NEPA and decision-making process. Located in mid or tall grass prairie regions of the United States, these LTPs are highly productive grasslands compared to more arid western rangelands. These pastures comprise about 256,000 acres (an average of about 10-11 acres per animal). Of the animals currently located in 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 small percentage of the animals may be humanely euthanized if they are in very poor condition due to age or other factors. Horses residing on LTP facilities live longer, on the average, than wild horses residing on public rangelands, and the natural mortality of wild horses in LTP averages approximately 8% per year, but can be higher or lower depending on the average age of the horses pastured there (GAO-09-77, Page 52).

### **Euthanasia or Sale Without Limitation**

While euthanasia and sale without limitation has been limited by current Congressional appropriations, it is allowed under the WFRHBA. Neither option is available for horses under the Department of the Interior's fiscal year 2011 budgetary appropriations and is not expected to be available under the 2012 budgetary appropriations. Although the appropriations restrictions could be lifted in future appropriations bills, it would be contrary to Departmental policy to euthanize or sell without limitations healthy excess wild horses.

### **Wild Horses Remaining or Released into the HMA following Gather**

Under the Proposed Action, the post-gather population of reproducing wild horses would be about 361 wild horses, which is the combined low range of the AMLs for the Complex, and another 200 geldings, to reach a combined population of 561 wild horses in the mid range of AML. Reducing population size would also ensure that the remaining wild horses remain healthy and vigorous, and that the wild horses in the Complex are not at risk of death or suffering as a result of starvation due to insufficient forage and/or water as a result of frequent drought conditions.

The wild horses that are not captured may be temporarily disturbed and may move into another area during the gather operations. With the exception of changes to herd demographics, direct population wide impacts from a gather have proven, over the last 20 years, to be temporary in nature with most if not all impacts disappearing within hours to several days of when wild horses are released back into the HMAs. No observable effects associated with these impacts would be expected within one month of release, except for a heightened awareness of human presence.

As a result of lower density of wild horses across the HMAs following the removal of excess horses, competition for resources would be reduced, allowing wild horses to utilize preferred, quality habitat. Confrontations between stallions would also become less frequent, and conflicts among wild horse bands at water sources would also diminish. However, achieving the AML and improving the overall health and fitness of wild horses could also increase foaling rates and foaling survival rates over the current conditions thus increasing the necessity of reducing the population growth rate through the implementation of fertility control and sex ratio adjustments.

The primary effects to the wild horse population as a direct result of this proposed gather would be to alter herd population dynamics, age structure or sex ratio, and subsequently reduce the growth rates and population size over time.

The wild horses that remain in the HMAs following the gather would maintain their social structure and herd demographics (age and sex ratios). No observable effects to the remaining population associated with the gather impacts would be expected except a heightened shyness

toward human contact.

Adverse impacts to the rangeland as a result of the current overpopulation of wild horses would be reduced under all Alternatives except the No Action Alternative. Fighting among stud horses would decrease since they would protect their position at limited water sources less frequently; injuries and death to all age classes of animals would also be expected to be reduced as competition for limited forage and water resources would be decreased.

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

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

Foals are often gathered that were orphaned on the range (prior to the gather) because the mother rejected it or died. These foals are usually in poor, unthrifty condition. Orphans encountered during gathers are cared for promptly and rarely die or have to be euthanized. 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 (2011) foals will be six to nine months of age and may have already been weaned by their mothers. In private industry, domestic horses are normally weaned between four and six months of age.

Gathering wild horses during the summer months can potentially cause heat stress, gathering wild horses during the fall/winter months reduces risk of heat stress, although this can occur during any gather, especially in older or weaker animals. Adherence to the SOPs as well and techniques used by the gather contractor help minimize the risks of heat stress. Heat stress does not occur often, but if it does, death can result. Most temperature related issues during a gather can be mitigated by adjusting daily gather times to avoid the extreme hot or cold periods of the day. The BLM and the contractor will be pro-active in controlling dust in and around the holding facility and the gather corrals to limit the horses' exposure.

Water resources would continue to be monitored through the summer months to address any potential concerns prior to the proposed gather operation. If necessary BLM would continue to provide water for wild horses until wild horse populations are within the appropriate management level (AML) as well as during any period of water shortage or critical need.

Through the capture and sorting process, wild horses are examined for health, injury and other defects. Decisions to humanely euthanize animals in field situations would be made in

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

The BLM has been gathering excess wild horses from public lands since 1975, and has been using helicopters for such gathers since the late 1970's. Refer to Appendix III for information on the methods that are utilized to reduce injury or stress to wild horses and burros during gathers. Since 2004, BLM Nevada has gathered over 26,000 excess animals. Of these, gather related mortality has averaged only 0.5%, which is very low when handling wild animals. Another 0.6% of the animals captured were humanely euthanized due to pre-existing conditions and in accordance with BLM policy. This data affirms that the use of helicopters and motorized vehicles are a safe, humane, effective and practical means for gathering and removing excess wild horses and burros from the range. BLM policy prohibits the gathering of wild horses with a helicopter (unless under emergency conditions) during the period of March 1 to June 30 which includes and covers the six weeks that precede and follow the peak of foaling period (mid-April to mid-May).

**Alternative B** – Under this alternative, excess wild horses would be removed to the lower range of the AML. Impacts from this Alternative would be similar to the Alternative A; however this Alternative would not phase-in the removal of excess horses as in Proposed Action or include the management of geldings as a non-breeding component of the population. Alternative B would remove excess wild horses within the Complex and outside the Complex boundaries. Successful implementation of this alternative would be dependent on gathering 90-95% of the current wild horse population. Due to the mountainous terrain and vegetative cover, gather efficiency is likely to be less since historically they have averaged only about 80% gather efficiency on the Complex. With the possibility of a smaller gather efficiency, a follow up gather may be needed in 2013 or 2014 to achieve low range AML and to complete the management actions proposed to slow the wild horse population growth rate.

**Alternative C** – Impacts from this Alternative would be similar to Alternative A; however the Alternative would not including the management of geldings as a non-breeding component of the wild horse population.

**Alternative D** – Impacts from this alternative would be similar to Alternative B; however there would be no horses released because only enough animals would be gathered to reduce the population to the low end of AML, sex ratios would not be adjusted and fertility control would not be applied. AML would be achieved but would most likely exceed the high end of AML sooner than the Proposed Action.

**Alternative E** – Impacts from this alternative would be similar to Alternative B; however, as this alternative would result in a slower population growth rate, there would be a greater reduction in

impacts to rangeland resources and more opportunity for vegetative and riparian/water resources to recover. Implementation of this alternative would result in increased gather and fertility control costs which could reduce management activities in other areas. The more frequent gathers potentially could increase the impacts to individual wild horses due to the additional gathering and handling. The time needed to complete a gather would increase over time because frequently gathered wild horses tend to become more difficult to gather. They become very evasive and learn to evade the helicopter by taking cover in treed areas and canyons which in turn would make it more difficult to successfully apply population controls to a large portion of the population. Wild horses could also move out of the area due to the helicopter activity, thereby further reducing the overall gather efficiency.

**No Action Alternative** – If No Action is taken, excess wild horses would not be removed from within or outside the Pancake Complex and the wild horse populations would not be brought to AML and population growth rates would not be reduced at this time. The animals would not be subject to the individual direct or indirect impacts as a result of a gather operation in winter 2012. Over the short-term, individual animals in the herd would be subject to increased stress and possible death as a result of increased competition for water and forage as the population continues to grow even further in excess of the land's capacity to meet the wild horses' habitat needs. The areas currently experiencing severe utilization by wild horses would increase over time. This would be expected to result in increasing damage to rangeland resources throughout the Complex. Trampling and trailing damage by wild horses in/around riparian areas would also be expected to increase, resulting in larger, more extensive areas of bare ground. Competition for the available water and forage between wild horses, domestic livestock, and native wildlife would continue and further increase.

Wild horses are a long-lived species with documented survival rates exceeding 92% for all age classes. Predation and disease have not substantially regulated wild horse population levels within or outside the project area. Throughout the Complex few predators exist to control wild horse populations. Some mountain lion predation occurs, but does not appear to be substantial. Coyotes are not prone to prey on wild horses unless young, or extremely weak. Other predators such as wolf or bear do not inhabit the area. Being a non-self-regulating species, there would be a steady increase in wild horse numbers for the foreseeable future, which would continue to exceed the carrying capacity of the range. Individual horses would be at risk of death by starvation and lack of water as the population continues to grow. The wild horses would compete for the available water and forage resources, affecting mares and foals most severely. Social stress would increase. Fighting among stud horses would increase as they protect their position at scarce water sources, and increased injuries and death to all age classes of animals would be expected. Significant loss of the wild horses in the Complex due to starvation or lack of water would have obvious consequences to the long-term viability of the herd. 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*”. Once the vegetative and water resources are at these

critically low levels due to excessive utilization by an over population of wild horses, the weaker animals, generally the older animals and the mares and foals, are the first to be impacted. It is likely that a majority of these animals would die from starvation and dehydration. The resultant population would be heavily skewed towards the stronger stallions which would lead to significant social disruption in the Complex. By managing the public lands in this way, the vegetative and water resources will be impacted first and to the point that they have no potential for recovery. This degree of resource impact would lead to management of wild horses at a greatly reduced level if BLM is able to manage for wild horses at all on the HMA in the future. As a result, the No Action Alternative would not ensure healthy rangelands that would allow for the management of a healthy wild horse population, and would not promote a thriving natural ecological balance.

As populations increase beyond the capacity of the habitat, more bands of horses would also leave the boundaries of the Complex in search of forage and water, thereby increasing impacts to rangeland resources outside the Complex boundaries as well. This alternative would result in increasing numbers of wild horses in areas not designated for their use, and would not achieve the stated objectives for wild horse herd management areas, namely to “prevent the range from deterioration associated with overpopulation”, and “preserve and maintain a thriving natural ecological balance and multiple use relationship in that area”.

## **4.2. Riparian/Wetland Areas and Surface Water Quality**

### *Affected Environment*

Riparian areas occupy a small but unique position on the landscape in the Complex. Riparian areas are important to water quality, water quantity, and forage. Riparian sites provide habitat needs for many species and support greater numbers and diversity of wildlife than any other habitat type in the western United States. Riparian areas at high elevations support cottonwood and aspen woodlands. Small riparian areas and their associated plant species occur throughout the HMAs near seeps, springs, and along sections of perennial drainages. Many of these areas support limited riparian habitat (forage) and water flows. At the present time, wild horse use of the majority of these areas is averaging heavy to severe use. Trampling and trailing damage by wild horses is evident at most locations; soil compaction and surface and rill erosion is evident. Some of the spring sources within the HMAs are minimally functioning but with the presence of risk factors such as over utilization and trampling effects. The current over population of wild horses is contributing to resource damage and decline in functionality of spring sources.

### *Environmental Effects*

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

With only gathering and removing 800-1,000 wild horses in each successive gather operation there would be incremental improvements as wild horses are gathered over the next six to ten years until the mid-range AML is reached. Under this alternative native plant health, soils and would slowly improve. An opportunity to make progress toward achieving and maintain riparian areas in properly functioning condition would be foregone until reaching the mid-range of AML.

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

**Alternative C** – Initial impacts would be similar to the Proposed Action.

**Alternative D** – Initial impacts would be the same as in Alternative B. However, without slowing reproduction, a steady increase in the number of wild horses through natural foaling rates would begin impacting these riparian resources earlier which will reduce the recovery of these areas.

**Alternative E** – Impacts would be largely the same as described for Alternative B, except that the greater reduction in wild horse population growth under this alternative would provide more opportunity for recovery of riparian resources.

**No Action Alternative** – With the No Action Alternative, wild horse populations would continue to increase within the HMAs and to expand beyond the HMA boundaries. Increased horse use within and outside the HMAs would adversely impact additional riparian resources and their associated surface waters. Over the longer-term, as native plant health continues to deteriorate and plants are lost, soil erosion would increase. An opportunity to make progress toward achieving and maintaining riparian areas in properly functioning condition would be foregone as ever increasing numbers of wild horses continue to trample and degrade other riparian areas, springs and associated water sources. Riparian areas that are currently in a Functional at Risk with a Downward Trend state would be expected to decline to a Non-Functional state over time.

### **4.3. Wildlife, Including Migratory Birds**

#### ***Wildlife Affected Environment***

The Pancake Complex provides habitat for many species of wildlife, including large mammals like mule deer, pronghorn antelope, Rocky Mountain elk, and desert bighorn sheep. Yearlong habitat for mule deer occurs throughout the complex. A large area of crucial summer range occurs in the upper elevations of the Monte Cristo Territory, and small areas of crucial winter range occur in the Pancake HMA. The majority of the complex outside of the White Pine Range is yearlong pronghorn antelope habitat. The White Pine Range in the Monte Cristo Territory is Rocky Mountain elk yearlong habitat. There is occupied desert bighorn sheep habitat in the south end of the Monte Cristo Territory, the Duckwater Hills and Pancake Range in the Pancake HMA.

## **Migratory Birds Affected Environment**

On January 11, 2001, President Clinton signed Migratory Bird Executive Order 13186. This executive order outlines the responsibilities of Federal agencies to protect migratory birds and directs executive departments and agencies to take certain actions to further implement the Migratory Bird Treaty Act. A list of the migratory birds affected by the President's executive order is contained in 50 CFR 10.13. References to "species of concern" pertain to those species listed in the periodic report "Migratory Nongame Birds of Management Concern in the United States", priority migratory bird species as documented by established plans (such as Bird Conservation Regions in the North American Bird Conservation Initiative or Partners in Flight physiographic areas), and those species listed in 50 CFR 17.11.

Predominant habitat types within the Complex which are likely to support migratory birds include: aspen, mountain riparian, mountain shrub, sagebrush, pinyon/juniper, salt desert scrub, playa and cliffs/talus habitat types. There are small inclusions of coniferous forest and mountain mahogany habitat types included in the upper elevations of the Pancake Range.

The migratory bird nesting season is from April 15 through July 15. No surface disturbing activity can be conducted during this time period without a nesting bird survey of the proposed project area.

### ***Environmental Effects***

**Proposed Action** – Individual animals of all species may be disturbed or displaced during gather operations. Large mammals and some birds may run or fly (flush from the nest) when the helicopter flies over looking for horses, but once the helicopter is gone the animals should return to normal activities. Small mammals, birds, and reptiles would be displaced at gather sites, but this would only be for a few days at each trap site. There would be no impact to animal populations as a result of gather operations.

Under the Proposed Action competition between wildlife and wild horses for forage and water resources would continue, at or near the current conditions. Under this Alternative wildlife habitat would likely see more improvement over time since the wild horse population would be gathered in increments and growth rates would be less under this alternative.

**Alternative B** – Impacts from this alternative would be similar to the proposed action; however, removing excess wild horses from the project area would result in reduced competition between wild horses and wildlife, especially large mammals, for available forage and water resources. Managing wild horses within the AML range would result in improved habitat conditions for all species of wildlife by increasing diverse native herbaceous vegetative cover in the uplands and improving riparian vegetation and water quality at springs and seeps.

Completion of the gather and achievement of the established AML would provide the best opportunity for conservation, protection and preservation of identified species and their habitats. Alternatives B and D would result in reduced competition with wildlife which would increase the quantity and quality of available forage. There would be fewer disturbances associated with wild horses along stream and riparian habitats and adjacent upland habitats.

**Alternative C** – Impacts from this alternative would be the same as the Proposed Action.

**Alternative D** – Impacts from this alternative would be similar to Alternative B, AMLs would be achieved but may exceed the high end of AMLs sooner than under the Proposed Action. If populations reach the high range of AML or are exceeded with new foal crops, wildlife habitat conditions may begin to decline sooner relative to the Proposed Action.

**Alternative E** – Impacts would generally be the same as described for Alternative B, except that the greater reduction in the wild horse population growth rate would provide more opportunity for recovery of vegetative and riparian resources and result in less competition between wild horses and wildlife for forage and water.

**No Action Alternative** – Wildlife would not be disturbed or displaced by gather operations under the no action alternative. However, competition between wildlife and wild horses for forage and water resources would continue, and may even get worse as wild horse numbers continue to increase above AMLs. Wild horses are aggressive around water sources, and some wildlife may not be able to compete, which could lead to the death of individual animals. Wildlife habitat conditions would deteriorate as wild horse numbers above AML reduce herbaceous vegetative cover. This could result in lower nesting success for sage grouse and migratory birds.

#### **4.4. Special Status Plant and Animal Species (Candidate species; and BLM sensitive species)**

##### ***Affected Environment***

Several BLM sensitive animal species are found within the Complex including several species of bats, raptors, and other birds. The Bald eagles have been documented as likely winter foragers within the Complex. On July 9, 2007, the bald eagle was removed (“de-listed”) from the list of threatened and endangered species. After de-listing, bald eagles will continue to be protected under the Bald and Golden Eagle Protection Act (BGEPA) and Migratory Bird Treaty Act.

The greater sage-grouse is a high-profile sensitive species that has been determined by the U.S. Fish and Wildlife Service to be warranted for listing but precluded due to higher priority species, and is therefore considered a candidate species. Greater sage-grouse use the majority of the Pancake HMA throughout the year for all of their seasonal habitat needs. These needs include breeding (i.e., strutting grounds or leks), nesting and early brood-rearing, late brood-rearing or summer, winter and crucial winter. Greater sage-grouse require a herbaceous understory of forbs and grass to provide nest concealment, as well as to provide a diet of forbs and insects for the adults and their chicks. Riparian areas are frequently used by greater sage-grouse for late brood-rearing habitat. The Complex contains large portions of the Butte/Buck/White Pine greater sage-grouse population management unit (PMU), with minor portions of the Monitor and Quinn PMUs. There are approximately 20 known greater sage-grouse leks within the Complex.

Areas within the Complex provide aquatic and riparian habitat for three aquatic BLM Sensitive Species, the Railroad Valley springfish, which is found in Big and Little Warm Springs adjacent to the Pancake HMA, on Duckwater Shoshone Reservation lands. The railroad Valley tui chub (*Gila bicolor* ssp. 7), graded tyronia (*Tryonia clathrata*), Duckwater pyrg (*Pyrgulopsis aloba*),

southern Duckwater pyrg (*Pyrgulopsis anatina*), Big Warm Springs pyrg (*Pyrgulopsis papillata*) and Warm Springs pyrg (*Pyrgulopsis villacampae*) can also be found within the Pancake Complex.

There is potential pygmy rabbit habitat within the Complex as well as documented sightings within the Pancake and Sand Springs West HMAs and Jakes Wash HA. Pygmy rabbits predominately inhabit tall sagebrush with deep friable soils for burrowing.

Other terrestrial species include the Railroad Valley skipper (*Hesperia uncas fulvapalla*),

There are several BLM sensitive plant species that have been found within or adjacent to the Pancake Complex. These are the Blaine pincushion (*Sclerocactus blainei*), rock violet (*Viola lithion*), Nachlinger catchfly (*Silene nachlingerae*), Eastwood milkweed (*Asclepias eastwoodiana*), Currant milkvetch (*Astragalus uncialis*), Needle Mountains milkvetch (*Astragalus eurylobus*), and Railroad Valley globemallow (*Sphaeralcea caespitosa var. williamsiae*).

### ***Environmental Effects***

**Proposed Action** – Individual raptors and birds may be disturbed during gather operations when the helicopter flies over looking for horses. Once the helicopter is gone these birds should return to normal activities. Because gather sites and holding corrals would not be located where sensitive animal and plant species are known to occur nor within crucial intact habitat, there would be no impact from the placement of or activities at these facilities. Nor would there be any impact to populations of special status species as a result of gather operations.

Under the Proposed Action habitat conditions for all special status animal species would likely see more improvement over time since the wild horse population would be gathered in increments and growth rates would be less under this alternative.

**Alternative B** – Impacts would be similar to the Proposed Action. However, removing excess wild horses from the project area and managing wild horses within AMLs would result in improved habitat conditions for all special status animal species by increasing herbaceous vegetative cover in the uplands and improving riparian vegetation and water quality at springs and seeps, thereby improving the habitat on which they depend. Sensitive plant species would be less likely to be grazed or trampled after removing excess wild horses. Additionally, gather sites would not be located within sensitive plant species populations.

**Alternative C** – Impacts would be the same as in the Proposed Action.

**Alternative D** – Impacts would be the same as in Alternative B; however, improved habitat conditions for all special status animal species may not last as long because wild horse populations may exceed the high end of AMLs more quickly than under the Proposed Action.

**Alternative E** – Impacts would be generally the same as described for the Proposed Action, but sensitive species habitats would likely see more improvement over time since wild horse population growth rates would be less under this alternative.

**No Action Alternative** – Individual animals would not be disturbed or displaced because gather operations would not occur under the No Action Alternative. However, habitat conditions for all special status animal species would continue to deteriorate as wild horse numbers above the established AMLs further reduce herbaceous vegetative cover and trample riparian areas, springs, and stream banks. Sensitive plant species would be more likely to be grazed and trampled under the no action alternative because there would be more wild horses in the HMAs.

#### 4.5. Livestock Grazing

##### *Affected Environment*

The Pancake Complex includes portions of several livestock grazing allotments. Permitted livestock grazing use in the HMAs and WHT include both cattle and sheep. Some livestock grazing occurs during all seasons. Livestock grazing also occurs in areas immediately adjacent to the Complex.

Table 3. Pancake Herd Management Area

Allotment	Season of Use	% of Allotment in HMA	Permitted Use (AUM)**	Ten Year Average AUM Use	Percent Actual Use of Permit Use
Duckwater*	Cattle and Sheep 3/1 to 2/28	100%	18,363	9756	53%
Monte Cristo**	Cattle 6/21 to 9/18	100%	1,129		N/A
Pancake Black Point	Cattle 7/01 to 10/15	17%	609	541	89%
Six Mile	Cattle 4/15 to 10/31 Sheep 11/1 to 4/15	96%	1,209	579	48%
South Pancake	Sheep 3/15 to 4/30; 11/15 to 1/15	100%	1,155	758	66%

\*Duckwater Allotment; South Sand Springs Valley Use Area has been closed to cattle grazing since 2000.

\*\*Monte Cristo Allotment only had active AUMs in 2001, 2002, and 2009

Table 4. Jakes Wash Herd Area

Allotment	Season of Use	% of Allotment in HMA	Permitted Use (AUM)**	Ten Year Average AUM Use	Percent Actual Use of Permit
Badger Spring	Sheep 4/15 to 11/30	90%	1,412	233	17%
Giroux Wash	Cattle 4/01 to 12/15; Sheep 4/01 to 11/01	61%	5,326	587	11%
Indian Jake	Cattle 3/15 to 6/15; 9/1 to 2/28	100%	1,970	1,120	57%
Tom Plain	Cattle 3/1 to 2/28	42%	4,439	2,179	49%

Table 5. Sand Springs West Herd Management Area

Allotment	Season of Use	% of Allotment in HMA	Permitted Use (AUM)**	Ten Year Average AUM Use	Percent Actual Use of Permit
Sand Spring	6/15 to 9/15 Cattle	100%	312	210	67%
Morey	3/1 to 2/28 Cattle	3%	5,504	3,766	68%

\*\*Animal Unit Month (AUM) means the amount of forage necessary for the sustenance of one cow or its equivalent for a period of 1 month. (4100.0-5 of the CFRs)

Permitted livestock grazing use has generally been reduced from historical grazing levels over the past decades in a majority of the allotments. Allotments continue to be evaluated for achievement of the rangeland health standards, and adjustments to livestock grazing are implemented as appropriate, as grazing term permits are renewed or through annual coordination between BLM and grazing permit holders. (A summary of the Standards Determination Documents can be found in Appendix V). Adjustments can include livestock stocking levels, seasons of use, grazing rotations, utilization standards, and other management practices to better control livestock distribution.

The Standard Determination Documents (“SDDs”) evaluate and assess livestock grazing management practices to determine whether those practices are conforming to the standards and guidelines for rangeland health, as required by 43 C.F.R. Subpart 4180. These SDDs do not evaluate or assess achievement of the wild horse and burros standards, but do provide insights into whether wild horses are contributing to non-attainment of overall standards during the livestock permit renewal process (Appendix V)

Over the past ten years, actual livestock use has generally been less than permitted use for each of the grazing allotments (Tables 3 through 5). This has been in part due to persistent drought, competition with wild horses for forage, and the needs of the livestock operations.

***Environmental Effects***

**Proposed Action** – Past experience has shown that wild horse gather operations have few direct impacts to cattle and sheep grazing. Livestock located near gather activities would be temporarily disturbed or displaced by the helicopter and the increased vehicle traffic during the gather operation. Typically livestock would move back into the area once gather operations cease. Competition between livestock and wild horses for water and forage resources would continue at or near the current condition. Under the Proposed Action forage availability and quality would improve over time since wild horse population would be gathered in increments and growth rates would be less.

**Alternative B** –Impacts would be similar to the Proposed Action. Removal of excess wild horses would result in an increase in forage availability and quality, reducing competition between livestock and wild horses for available forage and water resources.

**Alternative C** – Impacts would be the same as the Proposed Action.

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

**Alternative E** – Impacts would be generally similar to the Proposed Action and Alternative B but the high end of the AML ranges would not be reached as soon as under Alternative B.

**No Action Alternative** – Livestock would not be displaced or disturbed as a result of gather operations under the No Action Alternative, however, there would be continued competition with excess numbers of wild horses for limited water and forage resources. As wild horse numbers continue to increase, livestock grazing within the HMAs may be further reduced in an effort to slow the deterioration of the range to the greatest extent possible.

#### **4.6. Wilderness**

##### **Affected Environment**

The Pancake HMA contains a portion of the Park Range Wilderness Study Area (WSA). The Park Range WSA is a jumbled mass of volcanic rock covered by a thin layer of soil which supports a surprisingly dense forest. There are dozens of wetland meadows above 8,000 feet that support a rich and diverse mixture of wildlife. Pockets of aspen attract deer, foxes and rabbits. At lower elevations, in the sagebrush semi-desert you may encounter antelope, coyote and jackrabbits.

##### ***Environmental Effects***

**Proposed Action** – Impacts to opportunities for solitude could occur during gather operations due to the possible noise of the helicopter and increased vehicle traffic around the WSA.

Those impacts would cease when the gather was completed. No surface impacts within the WSA are anticipated to occur during the gather since all gather sites and holding facilities would be placed outside wilderness. However, wilderness values of naturalness would remain at or near the current condition. Under the Proposed Action wilderness values would likely see more improvement over time since wild horse population would be gathered in increments and growth rates would be less under this alternative.

**Alternative B** – Impacts would be similar to the Proposed Action, however, wilderness values of naturalness after the gather would be enhanced by a reduction in wild horse numbers as a result of an improved ecological condition of the plant communities and other natural resources.

**Alternative C** – Impacts would be the same as described for the Proposed Action.

**Alternatives D & E** – Impacts would be the same as described for Alternative B.

**No Action Alternative** – No direct impacts to wilderness values would occur. However, impacts to wilderness values of naturalness could be threatened through the continued population growth of wild horses. The WSA currently receives slight-moderate use by wild horses during certain times of the year. Increasing wild horse populations would be expected to further degrade the

condition of vegetation and soil resources. The sight of heavy horse trails, trampled vegetation and areas of high erosion would continue to detract from the wilderness experience within the WSA.

#### 4.7. Noxious Weeds and Invasive Non-Native Species

##### *Affected Environment*

Noxious weed and invasive non-native species introduction and proliferation are a growing concern among local and regional interests. Noxious weeds are known to exist on public lands within the administrative boundaries of the Tonopah and Egan FO's (Appendix VI). Noxious weeds are aggressive, typically nonnative, ecologically damaging, undesirable plants, which severely threaten biodiversity, habitat quality and ecosystems. Because of their aggressive nature, noxious weeds can spread into established plant communities mainly through ground disturbing activities. In addition new weed species and sites can become established when their seeds hitchhike in on equipment or vehicles. The following noxious or invasive weed species are known to exist within the Complex or along drainages and roads leading to the project area.

<u>Scientific Name</u>	<u>Common Name</u>
<i>Acroptilon repens</i>	Russian knapweed
<i>Carduus nutans</i>	Musk thistle
<i>Centaurea stoebe</i>	Spotted knapweed
<i>Centaurea squarrosa</i>	Squarrose knapweed
<i>Cirsium vulgare</i>	Bull thistle
<i>Conium maculatum</i>	Poison hemlock
<i>Hyoscyamus niger</i>	Black henbane
<i>Lepidium draba</i>	Hoary cress
<i>Lepidium latifolium</i>	Tall whitetop
<i>Onopordum acanthium</i>	Scotch thistle
<i>Tamarix spp.</i>	Salt cedar

These weeds occur in a variety of habitats including road side areas, rights-of-way, wetland meadows, as well as undisturbed upland rangelands.

##### *Environmental Effects*

**Proposed Action and Alternatives B-E** – The proposed gather may spread existing noxious or invasive weed species. This could occur if vehicles drive through infestations and spread seed into previously weed-free areas or arrives already carrying seeds attached to the vehicle or equipment. This is especially a concern as the gather crew moves from valley to valley. The contractor, together with the contracting officer's representative or project inspector (COR/PI), would examine proposed gather sites and holding corrals for noxious weeds prior to construction. If noxious weeds are found, the location of the facilities would be moved. Any equipment or vehicles exposed to weed infestations or arriving on site carrying dirt, mud, or plant debris would be cleaned before moving into or within the project area. All gather sites, holding facilities, and camping areas on public lands would be monitored for weeds during the next several years. Despite short-term risks, over the long term the reduction in wild horse numbers and the

subsequent recovery of the native vegetation would result in fewer disturbed sites that would be susceptible for non-native plant species to invade.

**No Action Alternative** – No impacts from the gather would occur. However, the wild horse populations would remain over appropriate management levels and the impacts to native vegetation from wild horse grazing or trampling would increase exponentially and impacts to the present plant communities could lead to an expansion of noxious weeds and invasive non-native species.

#### **4.8. Vegetation**

##### ***Affected Environment***

The vegetative plant communities within the Complex have developed on many different soil types with several kinds of parent materials. The vegetation is diverse with desert shrub/sagebrush/grass plant communities dominating the lower elevations while sagebrush/mountain shrub/grass/pinyon-juniper/mountain mahogany plant communities dominate the benches and higher elevation sites.

The Pancake HMA is dominated by Inter-Mountain Basins Big Sagebrush Shrubland, Great Basin Pinyon-Juniper Woodland, and Inter-Mountain Basins Mixed Salt Desert Scrub with Great Basin Xeric Mixed Sagebrush Shrubland and Inter-Mountain Basins Greasewood Flat. These include Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), pinyon-juniper (*Pinus monophylla* - *Juniperus osteosperma*), winterfat (*Krascheninnikovia lanata*), shadscale (*Atriplex confertifolia*), black sagebrush (*Artemisia nova*), and greasewood (*Sarcobatus vermiculatus*) plant communities. This HMA also has small areas of mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*), mixed conifers, mountain mahogany (*Cercocarpus ledifolius*), playas, and rock outcrops.

Based on Rangeland Health Standards, the majority of the Pancake HMA is not meeting the uplands standard for vegetation. Due to shrub dominance, lack of native vegetation cover, the risk of invasive species spread, risk of erosion and loss of soil structure, and heavy or severe utilization at times, the soil resources lack much resiliency or capability to maintain or improve in this use area.

The Sand Springs West HMA is dominated by Inter-Mountain Basins Big Sagebrush Shrubland with Great Basin Pinyon-Juniper, Great Basin Xeric Mixed Sagebrush Shrubland, and Inter-Mountain Basins Mixed Salt Desert Scrub. These include Wyoming big sagebrush, basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*), pinyon-juniper, black sagebrush, and winterfat plant communities. This HMA also has small areas of greasewood, playas, and rock outcrops.

The Jake's Wash HA is dominated by Great Basin Pinyon-Juniper Woodland with Inter-Mountain Greasewood Flats, Basins Big Sagebrush Shrubland and Inter-Mountain Basin Mixed Salt Desert Shrub. These include Wyoming big sagebrush, basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*), pinyon-juniper, black sagebrush, and winterfat plant communities.

## ***Environmental Effects***

### **Proposed Action-**

The proposed action is expected to have an effect on vegetative resources as follows: trampling of vegetation by wild horses at gather sites and holding locations; and crushing of vegetation by vehicles, temporary corrals and holding facilities. These disturbed areas would make up less than one acre. Gather corrals and holding facility locations are usually placed in areas easily accessible to livestock trailers and standard equipment, utilizing roads, gravel pits or other previously disturbed sites and accessible by existing roads. No new roads would be created. These impacts are temporary and vegetation is expected to recover within the next growing season.

Under the Proposed Action vegetation resources would remain at or near the current condition. However, vegetation resources would likely see more improvement over time since wild horse population would be gathered in increments and growth rates would be less under this alternative.

**Alternative B-** Impacts would be similar to the Proposed Action. Achieving and maintaining the established AML would benefit the vegetation by reducing the grazing pressure on the forage resources. Forage utilization would be reduced to desirable limits. Defoliation that occurs more than once in a growing season reduces a plant's ability to maintain plant health and reproduce (Herbel 2004). The impacts to vegetation by grazing or trampling based on the reduction in wild horse numbers to AML would result in maintaining or improving plant health, reproduction, diversity, and composition by allowing the plants to maintain and continue photosynthetic processes to initiate regrowth for recovery and grow adequately for reproduction.

**Alternative C-** Impacts would be the same as described for the Proposed Action.

**Alternatives D & E** – Impacts would be the same as described for Alternative B.

**No Action Alternative** – No impacts from the gather would occur. Wild horse populations would remain over appropriate management levels. The impacts to vegetation by grazing or trampling would increase more exponentially and would result in deterioration in plant health, reproduction, diversity, and composition. As plants deteriorate they would not be able to reproduce or recover. By reducing opportunities for photosynthetic processes the plants would be susceptible to over grazing and other stressors, such as drought, and entire plant communities could die out, allowing less desired species to increase. Over time forage resources would become less available, impacting wild horse herd health, and wild horses would be more susceptible to disease and drought.

## **4.9. Soils/Watershed**

### ***Affected Environment***

Soils within the Complex are typical of the Great Basin, and vary with elevation. Soils range in depth from very shallow (below 20 inches to bedrock) to deep (greater than 60 inches to bedrock) and are typically gravelly, sandy and/or silt loams. Soils that are located on low hill slopes, upland terraces, and fan piedmont remnants are typically shallow to deep over bedrock or indurated lime hardpan. They are highly calcareous and medium textured with gravel. Soils on

mountain slopes are also calcareous and range from shallow to deep over limestone. Some of the mountain soils have high rock fragment content, and support pinyon and juniper trees. Mountain soils typically have gravelly to very gravelly loam textures. Soils on floodplains and fan skirts are deep, have silt textures, and are highly calcareous.

### *Environmental Effects*

**Proposed Action-** Project implementation would stay on existing roads, washes and horse trail areas, and would disturb relatively small areas used for gathering and holding operations. Horses may be concentrated for a limited period of time in traps. Potential for soil compaction would occur but would be minimal and temporary and is not expected to adversely impact soil or hydrologic function. Soils and watersheds would remain at or near the current condition. However soils and watersheds would likely see more improvement over time since wild horse population would be gathered in increments and growth rates would be less under this alternative.

**Alternative B-** Impacts would be similar to the Proposed Action; however, long term impacts may improve the area due to less soil compaction from trailing.

**Alternative C-** Impacts would be similar to those described for the Proposed Action.

**Alternatives D & E –** Impacts would be similar to those described for Alternative B.

**No Action Alternative-** Soils and watersheds would continue to have horse use and as horse populations increase heavy trailing and trampling around water sources would occur. Watershed objectives would not be met due to increased horse populations over time.

## **4.10. Human Health and Safety**

### *Affected Environment*

Members of the public can inadvertently wander into areas that put them in the path of wild horses that are being herded or handled during the gather operations, creating the potential for injury to the wild horses or burros and to the BLM employees and contractors conducting the gather and/or handling the horses as well as to the public themselves. Because these horses are wild animals, there is always the potential for injury when individuals get too close or inadvertently get in the way of gather activities.

The helicopter work is done at various heights above the ground, from as little as 10-15 feet (when herding the animals the last short distance to the gather corral) to several hundred feet (when doing a recon of the area). While helicopters are highly maneuverable and the pilots are very skilled in their operation, unknown and unexpected obstacles in their path can impact their ability to react in time to avoid members of the public in their path. These same unknown and unexpected obstacles can impact the wild horses or burros being herded by the helicopter in that they may not be able to react and can be potentially harmed or caused to flee which can lead to injury and additional stress. When the helicopter is working close to the ground, the rotor wash of the helicopter is a safety concern by potentially causing loose vegetation, dirt, and other objects to fly through the air which can strike or land on anyone in close proximity as well as

cause decreased vision. Though rare, helicopter crashes and hard landings can and have occurred (approximately 10) over the last 30+ years while conducting wild horse and burro gathers which necessitates the need to follow gather operations and visitor protocols at every wild horse and burro gather to assure safety of all people and animals involved. Flying debris caused by a helicopter incident poses a safety concern to BLM and contractor staff, visitors, and the wild horses and burros.

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 animal's path.

Disturbances in and around the gather and holding corral have the potential to injure the government 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.

The BLM is committed to allowing access by interested members of the public to the fullest possible degree without compromising safety or the success of operations. To minimize risks to the public from helicopter operations, the gather Contractor is required to conduct all helicopter operations in a safe manner, and to comply with FAA regulations (FAR) 91.119 (Appendix VIII) and BLM IM No. 2010-164 (Appendix IX)<sup>5</sup>. Public observations sites will also be established in locations that reduce safety risks to the public (e.g., from helicopter-related debris or from the rare helicopter crash landing, or from the potential path of gathered horses), to the wild horses (e.g., by ensuring observers will not be in the line of vision of horses being moved to the gather site) and to contractors and BLM employees who must remain focused on the gather operations and the health and well-being of the wild horses. The Visitor Protocol and Ground Rules for public observation found in Appendix VII provide the public with the opportunity to safely observe the gather operations. Every attempt will be made to identify observation site(s) at the gather location that offers good viewing opportunities, although there may be circumstances (flat terrain, limited vegetative cover, private lands, etc.) that require viewing locations to be at greater distances from the gather site to ensure safe gather operations..

### ***Environmental Effects***

**Proposed Action and Alternatives B-E** -All helicopter operations must be in compliance with FAR 91.119. Public safety as well as that of the BLM and contractor staff is always a concern during the gather operations and is addressed through the implementation of Visitor and Ground Rules (see Appendix VII) that have been used in recent gathers to ensure that the public remains at a safe distance and does not impede the safety of gather operations. Appropriate BLM staffing (public affair specialists and law enforcement officers) will be present to assure compliance with

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<sup>5</sup> At recent gathers, public observers have ranged in number from only a handful of individuals to a maximum of between 15-25 members of the public. At these numbers, BLM has determined that the current level of public visitation to gather operations falls below the threshold of an "open air assembly" under the FAR regulations. 14 CFR § 91.119.

visitation protocols at the site. These measures minimize the risks to the health and safety of the public, BLM staff and contractors, and to the wild horses themselves during the gather operations.

**No Action Alternative-** There would be no gather related safety concerns for BLM employees, contractors or the general public as no gather activities would occur.

### 5.0 Cumulative Effects

Cumulative impacts are impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. The area of cumulative impact analysis is the Pancake Complex. (Map 1).

According to the 1994 BLM *Guidelines for Assessing and Documenting Cumulative Impacts*, the cumulative analysis should be focused on those issues and resource values identified during scoping that are of major importance. Accordingly, the issues of major importance that are analyzed are maintaining rangeland health and achieving and maintaining AMLs.

#### Past, Present, and Reasonably Foreseeable Actions

The past, present, and reasonably foreseeable future actions applicable to the assessment area are identified as the following:

Project -- Name or Description	Status (x)		
	Past	Present	Future
Issuance of multiple use decisions and grazing permits for ranching operations through the allotment evaluation process and the reassessment of the associated allotments.	x	x	X
Livestock grazing	x	x	X
Wild horse and burro gathers	x	x	X
Mineral exploration / geothermal exploration/abandoned mine land reclamation	x	x	X
Recreation	x	x	X
Range Improvements (including fencing, wells, and water developments)	x	x	X
Wildlife guzzler construction	x	x	X
Invasive weed inventory/treatments	x	x	X
Wild horse and burro management: issuance of multiple use decisions, AML adjustments and planning	x	x	X

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

#### Past Actions

In 1971 Congress passed the Wild Free-Roaming Horses and Burros Act which placed wild and free-roaming horses and burros, that were not claimed for individual ownership, under the protection of the Secretaries of Interior and Agriculture. In 1976 the Federal Land Policy and Management Act (FLPMA) gave the Secretary the authority to use motorized equipment in the capture of wild free-roaming horses as well as continued authority to inventory the public lands. In 1978, the Public Range Improvement Act (PRIA) was passed which amended the WFRHBA to provide additional directives for BLM's management of wild free-roaming horses on public lands.

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

#### Pancake HMA

The Egan (1987) MFP (Ely District) designated the Monte Cristo and Sand Springs East HMAs for the long-term management of wild horses. These HMAs were later combined into the Pancake HMA in the Ely District Record of Decision (ROD) and Approved Resource Management Plan (RMP) in August 2008 due to the interchange between the two HMAs. The HMA is nearly identical in size and shape to the original Herd Areas representing where wild horses were located in 1971. Currently, management of HMA and wild horse population is guided by the 2008 Ely District ROD and RMP. The AML range for the HMA is 240-493 wild horses. The Land Use Plan analyzed impacts of management's direction for grazing and wild horses, as updated through Bureau policies, Rangeland Program direction, and Wild Horse Program direction. Forage was allocated within the allotments for livestock use and range monitoring studies were initiated to determine if allotment objectives were being achieved, or that progress toward the allotment objectives was being made.

#### Jakes Wash HA

The Egan RMP (1987 Ely District) designated the Jakes Wash Herd Area (HA) for the long-term management of wild horses. The August 2008 Ely District Record of Decision (ROD) and Approved Resource Management Plan (RMP) management action WH-5 states: "remove wild horses and drop herd management area status for those... as listed in Table 13." Jakes Wash was dropped from HMA status and returned to HA status (manage "0" wild horses) with this management action. The management action to achieve 0 wild horses within the Jakes Wash HA reflects the recent evaluation based on multi-tiered analysis from the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) table 3.8-2 and page 4.8-2, of the components and herd characteristics: forage, water, cover, space, and reproductive viability. If one or more of these components were missing, or there was no potential for a stable shared genetic pool, the herd management area was considered unsuitable. The Jakes Wash HA has inadequate forage, water, space, and cover.

#### Sand Springs West HMAs

Herd Areas were identified in 1971 as areas occupied by wild horses. The HMA was established in the late 1980s through the land use planning process as areas where wild horse management

was a designated land use. Since the mid-1980s, AMLs have been established on the Battle Mountain BLM District HMAs.

The Sand Springs West AML of 49 wild horses was established through a stipulated agreement (Consent Decision) between BLM, E. Wayne Hage, Colvin and Son Cattle Co., and Russell Ranches through the Department of the Interior Office of Hearings and Appeals, Hearings Division, and later confirmed by the Tonopah Resource Management Plan (RMP) approved October 6, 1997.

#### Monte Cristo WHT

Wild Horse Territories were identified in 1971 as lands that were territorial habitat of wild horses. The WHTs were established in the late 1980s through the land use planning process as areas where wild horse management was a designated land use. Since the mid-1980s, AMLs have been established in the Forest Service Territories.

The Monte Cristo Wild & Free Roaming Horses Management Plan established a baseline AML of 72 – 120 wild horses, with an average of 96 head being maintained. These numbers were based on proper use studies conducted on the natural horse concentration areas. The baseline AML was adjusted to 72 – 96 through the Humboldt National Forest Land & Resource Management Plan in 1986 since range conditions had not improved with the number of horses occupying the area. The population within this HMA can fluctuate depending on the seasonal movement of the wild horses.

#### Pancake Complex

Integrated wild horse management has occurred in the Pancake and Sand Spring HMAs, Jakes Wash HA, and Monte Cristo WHT. Six gathers have been completed in the past on part or all of the HMAs/WHT, and future gathers would be scheduled on a 4- or 5- year gather cycle. Approximately 6,749 wild horses have been removed from the HMAs/WHT in the last 25 years; populations are thriving and have not been negatively impacted.

Adjustments in livestock season of use, livestock numbers, and grazing systems were made through the allotment evaluation/multiple use decision process. In addition, temporary closures to livestock grazing in areas burned by wildfires, or due to extreme drought conditions, were implemented to improve range condition.

The Mojave and Northeastern Great Basin RAC developed standards and guidelines for rangeland health that have been the basis for assessing rangeland health in relation to management of wild horse and livestock grazing within the Ely and Battle Mountain Districts. Adjustments in numbers, season of use, grazing season, and allowable use have been based on the evaluation of progress made toward reaching the standards.

Several oil and gas exploration wells have been drilled across the CESA however none of these wells have gone into production. The Ely RMP/EIS summarized the history of oil and gas exploration on pages 3.18-7 to 3.18-9.

Historical mining activities have occurred throughout the CESA.

### **Present Actions**

Today the Pancake Complex has an estimated population of 2,298 wild horses. Resource damage is occurring in portions of the Complex due to excess animals. Current BLM policy is to conduct removals targeting portions of the wild horse population based upon age, and allowing the correction of any sex ratio problems that may occur. Further, the BLM's policy is to conduct gathers in order to facilitate a four-year gather cycle and to reduce population growth rates where possible. Program goals have expanded beyond establishing a "*thriving natural ecological balance*" by setting AML for individual herds to now include achieving and maintaining healthy and stable populations and controlling population growth rates. If any alternative other than the No Action is selected, the Humboldt-Toiyabe National Forest would conduct a wild horse gather on their Monte Cristo Wild Horse Territory concurrently with the BLM.

Though authorized by the WFRHBA, current appropriations and policy prohibit the destruction of healthy animals that are removed or deemed to be excess. Only sick, lame, or dangerous animals can be euthanized, and destruction is no longer used as a population control method. A recent amendment to the WFRHBA allows the sale of excess wild horses that are over 10 years in age or have been offered unsuccessfully for adoption three times. BLM is adding additional long-term grassland pastures in the Midwest and West to care for excess wild horses for which there is no adoption or sale demand.

The BLM is continuing to administer grazing permits and authorize grazing within the CESA. Within the proposed gather area sheep and cattle grazing occurs on a yearly basis. Wildlife use by large ungulates such as elk, deer, and antelope is also currently common in the CESA.

The focus of wild horse management has also expanded to place more emphasis on achieving rangeland health as measured against the RAC Standards. The Mojave-Southern Great Basin and Northeastern Great Basin RAC standards and guidelines for rangeland health are the current basis for assessing rangeland health in relation to management of wild horse and livestock grazing within the Ely and Battle Mountain Districts. Adjustments to numbers, season of use, grazing season, and allowable use are based on evaluating achievement of or making progress toward achieving the standards.

Gold exploration and mining is on-going in the CESA, occurring primarily in Pancake Mountain Range.

Active oil and gas leases occur throughout the CESA. An oil and gas lease sale is scheduled for September 2011 and includes several parcels within the CESA.

### **Reasonably Foreseeable Future Actions**

In the future, the BLM would manage wild horses within HMAs that have suitable habitat for an AML range that maintains genetic diversity, age structure, and targeted sex ratios. Current policy is to express all future wild horse AMLs as a range, to allow for regular population growth, as well as better management of populations rather than individual HMAs. The Ely BLM District completed the *Ely Proposed Resource Management Plan/Final Environmental Impact Statement* (RMP/EIS, 2007) released in November 2007 which analyzed AMLs expressed as a

range and addressed wild horse management on a programmatic basis. Future wild horse management in the BLM's Ely and Battle Mountain Districts as well as the USFS's Humboldt-Toiyabe National Forest would focus on an integrated ecosystem approach with the basic unit of analysis being the watershed. Currently the Egan Field Office is completing the Newark Watershed analysis. This process will identify actions associated with habitat improvement within the HMA. The BLM would continue to conduct monitoring to assess progress toward meeting rangeland health standards. Wild horses would continue to be a component of the public lands, managed within a multiple use concept.

While there is no anticipation for amendments to WFRHBA, any amendments may change the management of wild horses on the public lands. The Act has been amended three times since 1971; therefore there is potential for amendment as a reasonably foreseeable future action.

As the BLM and USFS achieve AML on a national basis, gathers should become more predictable due to facility space. Fertility control should also become more readily available as a management tool, with treatments that last between gather cycles reducing the need to remove as many wild horses and possibly extending the time between gathers. The combination of these factors should result in an increase in stability of gather schedules and longer periods of time between gathers.

The proposed gather area contains a variety of resources and supports a variety of uses. Any alternative course of wild horse management has the opportunity to affect and be affected by other authorized activities ongoing in and adjacent to the area. Future activities which would be expected to contribute to the cumulative impacts of implementing the Proposed Action include: future wild horse gathers, continuing livestock grazing in the allotments within the area, mineral exploration, new or continuing infestations of invasive plants, noxious weeds, and pests and their associated treatments, and continued native wildlife populations and recreational activities historically associated with them. The significance of cumulative effects based on past, present, proposed, and reasonably foreseeable future actions are determined based on context and intensity.

Midway Gold Company is planning to move from exploration into production in the Pancake Range (Pan Project). Construction of this mining facility may occur after the proper environmental analysis is completed over the next few years.

The Duckwater Shoshone Tribe is proposing through legislative means to expand their reservation within the CESA.

The Online project (aka Southwest Inter-tie Project) southern portion is under construction with a projected completion date of December 2012. The Online project is a 500kV electrical transmission line located within the SWIP corridor and goes from Robinson summit near Ely to the Harry Allen substation north of Las Vegas. Modifications to the southern portion of the original right of way that was granted in the 1990's were approved in July 2008. When completed, the 500kV electrical transmission line would extend approximately 520 miles from the Las Vegas area to near Burley, Idaho.

The One Nevada Line (ON Line) project is a 235 mile long 500kV transmission line that is located mostly within the SWIP corridor and would extend from the Robinson substation near Ely to the Harry Allen substation north of Las Vegas. The BLM issued the record of decision on March 1, 2011. Project has been authorized for construction but is currently on hold for three years at which time the applicant will determine the project status.

### **Impacts Conclusion**

Past actions regarding the management of wild horses have resulted in the current wild horse population within the Pancake and Sand Spring West HMAs, Jake Wash HA, and the Monte Cristo WHT. Wild horse management has contributed to the present resource condition and wild horse herd structure within the gather area.

The combination of the past, present, and reasonably foreseeable future actions, along with the Proposed Action, should result in more stable and healthier wild horse populations, healthier rangelands (vegetation, riparian areas and wildlife habitat), and fewer multiple-use conflicts within the HMAs and WHT.

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

### **6.0 Mitigation Measures and Suggested Monitoring**

Proven mitigation and monitoring are incorporated into the Proposed Action through SOPs, which have been developed over time. These SOPs (Appendix I, II, and III) represent the "best methods" for reducing impacts associated with gathering, handling, and transporting wild horses and collecting herd data. Hair samples will be collected to establish a genetic baseline for the wild horses from the Pancake and Sand Springs West HMAs, and Monte Cristo WHT; additional samples will be collected during future gathers (in 10-15 years) to determine trend. If monitoring indicates that genetic diversity is not being adequately maintained, 5-10 young mares from HMAs in similar environments may be added every generation (every 8-10 years) to avoid inbreeding depression and to maintain acceptable genetic diversity. Ongoing resource monitoring, including climate (weather), and forage utilization, population inventory, and distribution data will continue to be collected.

### **7.0 Consultation and Coordination**

Public hearings are held annually on a state-wide basis regarding the use of motorized vehicles, including helicopters and fixed-wing aircraft, in the management of wild horses and burros. During these meetings, the public is given the opportunity to present new information and to voice any concerns regarding the use of the motorized vehicles. The Ely District Office hosted the state-wide meeting on June 15, 2011; the current gather operation SOPs were reviewed in response to the concerns expressed and no changes to the SOPs identified.

The use of helicopters and motorized vehicles has proven to be a safe, effective and practical

means for the gather and removal of excess wild horses and burros from the range. Since 2004, Nevada has gathered over 26,000 animals with a total mortality of 1.1% (of which .5% was gather related), which is very low when handling wild animals. BLM also avoids gathering wild horses prior to or during the peak of foaling and does not conduct helicopter removals of wild horses during March 1 through June 30.

The Ely and Battle Mountain District BLM have coordinated with Nevada Department of Wildlife (NDOW) during the yearly coordination meeting on this gather.

On September 28, 2011 the Ely District sent a Notice of Proposed Action (NOPA) to the Wilderness and Wilderness Study Area interested public mailing list notifying them of the action taking place in Wilderness.

A preliminary environmental assessment was made available to interested individuals, agencies and groups and posted on the Ely District website, [www.blm.gov/nv](http://www.blm.gov/nv), for a 30 day public review and comment period that opened on September 28, 2011 and closed October 28, 2011. Written comments were received from 20 individuals, e-mail comments and form letters were received from 238 individuals. Many of these comments contained overlapping issues/concerns which were consolidated into 118 distinct topics. Refer to EA, Appendix X for a detailed summary of the comments received and how BLM used these comments in preparing the final environmental assessment. The Final Environmental Assessment / Gather Plan for the Pancake Complex is available on the BLM's web site at [www.blm.gov/nv](http://www.blm.gov/nv) (on the map of Nevada, click on the Ely District to be directed to the Ely District webpage).

### 8.0 List of Preparers

<b>Ely District Office</b>		
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<b>Mindy Seal</b>	<b>Noxious &amp; Invasive Weeds Specialist</b>	<b>Non-native Invasive Species Including Noxious Weeds</b>
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<b>Marc Pointel</b>	<b>Supervisory Natural Resource Specialist</b>	<b>Livestock Grazing, Special Status Species</b>

## 9.0 REFERENCES, GLOSSARY AND ACRONYMS

### 9.1 References Cited

Coates-Markle, L. 2000. Summary Recommendations, BLM Wild Horse and Burro Population Viability Forum April 1999, Ft. Collins, CO. Resource Notes 35:4pp.

Curtis, P.D., Pooler, R.L., Richmond, M.E., Miller, L.A., Mattfield, G.F., Quimby, F.W. 2002. Comparative effects of GnRH and porcine zona pellucid (PZP) immunocontraception vaccines for controlling reproduction in white-tailed deer (*Odocoileus virginianus*). *Reproduction Supplement* 60:131-141.

Floyd, Ted et al. 2007. Atlas of the Breeding Birds of Nevada. University of Nevada Press, Reno Nevada.

Ganskopp, D.C. 1983. Habitat use and Spatial Interactions of Cattle, Wild Horses, Mule Deer, and California Bighorn Sheep in the Owyhee Breaks of Southeast Oregon. PhD Dissertation, Oregon State University.

Ganskopp, D.C. and M. Vavra. 1986. Habitat Use by Feral Horses in the Northern Sagebrush Steppe. *Journal of Range Mangement* 39(3):207-211.

Ganskopp, D.C. and M. Vavra. 1987. Slope Use by cattle, feral horses, deer, and bighorn sheep. *Northwest Science*, 61(2):74-80

Great Basin Bird Observatory. 2003. Nevada Bird Count. A habitat-based monitoring program for breeding birds of Nevada. Instruction package and protocol for point count surveys.

Heilmann, T.J., Garrott, R.A., Caldwell, L.L., Tiller, B.L. 1998. Behavioral response of free-ranging elk treated with an immunocontraceptive vaccine. *Journal of Wildlife Management* 62:243-250.

Herbel, H. Carlton., Jerry L. Holechek., Rex D. Pieper., *Range Management Principles and Practices*. Fifth Edition. 2004 pg 141-142

Interior Board of Land Appeals 88-591, 88-638, 88-648, 88-679 at 127.

Protection Institute of America V. Nevada BLM, 109 Interior Board of Land Appeals 115 API 1989.

118 Interior Board of Land Appeals 75.

Kirkpatrick, J.F., R. Naugle, I.K.M. Lui, J.W. Turner JR., M. Bernocco. 1995. Effects of Seven Consecutive years of PZP Contraception on Ovarian Function in Feral Mares, *Biology of Reproduction Monograph Series 1: Equine Reproduction VI*: 411-418.

- Madosky, J.M., Rubenstein, D.I., Howard, J.J., Stuska, S. In press. The effects of immunocontraception on harem fidelity in a feral horse (*Equus caballus*) population. *Appl. Anim. Behavior Sci.*
- McInnis, M.A. 1984. Ecological Relationships among Feral Horses, Cattle, and Pronghorn in Southeastern Oregon. PhD Dissertation. Oregon State University.
- McInnis, M.A. and M. Vavra. 1987 Dietary relationships among feral horses, cattle, and Pronghorn in southeastern Oregon. *Journal of Range Mgt* 40(1):60-66.
- Neel, L.A. (Editor). 1999. Nevada Partners in Flight Bird Conservation Plan. Nevada Department of Wildlife. March 2007. [www.ndow.org](http://www.ndow.org)
- Nevada Natural Heritage Program. March 2008. [www.heritage.nv.gov](http://www.heritage.nv.gov)
- NOAA. [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)
- Nunez, C. M.V., Adelman, J.S., Mason, C., and Rubenstein, D.I. 2009 Immunocontraception decreases group fidelity in a feral horse population during the non-breeding season. *Appl. Anim. Behavior Sci.* 117:74-83.
- Platts, W.S., and J.N. Rinne. 1985. Riparian and stream enhancement management and research in the Rocky Mountains. *North American Journal of Fisheries Management* 5:115-125.
- Powell, D.M. 1999. Preliminary evaluation of porcine zona pellucid (PZP) immunocontraception for behavioral effects in feral horses (*Equus caballus*). *J. Appl. Anim. Welfare Sci.* 2:321-335.
- Ransom JI, Cade BS, Hobbs NT. 2010. Influences of immunocontraception on time budgets, social behavior, and body condition in feral horses. *Appl. Anim. Behavior Sci.* 124:51-60
- Shumake, S.A., Wilhelm, E.S. 1995. Comparisons of effects of four immunocontraceptive treatments on estrous cycle and rutting behavior in captive white-tailed deer. Denver Wildlife Research Center, Colorado, USA.
- Singer F.J., Aignefuss L. 2000. Genetic Effective Population Size in the Pryor Mountain Wild Horse Herd: Implications for conserving genetics and viability goals in wild horses. U.S. Geologic Survey, Midcontinent Ecological Science Center, Ft. Collins CO. Resource Notes 29:2 pp.
- Smith, M.A. 1986a. Impacts of Feral Horses Grazing on Rangelands: An Overview. *Equine Veterinary Science*, 6(5):236-238.
- Smith, M.A. 1986b. Potential Competitive Interactions Between Feral Horses and Other Grazing Animals. *Equine Veterinary Science*, 6(5):238-239.
- Smith, M.A and J.w. Waggoner, Jr., et al. 1982. Vegetation Utilization, Diets, and Estimated Dietary Quality of Horses and Cattle Grazing in the Red Desert of Westcentral Wyoming. BLM Contract No. AA851-CTO-31.
- Society for Range Mangement, 1989. A glossary of Terms Used in Range Management (Third ed.). Society for Range Management, Denver, Colo.

- Nevada Division of State Lands. 1986. Nevada Statewide Policy Plan for Public Lands. Nevada Division of State Lands, State of Nevada, Carson City, NV.
- Turner Jr., J.W., I.K.M. Lui, Rutberg, A., J.W., Kirkpatrick. 1997. Immunocontraception Limits Foal Production in Free Roaming Feral Horses in Nevada, J. Wildl. Manage. 61 (3):873-880.
- Turner, A, and Kirkpatrick, JF. 2002. Effects of immunocontraception on population, longevity and body condition in wild mares (Equus caballus). Reproduction (Suppl. 60): 187-195.
- Vavra, M. and F. Sneva. 1978. Seasonal Diets of five ungulates grazing the cold desert biome. Proceedings of the First International Rangeland Congress. Society for Range Mgt. Denver, CO.
- Zoo Montana. 2000 Wildlife Fertility Control: Fact and Fancy. Zoo Montana Science and Conservation Biology Program, Billings, Mt.
- USGAO. 2008. Bureau of Land Management Effective Long-Term Options Needed to Manage Unadoptable Wild Horses. GAO-09-77
- USDOJ. 1994. Proposed Tonopah Resource Management Plan and Final Environmental Impact Statement. U.S. Department of the Interior, Bureau of Land Management.
- USDOJ. 1997. Approved Tonopah RMP and Record of Decision. U.S. Department of the Interior, Bureau of Land Management.
- USDOJ, BLM. 2008. National Environmental Policy Act. Handbook-1790-1.
- USDOJ. 2007. Ely Proposed Resource Management Plan/ Final Environmental Impact Statement. U.S. Department of the Interior, Bureau of Land Management. BLM/EL/PL-07/09+1793. DOI No. FES07-40. November 2007
- USDOJ. 2008. Ely District Record of Decision and Approved Resource Management Plan. U.S. Department of the Interior, Bureau of Land Management. BLM/NV/EL/PL-GI08/25+1793.
- USDOJ, Bureau of Land Management. 1994. Guidelines for assessing and documenting cumulative impacts. WO-IB-94-310.

## ***9.2 Acronyms***

**BLM**-Bureau of Land Management  
**CFR**-Code of Federal Regulations  
**DR**-Decision Record  
**EA**-Environmental Assessment  
**EIS**-Environmental Impact Statement  
**FLPMA**-Federal Land Policy and Management Act  
**FONSI**-Finding of No Significant Impact  
**HA** – Herd Area  
**HMA** – Herd Management Area  
**ID**-Interdisciplinary  
**IM**-Instructional Memorandum

**NEPA**-National Environmental Policy Act  
**RFS**-Reasonably Foreseeable Future Action  
**RMP**-Resource Management Plan

## APPENDIX I

### Standard Operating Procedures for Fertility Control Treatment

#### 22-month time-release pelleted 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. 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). Mares identified for re-treatment receive 0.5 cc of the PZP vaccine emulsified with 0.5 cc of Freund's Incomplete Adjuvant (FIA).
3. 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.
4. Delivery of the vaccine would be by intramuscular injection into the gluteal muscles while the mare is restrained in a working chute. The primer would consist of 0.5 cc of liquid PZP emulsified with 0.5 cc of Freund's Modified Adjuvant (FMA). The pellets would be loaded into the jabstick for the second injection. 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 II Standard Operating Procedures for Field Castration (Gelding) of Wild Horse Stallions**

**June 2011**

Gelding will be performed with general anesthesia and by a veterinarian. The combination of pharmaceutical compounds used for anesthesia, method of physical restraint, and the specific surgical technique used will be at the discretion of the attending veterinarian with the approval of the authorized officer (I.M. 2009-063).

### **Pre-surgery Animal Selection, Handling and Care**

1. Stallions selected for gelding will be greater than 6 months of age and less than 20 years of age.
2. All stallions selected for gelding will have a Henneke body condition score of 3 or greater. No animals which appear distressed, injured or in failing health or condition will be selected for gelding.
3. Stallions will not be gelded within 36 hours of capture and no animals that were roped during capture will be gelded at the temporary holding corrals for rerelease.
4. Whenever possible, a separate holding corral system will be constructed on site to accommodate the stallions that will be gelded. These gelding pens will include a minimum of 3 pens to serve as a working pen, recovery pen(s), and holding pen(s). An alley and squeeze chute built to the same specifications as the alley and squeeze chutes used in temporary holding corrals (solid sides in alley, minimum 30 feet in length, squeeze chute with non-slip floor) will be connected to the gelding pens.
5. When possible, stallions selected for gelding will be separated from the general population in the temporary holding corral into the gelding pens, prior to castration.
6. When it is not possible or practical to build a separate set of pens for gelding, the gelding operation will only proceed when adequate space is available to allow segregation of gelded animals from the general population of stallions following surgery. At no time will recently anesthetized animals be returned to the general population in a holding corral before they are fully recovered from anesthesia.
7. All animals in holding pens will have free access to water at all times. Water troughs will be removed from working and recovery pens prior to use.
8. Prior to surgery, animals in holding pens may be held off feed for a period of time (typically 12-24 hours) at the recommendation and direction of the attending veterinarian.
9. The final determination of which specific animals will be gelded will be based on the professional opinion of the attending veterinarian in consultation with the Authorized Officer.
10. Whether the procedure will proceed on a given day will be based on the discretion of the attending veterinarian in consultation with the Authorized Officer taking into consideration the prevailing weather, temperature, ground conditions and pen set up. If these field situations can't be remedied, the procedure will be delayed until they can be, the stallions will be transferred to a prep facility, gelded, and later returned, or they will be released to back to the range as intact stallions.

### **Gelding Procedure**

1. All gelding operations will be performed under a general anesthetic administered by a qualified and experienced veterinarian. Stallions will be restrained in a portable squeeze chute to allow the veterinarian to administer the anesthesia.
2. The anesthetics used will be based on a xylazine/ketamine combination protocol. Drug dosages and combinations of additional drugs will be at the discretion of the attending veterinarian.
3. Animals may be held in the squeeze chute until the anesthetic takes effect or may be released into the working pen to allow the anesthesia to take effect. If recumbency and adequate anesthesia is not achieved following the initial dose of anesthetics, the animal will either be redosed or the surgery will not be performed on that animal at the discretion of the attending veterinarian.
4. Once recumbent, rope restraints or hobbles will be applied for the safety of the animal, the handlers and the veterinarian.
5. The specific surgical technique used will be at the discretion of the attending veterinarian.
6. Flunixin meglumine or an alternative analgesic medication will be administered prior to recovery from anesthesia at the professional discretion of the attending veterinarian.
7. Tetanus prophylaxis will be administered at the time of surgery.

8. Other medications may also be administered at the time of surgery at the professional discretion of the attending veterinarian.
9. All geldings will be allowed to recover from anesthesia within the working pen or the adjacent recovery pen. Once, fully recovered each gelding will be transferred to the gelding holding pen(s). Animals will remain segregated from intact stallions for at least 24 hours following surgery or until their release.
10. Any stallions determined or believed to be a cryptorchid will be allowed to recover from the anesthesia, marked for later recognition, and shipped to a BLM prep facility for appropriate surgery or euthanasia if it is determined that they cannot be fully castrated. At no time will a partial castration be performed. Because cryptorchidism is an inherited condition, cryptorchid stallions should never be released back into an HMA.
11. Gelded animals will be freeze marked on their left hip with an identifying mark to minimize the potential for future recapture and to facilitate post-treatment monitoring. Each State will establish its own marking system in compliance with their State Brand Board. For example, Nevada BLM will utilize the identifying freeze mark on the hip (to be determined) as well as a 2 inch "F" freeze mark on the left side of the neck per agreement with the NV Brand Board.

**Post-operative handling, care and monitoring**

1. All animals that have fully recovered from anesthesia will have free access to water and hay prior to subsequent release.
2. All geldings will be held at least overnight for observation. Animals will not be left unattended for at least 3 hours following the procedure.
3. The attending veterinarian will observe all animals 12-24 hours after the procedure or again prior to release. Geldings will be released no later than 48 hours following surgery near a water source in their home range when possible.
4. Any gelding observed have complications will be held at the gather site until his condition improves or be shipped to a holding facility until he is able to be returned to the range.
5. Gelded animals would be monitored periodically for complications for approximately 7-10 days post-surgery. This monitoring will be completed either through aerial recon if available or field observations from major roads and trails. It is not anticipated that all the geldings will be observed but the goal is to detect complications if they are occurring and determine if the horses are freely moving about the HMA.
6. Animals found on the range with serious gelding complications will either be recaptured for treatment, if possible or euthanized as an act of mercy if necessary.
7. Observations of the long term outcomes of gelding will be recorded during routine resource monitoring work. Such observations will include but may not limited to band size, social interactions with other geldings and harem bands, distribution within their habitat, forage utilization and activities around key water sources.

## **APPENDIX III GATHER OPERATIONS STANDARD OPERATING PROCEDURES**

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

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

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

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

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

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

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

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

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

2. The rate of movement and distance the animals travel shall not exceed limitations set by the COR 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 traps, wings, and holding facilities shall be constructed, maintained and operated to handle the animals in a safe and humane manner and be in accordance with the following:

- a. Traps and holding facilities shall be constructed of portable panels, the top of which shall

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

- b. All loading chute sides shall be a minimum of 6 feet high and shall be fully covered, plywood, metal without holes larger than 2"x4".
  - c. All runways shall be a minimum of 30 feet long and a minimum of 6 feet high for horses, and 5 feet high for burros, and shall be covered with plywood, burlap, plastic snow fence or like material a minimum of 1 foot to 5 feet above ground level for burros and 1 foot to 6 feet for horses. The location of the government furnished portable fly chute to restrain, age, or provide additional care for the animals shall be placed in the runway in a manner as instructed by or in concurrence with the COR/PI.
  - d. All crowding pens including the gates leading to the runways shall be covered with a material which prevents the animals from seeing out (plywood, burlap, plastic snow fence, etc.) and shall be covered a minimum of 1 foot to 5 feet above ground level for burros and 2 feet to 6 feet for horses
  - e. All pens and runways used for the movement and handling of animals shall be connected with hinged self-locking or sliding gates.
4. No modification of existing fences will be made without authorization from the COR/PI. The Contractor shall be responsible for restoration of any fence modification which he has made.
  5. When dust conditions occur within or adjacent to the trap or holding facility, the Contractor shall be required to wet down the ground with water.
  6. Alternate pens, within the holding facility shall be furnished by the Contractor to separate mares or jennies with small foals, sick and injured animals, estrays or other animals the COR determines need to be housed in a separate pen from the other animals. Animals shall be sorted as to age, number, size, temperament, sex, and condition when in the holding facility so as to minimize, to the extent possible, injury due to fighting and trampling. Under normal conditions, the government will require that animals be restrained for the purpose of determining an animal's age, sex, or other necessary procedures. In these instances, a portable restraining chute may be necessary and will be provided by the government. Alternate pens shall be furnished by the Contractor to hold animals if the specific gathering requires that animals be released back into the gather area(s). In areas requiring one or more satellite traps, and where a centralized holding facility is utilized, the contractor may be required to provide additional holding pens to segregate animals transported from remote locations so they may be returned to their traditional ranges. Either segregation or temporary marking and later segregation will be at the discretion of the COR.
  7. The Contractor shall provide animals held in the traps and/or holding facilities with a continuous supply of fresh clean water at a minimum rate of 10 gallons per animal per day. Animals held for 10 hours or more in the traps or holding facilities shall be provided good quality hay at the rate of not less than two pounds of hay per 100 pounds of estimated body weight per day. The contractor will supply certified weed free hay if required by State, County, and Federal regulation.
    - a. An animal that is held at a temporary holding facility through the night is defined as a horse/burro feed day. An animal that is held for only a portion of a day and is shipped or released does not constitute a feed day.
  8. It is the responsibility of the Contractor to provide security to prevent loss, injury or death of gathered animals until delivery to final destination.
  9. The Contractor shall restrain sick or injured animals if treatment is necessary. The COR/PI will determine if animals must be euthanized and provide for the destruction of such animals. The Contractor may be

required to humanely euthanize animals in the field and to dispose of the carcasses as directed by the COR/PI.

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

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

1. Gather attempts may be accomplished by utilizing bait (feed, water, mineral licks) to lure animals into a temporary trap. If this gather method is selected, the following applies:
  - a. Finger gates shall not be constructed of materials such as "T" posts, sharpened willows, etc., that may be injurious to animals.
  - b. All trigger and/or trip gate devices must be approved by the COR/PI prior to gather of animals.
  - c. Traps shall be checked a minimum of once every 10 hours.
2. Gather attempts may be accomplished by utilizing a helicopter to drive animals into a temporary trap. If the contractor selects this method the following applies:
  - a. A minimum of two saddle-horses shall be immediately available at the trap site to accomplish roping if necessary. Roping shall be done as determined by the COR/PI. Under no circumstances shall animals be tied down for more than one half hour.
  - b. The contractor shall assure that foals shall not be left behind, and orphaned.
3. Gather attempts may be accomplished by utilizing a helicopter to drive animals to ropers. If the contractor, with the approval of the COR/PI, selects this method the following applies:
  - a. Under no circumstances shall animals be tied down for more than one hour.
  - b. The contractor shall assure that foals shall not be left behind, or orphaned.
  - c. The rate of movement and distance the animals travel shall not exceed limitations set by the COR/PI who will consider terrain, physical barriers, weather, condition of the animals and other factors.

#### **C. Use of Motorized Equipment**

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

2. All motorized equipment, tractor-trailers, and stock trailers shall be in good repair, of adequate rated capacity, and operated so as to ensure that gathered animals are transported without undue risk or injury.
3. Only tractor-trailers or stock trailers with a covered top shall be allowed for transporting animals from trap site(s) to temporary holding facilities, and from temporary holding facilities to final destination(s). Sides or stock racks of all trailers used for transporting animals shall be a minimum height of 6 feet 6 inches from the floor. Single deck tractor-trailers 40 feet or longer shall have at least two (2) partition gates providing at least three (3) compartments within the trailer to separate animals. Tractor-trailers less than 40 feet shall have at least one partition gate providing at least two (2) compartments within the trailer to separate the animals. Compartments in all tractor-trailers shall be of equal size plus or minus 10 percent. Each partition shall be a minimum of 6 feet high and shall have a minimum 5 foot wide swinging gate. The use of double deck tractor-trailers is unacceptable and shall not be allowed.
4. All tractor-trailers used to transport animals to final destination(s) shall be equipped with at least one (1) door at the rear end of the trailer which is capable of sliding either horizontally or vertically. The rear door(s) of tractor-trailers and stock trailers must be capable of opening the full width of the trailer. Panels facing the inside of all trailers must be free of sharp edges or holes that could cause injury to the animals. The material facing the inside of all trailers must be strong enough so that the animals cannot push their hooves through the side. Final approval of tractor-trailers and stock trailers used to transport animals shall be held by the COR/PI.
5. Floors of tractor-trailers, stock trailers and loading chutes shall be covered and maintained with wood shavings to prevent the animals from slipping as much as possible during transport.
6. Animals to be loaded and transported in any trailer shall be as directed by the COR/PI and may include limitations on numbers according to age, size, sex, temperament and animal condition. The following minimum square feet per animal shall be allowed in all trailers:
  - 11 square feet per adult horse (1.4 linear foot in an 8 foot wide trailer);
  - 8 square feet per adult burro (1.0 linear foot in an 8 foot wide trailer);
  - 6 square feet per horse foal (.75 linear foot in an 8 foot wide trailer);
  - 4 square feet per burro foal (.50 linear feet in an 8 foot wide trailer).
7. The COR/PI shall consider the condition and size of the animals, weather conditions, distance to be transported, or other factors when planning for the movement of gathered animals. The COR/PI shall provide for any brand and/or inspection services required for the gathered animals.
8. If the COR/PI determines that dust conditions are such that the animals could be endangered during transportation, the Contractor will be instructed to adjust speed.

#### **D. Safety and Communications**

1. The Contractor shall have the means to communicate with the COR/PI and all contractor personnel engaged in the gather of wild horses utilizing a VHF/FM Transceiver or VHF/FM portable Two-Way radio. If communications are ineffective the government will take steps necessary to protect the welfare of the animals.
  - a. The proper operation, service and maintenance of all contractor furnished property is the responsibility of the Contractor. The BLM reserves the right to remove from service any contractor personnel or contractor furnished equipment which, in the opinion of the contracting officer or COR/PI violate contract rules, are unsafe or otherwise unsatisfactory. In this event, the Contractor will be notified in writing to furnish replacement personnel or equipment within 48 hours of notification. All such replacements must be approved in advance of operation by the Contracting Officer or his/her representative.
  - b. The Contractor shall obtain the necessary FCC licenses for the radio system

- c. All accidents occurring during the performance of any task order shall be immediately reported to the COR/PI.
  2. Should the contractor choose to utilize a helicopter the following will apply:
    - a. The Contractor must operate in compliance with Federal Aviation Regulations, Part 91. Pilots provided by the Contractor shall comply with the Contractor's Federal Aviation Certificates, applicable regulations of the State in which the gather is located.
    - b. Fueling operations shall not take place within 1,000 feet of animals.

## **G. Site Clearances**

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

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

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

## **H. Animal Characteristics and Behavior**

Releases of wild horses would be near available water 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**

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

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

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

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

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

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

## Appendix IV Pancake Complex Population Modeling

To complete the population modeling for the Triple Pancake Complex, version 3.2 of the WinEquus program, created April 2, 2002, was utilized.

### Objectives of Population Modeling

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

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

### Population Data, Criteria, and Parameters utilized for Population Modeling

All simulations used the survival probabilities, foaling rates, and sex ratio at birth that was supplied with the WinEquus population for the Garfield HMA 1997.

Sex ratio at Birth:  
43% Females  
57% Males

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

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

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

Contraception Criteria  
(Alternative I)

Age	Percentages for Fertility Treatment
1	0%
2	100%
3	100%
4	100%
5	100%
6	100%
7	100%
8	100%
9	100%
10-14	100%
15-19	100%

20+	100%
-----	------

Population Modeling Criteria

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

- Starting Year: 2011
- Initial Gather Year: 2011
- Gather interval: regular interval of three years
- Gather for fertility treatment regardless of population size: No
- Continue to gather after reduction to treat females: Yes
- Sex ratio at birth: 58% males
- Percent of the population that can be gathered: 85%
- Minimum age for long term holding facility horses: Not Applicable
- Foals are not included in the AML
- Simulations were run for 10 years with 100 trials each

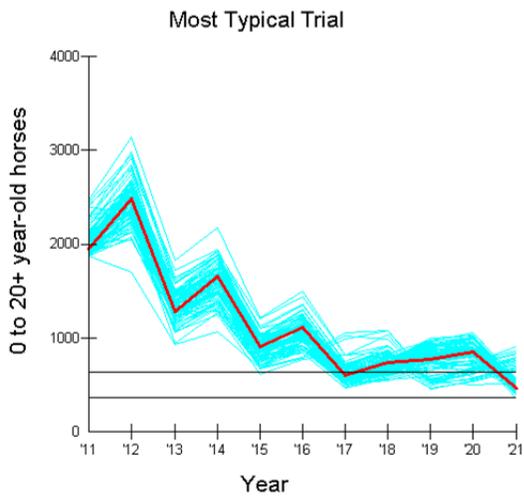
The following table displays the population modeling parameters utilized in the model:  
Population Modeling Parameters

<b>Modeling Parameter</b>	<b>Alternative A Proposed Action Phased-in Gather and Population Growth Control Alternative. 800-1,000</b>	<b>Alternative B (Remove to Low Limit of Management Range, Adjust sex ratio 60-40 &amp; Fertility Control)</b>	<b>Alternative C Gather and Remove Approximately 800-1,000 of the Excess Wild Horses and Apply Two-Year Fertility Control (PZP- 22) to Horses for Release &amp; 60% Male Sex Ratio</b>	<b>Alternative D Remove Excess Animals (Low Point AML) Without Fertility Control</b>		<b>Alternative F No Action (No Removal &amp; No Fertility Control)</b>
Management by removal, 60:40 adjustment in sex ratio, and fertility control	Yes	Yes	Yes	No	Yes	N/A
Management	No	No	No	Yes	No	N/A

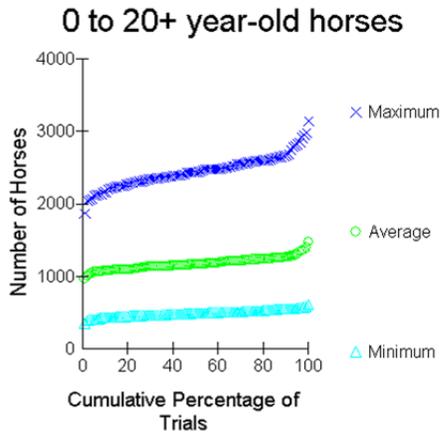
by removal only						
Threshold Population Size Following Gathers	638	638	638	638	638	N/A
Target Population Size Following Gathers	361	361	361	361	361	N/A
Gather for fertility control regardless of population size	No	No	No	No	Yes	N/A
Gathers continue after removals to treat additional females	Yes	Yes	Yes	No	Yes	N/A
Effectiveness of Fertility Control: Year 1	94%	94%	94%	N/A	94%	N/A
Effectiveness of Fertility Control: Year 2	82%	82%	82%	N/A	82%	N/A
Effectiveness of Fertility Control: Year 3	68%	68%	68%	N/A	94%	N/A

**Alternative A: Proposed Action- Phased-in Gather and Population Growth Control Alternative. 800-1,000**

Most Typical



Population Size

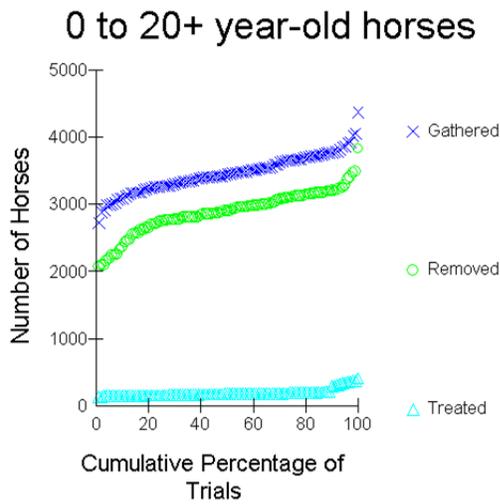


Years*	Population Sizes in 11		
	Minimum	Average	Maximum
Lowest Trial	353	960	1868
10th Percentile	434	1073	2184
25th Percentile	457	1115	2312
Median Trial	488	1165	2442
75th Percentile	524	1235	2590
90th Percentile	548	1266	2679
Highest Trial	608	1469	3139

\* 0 to 20+ year-old horses

In 11 years and 100 trials, the lowest number of 0 to 20+ year-old horses ever obtained was 353 and the highest was 3,139. In half the trials, the minimum population size in 11 years was less than 488 and the maximum was less than 2,442. The average population size across 11 years ranged from 960 to 1,469.

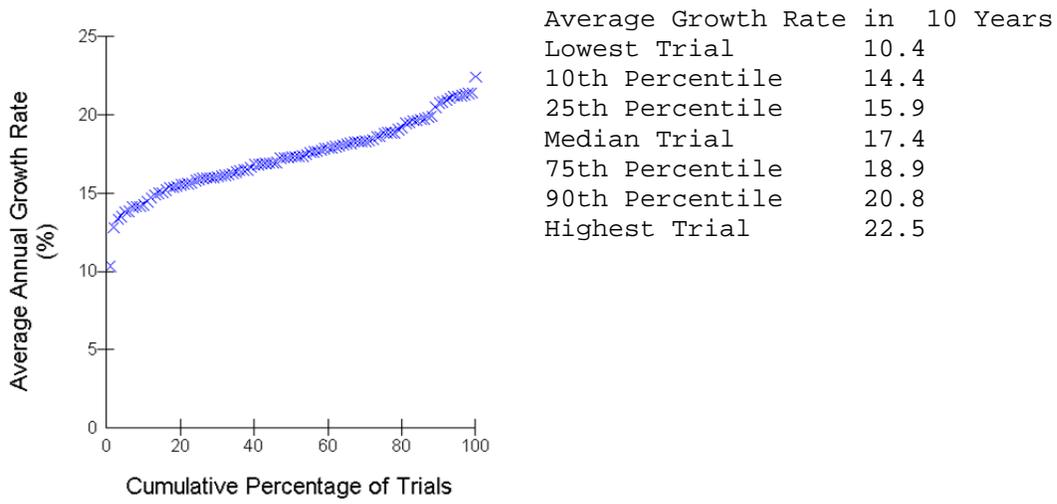
Gather



Treated	Totals in 11 Years*		
	Gathered	Removed	
Lowest Trial	2730	2071	137
10th Percentile	3101	2396	152
25th Percentile	3272	2751	162
Median Trial	3452	2900	178
75th Percentile	3664	3114	192
90th Percentile	3774	3198	295
Highest Trial	4375	3824	409

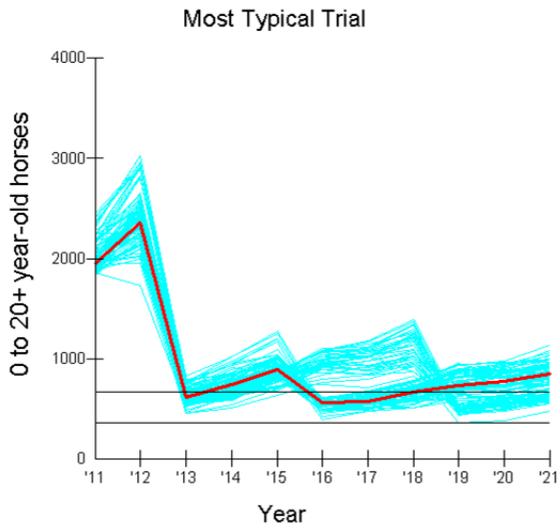
\* 0 to 20+ year-old horses

Growth Rate

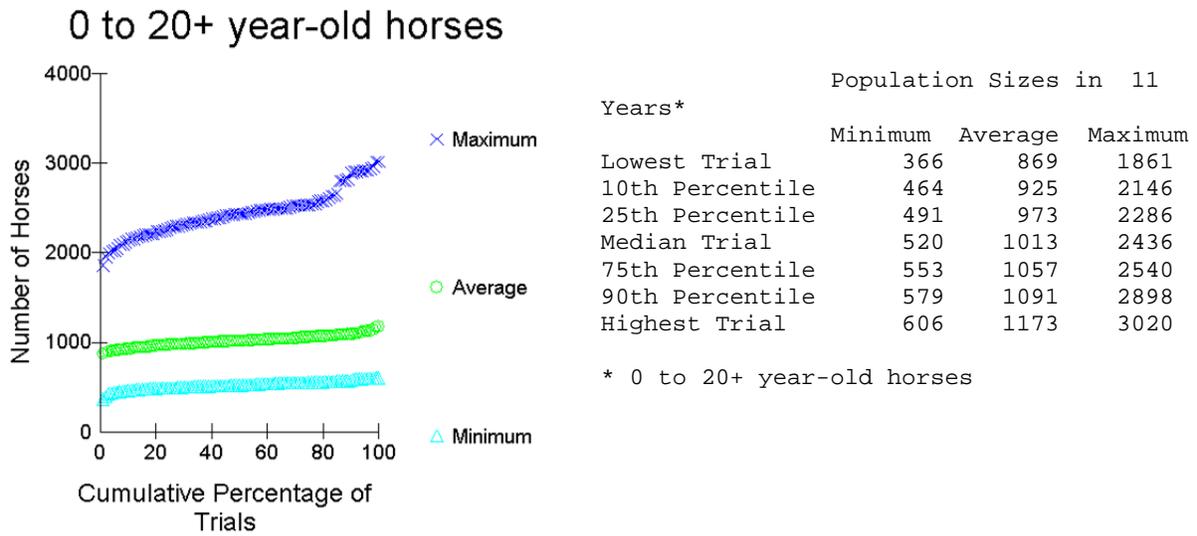


**Alternative B:** – *Selective Removal of Excess Animals (Low Point AML); Apply Two-Year Fertility Control, & 60% Male Sex Ratio*

Most Typical

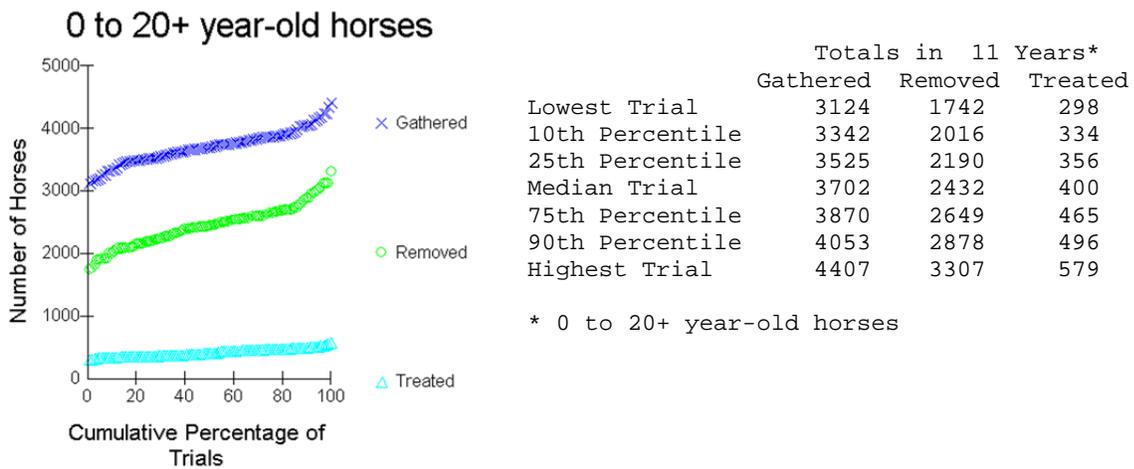


Population Size

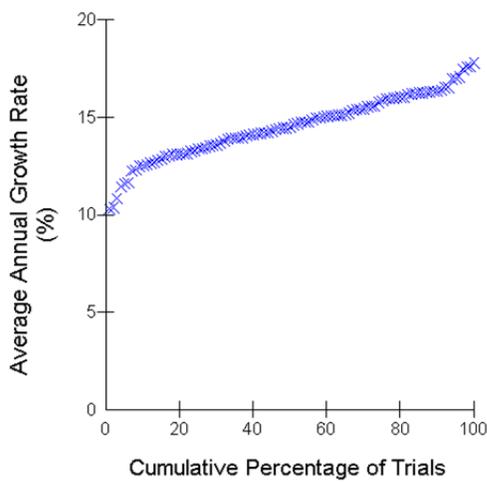


In 11 years and 100 trials, the lowest number of 0 to 20+ year-old horses ever obtained was 366 and the highest was 3,020. In half the trials, the minimum population size in 11 years was less than 520 and the maximum was less than 2,436. The average population size across 11 years ranged from 869 to 1,173

Gather



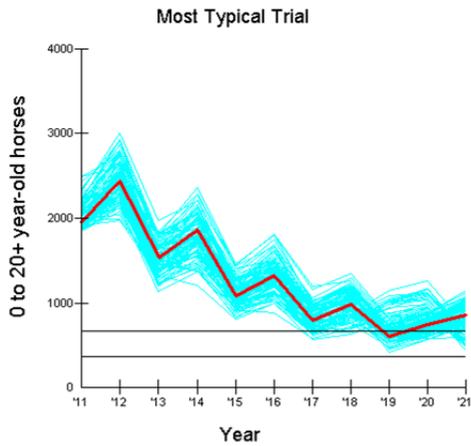
Growth Rate



Average Growth Rate in 10 Years	
Lowest Trial	10.3%
10th Percentile	12.6%
25th Percentile	13.4%
Median Trial	14.6%
75th Percentile	15.9%
90th Percentile	16.4%
Highest Trial	17.8%

*Alternative C. Gather and Remove* Approximately 800-1,000 of the Excess Wild horses, Apply Two-Year Fertility Control (PZP-22) to All Released Mares, Manage for a Core Breeding Population at Low AML with a 60% Male Sex Ratio.

Most Typical

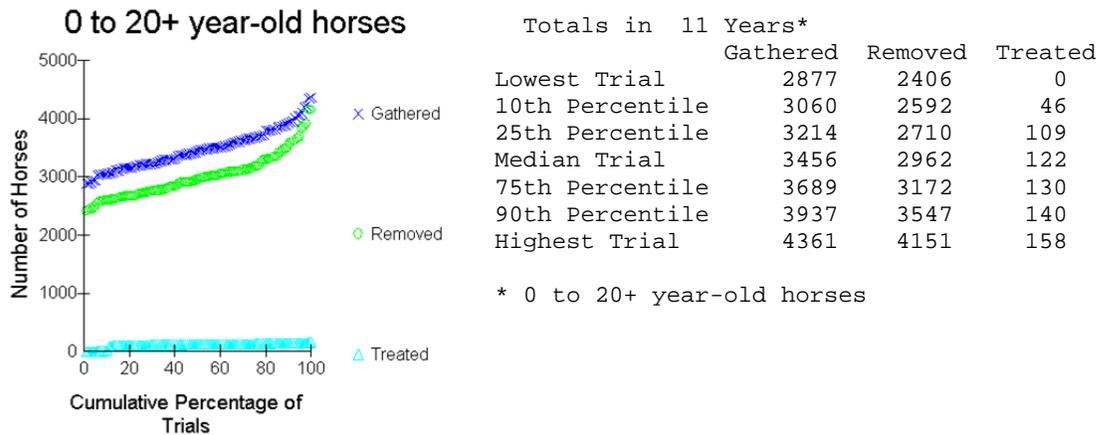


## Population Size

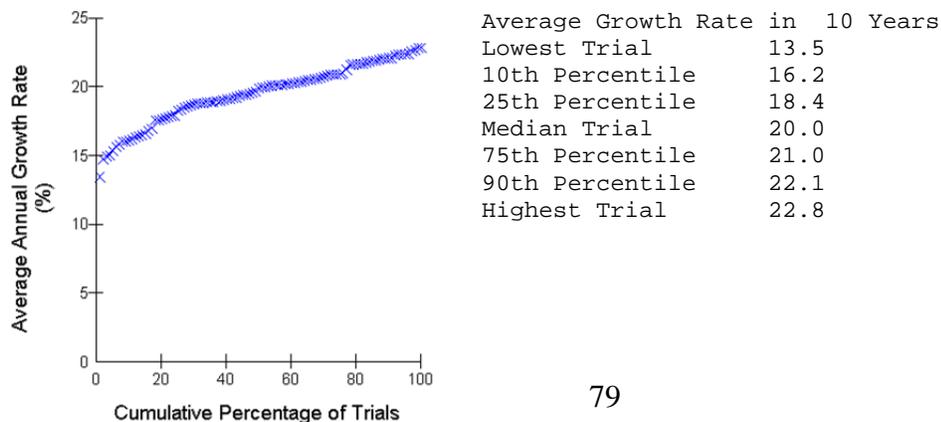


In 11 years and 100 trials, the lowest number of 0 to 20+ year-old horses ever obtained was 419 and the highest was 3,006. In half the trials, the minimum population size in 11 years was less than 598 and the maximum was less than 2,434. The average population size across 11 years ranged from 1,086 to 1,594.

## Gather

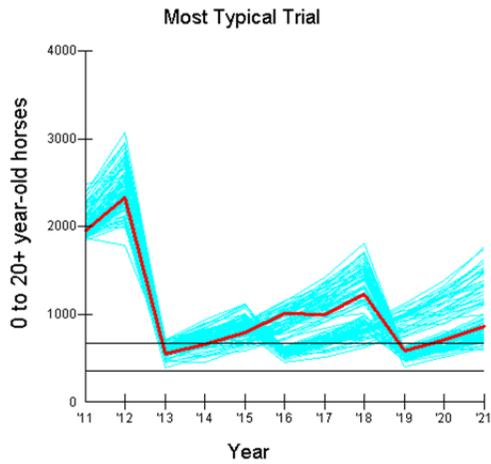


## Growth Rate

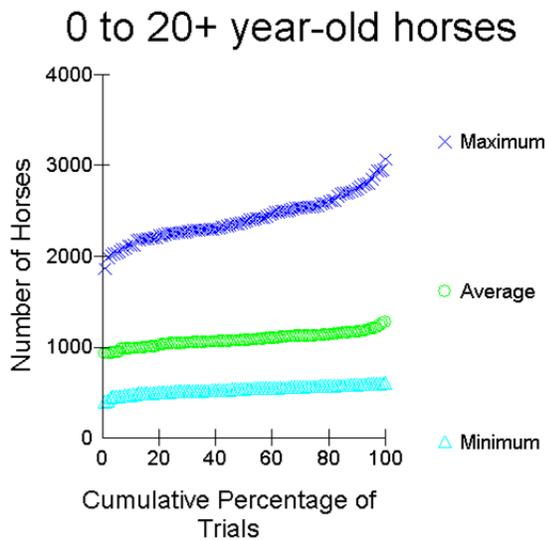


**Alternative D: Remove Excess Animals to Low Range AML Without Fertility Control or Sex Ratio Adjustment**

Most Typical



Population Size



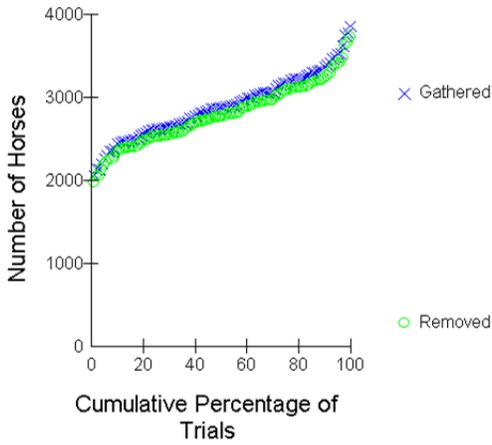
Years*	Population Sizes in 11		
	Minimum	Average	Maximum
Lowest Trial	398	929	1867
10th Percentile	476	988	2126
25th Percentile	510	1040	2260
Median Trial	542	1077	2385
75th Percentile	569	1127	2556
90th Percentile	588	1171	2760
Highest Trial	609	1275	3069

\* 0 to 20+ year-old horses

In 11 years and 100 trials, the lowest number of 0 to 20+ year-old horses ever obtained was 398 and the highest was 3,069. In half the trials, the minimum population size in 11 years was less than 542 and the maximum was less than 2,385. The average population size across 11 years ranged from 929 to 1,275.

Gather

0 to 20+ year-old horses

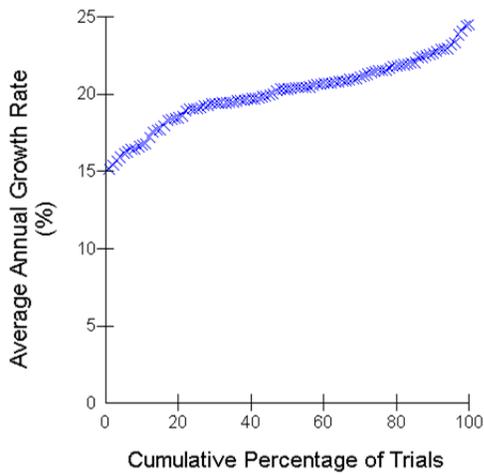


Totals in 11 Years\*  
Gathered    Removed

Lowest Trial	2064	1976
10th Percentile	2449	2354
25th Percentile	2619	2528
Median Trial	2879	2770
75th Percentile	3176	3082
90th Percentile	3372	3244
Highest Trial	3856	3718

\* 0 to 20+ year-old horses

Growth Rate

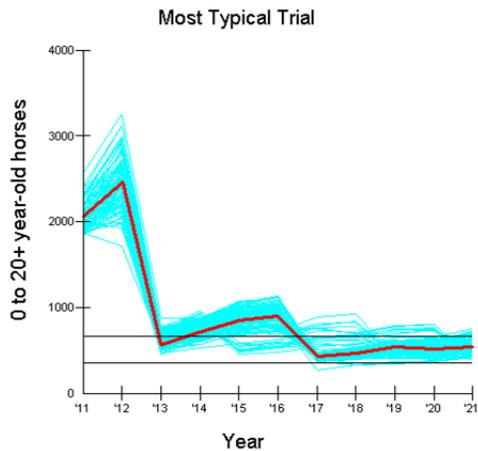


Average Growth Rate in 10 Years

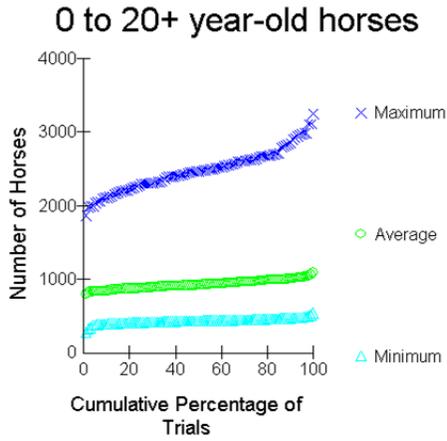
Lowest Trial	15.1
10th Percentile	16.8
25th Percentile	19.1
Median Trial	20.4
75th Percentile	21.5
90th Percentile	22.7
Highest Trial	24.5

*Alternative E: Gather Every Two or Three Years, Remove Excess Wild Horses to Low Range AML and Apply Two-Year Fertility Control (PZP-22) to Horses For Release & 60% Male Sex Ratio.*

Most Typical



Population Size



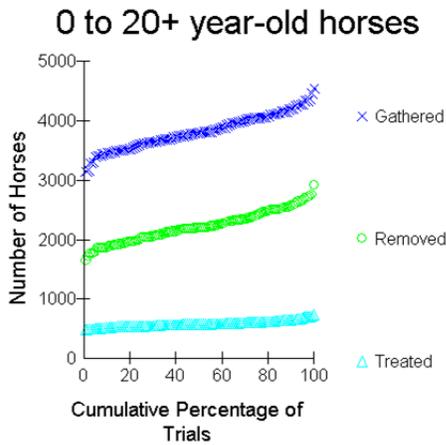
Population Sizes in 11 Years\*

	Minimum	Average	Maximum
Lowest Trial	273	797	1870
10th Percentile	394	846	2122
25th Percentile	413	882	2304
Median Trial	438	924	2476
75th Percentile	454	972	2653
90th Percentile	474	1012	2879
Highest Trial	541	1088	3252

\* 0 to 20+ year-old horses

In 11 years and 100 trials, the lowest number of 0 to 20+ year-old horses ever obtained was 273 and the highest was 3,252. In half the trials, the minimum population in 11 years was less than 438 and the maximum was less than 2,476. The average population size across 11 years ranged from 797 to 1,088.

Gather

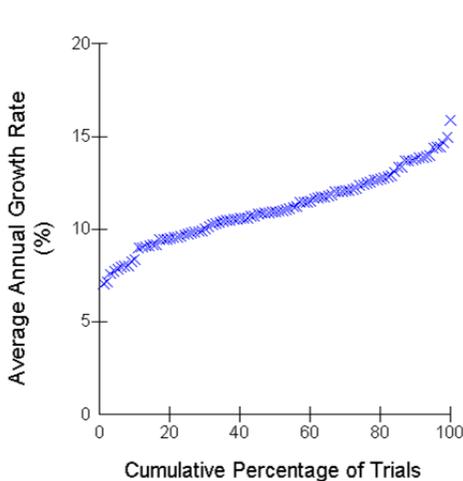


Totals in 11 Years\*

	Gathered	Removed	Treated
Lowest Trial	3154	1646	492
10th Percentile	3461	1871	522
25th Percentile	3623	2032	546
Median Trial	3810	2198	579
75th Percentile	4058	2416	614
90th Percentile	4212	2574	654
Highest Trial	4550	2915	737

\* 0 to 20+ year-old horses

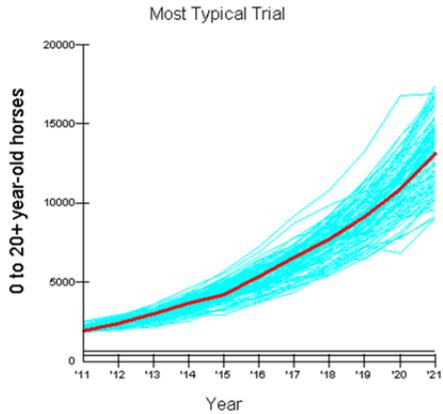
Growth Rate



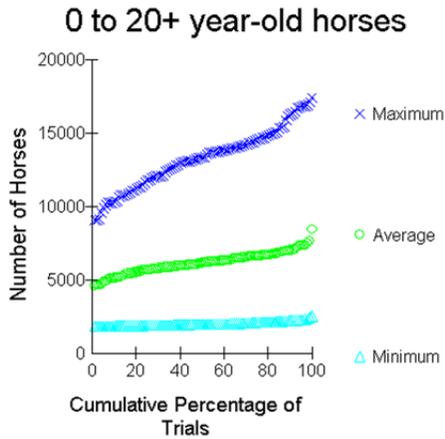
Average Growth Rate in 10 Years

Lowest Trial	7.0
10th Percentile	8.7
25th Percentile	9.8
Median Trial	11.0
75th Percentile	12.5
90th Percentile	13.8
Highest Trial	15.9

**Alternative F: No Action**  
Most Typical



Population Size



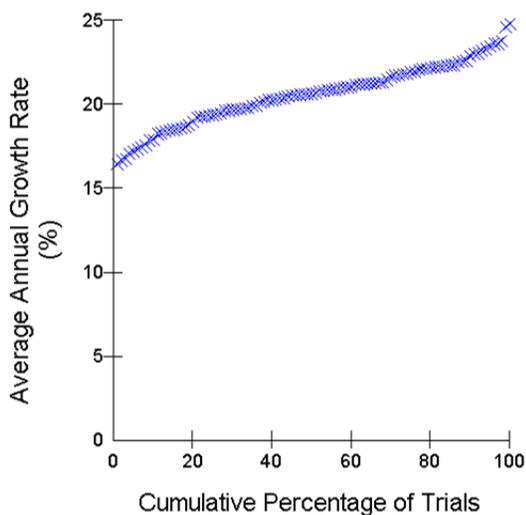
Population Sizes in 11 Years\*

	Minimum	Average	Maximum
Lowest Trial	1839	4601	9064
10th Percentile	1872	5145	10360
25th Percentile	1903	5682	11813
Median Trial	1993	6167	13374
75th Percentile	2126	6632	14604
90th Percentile	2246	7022	16317
Highest Trial	2543	8424	17418

\* 0 to 20+ year-old horses

In 11 years and 100 trials, the lowest number of 0 to 20+ year-old horses ever obtained was 1,839 and the highest was 17,418. In half the trials, the minimum population size in 11 years was less than 1,993 and the maximum was less than 13,374. The average population size across 11 years ranged from 4,601 to 8,424.

Growth Rate



Average Growth Rate in 10 Years

Lowest Trial	16.5
10th Percentile	18.1
25th Percentile	19.4
Median Trial	20.7
75th Percentile	21.9
90th Percentile	23.0
Highest Trial	24.8

Appendix V  
Rangeland Health Standards Summary

The Standard Determination Documents evaluate and assess livestock grazing management practices, to determine whether those practices are conforming to the standards and guidelines for rangeland health, as required by 43 C.F.R. Subpart 4180. These SDDs do not evaluate or assess achievement of the wild horse and burros standards, but do provide insights into whether wild horses are contributing to non-attainment of overall standards during the livestock permit renewal process.

HMA/HA	Allotment	Use Area	Rangeland Health Standards	Completion
Pancake HMA	Duckwater	Bull Creek/North Railroad Valley	<b>Standard 1: Upland Sites;</b> Not achieving the Standard, not making significant progress towards. Livestock are a contributing factor to not achieving the Standard. Failure to achieve the Standard is also related to other issues or condition. Both livestock and wild horses are contributing factors. Due to shrub dominance, lack of native vegetation cover, the risk of invasive species spread, risk of erosion and loss of soil structure, and heavy or severe utilization at times, the soil resources lack much resiliency or capability to maintain or improve in this use area.	2009
			<b>Standard 2: Riparian and Wetland Sites;</b> Not Applicable	
		Bull Corner/Poison Patch	<b>Standard 1: Upland Sites;</b> Not Achieving the Standard, Not making significant progress towards. Livestock are a contributing factor to not achieving the Standard. Failure to achieve the Standard is also related to other issues or conditions. Both livestock and wild horses are contributing factors. Due to shrub dominance, lack of native vegetation cover, lack of appropriate vegetation structure, the risk of invasive species spread, risk or erosion and loss of soil structure, and severe utilization at times, the soil resources lack much resiliency or capability to maintain or improve in this use	

			area.	
			<b>Standard 2: Riparian and Wetland Sites;</b> This Standard was not evaluated since there are no public land riparian systems present in the Bull Corner/Poison Patch Use Area.	
			<b>Standard 3: Habitat;</b> Not achieving the Standard, not making significant progress towards. Livestock are a contributing factor to not achieving the Standard. Failure to achieve the Standard is also related to other issues or conditions. Both livestock and wild horses are contributing factors. Due to shrub dominance, lack of vegetation production, lack of cover, lack of appropriate structure, and the risk of invasive species spread, the vegetative resources lack much resiliency or capability to maintain or improve in the term permit renewal area.	
		Duckwater Hills	<b>Standard 1: Upland Sites;</b> Achieving the Standard	
			<b>Standard 2: Riparian and Wetland Sites;</b> Not Applicable	
			<b>Standard 3: Habitat;</b> Not Achieving the Standard, not making significant progress towards. Livestock are not a contributing factor to not achieving the Standard. Failure to achieve the Standard is related to other issues or conditions. This is attributable to drought, historic heavy livestock grazing from 1870-1994, and possibly lack of natural wildfire.	
		Green Spring	<b>Standard 1: Upland Sites;</b> Not achieving the Standard, But making significant progress towards. Livestock are not a contributing factor to not achieving the Standard. Failure to achieve the Standard is related to other issues or conditions.	
			<b>Standard 2: Riparian and Wetland Sites;</b> This Standard was not evaluated since there are no public land riparian systems present in the Green Springs Use Area	
			<b>Standard 3: Habitat;</b> Not achieving the Standard, not making significant progress towards. Livestock are not a contributing factor to not achieving the Standard. Failure to achieve the Standard is related to other issues or conditions. The BLM interdisciplinary team determined that significant progress is not being made towards achievement of Habitat Standard because movement towards achieving the Habitat Standards is not occurring at an acceptable level of rate and that wild horses populations above the AML are a contributing factor. A livestock grazing system is in place that defers cattle use until June each year in Green	

			Springs Valley. Thus there is no livestock use during the critical growing period.	
		Little Smoky Valley	<b>Standard 1: Upland Sites;</b> Not achieving the Standard, not making significant progress towards. Livestock are a contributing factor to not achieving the Standard. Failure to achieve the Standard is also related to other issues or conditions. Both livestock and wild horses are contributing factors. Due to shrub dominance, lack of native vegetation cover, the risk of invasive species spread, and severe utilization at times, the soil resources lack much resiliency or capability to maintain or improve in this use area.	
			<b>Standard 2: Riparian and Wetland;</b> This Standard was not evaluated since there are no public land riparian systems present in that portion of the Little Smoky Valley Use Area grazed by cattle or sheep.	
			<b>Standard 3: Habitat;</b> Not achieving the Standard, Not making significant progress towards. Livestock are a contributing factor to not achieving the Standard. Failure to achieve the Standard is also related to other issues or conditions. Both livestock and wild horses are contributing factors. Due to shrub dominance, lack or production, and the risk of invasive species spread, the vegetative resources lack much capability to maintain or improve in the use area. The native plant communities here are not sustainable.	
		North Sand Springs Valley	<b>Standard 1: Upland Sites;</b> Not achieving the Standard, not making significant progress towards. Livestock are a contributing factor to not achieving the Standard. Failure to achieve the Standard is also related to other issues or conditions. Both livestock and wild horses are contributing factors. Due to shrub dominance, lack of an herbaceous understory, and the risk of invasive species spread at Key Area DW-61, the soil resources lack capability to maintain or improve in this use area.	
			<b>Standard 2: Riparian and Wetland;</b> This Standard was not evaluated since there are no public land riparian systems present in the North Sand Springs Use Area.	
			<b>Standard 3: Habitat;</b> Not achieving the Standard, not making significant progress towards. Livestock are a contributing factor to not achieving the Standard. Failure to achieve the Standard is also related to other issues or conditions. Both livestock and wild horses are contributing factors. Due to shrub dominance,	

			<p>lack of herbaceous production, and the risk of invasive species spread, the vegetative resources lack much resiliency or capability to maintain or improve in this use area. Based on professional judgment, the native plant communities here are in better shape than other use areas of the Duckwater Allotment, yet not sustainable in the long term.</p>	
		<p>Pancake East Bench/Duckwater valley</p>	<p><b>Standard 1: Upland Site;</b>  <u>North Pancake Area-North of McClure Spring Pipeline:</u>          Not achieving the Standard, not making significant progress towards. Livestock are not a contributing factor to not achieving the Standard. Failure to achieve the Standard is related to other issues or conditions. Wild Horses are a contributing factor. Due to shrub dominance, lack of native vegetation cover, the risk of invasive species spread, risk of erosion and loss of soil structure. And heavy or severe utilization at times, the soil resources lack much resiliency or capability to maintain or improve in this use area.  <u>Duckwater Corner Area:</u>          Achieving the Standard</p>	
			<p><b>Standard 2: Riparian and Wetland;</b> Not achieving the Standard, not making significant progress towards. Livestock are a contributing factor to not achieving the Standard. Failure to achieve the Standard is also related to other issues or conditions. Both livestock and wild horses are contributing factors. Due to lack of riparian species cover, heavy or severe utilization, trampling, drought, the risk of invasive species spread, and other factors, the riparian areas lack much resiliency or capability to maintain or improve in this use area.</p>	
			<p><b>Standard3: Habitat;</b> <u>North Pancake Area:</u> Not achieving the Standard, not making significant progress towards. Livestock are not a contributing factor to not achieving the Standard. Failure to achieve the Standard is related to other issues or conditions. Both livestock and wild horses are contributing factors. Due to shrub dominance (inappropriate composition), inappropriate vegetation production, inappropriate vegetation structure, and the moderate risk of invasive species spread, the vegetative resources lack much capability to maintain or improve in the use area. The native plant communities here are not sustainable.  <u>Duckwater Corner:</u> Not Achieving the Standard, But Making significant progress towards.</p>	

			<p>Livestock are not a contributing factor to not achieving the Standard. Failure to achieve the Standard is related to other issues or conditions. Inappropriate plant composition and structure at four study sites. These sites have transitioned somewhat to shrub dominance, although a healthy diversity of shrubs are present for winter grazing, including four wing saltbush and spiny hopsage. Black sagebrush and rabbitbrush are dominated over much of the area.</p>	
		Pogues Station	<p><b>Standard 1: Upland Sites;</b> Not achieving the Standard, not making significant progress towards. Livestock are a contributing factor to not achieving the Standard. Failure to achieve the Standard is also related to other issues or conditions. Both livestock and wild horses are contributing factors. Due to inappropriate plant composition, lack of vegetative cover, and the risk of invasive species spread, the soil resources lack much resiliency or capability to maintain or improve in this use area.</p>	
			<p><b>Standard 2: Riparian and Wetland Sites;</b> This Standard was not evaluated since there are no public land riparian systems present in the pogues station use area.</p>	
			<p><b>Standard 3: Habitat;</b> Not achieving the Standard, not making significant progress towards. Livestock are a contributing factor to not achieving the Standard. Failure to achieve the Standard is also related to other issues or conditions. Due to shrub dominance, lack of production, and the risk of invasive species spread, the vegetative resources lack much resiliency or capability to maintain to maintain or improve in this use area.</p>	
		South Sand Springs Valley*	<p><b>Standard 1: Upland Sites;</b> Not achieving the Standard, not making significant progress towards. Livestock are not a contributing factor to not achieving the Standard. Failure to achieve the Standard is related to other issues or conditions. Wild horses are a contributing factor. Due to inappropriate plant composition, lack of vegetative cover and production, a history of heavy and severe use, and the risk of invasive species spread, the soil resources lack much resiliency or capability to maintain or improve in this use area.</p>	
			<p><b>Standard 2: Riparian and Wetland;</b> Not achieving the Standard, not making significant progress towards. Livestock are not a contributing factor to not achieving the Standard. Failure to achieve the Standard is also related to other issues or conditions. Wild horses are a</p>	

		<p>contributing factor. Martiletti Spring has been monitored many times since 1991 and has always been in a very degraded state.</p> <p><b>Standard 3: Habitat</b> Not achieving the Standard, not making significant progress towards. Livestock are not a contributing factor to not achieving the Standard. Failure to achieve the Standard is also related to other issues or conditions. Wild horses are a contributing factor. Due to shrub dominance, lack of production, inappropriate plant community structure, and the risk of invasive species spread, the vegetative resources lack much resiliency or capability to maintain or improve in this use area.</p>	
	Monte Cristo	<p><b>Standard 1: Upland Site;</b> Achieving the Standard</p> <p><b>Standard 2: Riparian and Wetland Sites;</b> Not Applicable</p> <p><b>Standard 3: Habitat;</b> Not achieving the Standard, but making significant progress towards. Livestock are not a causal factor to not achieving the Standard. Failure to achieve the Standard is related to other issues or conditions. No livestock use occurred since 2002. Wild horse populations above the appropriate management level (AML) are a contributing factor to non-achievement of the Habitat Standard.</p>	2009
	Pancake Black Point		
	Six Mile	<p><b>Standard 1: Upland Site;</b> Achieving the Standard</p> <p><b>Standard 2: Riparian and Wetland Sites;</b> Not applicable</p> <p><b>Standard 3: Habitat;</b> The Habitat Standard is achieved in the Fernando Seeding, but not achieved in native range. Current sheep management practices (2000-2010) at a level of 314 active AUMs average actual use in native range annually is not a contributing factor to not achieving the Standard in native range. Failure to achieve the standard is related to other issues or conditions, including wild horses, drought, historical heavy livestock grazing prior to 1990, and lack of natural wildfire.</p>	2010
	South Pancake	<p><b>Standard 1: Upland Site;</b> The Standard is being achieved</p> <p><b>Standard 2: Riparian and Wetland Sites;</b> The Standard is not applicable</p> <p><b>Standard 3: Habitat;</b> The Standard is not being achieved. Livestock are not a significant factor to</p>	2009

			<p>not achieving the Standard; failure to meet the standard is related to other issues or conditions. In addition to livestock grazing, wild horses and wildlife use, variable precipitation, and altered natural disturbance regimes occur on the South Pancake Allotment.</p> <p>Non-attainment of this Standard is largely due to grasses being in poor vigor, declining, or absent. Sheep grazing is not a significant contributing factor to these conditions because of the forage preference of sheep, which primarily forage on shrubs and especially black sagebrush. Also, as a result of this forage preference, sheep grazing will not harm the grasses but will allow for grass conditions to improve while sheep grazing occurs. Furthermore, licensed sheep use has been lower than allowable levels over the past ten years and utilization has been slight to moderate which is within proper use levels across the allotment. This is a winter, sheep grazing allotment where grazing does not occur during most of the critical growing season. This further supports the conclusion that sheep grazing is not a significant contributing factor to not meeting Standard 3.</p>	
Jakes Wash HA	Badger Spring		<p><b>Standard 1: Upland Standards;</b> Not achieving the Standard, but making significant progress towards. Livestock are not a significant contributing factor. Failure to meet the standard is related to other issues or conditions i.e. past wild horse use, lack of precipitation, drought conditions, livestock drift from adjacent areas and changes in climate.</p> <p><b>Standard 2: Riparian and Wetland Sites;</b> Not Applicable</p> <p><b>Standard 3: Habitat;</b> Not achieving the Standard, but making significant progress towards . Livestock are not a significant contributing factor. Failure to meet the standard is related to other issues or conditions i.e. past wild horse use, lack of precipitation, drought conditions, livestock drift from adjacent areas and changes in climate and fire suppression.</p>	2009
	Giroux Wash			In progress
	Indian Jake		<p><b>Standard 1: Upland Site:</b> Achieving the Standard</p> <p><b>Standard 2: Riparian and Wetland Sites;</b> Not</p>	2010

			applicable	
			<b>Standard 3: Habitat;</b> Not achieving the Standard, not making significant progress towards. Cattle grazing is a contributing factor to not achieving the Standard. Failure to achieve the Standard is also related to other issues or conditions including wild horses, drought, historical heavy livestock grazing, and lack of natural wildfire.	
	Tom Plain		<b>Standard 1: Upland Site:</b> Achieving the Standard	2007
			<b>Standard 2: Riparian and Wetland Sites;</b> Not Achieved, but making significant progress towards.	
			<b>Standard 3: Habitat;</b> Not achieved, but making significant progress towards.	

\*Duckwater Allotment; South Sand Springs Valley Use Area has been closed to cattle grazing since 2000.

# **Appendix VI**

## **RISK ASSESSMENT FOR NOXIOUS & INVASIVE WEEDS**

### PANCAKE COMPLEX WILD HORSE GATHER

#### **Nye and White Pine Counties, Nevada**

On September 26, 2011 a Noxious & Invasive Weed Risk Assessment was completed for the Pancake Complex wild horse gather. This weed risk assessment includes the Ely District portion of the Pancake, and Sand Springs West Wild Horse Herd Management Areas (HMAs), and the Jakes Wash Wild Horse Herd Area (HA). The Ely District also has a Memorandum of Understanding with the Battle Mountain District to inventory and treat weeds in a portion of the Sand Springs West HMA.

Alternatives analyzed include the following:

A. Proposed Action – Phased-in Gather and Population Growth Control Alternative.

B: Selective Removal of Excess Animals (Low Point AML); Apply Two-Year Fertility Control, & 60% Male Sex Ratio.

C. Gather and Remove Approximately 800-1,000 of the Excess Wild horses, Apply Two-Year Fertility Control (PZP-22) to All Released Mares, Manage for a Core Breeding Population at Low AML with a 60% Male Sex Ratio.

D: Remove Excess Animals to Low Range AML Without Fertility Control or Sex Ratio Adjustment

E: Gather Every Two or Three Years, Remove Excess Wild Horses to Low Range AML and Apply Two-Year Fertility Control (PZP-22) to Horses For Release & 60% Male Sex Ratio.

F: No Action Alternative.

No field weed surveys were completed for this project. Instead the Ely District weed inventory data was consulted. Currently, the following weed species are found within the Pancake Complex project area or along roads and drainages leading to the project area:

<i>Acroptilon repens</i>	Russian knapweed
<i>Carduus nutans</i>	Musk thistle
<i>Centaurea stoebe</i>	Spotted knapweed
<i>Centaurea squarrosa</i>	Squarrose knapweed
<i>Cirsium vulgare</i>	Bull thistle
<i>Conium maculatum</i>	Poison hemlock
<i>Hyoscyamus niger</i>	Black henbane
<i>Lepidium draba</i>	Hoary cress
<i>Lepidium latifolium</i>	Tall whitetop
<i>Onopordum acanthium</i>	Scotch thistle
<i>Tamarix spp.</i>	Salt cedar

The project area was last inventoried for noxious weeds in 2009 and 2003. While not officially documented the following non-native invasive weeds probably occur in or around the project area:

<i>Bromus tectorum</i>	Cheatgrass	<i>Marrubium vulgare</i>	Horehound
<i>Ceratocephala testiculata</i>	Bur buttercup	<i>Salsola kali</i>	Russian thistle
<i>Convolvulus arvensis</i>	Field bindweed	<i>Systembrium altissimum</i>	Tumble mustard
<i>Halogeton glomeratus</i>	Halogeton	<i>Verbascum thapsus</i>	Common mullein

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

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

For Alternative A, B, C, D, and E the factors rate as Moderate (6) at the present time. The concentrated use around capture sites could result in new infestations, specifically at the capture sites and holding pens. Also a large infestation of tall whitetop occurs in Railroad Valley that the district is currently treating. There is a potential for the gather operation to spread this weed into the other valleys during the gather of the complex. However, by removing excess horses, native plant communities should have increased vigor and out compete weeds. Those alternatives that reach AML faster and offer solutions to slow population growth would have the most benefit to native vegetation recovery, and preventing weeds from establishing and spreading. For the no action alternative the factor rates as High (8). No gather operation would occur to spread weeds, and excess horses would remain on the range. Wild horse populations are predicted to increase to +3,000 over the next couple of years. This would have detrimental impact on native plants could decrease due to overgrazing and weeds would be more competitive.

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

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

For alternatives A, B, C, D, and E this project rates as Moderate (5) at the present time. The project area has several noxious weed infestations, especially along the main roads and in old fires. New weed infestations could spread to the area during gather operations and then there would be adverse effects to the surrounding native vegetation. An increase in cheatgrass could alter the fire regime in the area. The potential to spread weeds would be limited primarily to identified areas making follow up monitoring and treatment, if necessary, more manageable. Following the gather operations native plants should have increased vigor and reproduction, preventing weed infestations from spreading outside the gather sites. For the no action alternative this project rates as High (8). By not gathering horses down to AML native plant communities could continue to be stressed by over grazing allowing the expansion of weeds, especially invasives such as cheat grass, Russian thistle and halogeton. Overtime native plant communities would be not recover and be lost to monocultures of invasive weeds.

Another concern is that as wild horse population increases, wild horses would need to seek alternative forage sources and consume noxious weeds found within the HMA. Russian knapweed is prevalent throughout the HMA

and if consumed by horses causes “chewing disease” in horses by damaging the area of the brain that controls fine motor movements, particularly of the mouth resulting in starvation or dehydration.

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

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

For all alternatives this project Risk Rating is Moderate.

- Gather capture sites will be chosen in previously disturbed areas which are free from noxious weed infestations, to the greatest extent possible.
- Where appropriate, vehicles and heavy equipment used for the completion, maintenance, inspection, or monitoring of ground disturbing activities; or for authorized off-road driving will be free of soil and debris capable of transporting weed propagules. Vehicles and equipment will be cleaned with power or high pressure equipment prior to entering or leaving the work site or **moving to another valley**. Cleaning efforts will concentrate on tracks, feet and tires, and on the undercarriage. Special emphasis will be applied to axels, frames, cross members, motor mounts, on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. Cleaning sites will be recorded using global positioning systems or other mutually acceptable equipment and provided to the Ely District Office Weed Coordinator or designated contact person.
- Prior to entry of vehicles and equipment to a planned disturbance area, a weed scientist or qualified biologist will identify and flag areas of concern. The flagging will alert personnel or participants to avoid areas of concern.
- Removal and disturbance of vegetation would be kept to a minimum through site management (e.g. using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.)
- Monitoring of the capture sites and holding pens on public lands will be conducted for at least three years and will include weed detection. Any newly established populations of noxious/invasive weeds discovered will be communicated to the Ely District Noxious and Invasive Weeds Coordinator for treatment.

The Ely District normally requires that all hay, straw, and hay/straw products use in project be free of plant species listed on the Nevada noxious weed list. However, this gather is being implemented through the National Wild Horse & Burro Gather Contract and would follow the stipulations in this national contract with regard to certified weed-free forage.

If certified weed free hay is not required, the Ely District encourages the contractor to acquire locally produced hay from the valleys nearest to the project area. By using locally produced hay it would prevent the introduction of weeds from other areas.

Reviewed by: /s/Mindy Seal  
Mindy Seal  
Natural Resource Specialist

9/26/2011  
Date

Figure 1. Map of documented noxious and invasive weeds in Pancake and Sand Springs West HMAs

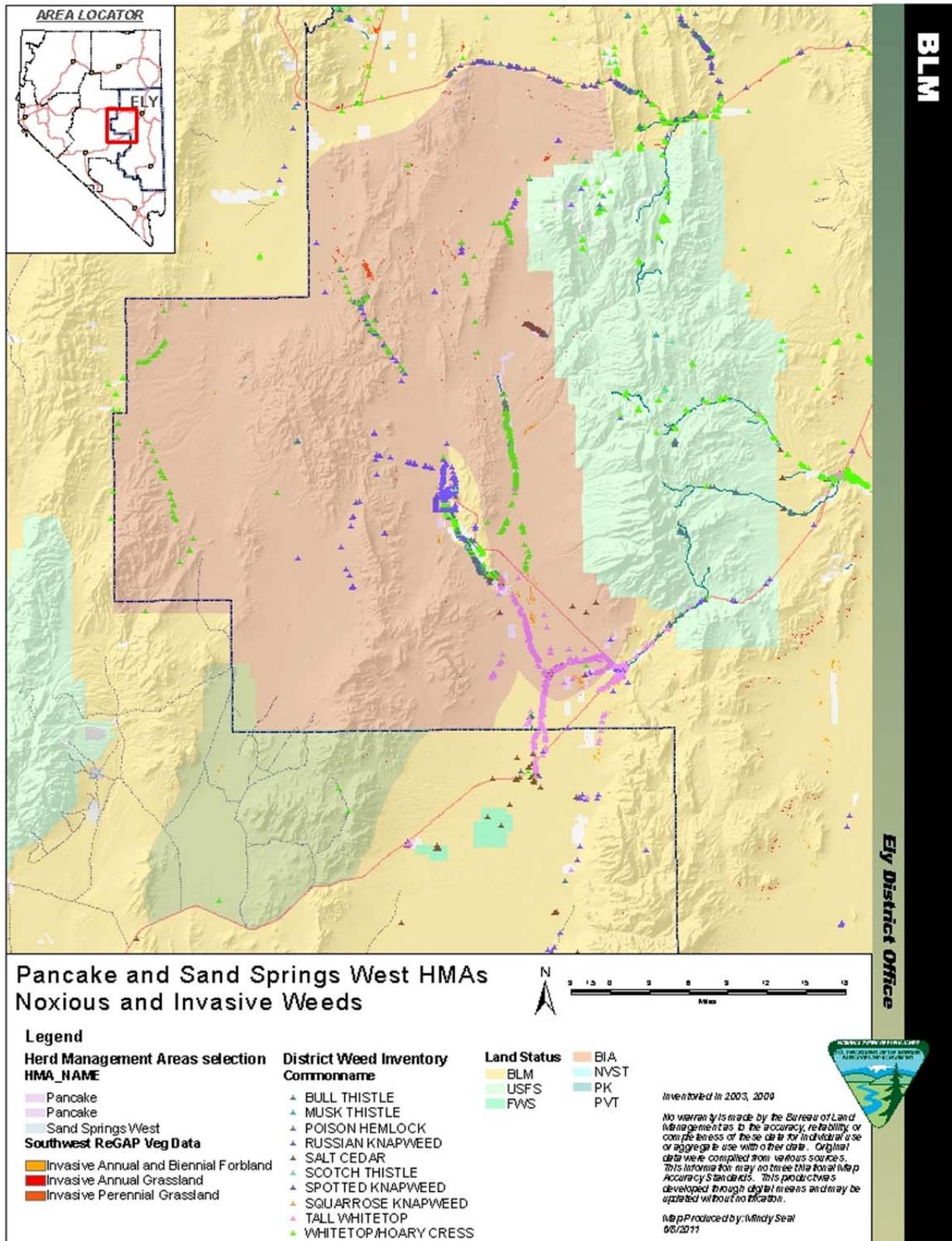
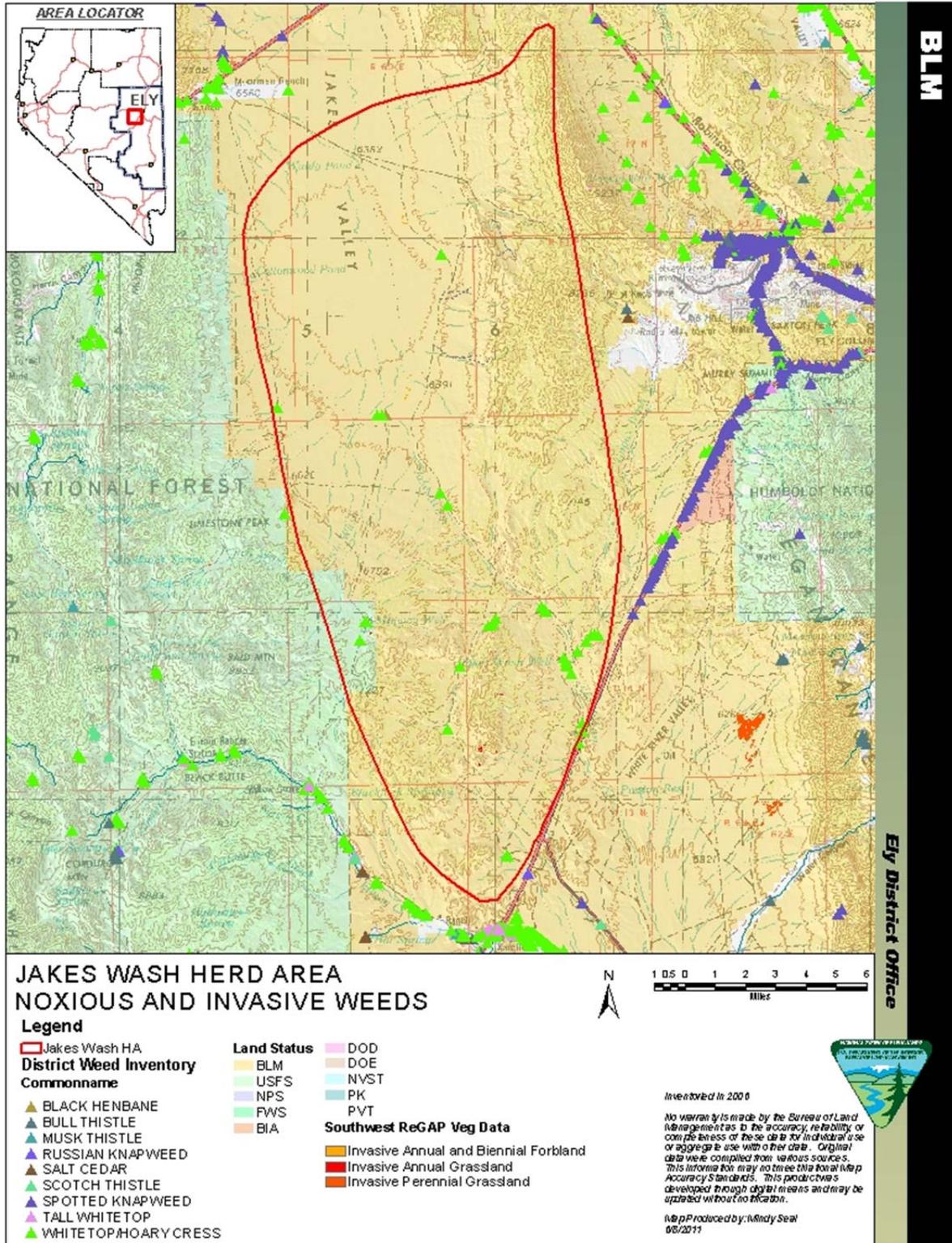


Figure 2. Map of documented noxious and invasive weeds in Jakes Wash HA



## Appendix VII



### Daily Visitation Protocol and Ground Rules for the Pancake Complex Wild Horse Gather



BLM recognizes and respects the right of interested members of the public and the press to observe the Pancake Complex wild horse and burro 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 and burros.

The BLM and the contractor's helicopter pilot must comply with 14 CFR Part 91 of the Federal Aviation Regulations, which determines the minimum safe altitudes and distance people must be from the aircraft. To be in compliance with these regulations, the viewing location at the gather site and holding corrals must be approximately 500 feet from the operating location of the helicopter at all times. The viewing locations may vary depending on topography, terrain and other factors.

#### General Daily Protocol

- A Wild Horse Gather Info Phone Line will be set up prior to the gather so the public can call for daily updates on gather information and statistics. Visitors are strongly encouraged to check the phone line the evening before they plan to attend the gather to confirm the gather and their tour of it is indeed taking place the next day as scheduled (weather, mechanical issues or other things may affect this) and to confirm the meeting location.
- 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 staff available during down times for a Q&A session on guided public-observation days. However, the contractor and its staff will not be available to answer questions or interact with visitors.
- Observers must provide their own 4-wheel drive high clearance vehicle, appropriate shoes, winter clothing, food and water. Observers are prohibited from riding in government and contractor vehicles and equipment.
- Gather operations may be suspended if bad weather conditions create unsafe flying conditions.

- 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 and burros while maintaining a safe environment for all involved. In addition, observation areas will be sited so as to protect the wild horses and burros from being spooked, startled or impacted in a manner that results in increased stress.
- BLM will delineate observation areas with yellow caution tape (or a similar type of tape or ribbon).
- Visitors will be assigned to a specific BLM representative on guided-observation days and must stay with that person at all times.
- Visitors are NOT permitted to walk around the gather site or temporary holding facility 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.
- 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.
- Observers will be polite, professional and respectful to BLM managers and staff and the contractor/employees. 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, lightning, wildfire, etc.).

#### Public Outreach and Education Day-Specific Protocol

- A public outreach and education day provides a more structured mechanism for interested members of the public to see the wild horse gather activities at a given site. On this day, BLM attempts to allow the public to get an overall sense of the gather process and has available staff who can answer questions that the public may have. The public rendezvous at a designated place and are escorted by BLM representatives to and from the gather site.

Appendix VIII  
Code of Federal Regulations  
Part 91 GENERAL OPERATING AND FLIGHT RULES  
Subpart B--Flight Rules General  
Sec. 91.119

Minimum safe altitudes: General.

Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:

(a) Anywhere. An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface.

(b) Over congested areas. Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.

(c) Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.

[ (d) Helicopters, powered parachutes, and weight-shift-control aircraft. If the operation is conducted without hazard to persons or property on the surface--

(1) A helicopter may be operated at less than the minimums prescribed in paragraph (b) or (c) of this section, provided each person operating the helicopter complies with any routes or altitudes specifically prescribed for helicopters by the FAA; and

(2) A powered parachute or weight-shift-control aircraft may be operated at less than the minimums prescribed in paragraph (c) of this section.]

Amdt. 91-311, Eff. 4/2/10

Appendix IX  
UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
WASHINGTON, D.C. 20240  
<http://www.blm.gov>

July 22, 2010

In Reply Refer To:  
4710 (260) P

EMS TRNASMISSION 07/23/2010  
Instruction Memorandum No. 2010-164  
Expires: 09/30/2011

To: All Field Officials (except Alaska)  
From: Assistant Director, Renewable Resources and Planning  
Subject: Public Observation of Wild Horse and Burro Gathers

Program Area: Wild Horse and Burro Program

Purpose: The purpose of this Instruction Memorandum (IM) is to establish policy for public observation of wild horse and burro (WH&B) gathers.

Policy/Action: The Bureau of Land Management's (BLM's) policy is to accommodate public requests to observe a gather primarily through advance appointment, on days and at times scheduled by the authorized officer. Planning for one public observation day per week is suggested.

Specific viewing opportunities will be based on the availability of staff with the necessary expertise to safely and effectively host visitors, as well as other gather-specific considerations (e.g., weather, terrain, road access, landownership). The public should be advised that observation days are tentative and may change due to unforeseen circumstances (e.g., weather, wildfire, trap relocation, equipment repair, etc.). To ensure safety, the number of people allowed per observation day will be determined by the District Manager (DM) and/or Field Office Manager (FM) in consultation with the Contracting Officer's Representative/WH&B Specialist (COR) for the gather.

The DM/FM has the primary responsibility for effectively planning and managing public observation of the gather operation. Advance planning will:

- Ensure that the public have opportunities to safely observe wild horse gathers;
- Minimize the potential for disruption of the gather's execution;
- Maximize the safety of the animals, visitors, and the BLM and contractor personnel;
- Provide for successful management of visitors; and
- Ensure preparedness in the event of unanticipated situations.

The authorized officer will consider the following when planning for public observation of WH&B gather operations. Also see Attachment 1 (Best Practices When Planning for Public Observation at Gathers).

A. Safety Requirements

During WH&B gathers, the safety of the animals, the BLM and contractor personnel, and the public is of paramount importance. Because of the inherent risk involved in working with WH&B, the public will not be allowed inside

corrals or pens or be in direct contact with the animals. Viewing opportunities during the gather operation must always be maintained at a safe distance (e.g., when animals are being herded into or worked at the trap or temporary holding facility, including sorting, loading) to assure the safety of the animals, the BLM and contractor personnel, and the public.

Unless an emergency situation exists, the BLM's policy prohibits the transportation of members of the public in Government or Contractor-owned or leased vehicles or equipment. Therefore, observers are responsible for providing their own transportation to and from the gather site and assume all liability for such transportation.

The helicopter/aircraft is the private property of the gather contractor. Due to liability and safety concerns, Bureau policy prohibits observers from riding in or mounting cameras onto the aircraft. Should observers create unsafe flying and gathering conditions, for example, by hiring an aircraft to film or view a gather, the COR, in consultation with the gather contractor, will immediately cease gather operations.

The COR has the authority to stop the gather operation when the public engage in behavior that has the potential to result in harm or injury to the animals, employees, or other members of the public.

#### B. Planning for Public Observation at WH&B Gathers

During advance planning for public observation at WH&B gathers, the authorized officer should consult with the State External Affairs Chief or appropriate Public Affairs office. An internal communications plan will be developed for every gather (Attachment 2). It may also be helpful to prepare answers to frequently asked questions (Attachment 3).

#### C. Law Enforcement Plan

A separate Law Enforcement Plan should be developed if the need for law enforcement support is anticipated. The Law Enforcement Plan must be approved in advance by the Special Agent-In-Charge (SAC) or the State Staff Ranger of the State in which the gather is occurring.

#### D. Temporary Closure to Public Access

Under the authority of section 303(a) of the Federal Land Management and Policy Act (43 U.S.C. 1733(a)), 43 CFR 8360.0-7, and 43 CFR 8364.1, the authorized officer may temporarily close public lands within all or a portion of the proposed gather area to public access when necessary to protect the health and safety of the animals, the public, contractors and employees. Completion of a site-specific environmental analysis of the environmental impacts associated with the proposed closure and publication of a Federal Register Notice is required.

#### E. Gather Contract Pre-Work Conference

- Talk to the contractor about how many members of the public are expected and when. Discuss, and reach mutual agreement, about where best to position the public at the individual trap-sites to allow the gather to be observed, while accomplishing the gather objectives and assuring the humane treatment of the animals and the safety of the BLM and contractor personnel, and public.
- No deviation from the selected viewing location(s) should be made, unless the gather operation is being adversely impacted. The COR will consult with the gather contractor prior to making any changes in the selected viewing locations.
- The BLM's policy prohibits it from ferrying observers in the helicopter or any other mode of conveyance unless an emergency situation exists. Review this policy with the contractor during the pre-work conference.

#### F. Radio Communication

- Assure there is effective radio communication between law enforcement personnel, gather COR or project inspectors (PIs), and other BLM staff.
- Identify the radio frequencies to be used.

- Communication with the gather contractor is through the BLM COR or PI, and from the gather contractor to the helicopter pilot. Direct communication between BLM personnel (other than the COR) and the helicopter pilot is not permitted, unless agreed upon by the BLM authorized officer and the contractor in advance, or the pilot is requesting information from the COR.

#### G. Pre- and Post-Action Gather Briefings

- Pre-briefings conducted by knowledgeable and experienced BLM staff can be helpful to the public.
- The pre-gather briefing is an opportunity to explain what individuals will see, why the BLM is conducting the gather, how the animals will be handled, etc.
- Post-action briefings may also be helpful in interpreting and explaining what individuals saw, what happened, why certain actions were taken, etc.

#### H. Summary of Individual Roles and Responsibilities

##### 1. District and/or Field Office Managers

DMs and/or FMs are responsible for keeping the State Director and State WH&B Lead fully informed about the gather operation. Included is working with State/local public affairs staff to prepare early alerts if needed. An additional responsibility is determining if a law enforcement presence is needed.

##### 2. Public Affairs Staff

The local district/field office public affairs staff is responsible for working with the COR, DM/FM, other appropriate staff, the State WH&B Program Lead, and the State Office of Communications to implement the communications strategy regarding the gather.

##### 3. Law Enforcement

Develop and execute the law enforcement plan in consultation with District/Field Office Managers, the COR/PI, and the State's Special Agent-In-Charge or State Staff Ranger.

##### 4. Contracting Officer's Representative (COR)/Project Inspectors (PIs)

The COR and the PI's primary responsibility is to administer the contract and manage the gather. A key element of this responsibility is to assure the safe and humane handling of WH&B. The COR is also responsible for working closely with the DM/FM and Public Affairs Staff to develop the communication plan, and for maintaining a line of communication with State, District, and Field Office managers, staff and specialists on the progress of, and any issues related to, the gather operation.

Timeframe: This instruction memorandum is effective immediately.

**Budget Impact:** Higher labor costs will be incurred while accommodating increased interest from the public to attend gather events. The budget impacts of unanticipated situations which can occur during WH&B gathers include substantial unplanned overtime and per diem expense. Through advance planning, necessary support staff can be identified (e.g., law enforcement, public affairs, or other BLM staff) and the cost-effectiveness of various options for providing staff support can be evaluated. In situations where public interest in a gather operation is greater than anticipated, the affected state should coordinate with the national program office and headquarters for assistance with personnel and funding.

**Background:** Heightened interest from the public to observe WH&B gathers has occurred. Advance planning for public observation of gather operations can minimize the potential for unanticipated situations to occur during WH&B gathers and assure the safety of the animals, the BLM and contractor personnel, and the public.

**Manual/Handbook Sections Affected:** No change or affect to the BLM manuals or handbooks is required.

**Coordination:** This IM was coordinated among WO-200 and WO-260 staff, State WH&B Program Leads, field WH&B Specialists, public affairs, and law enforcement staff in the field.

**Contact:** Questions concerning this policy should be directed to Susie Stokke in the Washington Office at (202) 912-7262 or Lili Thomas in the National Program Office at (775) 861-6457.

Signed by:  
Bud C. Cribley  
Acting, Assistant Director

Authenticated by:  
Robert M. Williams  
Division of IRM Governance, WO-560



## *Appendix X*

### **Comments and Responses**

A preliminary environmental assessment was made available to interested individuals, agencies and groups for a 30 day public review and comment period that opened on September 28, 2011 and closed on October 28, 2011. Written comments were received from seven individuals, e-mail comments and form letters were received from 258 individuals. Comments received after October 28, 2011 were not accepted. Many of these comments contained overlapping issues/concerns which were consolidated into 118 distinct topics. Below is a detailed summary of the comments received and how BLM used these comments in preparing the final environmental assessment.

<b><u>No.</u></b>	<b><u>Commenter</u></b>	<b><u>Comment</u></b>	<b><u>BLM Response</u></b>
1.	The Humane Society of the United States (HSUS)	Overall, the HSUS is supportive of the Proposed Action: Alternative A-Phased-In Gather and Population Growth Alternative – as well as several management actions common to more than one alternative action.	Comment Noted
2.	HSUS	We strongly support and appreciate the BLM's stated intentions to use water/bait trapping to supplement helicopter drive-trapping efforts, or when helicopter drive-trapping cannot be scheduled, during the life of the plan to remove sufficient numbers of horses to achieve the gather targets for both removals and fertility control efforts	Comment Noted
3.	HSUS	We strongly recommend that the BLM use the Wild Horse Management System (WHMS) developed by Dr. Charles De Seve of EconFirst Associates, LLC, (EFA) which was specifically designed to provide BLM wild horse managers with a powerful tool for developing effective, cost-efficient wild horse management plans and programs.	Comment Noted
4.	HSUS	Any proposed gather plan should specify the percentage of animals the BLM intends to remove,	Refer to EA section 2.1

		treat and release based on the number of animals BLM actually gathers rather than on a specific number of animals the BLM hopes to gather.	
5.	HSUS	Strongly supports BLM's efforts to develop creative, innovative, and sustainable ways to keep more animals on the range and reduce the need to place more animals in government holding facilities, but in order for our organization to support this new phased-in gather and population growth concept, the BLM must describe and fully justify the management actions it intends to take if gather efficiency falls short of the target goal.	Refer to EA section 2.1
6.	HSUS	We are requesting that the Final EA include a stipulation which states that either 35% of the total mares gathered (i.e. a minimum of 150 of the total mares gathered) must be treated and released regardless of how many horses are actually gathered and must take priority over the removal of horses or the gelding and release of 200 stallions.	Refer to EA section 2.1. Up to 145 mares would be treated and released back into the Complex.
7.	HSUS	We also still have serious concerns that have not been adequately addressed in the Preliminary EA regarding the BLM's plans to capture stallions, geld them in the field and then release them back on the range.	Comment Noted
8.	HSUS	We generally oppose the establishment of geldings of Herd Areas (HA)/HMAs because we believe such an action does not reflect the original spirit and intent of the 1971 Act, See 16 U.S.C. §§ 1331-1333, and as such, may not be legal.	The WFRHBA specifically authorizes the Secretary to use sterilization as a management tool for maintaining wild horse population at AML. See 16 U.S.C. § 1333(b)(1) (which allows the Secretary to achieve AML "by the removal or destruction of excess animals, or other options (such as sterilization...)." ).

9.	HSUS	We request that the Final EA describe and fully justify the proposed action to release 200 geldings by evaluating the legal justification for the proposed action, as well as the potential positive and negative impacts that such an action may have on the individual animals and herds involved.	Refer to EA section 4.1. See also response to Comment 8.
10.	HSUS	If the BLM's plans to geld and release 200 stallions cannot be fully justified under the Proposed Action, then the HSUS recommends that the BLM release an additional 80 treated mares and 120 intact stallions as a viable alternative to removing 200 additional animals from the range and placing them in government holding facilities or pastures.	Comment Noted. See also Response to Comment 8.
11.	HSUS	We generally support treating and releasing between 65% and 85% of the total mare population, and even if the BLM is able to gather its target goal of 1,540 animals, the BLM only plans to treat and release 30% of the existing mare population.	Comment Noted
12.	HSUS	We do not necessarily support the number of animals the agency intends to remove as we have repeatedly urged the BLM to avoid removing more animals from the range than the agency can expect to adopt in a given year except in emergency situations, and to the best of our knowledge, the proposed Pancake HMA Complex gather does not qualify as an emergency.	Comment Noted
13.	HSUS	We respectfully request that the BLM replace this statement with the following language in the Final EA for the Pancake Complex and any other documents where	Refer to EA page 10

		such a statement has been used: “ Also, a recent report received from the Humane Society of the United States (The HSUS) recommends that the BLM increase the level of use of fertility control and other population control methods [sex ratio adjustments, introduction of geldings to the range in areas that were previously zeroed-out by the BLM and/or introduction into existing HMAs and self-sustaining (i.e. reproductive wild horse population.)]	
14.	The John Muir Project of Earth Island Institute, The Cloud Foundation, Individual AWHPC	Introducing such a large population and proportion of geldings into the herd complex would create significant unknown risks to the behavioral ecology and population dynamics of the herd, potentially compromising the behavioral and genetic integrity of the entire herd, and this must be analyzed fully in an EIS.	Refer to the EA section 2.1 & 4.1. Under the Proposed Action 200 Gelding would be phased in over the six to ten year time frame. Post gather monitoring would be used to document whether or not geldings form bachelor bands as expected or intermix with the breeding population. Over the course of the phased in approach wild horse would be gathered and removed until a core breeding population of 361 wild horses is reached.  By maintaining the core breeding population which is 2 X the recommended breeding level and with the movement of wild horses throughout the Complex. The use of Fertility control will also maintain genetic make- up in the herd by once the mares become fertile
15.	The John Muir Project of Earth Island Institute Individual	What is the BLM’s basis for assuming that having about one-half of the male population in geldings will not create the potential for significant adverse impacts to the population?	Under the Proposed Action- Phased-in Approach BLM would monitor the effects of a phased in gelding population within the Pancake Complex. By implementing the phased in approach BLM will be collecting anecdotal information for future management with geldings in the Complex. This information

			<p>will allow BLM to determine whether it is realistic and feasible to leave more wild horses on the range through the release of sterilized animals without adversely impacting rangeland resources by lowering the annual population growth rate for the herd. Such information will also allow BLM to determine whether gelding bands would allow BLM to manage a wild horse population in areas with severely limited habitat components (like water) that are rapidly depleted with normal population growth.</p>
16.	The John Muir Project of Earth Island Institute	<p>An EIS must be prepared to fully address the direct and cumulative effects of this on wild horse population health, including the cumulative effects of this in combination with repeated PZP injection of mares and unnatural skewing of the sex ratio with regard to the breeding portion of the population.</p>	<p>Refer to the EA section 4.1. Based on over 20 years of use and completed research into animal health and behavior following treatments it clearly shows that wild horses are neither injured by this vaccine, nor do aberrational behaviors occur as a consequence of its application. Oversight by The Humane Society of the United States assures that the vaccine is used only to slow reproduction and may not be used for the elimination of entire herds. PZP is designed to bring about short-term infertility and is reversible, reduces the need for gathers and preserves the original gene pool in each herd (Kirkpatrick et al. 2010). The HSUS strongly supports an increase in the use of fertility control – specifically the Porcine Zona Pellucida (PZP) immunocontraception vaccine.... To slow population growth (HSUS, 2010).</p> <p>It is also unlikely that an individual mare could be treated consecutively for such a period since the percent of mares that can be captured in a given gather is below the 95% level.</p> <p>The BLM is not aware of any</p>

			conclusive research data that supports that assumption that adjusting sex ratios to favor males has a disruptive impact to the herd dynamics.
17.	The John Muir Project of Earth Island Institute	An EIS must be prepared to fully address the significant cumulative effects of this roundup with other recent severe roundups (reducing population by 80% or more) in nearby wild horse herd management areas.	Though a large percentage of the resident wild horse population was removed recently from a nearby HMA complex the remaining population is still at or above the established AML for the HMAs and any intermixing that potentially occurs was not impacted by the removals.
18.	The John Muir Project of Earth Island Institute, The Cloud Foundation	The available scientific data shows that wild horses are not in need of population control, including roundups, or immunocontraceptives like PZP, if mountain lions are not eradicated in the wild horses' territories on behalf of the livestock grazing industry, from research conducted in the wild horse herds in both California and Nevada (Greger and Romney 1999, Turner et al. 1992, Turner and Morrison 2001).	The Greger paper is an interesting report, but does little to document the presence of a resident mountain lion population or the degree to which lion presence reflects horse numbers. As for the Turner et. Al, 1992 and Turner and Morrison 2001 lion research in the Montgomery Pass Territory which show the successful maintenance of the lion population that actually limited the horse population was dependent on a seasonal prey switching between horse foals and seasonally migratory mule deer. Most horse ranges simply do not have enough prey base outside of the foaling season to support a resident lion population.
19.	The John Muir Project of Earth Island Institute	Wild Horses are a native species in North America, having evolved here; and they existed here thousands of years after the last Ice Age, contrary to previous assumptions (Kirkpatrick and Fazio 2010). In fact, the historical evidence indicates that wild horses likely never went extinct in North America (Henderson 1991)	Congress declared horses as wild and free-roaming under the 1971 WFRHBA. Under the law, BLM is required to manage wild horses in a thriving natural ecological balance and multiple use relationship on the public lands and to remove excess immediately upon determination that excess wild horses exist. Refer to the EA Section 1.2 Purpose and Need.
20.	The John Muir Project of Earth Island Institute, Individual	An alternative that would not eliminate all wild horses in the Jakes Wash HA (Herd Area) and which would not eliminate wild horse outside	The Ely District Approved Resource Management Plan (August 2008) dropped Jakes Wash HMA to HA status. Through this decision, the HA

		of the boundaries of these HMAs	<p>were identified as unsuitable for long-term management of wild horses (inadequate forage, water, space, and cover). Through the November 2007 EIS analysis, BLM designated areas suitable for long-term management of wild horses as herd management areas and affirmed the established appropriate management levels for wild horses within these HMAs (2008 Ely District RMP). A land-use plan amendment would be required to manage wild horses in the Jakes Wash HA as suggested in this comment. Such amendment and change in land use cannot be done through a gather decision.</p> <p>The management of wild horses outside the boundaries of the existing HMAs/Has is contrary to the WFRHBA.</p>
21.	The John Muir Project of Earth Island Institute AWHPC Individual	An alternative that would increase the wild horse AML in the HMAs, while decreasing livestock grazing, such that the total AUMs for wild horses and livestock combined does not increase	<p>Refer to the EA 2.8 regarding authorized livestock grazing use. Livestock grazing levels in most allotments are already well below total permitted AUMs. Even with this reduced level of grazing relative to permitted use, wild horses are a contributing factor to not meeting the standards for rangeland health, demonstrating that wild horse numbers are in excess of the levels necessary to achieve a thriving natural ecological balance.</p> <p>Appropriate Management Levels for the Ely District were evaluated through the 2007 Ely Proposed Resource Management Plan/Final Environmental Impact Statement, Table 3.8-2 and Page 4.8-2. The 2007 EIS evaluated each herd management area for five essential habitat components and herd characteristics: forage, water, cover, space,</p>

			and reproductive viability. Through this analysis and the subsequent Final RMP and Record of Decision (ROD), the Appropriate Management levels were reviewed and set that would achieve a thriving natural ecological balance and rangeland health. The Tonopah RMP stated that adjustments to AML will be based on monitoring and grazing allotment evaluations. At present, no need has been identified to increase or decrease AML, however achieving and maintain AML is critical for the conservation of rangeland resources and health wild horses.
22.	The John Muir Project of Earth Island Institute, Individual AWHPC	An Alternative that would adjust allocations in the HMAs such that more AUMs would be allocated to wild horses than to livestock in the HMAs	See comment 21
23.	The John Muir Project of Earth Island Institute, Individual AWHPC	An alternative that would retain the existing AML, but would not use PZP on wild horses, and would instead halt any future killing of mountain lions within or adjacent to the HMAs, regardless of whether lions kill any livestock, and would, if necessary to restore lion populations in the area, reintroduce lions.	Refer to the EA 2.4 & 2.8
24.	The John Muir Project of Earth Island Institute AWHPC	The PEA (p.23) states that wild horses would be completely eliminated, and would be permanently eliminated, from the Jakes Wash Herd Area, which is a violation of the WFHBA's requirement that the BLM and Forest Service manage wild horses as an integral part of the public lands. The BLM does not have the legal authority to completely eliminate wild horses in Herd Areas or HMAs. Even if the BLM has the authority to reduce the numbers somewhat of	Refer to the EA section 4.1. Also refer to 43 CFR 47000.0-6 (a) which states: " <i>Wild horses and Burros shall be managed as self-sustaining population of healthy animals in balance with other uses and the <u>productive capacity of their habitat</u> (emphasis added).</i> "  The lack of key habitat components is a significant impediment to managing for a long-term healthy wild horse population within the Jakes Wash HA, as determined through the Ely RMP decision-

		the current 132 wild horses in the Jakes Wash HA., the agency must maintain the population of wild horses here. The PEA claims (p.23) that the Jakes Wash HA cannot support wild horses, and yet they are reproducing and surviving there, and have been for decades or longer.	making process. That wild horses may currently be present and healthy does not mean that the population is a sustainable one in this area. BLM has no control over private water resources that horses rely on.
25.	The John Muir Project of Earth Island Institute AWHPC	The proposal includes “managing a non-breeding population of geldings” that would amount to about half of the total wild horse population. This is fundamentally in conflict with the WFHBA’s intent and language regarding management at the minimal feasible level, especially in combination with the other aspects of this proposal (e.g., repeated PZP injection to mares and skewed sex ratio)	See response to comments 14 & 16
26.	The John Muir Project of Earth Island Institute	If wild horses outside of the HMAs would be removed in this project, this would indicate that the BLM does not consider wild horses to be an essential part of the ecosystem, or even authorized, outside of the HMAs. This would violate the WFHBA’s requirement that the BLM treat wild horses as integral part of the ecosystem across all public lands (not just designated refuges like HMAs) where wild horses existed as of 1971 ( the date of the WFHBA’s passage). 16 USC 1331.	See response to Comment 20
27.	The John Muir Project of Earth Island Institute, Individual AWHPC	The WFHBA requires that, Within areas specifically designated for the conservation of wild horses, like the HMAs, such areas must be managed “principally”, but not exclusively, for wild horses. The BLM violates this requirement on the HMAs	By law, BLM is required to manage wild horses in a thriving natural ecological balance and multiple use relationship on the public lands and to remove excess immediately upon a determination that excess wild horses exist. BLM’s multiple use mandate is further

		by allowing livestock to have more AUMs than wild horses.	<p>reinforced under the Federal Land Policy and Management Act (FLPMA) and the Taylor Grazing Act (TGA). BLM cannot use regulations at 43 CFR 4710.5 to manage wild horses and livestock in a manner that is inconsistent with the RMP or with its other statutory authorities and regulatory requirements. A land-use plan amendment or revision would be necessary to reallocate use in this manner between livestock and wild horses.</p> <p>Standard Determination Documents have been completed for most of the allotments within the HMAs and have identified wild horses as a contributing factor in not meeting the standards for rangeland health.</p>
28.	The John Muir Project of Earth Island Institute, Individual AWHPC	The EA fails to credibly establish that: a) TNEB is not being maintained; or b) wild horses are the cause of a loss of TNEB on the HMAs	Refer to EA 1.2 Purpose and Need. Standard Determination Documents have been completed for most of the allotments within the HMAs and have identified wild horses as a contributing factor in not meeting the standards for rangeland health. Resource monitoring data for the South Sand Springs Valley Use Area has found wild horses and drought as the contributing factor in not meeting the Standards. Some riparian areas have been utilized heavily by wild horses.
29.	The John Muir Project of Earth Island Institute AWHPC	The PEA fails to provide a sufficiently sound evidentiary foundation for its assertion that wild horses, and not livestock, are causing damage to riparian zones or other habitat features, on the HMAs.	Standard Determination Documents have been completed for most of the allotments within the HMAs and have identified wild horses as a contributing factor in not meeting the standards for rangeland health. Resource monitoring data for the South Sand Springs Valley Use Area has found wild horses and drought as the contributing factor in not meeting the

			Standards. This area has not received livestock grazing in the past 20 years.
30.	The Cloud Foundation AWHPC	How can abortion not be considered an issue when it resulted in a significant number of deaths in the past at the same time of year? How is it considered an “indirect impact,” when it clearly is a direct result of the stress occurred during the helicopter stampede and subsequent transportation?	Previous gathers where wild horses have had spontaneous abortions were attributed to poor body condition observed in the young and older mares.  Based on the anticipated body condition of these horses the potential for such spontaneous abortions is likely to be less in comparison to areas where the mares were in a poorer body condition class.
31.	The Cloud Foundation	Should this roundup proceed as scheduled, temperature and distance parameters should be included in the Standard Operating Procedures (SOPs).	Refer to EA Appendix III Standard Operating Procedures
32.	The Cloud Foundation AWHPC	Therefore, to put the safety of the horses first, we suggest setting the maximum distance that horses are run at five miles and only when the temperature is above freezing. Trap site should have windbreaks and ample space for captured horses to rest and recover, before being loaded onto trailers.	See response to Comment 31
33.	The Cloud Foundation, Individual	The Ten-year average use of Animal Unit Months (AUMs) for livestock in the Complex is 9,973, according to this EA. If there are to be only 561 horses (including the gelding population), that equals 6,732 AUMs. This is only 40% of the AUMs for wild horses. Per the Wild Horse and Burro Act, wild horse areas are to be managed “principally though not exclusively” for wild horses.	See response to comment 27. A direct comparison of livestock AUMs and wild horse AUMs is not appropriate because livestock and wild horses use the range differently and livestock grazing can be controlled and managed to avoid over-utilization of vegetation or impacts to riparian resources (e.g., by not authorizing hot season grazing), while wild horses are present year-round.
34.	The Cloud Foundation	Foals have not and should not be counted toward the AML as they eat a	Due to the timing (January/February) of the gather the majority of the foals

		negligible amount of forage... When did BLM start counting foals equally with adult horses? Why is this now occurring?	will be approximately 6 to 8 months of age and should be weaned from their mare. Due to the date of the gather operation, per BLM policy, these foals would be classified as yearlings which makes them part of the AML population. If unweaned foals are gathered; the foal may be removed with the mare; therefore are included in the overall population number for wild horses to be removed or they may be released with their mare as part of the released population. Final disposition will be determined by the WH&B specialist/COTR. The goal is to get to an adult population of 361 breeding population and 200 geldings remaining on the range.
35.	The Cloud Foundation Individual	The reason given for the planned zeroing-out of the Jakes Wash HA is lack of forage. If this is true, what are the livestock that are permitted to graze the area eating?	The Jakes Wash HA lacks suitable yearlong habitat for wild horses, and monitoring data indicates wild horses move outside the HA to higher elevations on the USFS administered lands during certain time of the year. In addition, two emergency gathers have been conducted in recent years because of the lack of forage and water during the summer. The management action to achieve 0 wild horses within the Jakes Wash HA reflects the recent evaluation based on Multi-tiered analysis from the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) table 3.8-2 and page 4.8-2. Jakes Wash HA has inadequate forage, water, space, and cover.  Refer to EA section 4.1 page Jakes Wash HA (page 23)
36.	The Cloud Foundation	Wild horses were designated to roam in these areas by law. Why then are they being removed for the	Wild horses are not being removed to benefit livestock grazing, but in response to the lack of necessary habitat

		benefit of private livestock?	components to sustain a healthy wild horse population over the long-term.
37.	The Cloud Foundation Individual	Why does the EA suggest skewing sex ratios as an option when they admit it causes social disruption?	The adjustment to the 60/40 sex ratio is not a wide deviation from what has been seen in wild horse populations throughout the west so the level of potential disruption should not negatively impact the herd. BLM is unaware of any conclusive research showing a negative impact from this type of adjustment of the sex ratio.
38.	The Cloud Foundaiton Individual	The effects of adding geldings in a population this size are completely unknown and very well could result in an increase in fights and injuries amongst males.	Potential impacts of introducing a gelding population are analyzed in EA section 4.1.
39.	The Cloud Foundation Individual	The BLM plans to remove horses, regardless of age and status, completely ignoring the effect on a highly evolved society.	Refer to the EA section 2.6
40.	The Cloud Foundation	EA does not address the stress which is most apparent among the senior horses captured.	Refer to the EA section 4.1
41.	The Cloud Foundation	This new “scorched earth” policy (removing every animal caught regardless of age).	Refer to the EA section 2.6
42.	The Cloud Foundation	In 1990 the Government Accountability Office Report underscored that wild horse removals did not significantly improve range conditions. The report pointed to cattle as the culprit as they vastly outnumber horses on BLM-managed public lands. They reported that wild horse removals are not linked to range conditions and mentioned the lack of data provided by BLM.	There have been a series of grazing management decisions since the 1990 GAO report that have adjusted livestock grazing levels, seasons of use and implemented other management actions to ensure that livestock grazing will allow for achievement of rangeland health. Monitoring data specific to these HA/HMAs indicate that the excess number of wild horses is a causal factor in not meeting rangeland health standards. See section 4.1 of the EA.
43.	The Cloud Foundation	Why doesn't BLM discuss the positive impacts of wild horses and participate in	Comment Noted.

		discussions on how to boost local economies through eco-tourism?	
44.	The Cloud Foundation Individual	We recommend the use of the one-year PZP drug that has been thoroughly tested, is field-dartable and reversible, can be given at the appropriate time of the year to a select number of mares, and only used in herds that are large enough to remain genetically viable.	Comment Noted
45.	The Cloud Foundation, Western Watersheds, Individual	Why has bait trapping and remote darting, used independently or in tandem, not been considered as a less invasive method of population control, assuming there are issues of over-population as confirmed by accurate and current census data?	Refer to the EA section 2.8 The use of Bait trapping and remote darting, though effective in specific areas and circumstances, would not be timely, cost-effective or practical as the primary gather method for this Complex due to the timing of the proposed gather, size of the Complex, multiple water sources, road access for vehicles to potential trapping locations necessary to get equipment in/out as well as safely transport gathered wild horses is limited and majority of the horses would not be able to be darted due to approachability and access.
46.	The Cloud Foundation	If there is no tracking involved, why bother hip-branding the mares?	Horses are tracked through flight inventories and on-the-ground monitoring.
47.	The Cloud Foundation, Individual	BLM needs to consider the no cost alternative of managing the animals on the range.	Refer to EA section 2.7
48.	The Cloud Foundation	BLM is supposed to manage wild horses and burros using the minimum feasible methods. Certainly natural management is the most cost-effective management strategy.	Refer to the EA section 2.8
49.	The Cloud Foundation	Adaptive Management must be considered and the public must be allowed to comment and to suggest solutions on actions in a holistic manner.	Refer to the Purpose and Need identified in Section 1.2, Section 7.0 Consultation and Coordination of the EA. The interested public is involved through the Term Permit Renewal process as well as the Land Use Planning Process.
50.	The Cloud Foundation	Reconsider the Alternatives	Refer to EA section 2.8

		of Bait/Water Trapping and PZP.	
51.	The Cloud Foundation Individual	<p>Nowhere in the EA does the BLM discuss range improvements to allow for fewer removals of wild horses and burros. We suggest the following:</p> <ul style="list-style-type: none"> <li>• Reduce fencing to allow free roaming and natural migration of wild horses.</li> <li>• Improve existing water sources, if necessary, which would benefit all species of wildlife, including horses. Spread horse use by adding water catchments.</li> <li>• Reseed rangelands where damage has occurred – range improvements are much less costly than roundups and benefits horses, livestock, and wildlife.</li> <li>• Treat noxious &amp; invasive weeds</li> </ul>	<p>This comment is outside the scope of this analysis. Fencing does exist within the Complex but does not restrict wild horse movement.</p> <p>Large scale vegetation projections would be an impractical solution to existing population levels and would be cost prohibitive. Overall success of these types of projects would be significantly reduced with current horse population.</p>
52.	Individual	I strongly oppose the destruction of the entire fabric of wild horse society by rounding up all horses and choosing a random handful to return	Comment Noted
53.	Individual	I also strongly oppose this roundup being done in the dead of winter.	Due to the terrain and dense tree cover making it difficult to locate the horses at other times of the year. Winter gather operations are much more effective for accessing wild horses that have moved out of the high country and the tree cover due to snow and cold conditions.
54.	Individual	Castrate 200 stallions and return them as nonreproducing horses, calling them “wild horses” even though geldings have no role to play, no place in the natural order of a wild horse herd.	Comment Noted
55.	Individual	BLM is making this part of their SOP (standard operating procedure) all	BLM has analyzed the potential impacts of the proposed action and action

		over the west in the absence of any long term adequate study remotely resembling a scientific or environmental review. This is in direct violation of the NEPA.	alternatives in EA sections 4.0.
56.	Individual	This returning of 200 geldings as a nonreproducing herd egregiously violates the minimal feasible management mandate in the 1971 Act.	Instead of placing these addition animals in long-term holding we are trying to keep them on the range as geldings. There would be less stress on the wild horse social structure then releasing 200 hundreds stallions which would increase the sex ratio of the breeding portion of the herd and would have greater potential to cause a social disruption in the herd. Alternatively, by not returning gelding to the range, the wild horse population would be gathered to low-range AML rather than be gathered only to the mid-range AML with geldings.  Also refer to comment 8
57.	Individual, AWHPC	Consider and implement the use of PZP to reduce reproduction if necessary	Refer to EA section 2.0
58.	Nevada Cattlemen's Association	The Nevada Cattlemen's Association continues to be in support of sustainable, healthy, well-managed herds of Wild Horses and Burros on healthy Nevada rangelands.	Comment Noted.
59.	Nevada Cattlemen's Association	We support BLM's plan to gather excess horses and manage numbers of those remaining with stacked sex ratios and non-breeding herds	Comment Noted.
60.	Nevada Cattlemen's Association	In addition, the association supports the proposed non-breeding component of 200 geldings, which would bring the overall population to approximately 561 wild horses which is the mid-range of AML	Comment Noted
61.	Red Rock Audubon Society, Individual	I strongly support reaching and maintaining wild horse herd numbers within the Appropriate Management Levels (AML) set as a result	Comment Noted

		of scientific evaluation of the carrying capacity of the rangeland resources.	
62.	Red Rock Audubon Society	On page 33 of the EA is the statement that there will be a population of 361 breeding horses post-gather under the preferred alternative. Clearly this is in error since only 800-1,000 horses are proposed to be removed.	See response to comment 14
63.	Red Rock Audubon Society, Individual	Alternative E with removal of 1847 horses initially and subsequent gathers for administration of PZP to mares would be more cost effective and result in good range conditions in a much shorter period of time	Comment Noted
64.	Individual	The plan as currently proposed would allow so few horses to remain, that it would effectively drive wild horses extinct in the entire Pancake Complex	Refer to EA section 4.1. The proposed gather will not affect the long-term genetic and reproductive sustainability of the wild horse populations in the Complex.
65.	Individual	The use of PZP-22, an unvetted drug, is also unacceptable, as it may cause permanent, as yet unstudied effects in both individuals and populations	See response to comment 16
66.	Individual	In general, population management strategies must allow for a truly genetically viable herd in each HMA, HA, and Wild Horse Territory with a 50/50 sex ratio.	See response to comment 34 and 46
67.	Individual	America's public lands for multiple use and <i>sustained</i> yield, reduction in numbers of privately owned domestic cattle and sheep should therefore be a paramount goal of Bureau of Land Management.	Refer to EA section 2.8
68.	Individual	Your agency claims that it "humanely" rounds up wild horses with helicopters.	Refer to EA Appendix III
69.	Individual	I believe they should all be gathered	Comment Noted
70.	Western Watersheds	BLM must prepare an EIS to resolve all the uncertainty about ecological conditions,	Outside the scope of the document. The multiple use balance between wild horses

		and the relative impacts of cattle/sheep vs. wild horses in affecting food, cover, and space in this vast landscape	and livestock has been established through prior public decision-making processes and decisions.
71.	Western Watersheds	A new carrying capacity analysis must be undertaken – and AML must be set, based on an integrated assessment.	Appropriate Management Levels for the Ely District were evaluated through the 2007 Ely Proposed Resource Management Plan/Final Environmental Impact Statement, Table 3.8-2 and Page 4.8-2. The 2007 EIS evaluated each herd management area for five essential habitat components and herd characteristics: forage, water, cover, space, and reproductive viability. Through this analysis and the subsequent Final RMP and Record of Decision (ROD), the Appropriate Management levels were reviewed and set that would achieve a thriving natural ecological balance and rangeland health. The Tonopah RMP stated that adjustments to AML will be based on monitoring and grazing allotment evaluations. At present, available data does not indicate a need to consider an increase or decrease in AML, however achieving and maintain AML is critical for the conservation of rangeland resources and health wild horses.
72.	Western Watersheds	There is no current integrated Rangeland Health Assessment covering this area	Standard Determination Documents were completed for most of the HA/HMAs.
73.	Western Watersheds, Individual	The full degree of serious adverse cumulative effects – including from SWIP and other new lines, energy development, oil and gas, mining and many other activities must be examined.	Refer to EA section 5.0
74.	Western Watersheds	How many oil and gas leases mining claims, rights-of-way et.c have been issued across this landscape?	Outside the scope of the document
75.	Western Watersheds	Both the Forest and BLM have greatly overstocked	Outside the scope of the document

		lands based on bogus carrying capacity estimates where the agencies would have cattle grazing steep, rugged slopes where they simply do not go – but horses can. All of this must be corrected in an EIS before any gather occurs	
76.	Western Watersheds	We are alarmed that several provisions of the gather would greatly disrupt wild horse social structure – and appear similar to BLM running a farm. Keeping bands intact and maximizing native predators helps naturally control horse populations. This must be the basis of an expanded range of alternatives – along with PZP darting, and valid and honest stocking of domestic livestock.	Refer to EA section 2.0
77.	Western Watersheds	Helicopter gathers will disturb and traumatize native wildlife – from imperiled sage-grouse to wintering big game, and disrupt recreational uses of wild public lands, including in wilderness areas	Refer to EA section 4.0
78.	Individual	Why on earth do you think you'll need to go back in every two to three years to remove another 800-1,000 horses if you're only leaving a breeding population of 361 horses, 60% of those being males after this winter 2012 gather.	Under the Proposed Action-Phased in approach it will take approximately six to ten years before the Low-end of AML (361 wild horses) is reached. Gathering wild horses every two to three years allows BLM to reapply fertility control and remove excess wild horses at a slower rate than one large gather which would require a removal of approximately 1,847 wild horses in FY 2012.
79.	Individual	If the horse could travel well enough to be gathered and has survived successfully in the wild with that “deformity”, why does it need to be euthanized? Why Apply standards that aren't relevant to the horse's circumstances?	As described in the EA section 4.1, the BLM's euthanasia policy provides for the humane destruction of horses that are “affected by a chronic or incurable disease, injury, lameness or serious physical defect (includes severe tooth loss or wear, club foot, and other severe acquired or congenital abnormalities).”

			<p>The policy provides for the destruction of sick and lame animals as prescribed by law in the Wild Free Roaming Horses and Burros Act of 1971.</p> <p>The euthanasia policy is designed to provide a humane end of life for horses that may be suffering or are expected to suffer as they age. Merely the ability to survive is not a consideration since many horses might survive but suffer terribly in the process. While some horses with club feet are euthanized this does not mean every horse with a club foot will be euthanized. The defect has to be assessed as a “serious physical defect” by the Wild Horse and Specialist on site, usually in consultation with an on-site veterinarian. Most of the wild horses euthanized with club feet are affected to a degree unlike anything ever seen in captive, domestic horses. There is a strong genetic component to the club foot condition so turning these horses back out is not a good option. Eventually this leads to an increased incidence of this problem in the wild. Keeping these horses in captivity through adoption or on long term pastures often does not turn out well for the horse. They may indeed survive but again suffer from a lifetime of lameness. It is for these reasons that horses with chronic or incurable lameness including those caused by serious physical defects, including severe club feet, will be euthanized as an act of mercy.</p>
80.	Individual	There is no evidence that BLM has engaged in any current range assessments adequate to allow BLM to conclude that removing the proposed numbers of wild	Refer to EA section 4.1. Standard Determination Documents have been completed for most of the HMAs which show wild horses is a contributing factor

		horses and/or burros and not livestock from these HMAs would achieve that optimum number and return and maintain the range to its natural ecological balance.	in not meeting the standards. Where livestock were identified as a contributing factor, BLM has already taken action to modify grazing management to remedy any identified issues and ensure that livestock grazing will allow BLM to achieve rangeland health standards.
81.	Individual	Fail to consider a reasonable range of alternative actions.	NEPA directs the BLM to “Study develop, and describe appropriate alternatives to recommended courses of action in any proposal that involve unresolved conflicts concerning alternative uses of available resources...” (NEPA Handbook 1790-1 page 49). BLM believes that it has included a reasonable range of alternatives (CEQ, Forty Most Asked Questions Concerning CEQ’s NEPA Regulations, March 23, 1981)
82.	Individual	ACECs are areas where special management attention is needed to protect, and to prevent irreparable damage to important historic, cultural and scenic values; fish; or wildlife resources or other natural systems or process. Etc	Outside the scope of the Document. There are no established ACECs located within the Pancake Complex.
83.	Individual	So, Why then between 2008 & 2009 did the populations explode per the following (taken from BLM HA Stats)	Flight Inventories were conducted May 2008 (Pancake and Sand Springs West HMAs) and March 2009 (Jakes Wash HA). Wild horse numbers within the Complex have increased an average of 20-25% annually. Wild horse numbers also fluctuate between HA/HMA/WHT.
84.	Individual AWHPC	How do we know “double counting” Didn’t Occur?  Don’t the WH move which would make the count inaccurate?	While 100% accurate counts are nearly impossible (for example, some horses may be hidden beneath trees and not observed), the same can be said about all wildlife species. However, BLM is using scientifically accepted inventory methods that have been used by wildlife management agencies around

			the world for surveying wildlife populations and implements measures designed to reduce the likelihood of double-counting the same animal. Wild horse inventories are more likely to undercount the actual number of horses than to over-count.
85.	Individual	Over how many days did the survey take place?	The flight inventory took place over a three day period.
86.	Individual	No WH&B should be rounded up below high AML because TNEB has already been achieved.	An AML range was established for the HMAs, where the upper number represents the maximum population for which thriving natural ecological balance would be maintained. The lower range represents the number of animals to remain in the HMAs following a wild horse gather in order to allow for a four year gather cycle and prevent the population from exceeding the established AML between gathers. <i>“We interpret the term AML...to mean that “optimum number” of wild horses which results in a thriving natural ecological balance and avoids a deterioration of the range”</i> (109 IBLA 119 API 1989). Monitoring since establishment of AMLs indicates that these AMLs continue to be valid and no data exists to indicate that increases to the AMLs are warranted at this time.
87.	Individual	The EA is inadequate because it does not present in detail the other “Multiple Uses” of the lands in & around the HMAs covered by the EA which may present conflicts with the WH&B and require proper financial & other mitigation, i.e. projects such as mining, oil and gas, solar, wind, geothermal, pipelines, etc.	Refer to EA section 5.0
88.	Individual	The EA is inadequate because it does not support managing the WH&B at the “minimum feasible level”	Refer to EA section 4.1. The WFRHBA requires the Secretary to manage wild horses at the appropriate

		on the range and cannot justify removing the WH&B from their legal public lands and warehousing them in short and long-term holding facilities which are located in areas across the country where the WH&B “were not found” in 1971.	management level and to remove excess wild horses from the public range.
89.	Individual AWHPC	The EA is inadequate because the AMLs (high & low) for Sand Springs W, Jakes Wash & Monte Cristo WHT are too low to be genetically viable & healthy long-term.	See response to comment 34
90.	Individual	Develop & analyze whatever needs to be done to support the new AML of 150-200 animals/herd on the range, i.e., provide for rangeland improvements such as eliminating livestock grazing on the HMAs/HAs, reseeding areas with appropriate types of forage, eliminating invasive & noxious weeds & plants on the range, improving water sources, utilizing one-year- dartable PZP between Nov-Feb, etc	See response to comment 34, 48, & 54
91.	Individual	Develop & analyze a preferred alternative in the EA to manage the herds at the “minimum feasible lever” and for their “welfare” as mandated by the 1971 Act	Refer to EA section 2.0
92.	Individual	Analyze & establish in the EA that these & all herds are a Cultural Resource, not just a Natural Resource as mandated by the 1971 Act.	Outside the scope of the document
93.	Individual	Analyze the EA the significant negative impact that mismanaging these herds has on the psyche and public trust of the American People.	Outside the scope of the Document
94.	Individual	Analyze in the EA the costs to the taxpayer of possible roundup, removal, warehousing & adoptions of wild horses from these herd areas as opposed to the	Outside the scope of the Document

		saving of leaving them on the range, implementing range improvements and range expansion, utilizing minimal one-year, dartable PZP and the economic benefits of promoting ecotourism and public education around the herds left in the wild.	
95.	Individual	The EA is inadequate because not enough background and details are provided on the Monte Cristo WHT managed through an interagency agreement between USFS & BLM.	<p>The Monte Cristo WHT is included for informational purposes and cumulative impact analysis.</p> <p>The environmental effects of this gather from NFS lands and adjoining BLM lands within the Complex were recently analyzed under a separate USFS document, Record of Decision (10/7/2011) and Final Environmental Impact Statement for the Ely Westside Rangeland Project.</p> <p>Management direction and Appropriate Management Levels are provided in the Humboldt NF Land and Resource Management Plan (08/19/1986) and Amendments #1 and #5.</p> <p>Gathering locations and procedures on NFS lands is provided in the Monte Cristo WHB Management Plan (7/20/1977) which was incorporated into the 1986 LRMP.</p>
96.	Individual	What are the past years' Census counts of these horses?	Refer to EA section 4.1
97.	Individual	What is the last year they were rounded up?	Refer to EA section 1.1
98.	Individual	What are the livestock numbers, AUMs allocated to them, season of use, etc. in this WHT?	Monte Cristo WHT is comprised by the majority of the Treasure Hill C&H and Blackrock C&H allotments. Treasure Hill C&H is permitted for 415 cow/calf (1665 head months) from 6/16-10/15. Blackrock C&H is permitted for 122 cow/calf (409 HM) from 9/21-

			9/30
99.	Individual	What are the wildlife numbers & usages?	Wildlife is monitored through the Nevada Department of Wildlife
100.	Individual	Where is the range monitoring data, etc?	Refer to EA section 4.1 and Appendix V Rangeland Health Standards Summary. The underlying data and standards and guidelines determination are available at the BLM Ely and Tonopah Field Offices.
101.	Individual	Page 10 Alternative A is proposing a “phasing in” but you are not clear-specific enough as to how this will be done	See response to comment 34
102.	Individual	Sterilized horses are not wild horses. It is unjustified they should be factored into the low-high AML number as they will impact the wild horses negatively.	Gelded wild horses are considered as part of the Appropriate Management Level since they will remain in the HMAs.
103.	Individual	It is unclear if your removal numbers of 800-1000 include those in Jakes Wash and outside the HMA.	Refer to EA section 4.1
104.	Individual	I strongly suggest you aim to gather 1361, remove 1000 plus the HA and Jake’s Wash horses, do the sex ratioing (217/144) and PZP on 144, and release them. Then if need be, go back in a few years for other excess, if any. SAVE yourself the potential embarrassment of not being able to gather what you said you would as happened in Antelope and Triple B, and do the sex ratioing, fertility control treatment and releasing on an actual group	Comment noted
105.	Individual	The BLM, truly believe in transparency, as you have so often proclaimed, then allow Humane Observers 100% of the time up close on land where these roundups occur and also in holding pens were they are kept in captivity, whether on public or private land.	Refer to EA section 4.10. To ensure the safety of the public, government staff, and wild horses, BLM has established public observation protocols. See Appendix VII,
106.	Individual	The fertility control vaccine PZP administered at the	Refer to EA section 4.1

		right time (February / March) is humane and more natural.	
107.	AWHPC	The PEA fails entirely to analyze the effects on long term genetic viability of this population.	See response to comment 33
108.	AWHPC	The proposed Action is inconsistent with the Ely and Tonopah RMPs	BLM is still maintaining a population within the identified AMLs as given in the Land Use Plans.
109.	AWHPC	The PEA dismisses viable alternatives that avoid large scale removals of wild horses from the Pancake complex.	BLM believes that it has considered all viable alternatives which would meet the purpose and need.
110.	Individual	Releasing 200 non-reproducing males will create tremendous confusion in herd counts.	Gelded animals would be freeze marked with an identifying marker high on their hip to minimize the potential for future recapture and to facilitate post-treatment and routine field monitoring.
111.	Individual	There is no plan in place to accurately monitor the “success” of this Experiment	Refer to EA section 4.1
112.	Individual	Administer appropriate birth control (PZP-22) to captured mares and geld as many stallions as possible that are intended for release.	Comment Noted
113.	Individual	Use helicopters as this allows for quick easy removal that saves time and labor dollars and reduces extended stress levels of horses.	Comment Noted
114.	Individual	If there is not enough water for the wild horses (or forage, because of a lack of water) it is because the BLM is mismanaging the public lands	Refer to EA section 1.2
115.	Individual	Consider the water that the oil and gas leasing in your district might affect	Out of the scope of this document.
116.	Individual	Spills or produced fluids (e.g., saltwater, oil, fracking chemicals, and/or condensate in the event of a breach, overflow, or spill from storage tanks) could result in contamination of the soil onsite, or off site,	Out of the scope of this document.

		and may potentially impact surface and groundwater resources in the long term.	
117.	Individual	Petroleum products and other chemicals could result in groundwater (gas and water) construction, and spills. Similarly, improper construction and management of reserve and evaporation pits could degrade ground water quality through leakage and leaching.	Out of the scope of this document.
118.	Individual	Water wells developed for oil and gas drilling could result in a draw down in the quantity of water in residential wells. And it could also dry up streams.	Out of the scope of this document.