BLM

Sierra Front Field Office, Nevada

FINAL
ENVIRONMENTAL ASSESSMENT

Flanigan, Dogskin Mountain, and Granite Peak Wild Horse Gather

DOI-BLM-NV-C020-2011-0506-EA

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

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1.0 INTRODUCTION/PURPOSE AND NEED

1.1 Introduction

The Bureau of Land Management (BLM), Sierra Front Field Office (SFFO) proposes in this environmental assessment (EA) to conduct a gather and removal of excess wild horses and to implement population growth control measures in the Flanigan, Dogskin Mountain, and Granite Peak Herd Management Areas (HMAs)[1], located in Washoe County, Nevada (Figure 1). The proposed gather operation (referred to as the "Proposed Action") would occur during January or February 2012 and would be expected to take approximately seven to 10 days to be completed. The Proposed Action could also include returning to these HMAs between 2013 and 2018 to conduct additional gather operations for the following reasons: should populations exceed the Appropriate Management Levels (AMLs) requiring removal of additional excess horses; to provide boosters of fertility control for treated mares; to treat previously untreated mares; and/or there is deterioration in range health or a need to prevent deterioration to range health.

Based on population inventories conducted in 2010 and 2011, the current estimated populations of wild horses (including foals) in the gather area[2] are as follows: Flanigan 324 (2011 population inventory); Dogskin Mountain 22; and Granite Peak 38. Wild horse populations for all three HMAs currently exceed established AMLs. Conducting the proposed management action at this time is necessary due to the overpopulation of wild horses and to prevent the deterioration of rangeland resources. Heavy and severe utilization of forage by wild horses has been documented within the Flanigan and Dogskin Mountain HMAs. In addition, excess wild horses occupy areas outside of these HMAs, on BLM and private lands that are not managed for wild horse occupancy.

These HMAs are located within the administrative jurisdiction of the SFFO, and are located west of Pyramid Lake, in Washoe County, Nevada. The Flanigan HMA consists of approximately 17,101 acres of BLM-managed lands and 920 acres of private land (Figure 2). Dogskin Mountain and Granite Peak HMAs have no private lands, with approximately 6,895 and 3,886 acres of BLM-managed lands respectively (Figures 3-4).

This EA is a site-specific analysis of the potential impacts that could result from implementation of the Proposed Action or Alternatives. This Final EA has been used by SFFO under the National Environmental Policy Act (NEPA) to determine whether any significant impacts could result from the Proposed Action or Alternatives, and whether an environmental impact statement (EIS) would be required.

[1] Although carried forward for analysis in this Final EA for all HMAs, due to the low AML, the BLM may not use PZP-22 or alter the sex ratio for wild horses associated with the Dogskin Mountain and Granite Peak HMAs.

[2] The "gather area" includes the three HMAs and areas outside of the HMAs where wild horses reside (See Section 5.0).

In passing the *Wild Free-Roaming Wild horses and Burros Act of 1971* (WFRHBA) (Public Law 92-195), Congress found that "Wild-free roaming wild horses and burros are living symbols of the historic and pioneer spirit of the West." The WFRHBA further states that wild free-roaming wild horses are to be considered in the area where presently found, and as an integral part of the natural ecosystem. The Secretary of the Interior was directed to "manage wild free-roaming wild horses and burros in a manner that is designed to achieve and maintain a thriving natural ecological balance on the public lands." There is a shifting program emphasis now from removal of excess wild horses to a greater focus on increasing fertility control, reducing population growth rates, and adjusting sex ratios to reduce the number of excess wild horses that need to be removed from the range, and to collecting genetic baseline data to support genetic health assessments. In this EA, the terms "horse" and "wild horse" (*Equus caballus*) are used synonymously. Table 1 lists the population inventories of 1973, 2010 and 2011. Population inventories for 2010 and 2011 included foals.

Table 1. 1973 Population Inventory/Recent Removals

HMA	1973 Population Inventory	2010/2011 Population Inventory	Recent Removals	AML
Flanigan	96	324*	9 animals in 2001	80-124
Dogskin Mountain	6	22	36 animals in 2005	10-15
Granite Peak	6	38	3 nuisance animals in 2010	11-18

*2011 population inventory data

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[3] in keeping with the multiple-use management concept for the area." Multiple Use Decisions (MUDs) for the Dogskin Mountain HMA in 1994 and Granite Peak HMA in 1993 established the AML for each of these HMAs. For the Flanigan HMA, the AML was established in the Herd Area Management Plan (HMAP) in 1990. All AMLs were reaffirmed in the Carson City Field Office Consolidated Resource Management Plan (CRMP) (BLM 2001).

1.2 Purpose and Need

The purpose of the Proposed Action is to conduct a gather and removal of excess wild horses as well as to implement population growth controls in the gather area. The need of the Proposed Action is to: achieve the established AML's as set by the approved MUD/HMAP for each HMA; reduce the population growth rates; achieve full compliance with the CRMP (BLM 2001); prevent degradation of public lands within and outside the HMAs; maintain or restore a thriving

[3] The Interior Board of Land Appeals (IBLA) explained the statutory directive to manage wild horse populations in a thriving natural 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 wild horse and burro management…should be to maintain a thriving ecological balance between wild horse and burro 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])

natural ecological balance; and re-establish a multiple-use doctrine consistent with the provisions of Section 1333(a) of the WFRHBA. In determining the need for the Proposed Action, the BLM has considered the best available science and its decades of experience managing wild horses on public lands.

1.3 Scoping and Issues Identification

Consideration of this proposal was presented to SFFO's interdisciplinary team on July 18, 2011. In addition, notification letters were sent to the Reno-Sparks Indian Colony, the Pyramid Lake Paiute Tribe and Washoe Tribe of Nevada and California seeking their input on August 12, 2011.

1.4 Decision to Be Made

The Authorized Officer would decide whether to implement the Proposed Action, which consists of a gather and removal of excess wild horses as well as implementation of population growth controls in and adjacent to the Flanigan, Dogskin Mountain, and Granite Peak HMAs in order to bring wild horse populations to within AML, reduce the population growth rates, and prevent deterioration of the range that results from wild horse overpopulation.

The Authorized Officer's decision would not adjust the AML's for the HMAs or make any modifications to the MUDs or HMAP, as those decisions were set through prior public decision-making processes.

1.5 Land Use Plan Conformance Statement

The Proposed Action would be in conformance with the CRMP. The CRMP elements related to this proposal can be found on page WHB-1-5 including:

> <u>Policy</u>
> WHB-1, #2 "Remove excess wild horses and burros from public lands to preserve and maintain a thriving ecological balance and multiple-use relationship…"
> <u>Outcomes</u>
> WHB-2, #1 "AML's to be set though multiple use decisions."

1.6 Relationships to Statutes, Regulations and Other Plans

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

- American Indian Religious Freedom Act of 1979;
- Archaeological Resource Protection Act of 1979;
- Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.);
- Endangered Species Act – 1973;
- Federal Land Policy and Management Act (FLPMA) of 1976 (43 U.S.C. 1701 et seq.);
- Fundamentals of Rangeland Health (43 CFR 4180);
- Migratory Bird Treaty Act (1918 as amended) and Executive Order 13186;
- National Environmental Policy Act of 1969 (as amended);

- National Historic Preservation Act of 1966, as amended;
- Public Rangelands Improvement Act of 1978;
- State Protocol Agreement between the BLM, Nevada and the Nevada Historic Preservation Office (2009);
- Special Status Species Manual and Direction for State Directors to Review and Revise Existing Bureau Sensitive Species Lists (BLM IM No. 2009-039);
- Taylor Grazing Act of 1934 (as amended);
- United States Department of the Interior Manual (910 DM 1.3)
- Wild Free-Roaming Wild horses and Burros Act of 1971 (as amended);
- Wild horses and Burros Management Handbook (H-4700-1).

The Proposed Action and Alternative B are consistent with all applicable regulations at 43 CFR 4700 and policies and are also consistent with the WFRHBA, which mandates that BLM "*prevent the range from deterioration associated with overpopulation*," and "*remove excess wild horses in order to preserve and maintain a thriving natural ecological balance and multiple use relationships in that area."* Additionally, Federal regulations at 43 CFR 4700.0-6 (a) state that, "*Wild horses shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat*."

The Interior Board of Land Appeals (IBLA) in Animal Protection Institute et al, (118 IBLA 75, 1991) found that under the WFRHBA of 1971 (Public Law 92-195), "excess animals" must be removed from an area in order to preserve and maintain a thriving and natural ecological balance and multiple-use relationship in that area. Regulations at Title 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 and Alternative B is in conformance with federal statute, regulations, and case law.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Alternative A: Proposed Action: Gather, Remove Excess Wild Horses, and Apply Population Control Treatments Including Use of PZP-22 and Adjustment of the Sex Ratio to 60 Percent Male

The Proposed Action is to gather a sufficient number of horses so as to remove excess wild horses within and outside the Flanigan, Dogskin Mountain, and Granite Peak HMAs and apply population control measures to mares that would be released back into the Flanigan HMA[4] (Figure 1). Wild horse populations for all HMAs currently exceed their established AMLs. The proposed project would occur during January or February 2012 and would take approximately seven to 10 days to be completed. Based on the excess population of wild horses, the Proposed Action would permanently remove approximately 87 wild horses from within and 157 wild horses outside the Flanigan HMA, 12 wild horses from outside the Dogskin Mountain HMA, and 27 wild horses from outside the Granite Peak HMA. All 2011 foals, which would be between six to nine months of age at the time of this gather, would be removed as "weaned foals." Any foals less than four months of age would be either removed or released with its mare depending on the disposition of the mare (returned to their HMA area or moved for adoption). Removing this number of wild horses would return the estimated population to the lower limit of the AML range for each HMA. Additional gathers could also occur between 2013 and 2018 to remove any excess wild horses to ensure that populations are within AML and to continue application of population growth control measures. Table 2 lists the estimated wild horse population as determined from aerial population inventories conducted in 2010 and 2011, and the AML range for each HMA.

Table 2. Wild Horse Population Inventory in 2010 and 2011 and AML's.

HMA	Population Inventory	AML Range
Flanigan	324*	80-124
Dogskin Mountain	22	10-15
Granite Peak	38	11-18

*2011 population inventory data

The Proposed Action is designed to achieve and maintain a thriving natural ecological balance and multiple-use relationship between the wild horse population, wildlife, livestock and plant communities within and outside the HMAs. Conducting the proposed management action at this time is necessary due to the overpopulation of wild horses and to prevent the deterioration of rangeland resources.

The Proposed Action includes the following elements:

The primary means to gather wild horses would by helicopter, authorized by Section 1338 of the WFRHBA. The use of a helicopter is the most efficient and humane method for conducting a gather operation, especially for HMAs which have scattered water sources, variable terrain,

[4] See footnote #1.

and areas that are may be inaccessible by vehicle. Direct mortality of wild horses associated with helicopter-driven gathers is less than one percent.

If gather efficiencies utilizing helicopter drive-trapping do not achieve the desired goals of the Proposed Action or if a follow-up helicopter gather cannot be scheduled to remove remaining excess wild horses, water/bait trapping may be utilized as a supplement to a helicopter gather. Water/bait trapping would be used 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 HMAs if this gather technique is appropriate for a particular portion of the HMAs. For example, in isolated cases, water/bait trapping could be utilized to gather small numbers of excess wild horses that have moved outside of HMA boundaries and are causing problems on private and public lands. Any water/bait trapping activities would be scheduled during time periods that would be most effective and in those isolated areas that would be most conducive for the use of this technique.

The Proposed Action would adjust the sex ratio within the Flanigan HMA to favor stallions through selective release of wild horses post-gather in order to decrease annual population growth rates[5].

Under the Proposed Action, the BLM would treat all mares to be returned to the Flanigan HMA with PZP-22[6]. Based on a gather efficiency of 80 percent, the BLM anticipates that approximately 26 to 32 mares from the Flanigan HMA would be treated with PZP-22. The use of PZP-22 is a fertility control treatment endorsed by the Human Society of the United States (HSUS). The application (by injection) of PZP-22 has an effectiveness of approximately 22-months. Use of helps PZP-22 slows the growth rate of wild horse populations and can thereby help reduce the frequency of gathers. Research shows that the best time to apply PZP-22 is from November to March (BLM 2010). All treated wild horses would be freeze marked on the left hip for later identification. After treatment, the mares would be returned to the HMA. Standard operating procedures for the use of PZP-22 are included in Appendix D.

Multiple gather sites (traps) would be utilized, depending on the location of wild horses at the time of the gather. Trap sites may be within or outside of the HMAs on BLM-managed lands. To the extent practicable, trap sites would be located in previously disturbed areas and at previously used trap sites (See Figures 2-4). Data would be collected on the gathered wild horses including: sex, age, condition class (using the Henneke rating system), color and size. The BLM would also collect genetic data to ensure that acceptable genetic diversity is maintained within the remaining herd. A veterinarian would assess the condition of all captured wild horses; any wild horses with chronic or incurable disease, injury, lameness or serious physical defect would be humanely euthanized consistent with BLM IM 2009-041 (Euthanasia Policy) and methods endorsed by the American Veterinary Medical Association.

[5] See footnote #1.
[6] See footnote #1.

2.2 Alternative B: Gather and Remove Excess Wild Horses Outside HMAs and Gather to Low AML on the Flanigan HMA

Alternative B is similar to Alternative A (the Proposed Action), with the exception that the BLM would not treat any mares with PZP-22, and the sex ratio in the Flanigan HMA would not be adjusted to 60 percent male. All excess wild horses residing outside the HMAs would be gathered and removed. No wild horses would be removed from within the Dogskin Mountain and Granite Peak HMAs if the number of wild horses present during the gather operations are at low AML. Once a sufficient number of wild horses have been removed from within the Flanigan HMA to achieve low AML, this portion of the gather operations would conclude. The use of PZP-22 and adjusting the sex ratio to 60 percent male is a means to curb population growth, reducing the likelihood of further horse gathers in these HMAs in the near-term. Not including these treatment methods would increase the frequency of future horse gathers. Removed wild horses would then be transported from holding corrals to short-term holding facilities to be prepared for adoption or transportation to long-term pastures in the Midwest.

2.3 Alternative C: No Action

Under the No Action Alternative, the SFFO would not conduct any wild horse management actions in and adjacent to the Flanigan, Dogskin Mountain, and Granite Peak HMAs to prevent the deterioration of the range that results from horse overpopulation and expansion of wild horse populations within areas not identified for wild horse management within the CRMP. The No Action Alternative would not be in conformance with the CRMP as AML would not be maintained. The No Action Alternative would not be consistent with the regulations that require the Authorized Officer to remove wild horses upon determination that excess wild horses are present. Under the No Action Alternative, the SFFO would continue to monitor range health and wild horse populations.

The No Action Alternative would not be in conformance with existing laws and regulations which require the BLM to remove animals immediately upon determination that excess wild horses are present (per 43 CFR 4720.1). Under the No Action Alternative, the overpopulation of wild horses would not allow the BLM to manage for a thriving natural ecological balance or to manage for healthy rangelands within and outside the HMAs.

2.4 Alternatives Considered but Eliminated From Detailed Analysis

A. *Water/Bait Trapping in lieu of Helicopter Gather*. With the exception of Cottonwood Creek in the Flanigan HMA, water within the HMAs is limited to seasonal streams and springs or water troughs for livestock. Restricting wild horse access to water sources across all three HMAs (and areas outside the HMAs which the wild horses now occupy) is not practical due to the large area that the wild horses range, limited road access to potential trap sites, and scattered water sources that make it impracticable to effectively restrict wild horse access to water sources. As stated in the Proposed Action, bait/water trapping may occur on a limited basis to control animals that leave the HMAs and cause impacts to private property or that are in portions of the HMAs conducive to such trapping, and/or to achieve management objectives if a follow-up helicopter gather cannot be scheduled. However, it would not be an effective alternative

mechanism to achieve the Proposed Action based on the current wild horse population size and distribution.

B. *Reducing or Eliminating Livestock Grazing*. The CRMP has identified the lands within the project area as available for livestock grazing. Any action to eliminate livestock grazing would be inconsistent with the CRMP, absent a land-use plan amendment. Under 43 CFR 1610.5-3, all actions approved or authorized by the BLM must conform to the existing land use plan. A plan amendment – which would be subject to separate regulatory requirements for a public decision-making process -- is outside the scope of this EA, which is to gather, treat and remove wild horses from within and adjacent to three HMAs. The allocation of forage for wildlife, livestock and wild horses was determined previously through various public decision-making processes (See Section 3.4.1). Reallocation of forage available for livestock to wild horses would not necessarily maintain a thriving natural ecological balance since wild horses use rangelands differently than livestock. Livestock grazing can be confined to specific pastures, limited periods of use, and specific seasons of use, so as to minimize impacts to vegetation during the critical plant growing season. In contrast, wild horses are present on the range year-round, may use the range differentially, and their impacts cannot be controlled through the establishment of a grazing system but rather by controlling the wild horse population at a level that does not adversely impact range resources and conflict with other multiple uses of the land.

C. *Designation of the HMAs to be Managed Principally for Wild horses*. This action under 43 CFR 4710.3-2 would require the amendment of the CRMP, which is outside the scope of this EA. Only the BLM Director or Assistant Director (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 a land-use planning process. As this is not an "exclusive" designation, it potentially would not change the level of livestock grazing permitted to occur in the area.

D. *Only Remove all Wild Horses Outside the HMAs*. This alternative (as in the Proposed Action) would remove all wild horses residing outside the HMAs since based on 2010 and 2011 population inventories, a large number of wild horses reside outside the HMAs in areas not managed for wild horses. Although this alternative would address need to remove wild horses outside the HMAs, the Flanigan HMA wild horse population within the boundaries of the HMA also exceeds AML. This alternative would therefore not meet the need to bring the wild horse population back to AML within all of the HMAs in order to maintain a thriving natural ecological balance.

E. *Gathering Wild Horses to the Upper Range of the AML for Each HMA*. This alternative would only remove the number of excess horses necessary to achieve the upper range of AML. A post-gather population size at the upper limit of the AML would likely result in the AML being exceeded with the next foaling season. The upper limit of the AML represents the maximum population at which a thriving natural ecological balance can be maintained. Reducing numbers to the lower limit allows for a periodic gather cycle of approximately every four years and prevents the AML from being exceeded during the intervening period between gathers.

F. *Raising the AML for Wild Horses.* This action would require an amendment of the CRMP, which is outside the scope of this EA. As described in Section 3.4.1, allocation of forage for wildlife, livestock and wild horses has been established through prior public decision-making processes. Raising the AML for wild horses would also not address heavy and severe utilization of forage resources documented within the Flanigan and Dogskin Mountain HMAs, or resolve the problem of wild horses moving outside the HMA boundaries due to the current overpopulation.

G. *Zeroing Out the HMAs*. This action would require an amendment of the CRMP, which is outside the scope of this EA.

H. *Natural Population Controls*. Wild horse populations increase or decrease due to a number of natural factors including: the nutritional value of forage consumed, weather, disease, and predation. Although predation of young foals can occur, generally their survival rate is very high. As evidenced by the population growth rates in these HMAs over the past decades, natural predation and other natural factors do not result in mortality rates that would maintain the wild horse populations within the AML range.

I. *Field Darting PZP-22 Treatment*
In public comments, it has been suggested that BLM administer PZP in the one year liquid dose inoculations by field darting the mares. This method is currently approved for use and is being utilized by the BLM in other HMAs. This alternative was dismissed from this detailed study for the following reasons: (1) the use of one-year PZP would not achieve the Proposed Action of achieving AML within the HMAs, without removing excess animals within and outside HMA boundaries; (2) the number of wild horses in the Flanigan HMA makes it unrealistic to be able to clearly identify all mares targeted for treatment; and (3) limited approachability to the target wild horses. The logistics of implementing this method in tandem with bait and/or water trapping is also impractical for the reasons listed above.

J. *Control the Excess Wild Horse Populations with Use of PZP-22 Only*
This alternative would gather a significant portion of the existing population (95 percent) and implement fertility control treatments only, without removal of excess wild horses. This alternative would not bring the wild horse population to AML and the wild horse population would continue to grow, adding to the current wild horse overpopulation, albeit at a slower rate of growth. By failing to remove excess wild horses, this alternative would allow resource concerns to escalate, and implementation of this alternative would incur significant gather and fertility control costs without achieving a thriving natural ecological balance. This alternative would not meet the purpose and need for the Proposed Action and did not receive any further consideration.

K. *Make on-the-Ground and Individualized Excess Wild Horse Determinations Prior to Removal*
This alternative to make on-the-ground and individualized excess wild horse determinations prior to removal was recommended through 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 the BLM would first identify and remove old, sick or lame animals in order to euthanize those animals on the range prior to gather. Second, the BLM would identify and remove wild horses for which adoption demand exists by qualified individuals, such as younger wild horses or wild horses with unusual and interesting markings.

A tiered approach assumes that only a portion of the wild horse population is excess and that some number of horses will still remain on the range following the gather. This assumption does not apply, however, to wild horses outside the boundaries of the HMAs, as all of those horses are excess and need to be removed.

With respect to removal of excess wild horses from within the HMA boundaries, this alternative could be viable in situations where the project area is contained, the area is readily accessible and wild horses are clearly visible, and where the number of wild horses to be removed is so small that a targeted approach to removal can be implemented. Under the conditions present within the gather area, however, this alternative is impractical, if not impossible, as well as less humane for a variety of reasons.

The BLM does euthanize old, sick or lame animals on the range when such animals have been 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, wild horses that meet the criteria for humane destruction because they are old, sick or lame usually cannot be identified as such until they have been gathered and examined up close (for example, to examine the horse's mouth to determine whether the horse has lost all its teeth or to check whether the horse is club footed). Old, sick and lame wild horses meeting the criteria for humane euthanasia are also only a tiny fraction of the total number of wild horses to be gathered, comprising on average about 0.5 percent of gathered wild horses. Due to the challenges of approaching wild horses close enough to make an individualized determination of whether a horse is old, sick or lame, and of accessing wild horses over thousands of acres of varied topography and terrain, it would be virtually impossible to conduct a phased culling of such wild horses on the range without actually gathering and examining the wild 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. Recent gathers have had success in adopting out approximately 30 percent of excess wild horses removed from the range on an annual basis. The terrain challenges, difficulties of approaching the wild 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 wild horses from the rest of the herd, and the impacts to the wild 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 wild horses on the range and would also make it much more difficult to gather the remaining excess wild horses. Furthermore, if the BLM plans to apply any population controls to gathered wild horses prior to release, it would be necessary to gather more than just the excess wild horses to be removed, making a phased approach to removal both unnecessary and counter-productive.

Making a determination of "excess" as to a specific wild horse under this alternative, and then successfully gathering that individual horse would be impractical to implement (if not impossible) due to the terrain challenges and difficulties approaching the wild horses close enough to make an individualized determination, and would be extremely disruptive to the wild horses due to repeated culling and gather activities over a short period of time. Making a determination of excess in this way would greatly increase the potential stress placed on the animals due to repeated attempts to capture specific animals and not others in the band. This in turn would increase the potential for injury, separation of mare/foal pairs, and possible mortality. This alternative would be impractical to implement (even if it were possible), would be cost-prohibitive, and would be unlikely to result in the successful removal of excess wild horses or application of population controls to released wild horses. This approach would also be less humane and more disruptive and traumatic for the wild horses. This alternative was therefore eliminated from any further consideration.

L. *Letting Nature Take its Course*

This alternative would leave excess wild horses on the range under the view that the population would eventually self-regulate when the range can no longer sustain the existing wild horse population. Areas within the HMAs have been documented as having heavy to severe grazing use by wild horses. This over-population has also resulted in wild horses leaving the HMAs to take up residence outside the HMA boundaries in their search for food and water. If the population continues to increase, this will put further pressure on vegetative and water resources, potentially resulting in irreversible degradation of some of these resources. The damage to rangeland resources that could result from excess numbers of wild horses is also contrary to the WFRHBA. If the vegetative and water resources are inadequate to meet the needs of the excessive numbers of wild horses on the range, the weaker animals, generally the older animals and the mares and foals, are the first to be impacted. The resulting population would be heavily skewed towards the stronger stallions which could lead to significant social disruption in the HMAs. By managing the public lands in this way, the vegetative and water resources would likely be impacted so severely as to reach the point where they have no potential for recovery. For these reasons, this alternative was eliminated from further consideration.

3.0 AFFECTED ENVIRONMENT

This chapter identifies and describes the current condition and trend of elements or resources in the human environment which may be affected by the Proposed Action and Alternatives. The Affected Environment is the same for all alternatives.

3.1 General Setting

The Flanigan HMA is located approximately 35 miles northeast of Reno, Nevada in the Virginia Mountains (Figures 1, 2). The HMA consists of approximately 17,101 acres of BLM-managed lands and 920 acres of private land. The topography ranges from rolling hills at 4,265 feet above sea level, to mountainous terrain of 8,000 feet. Dominant vegetation consists of big sagebrush (*Artemisia tridentata Nutt. ssp. wyomingensis*), snowberry (*Symphoricarpos albus*), green rabbitbrush (*Chrysothamnus viscidiflorus*), cheatgrass (*Bromus tectorum*), and bottlebrush squirreltail (*Elymus elymoides*). Quaking aspen (*Populus tremuloides*) are found in Cottonwood Creek. Historically, big sagebrush and desert needlegrass (*Achnatherum speciosum*) have been the key species. Annual average precipitation for this area is eight to 12 inches (BLM 1990). The Flanigan HMA includes 15 springs, Cottonwood Creek (perennial), East Cottonwood Creek (seasonal), and water troughs for livestock.

The Dogskin Mountain HMA is located approximately 25 miles northeast of Reno, Nevada in the Dogskin Mountain Range (Figures 1, 3). The HMA consists of approximately 6,895 acres of BLM-managed lands. The topography ranges from rolling hills at 5,500 feet above sea level, to mountainous terrain of 7,500 feet. Dominant vegetation consists of big sagebrush, snowberry, rabbitbrush, cheatgrass, and bottlebrush squirreltail. Pinyon-juniper woodlands (*Pinus monophylla*, *Juniperus osteosperma*) are abundant at high elevations. Historically, big sagebrush, bitterbrush, desert needlegrass, Indian ricegrass (*Achnatherum hymenoides*) and needle and thread (*Hesperostipa comate*) have been the key species. Annual average precipitation for this area is eight to 12 inches (BLM 2005). The Dogskin Mountain HMA includes four springs and water troughs for livestock; there are no other surface streams.

The Granite Peak HMA is located approximately 20 miles northeast of Reno, Nevada in the Sand Hills (Figures 1, 4). The HMA consists of approximately 3,886 acres of BLM-managed lands. Dominant vegetation consists of big sagebrush, snowberry, rabbitbrush, cheatgrass, and bottlebrush squirreltail. Historically, big sagebrush, bitterbrush and desert needlegrass have been the key species. Annual average precipitation for this area is eight to 12 inches (BLM 1993). There are no perennial water sources or riparian areas in the Granite Peak HMA. When livestock grazing occurs, the permittee utilizes several water troughs for the cattle. These water sources can also be utilized by wild horses.

3.2 Supplemental Authorities

Appendix 1 of BLM's NEPA Handbook (H-1790-1) identifies Supplemental Authorities that are subject to requirements specified by statute or executive order and must be considered in all BLM environmental documents (BLM 2008). Table 3 lists the Supplemental Authorities and their

status in the project area. Supplemental Authorities that "may be affected" by the Proposed Action or Alternatives are further described in this EA.

Table 3. Supplemental Authorities.

Resource	Not Present *	Present Not Affected *	Present May Be Affected**	Rationale
Air Quality		X		During implementation of the Proposed Action, there would be a slight increase in vehicle emissions and particulates from gather activities and equipment. Overall air quality, however, would not be affected.
Areas of Critical Environmental Concern	X			Resource not present.
Cultural Resources		X		A cultural resources review was conducted for sites preliminarily identified for use for holding and trap sites. It was determined that cultural resources were not present at these sites. In the event that these sites are relocated during implementation of the Proposed Action, a monitor would be present to ensure that historic resources are not present.
Environmental Justice	X			Resource not present.
Farm Lands (prime or unique)	X			Resource not present.
Floodplains	X			Resource not present.
Invasive Weeds, Non-Native Plant Species			X	Carried forward for analysis.
Migratory Birds			X	Carried forward for analysis.
Native American Religious Concerns		X		Notification of the project proposal was sent to the Reno-Sparks Indian Colony, Washoe Tribe of California and Nevada, and the Pyramid Lake Paiute Tribe on August 12, 2011. No concerns were identified by the Tribes.
Threatened or Endangered Species (wildlife)	X			Resource not present. The U.S. Fish and Wildlife Service website for Nevada's Protected Species was reviewed and it was determined that no federally-listed animals are present in the HMAs (http://www.fws.gov/nevada/protected_species/species_by_county.html). No gather sites for wild horses outside the HMAs would be located in the Carson wandering skipper ACEC or on BLM land in T26N, R19E, Sections 5, 6, 7, 8, 16, 17, and 18.
Threatened or Endangered Species (Plants)	X			No threatened or endangered plant species occur within the HMAs or areas outside the HMAs where wild horses currently reside.
Wastes, Hazardous or Solid		X		During implementation of the Proposed Action, there is a slight risk of spillage of oil

				or gasoline from vehicles or equipment. Should such a spillage occur, clean up actions would be taken; this resource is not affected.
Water Quality (Surface/Ground)		X		Resource not affected by a horse gather.
Wetlands/Riparian Zones		X		Cottonwood Creek, a perennial stream, is found within the Flanigan HMA, and other springs and seasonal streams are scattered throughout the project area; there would be no overall affect to riparian zones from gather operations. No trap sites would be located adjacent to springs or riparian areas. The BLM has not recently conducted assessments of riparian areas; what if any impacts to these areas are attributable to wild horses is unknown. Vegetation associated with springs and riparian zones may benefit from the reduced number of wild horses in the near-term.
Wild and Scenic Rivers	X			Resource not present.
Wilderness/WSA	X			Resource not present.

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

3.3 Resources or Uses Other Than Supplemental Authorities

BLM specialists have evaluated the other potential impacts of the Proposed Action or Alternatives on these resources and documented their findings in Table 4. Resources or uses that "may be affected" are further described in this EA (BLM 2008).

Table 4. Resources or Uses Other Than Supplemental Authorities.

Resource or Uses	Present Not Affected#	Present May Be Affected##	Rationale
BLM Sensitive Species		X	Carried forward for analysis.
Forestry	X		Resource would not be affected by a horse gather.
General Wildlife		X	Carried forward for analysis.
Human Health and Safety		X	Carried forward for analysis.
Land Use/Authorizations	X		The Proposed Action or Alternatives would have no effect on land use or authorizations.
Livestock Grazing		X	Carried forward for analysis.
Paleontological	X		Under the Proposed Action, vehicles would remain on existing roadways, and the gather of wild horses is not expected to expose or affect any paleontological resources if present.
Recreation	X		Although dispersed recreation may occur in the project area, the Proposed Action would be limited to several days during the winter (non-recreation season). No closure of roads or trails would occur.
Soils	X		Although during the gather there would be minor

			surface disturbance to soils in the project area, overall soils would not be affected by the Proposed Action or Alternatives. Reducing the number of wild horses may slightly benefit soils in areas impacted by intensive horse use caused by trampling, thereby reducing the risk for soil erosion.
Vegetation		X	Carried forward for analysis.
Visual Resources	X		The Proposed Action or Alternatives would not affect the overall visual quality of the project area (Class III/IV).
Wild horses		X	Carried forward for analysis.

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

3.4 Resources Considered for Analysis

The following resources are or may be present in the project area and "may be affected" by the Proposed Action or Alternatives.

3.4.1 Wild horses

The BLM estimates that approximately 38,500 wild horses (*Equus caballus*) and burros (*Equus asinus asinus*) reside on BLM-managed lands in the 10 Western states, based on the latest data available in August 2011. The combined AML is approximately 26,000 animals across 180 HMAs covering more than 31.9 million acres (14.7 million acres in Nevada). No burros are present on BLM-managed lands administered by SFFO. Wild horses residing in the gather area today are thought to be descendants of wild horses released by ranchers that turned out their animals in the area prior to 1971 (BLM 1990, 1993, 2005). These HMAs have not been designated as "Wild Horse and Burro Ranges" under 43 CFR 4710.3-2.[7]

Background of HMAs and AMLs

After the passage of the WFRHBA, the BLM established herd areas (HA's) for BLM-managed lands with known populations of wild horses. HMAs were established later for those HA's through a land use planning process that set the initial and estimated herd size that could be managed while still preserving and maintaining a thriving natural ecological balance and multiple-use relationships for the area. An area must have four essential habitat components to be designated as an HMA including: forage, water, cover and space (BLM 2010). The CRMP (2001) reaffirmed areas designated for the long-term management of wild horse populations.

[7] 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 include 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.

The allocation of forage for wildlife, wild horses, and livestock was established through MUDs and an HMAP, which set the Animal Unit Months (AUMs)[8] for each category.

During the summer of 2011, the BLM conducted field investigations within each of the HMAs to determine the level of forage utilization attributable to wild horses. Monitoring data was collected using the Range Utilization Key Forage Plant Method. Species for which BLM collected utilization data were Thurber's needlegrass (*Achnatherum thurberianum*) and desert needlegrass. Heavy (61-80 percent) and severe (81-100 percent) utilization of forage by wild horses has been documented within the Flanigan and Dogskin Mountain HMAs. Heavy and severe utilization of forage by wild horses is based on the following: observation of wild horses in the area where data was collected; observed presence or absence of horse sign (feces); and use of key forage species.

The AML is the range within which a wild horse population can be maintained for the long-term based on habitat suitability and monitoring data (adaptive management)[9]. Monitoring plans for the HMAs were completed in 1995. The AML sets a maximum number of wild horses which results in a thriving natural ecological balance and avoids deterioration of the range (BLM 2010). Table 5 lists the HMAs and associated wild horse AML's.

Table 5. HMAs and AML's.

HMA	Acres (BLM-managed)	AML Range	AUMs	MUD Decision Year
Flanigan	17,101	80-124	1,488	1990*
Dogskin Mountain	6,895	10-15	180	1994
Granite Peak	3,886	11-18	204	1993

* The AML for the Flanigan HMA was set in the 1990 HMAP.

Wild Horse Population Inventory and Gather History

Since the enactment of the WFRHBA and subsequent establishment of AMLs, the BLM has periodically conducted gathers to maintain wild horse populations within AML. For these HMAs, population growth rates based on available population inventory information is estimated to range from 10 to 15 percent per year, although growth rates up to 25 percent per year are known to occur among some wild horse populations (USGS 2011). Tables 6-8 lists the 2010 and 2011 population inventory information and estimated wild horse population within and adjacent to the HMA.

[8] An AUM is the amount of forage necessary to maintain one adult horse for one month (about 800 pounds of air dried forage) (BLM 2010).

[9] In *Animal Protection Institute of America v. Nevada BLM*, 109 IBLA 119 (1989) the Board stated that the AML represents the optimum number of wild horses which results in a thriving natural ecological balance.

Table 6. Flanigan HMA Population Inventory.

Population Inventory	Count	Location
April 2010	183	Inside HMA
	29	Outside HMA/Winnemucca Ranch GA
	20	Outside HMA/Big Canyon GA
July 2011	167	Inside HMA
	122	Outside HMA/Flanigan GA
	25	Outside HMA/Big Canyon GA
	10	Outside HMA/Winnemucca Ranch GA

GA=Grazing Allotment

Table 7. Dogskin Mountain HMA Population Inventory.

Population Inventory	Count	Location
April 2010	14	Inside HMA
	15	Outside HMA
July 2011*	7	Inside HMA

* Partial count, areas outside the HMA not surveyed in 2011.

Table 8. Granite Peak HMA Population Inventory.

Population Inventory	Count	Location
April 2010	11	Inside HMA
	20	Outside HMA/Fred's Mountain
July 2011**	27	Outside HMA/Fred's Mountain

** HMA not surveyed in 2011.

WinEquus Population Modeling

Population modeling was completed to analyze the potential outcomes of how the Proposed Action would affect the wild horse populations in the project area. Table 9 compares the Proposed Action with Alternative B and the No Action Alternative. See Appendix F for complete modeling results.

Table 9. WinEquus Population Results by HMA.

HMA	Alternative*	Average Growth Rate Over 10-years	Population **	Number Treated**	Number Gathered**	Number Removed**
Flanigan	(A) Proposed Action	6.8%	124	77	440	198
	(B) No PZP or Sex Ratio Adjustment	14.6%	126	N/A	310	264
	(C) No Action	17%	729	N/A	0	0
Dogskin Mountains	(A) Proposed Action	11.6%	19	N/A	56	32
	(C) No Action	15.9%	54	N/A	0	0
Granite Peak* **	(A) Proposed Action	16.7%	15	N/A	32	22
	(C) No Action	18.4%	32	N/A	0	0

*Although carried forward for analysis in this Final EA, due to the low AML, the BLM does not anticipate using PZP-22 or altering the sex ratio for wild horses associated with the Dogskin Mountain and Granite Peak HMAs. Therefore population modeling for Alternative A for the Dogskin Mountain and Granite Peak HMAs was run without including the use of PZP-22 or altering the sex ratio.
**average for an 11-year period.
***For purposes of the WinEquus population modeling, all wild horses identified in Fred's Mountain were not included in the Granite Peak results above because this population is isolated by fencing from the main Granite Peak herd.
Source: WinEquus version 3.2.

3.4.2 BLM Sensitive Species

BLM sensitive species are federally designated candidate species, proposed species, and delisted species in the five years following their delisting. Sensitive species may require special management considerations to promote their conservation and reduce the likelihood and need for future listing under the Endangered Species Act. A comprehensive list of BLM sensitive species and migratory birds that may be present in the gather area is found in Appendix G. Habitat types in the gather area consists primarily of sagebrush and pinyon-juniper woodland, with some salt desert scrub and small areas of riparian vegetation.

The gather area is in the greater sage-grouse (*Centrocercus urophasianus*) Virginia Mountains population management unit (PMU) (NDOW 2011) (Figure 5). The population estimate for the PMU is between 490 and 570 sage-grouse (Hampson 2011, pers. comm.). Portions of the Flanigan HMA are in sage-grouse nesting and summer habitat, and all three HMAs are in winter habitat (NDOW 2011). There are no known active leks in any of the HMAs. Sage-grouse depend on mature shrubs for nesting structure, protection from predators, and thermal cover. They nest on the ground under sagebrush plants with a relatively high canopy cover and a healthy herbaceous understory of grasses, which are important for shade and nest concealment (Welch 2005, Wildlife Action Plan Team 2006). Adequate herbaceous cover may be as important as shrub density in determining nesting success because chick survival is directly linked to cover of short grasses and availability of food (GBBO 2010). Summer/late brood-rearing habitat usually has less dense sagebrush canopy than nesting habitat and a higher proportion of grasses and forbs in the understory. Diverse plant communities with abundant insects are particularly important. Broods move with range desiccation down to wet areas, where they feed on highly preferred forbs such as aster, dandelion, and yarrow. Areas providing persistence of green forbs and abundant insects through late summer are critical to brood survival and may be a limiting factor in much of Nevada (Wildlife Action Plan Team 2006, GBBO 2010). In Nevada, hens with broods avoided water sources surrounded by bare ground (Klebenow 1981). Winter habitat is dense sagebrush that reaches 10-12 inches above snow (GBBO 2010).

Potential habitat for Webber's ivesia (*Ivesia webberi*) may occur within the Antelope Mountain Grazing Allotment (GA) which encompasses the Granite Peak HMA (BLM 2007a).

3.4.3 Migratory Birds

Migratory birds are those species that breed in temperate portions of North America and may winter in either North or South America. Migratory birds are protected under the Migratory Bird Treaty Act of 1918 and are addressed in Executive Order 13186. The Intermountain West avifaunal biome is the center of distribution for many western birds (Rich et al. 2004). Over half of this biome's Species of Continental Importance have 75 percent or more of their population here. Many breeding species from this biome migrate to winter in central and western Mexico or in the Southwestern biome. Shrub-nesting species comprise the largest number of Species of Continental Importance in this biome.

Habitat types in the gather area consist primarily of sagebrush and pinyon-juniper woodland, with some salt desert scrub and small areas of riparian vegetation. Migratory birds that may be present or their habitat may be present in the gather area are listed in Appendix G. Actual presence of migratory birds during the proposed gathers is unlikely because the gather operations would take place mid-winter, outside the migratory bird season, and mid-winter is not a critical period for migratory birds' life cycles including their nesting season (April 15 through July 15).

3.4.4 General Wildlife

Based on the Southwest Regional GAP Analysis Project, the Nevada Department of Wildlife's (NDOW) Wildlife Action Plan (WAP) characterizes Nevada's vegetative land cover into eight broad ecological system groups and links them with key habitat types and their associated wildlife species (Wildlife Action Plan Team 2006). Key habitats can be used to infer likely occurrences of wildlife species assemblages when survey data is unavailable. The key habitats in the gather area is described below.

Intermountain Cold Desert Scrub – This habitat type occurs at the lowest elevations and annual precipitation is generally less than 10 inches per year. Plant species include shadscale, greasewood, Indian ricegrass, Thurber's needlegrass, and bottlebrush squirreltail. General wildlife species associated with this habitat type include kit fox (*Vulpes macrotis*), Great Basin collared lizard (*Crotaphytus bicinctores*), desert horned lizard (*Phrynosoma platyryhinos*), long-nosed leopard lizard (*Gambelia wislizenii*), and black-throated sparrow (*Amphispiza bilineata*). Many wildlife species use both cold desert scrub and sagebrush habitats for various life requirements such as foraging and nesting. For example, the kit fox uses sandy soils in cold desert scrub habitat for denning and forages for prey in sagebrush plant communities.

Sagebrush – Plant species include Wyoming big sagebrush, green rabbitbrush, snowberry, bluebunch wheatgrass, needle and thread, Indian ricegrass, and cheatgrass. Shrub communities generally support the largest populations and most diverse number of species of any of the Great Basin habitats (Welch 2005). Tall, dense sagebrush is required by some wildlife species, but other species use more open areas (GBBO 2010). Understory requirements also vary by species, but the presence of an understory layer is generally beneficial. Sagebrush range in good condition supports a substantial bunchgrass and forb component and where sagebrush habitat has been depleted of its understory, it lacks the ability to provide nesting

cover, escape cover, and sources of food for wildlife (Wildlife Action Plan Team 2006). General wildlife species such as Great Basin pocket mouse (*Perognathus parvus*), sagebrush lizard (*Sceloporus graciosus*), black-tailed jackrabbit (*Lepus californicus*), pronghorn (*Antilocapra americana*), Merriam's shrew (*Sorex merriami*), panamint kangaroo rat (*Dipodomys panamintinus*), and sagebrush vole (*Lemmiscus curtatus*) are associated with this habitat type. The Great Basin pocket mouse, sagebrush vole, pronghorn, and sagebrush lizard, are sagebrush obligates and depend on sagebrush habitat to complete their life cycles.

Lower Montane Woodlands – Singleleaf pinyon and Utah juniper are the dominant tree species in the HMAs. Pinyon-juniper woodland provides a variety of sheltering functions for wildlife that range from hiding cover and thermal protection to cavities and nest sites for birds, bats, and small mammals. Pinyon-juniper woodlands provide habitat for general wildlife species such as Steller's jay (*Cyanocitta stelleri*), mule deer (*Odocoileus hemionus*), and black bear (*Ursus americanus*).

Aspen occur in Cottonwood Creek, a perennial stream in the Flanigan HMA. Small amounts of riparian vegetation are associated with other scattered springs and seasonal streams in the HMAs. Aspen stands provide forage and nesting substrate, and are particularly important to cavity nesting species like woodpeckers. General wildlife species associated with aspen are mule deer, vagrant shrew (*Sorex vagrans*), Cooper's hawk (*Accipiter cooperii*), and mountain bluebird (*Sialia currucoides*).

The gather area provides habitat for mule deer, pronghorn, bighorn sheep (*Ovis canadensis*), and black bear. All of the HMAs are in current black bear range (NDOW 2011).

3.4.5 Vegetation

A mosaic of plant communities are present in the gather area. Plant communities include, but are not limited to: small areas of riparian vegetation associated with springs, meadows and drainages such as aspen, sedge and rush species; big sagebrush, and mountain big sagebrush (*Artemisia tridentata Nutt. ssp. vaseyana*). Major grass species include: bluebunch wheatgrass (*Pseudoroegneria spicata*), Thurber's needlegrass, desert needlegrass, needle and thread, Indian ricegrass and bottlebrush squirreltail. The major tree species found include the Utah juniper and singleleaf pinyon pine.

3.4.6 Invasive Weeds, Non-Native Plant Species

Invasive weeds and non-native plant species that occur in the project area include, but are not limited to: cheatgrass (*Bromus tectorum*), scotch thistle (*Onopordum acanthium*), bull thistle (*Cirsium vulgare*), yellow star thistle (*Centaurea solstitialis*), perennial pepperweed (*Lepidium latifolium*), and hoary cress (*Cardaria draba*) (BLM 1993, 2005, 2007, 2007a).

3.4.7 Human Health and Safety

Some members of the public are interested in observing wild horse gather operations or may be recreating on public lands during the gather. Members of the public who are present in the vicinity of the wild horse gather 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 and to the BLM employees and contractors conducting the gather and/or handling the wild horses, as well as to the public themselves. Because these wild 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 to 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. The same unknown and unexpected obstacles can impact the wild horses 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 any person in close proximity, as well as cause decreased vision. Though rare, helicopter crashes and hard landings can, and have occurred (approximately 10 times over the last 30+ years), while conducting wild horse gathers, which necessitates the need to follow gather operations and visitor protocols at every wild horse gather to assure the safety of all people and animals involved. Flying debris caused by a helicopter poses a safety concern to BLM and contractor staff, visitors, and the wild horses.

During the herding process, wild horses will try to flee if they perceive that something or someone suddenly blocks or crosses their path. Fleeing wild horses can go through wire fences, traverse unstable terrain, and go through areas they normally do not use 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 BLM and contractor staff who are trying to sort, move and care for the wild 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.

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 and BLM IM No. 2010-164 [10] (Appendix E). 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

[10] 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.

rare helicopter crash landing, or from the potential path of gathered wild horses), to the wild horses (e.g., by ensuring observers will not be in the line of vision of wild 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 Public Observation Protocols found in Appendix C 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.

3.4.8 Livestock Grazing

Under BLM permitting, term livestock grazing occurs within each of the three HMAs (Figure 6). The grazing allotments (GAs) are described in Table 10.

Table 10. Grazing Allotments and Authorized Livestock Use.

HMA	Allotment	Percent of HMA Within Allotment	Authorized Livestock Type	Pastures	Permitted Use (AUMs) by Pasture	Actual Use 2010*	Actual Permitted Use
Flanigan	Flanigan	83%	Cattle	Juniper Basin (H)	1,295	796	61%
				Honey Lake	1,351	743	55%
				Cold Spring (H)	2,371	1,438	60%
	Big Canyon	2%	Cattle	Pasture 1 (H)	63	63	100%
				Pastures 2 & 5(H),	338	338	100%
				& 3	2,650	1,032	39%
				Pastures 2-4			
	Winnemucca Ranch	15%	Cattle	Winnemucca	1,377	1,175	85%
				Seven Lakes	305	276	90%
				Spanish Flat (H)	1,548	1,548	100%
Dogskin Mountain	Paiute Canyon	100%	Cattle	Warm Springs/ Hungry Valley	1,381	1,229	89%
				Incandescent Rocks			
				Tule Peak	349	348	99%
				Dogskin (H)	654	627	96%
				Fall	302	254	84%
				Shovel Springs	357	332	93%
					1,059	928	87%
Granite Peak	Antelope Mountain	100%	Cattle	Pasture 1	6,358**	1,160	40%**
				Pasture 2 (H)		687	
				Pasture 3		711	

(H) This pasture is located within the HMA boundary.
*Actual use for the Winnemucca pasture reflects 2009 data, as 2010 data was not available.
** For all three pastures.

There is both allotment boundary fencing and pasture fencing within each of the above allotments. These fences are subject to environmental factors, particularly snow and

fire. Fences are repaired as breaks are discovered, however this does leave opportunities for horses to move between pastures, allotments and inside and outside the HMAs.

4.0 ENVIRONMENTAL CONSEQUENCES

This chapter describes the potential direct, indirect, and residual effects to resources that may result from the Proposed Action or Alternatives. In this document, the word "adverse" is used in characterizing minor (non-significant) detrimental effects on the resource. "Beneficial" effects would have a positive effect on the resource. In this document, the terms "effect" and "impact" are used synonymously.

4.1 Alternative A: Proposed Action: Gather, Remove Excess Wild Horses, and Apply Population Control Treatments Including Use of PZP-22 and Adjustment of the Sex Ratio to 60 Percent

4.1.1 Wild horses

The Proposed Action would permanently remove approximately 283 wild horses including: 87 wild horses within the Flanigan HMA and 157 wild horses outside the HMA; 12 wild horses residing outside the Dogskin Mountain HMA; and 27 wild horses residing outside the Granite Peak HMA. All 2011 foals, which would be between six to nine months of age at the time of this gather, would be removed as "weaned foals." Any foals less than four months of age would be either removed or released with its mare depending on the final disposition of the mare. The gather would occur in January or February 2012, and would take between seven days and 10 days to be completed. The BLM would also attempt to gather a sufficient number beyond the excess wild horses to be removed from the Flanigan HMA, to allow for the application of PZP-22 to all mares to be re-released. Consistent with the Director's proposed Wild Horse and Burro Strategy, the sex ratio of animals returned to the Flanigan HMA would be adjusted to favor males (60 percent stallions) [11].

Excess wild horses would be removed using a selective removal strategy as follows: 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 10 years; and 4.) *fourth priority* – age class – 20 years and older would not be removed from the HMAs unless specific exceptions prevent them from being returned to the range.

Due to the mountainous terrain and vegetative cover, gather efficiency may be less than optimal. Gather efficiencies typically averages approximately 80 percent, so it is likely that all wild horses that are accessible and can be located would need to be gathered in order to achieve the Proposed Action. Wild horse numbers within the HMAs would be reduced to the low range of AML[12].

[11] See footnote #1.

[12] Cothran (2009) suggests that a minimum population size of 50 effective breeding animals (i.e. a total population size of about 150 to 200 animals) is recommended to maintain an acceptable level of genetic diversity within wild horse populations. Reducing the Dogskin Mountain and Granite Peak HMA numbers to the low limit of AML (10 and 11 animals respectively) would not be anticipated to significantly affect the genetic diversity of these animals, in part because they do not remain entirely within the HMA during their lives and there are opportunities for the animals to intermix between the HMA's and with other wild horses from outside these HMA's.

Herd health and characteristics data would be collected as a 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 genetic health of the wild horses.

Capturing of Wild horses

The BLM has been gathering excess wild horses from public lands since the mid-1970's. Gather mortality has averaged one-half percent. Another one-half percent of the animals captured were humanely euthanized due to pre-existing conditions and in accordance with BLM policy. BLM policy prohibits the gathering of wild horses with a helicopter between March 1 and June 30, which includes and covers the six weeks that precede and follow the peak of foaling (mid-April to mid-May). Gather operations would include the use of a helicopter, although in areas where there are only a few animals, personnel may herd the animals and collect them directly with trucks pulling horse trailers. All gather and handling activities would be conducted in accordance with Standard Operating Procedures (SOPs) (See Appendix B).

Injuries that can be sustained during gathers include: nicks and scrapes to legs, the face or body when coming into contact with brush or tree limbs while being herded into trap sites and corrals. Rarely do wild horses break a leg from stepping into a rodent hole while being herded. Rarely would wild horses encounter barb wire fences and receive wire cuts. These non-fatal injuries would be treated at the holding corrals by a veterinarian.

Gathering wild horses during the summer can potentially lead to heat stress. The proposed gathers would take place during the winter reducing the chance for heat stress to occur. Water intake requirements are less during the winter; the BLM will provide supplemental water at trap and holding corrals as needed.

Wild Horse Response to Handling

Impacts to individual animals may occur as a result of stress associated with the gathering, processing and transportation of the animals. The intensity of these impacts varies by individual animal, and can be indicated by behavior ranging from nervous agitation to physical distress. Other impacts can occur from separation from the main herd. Generally wild horses acclimate to the holding corrals quickly. Indirect impacts to individuals may include spontaneous abortions in mares, and increased social displacement and conflict between studs. Brief skirmishes can occur between studs following sorting. Traumatic injuries rarely occur. Injuries that could occur during the skirmishes include: kicking with bruises and bites, typically without breaking the skin.

Foals are occasionally gathered that were previously orphaned. They can be in poor health. The proposed gathers would take place mid-winter, and any gathered foals will likely have been weaned by their mother. Foals would be handled as described under Section 4.1.1 on page 24.

Sorting and Transporting of Wild horses

Most injuries occur once wild horses have been herded and are either within the trap sites or holding corrals, or during transportation between the facilities, or while being sorted. Injuries that could occur range from kicks and bites from other wild horses, to nicks from contact with corral panels or gates. Sorting and transportation is handled as quickly as possible to minimize fighting between the horses. During the capture and sorting process, animals are examined for health, injuries or other defects. Any decision to euthanize an animal would be consistent with BLM IM 2009-041 (Euthanasia Policy) and methods endorsed by the American Veterinary Medical Association. Wild horses that could be euthanized for non-gather related reasons include, but are not limited to: animals with previous injuries (broken hip, leg), animals with few remaining teeth, animals in poor physical condition, and animals with serious physical defects (club foot).

Adjust Population to 60 Percent Male Sex Ratio

A sufficient number of stallions would be selected for release to bring the post-gather sex ratio to approximately 60 percent male. This, in combination with fertility control measures, would help reduce population growth rates in the Flanigan HMA[13]. 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 percent males would result in smaller band sizes, larger bachelor groups, and some increased competition for mares. With more stallions involved in breeding, increased genetic exchange and improvement of genetic health within the herd is anticipated.

Population Control Measures

All mares to be returned to the HMA would first be treated with PZP-22. Based on a gather efficiency of 80 percent, the BLM anticipates that approximately 26 to 32 mares from the Flanigan HMA would be treated with PZP-22[14]. When injected, the PZP (antigen) causes the mare's immune system to produce antibodies, these antibodies bind to the mare's eggs, effectively blocking sperm binding and fertilization (Zoo Montana 2000). Application of PZP-22 to a pregnant mare would not affect the development of the fetus (Kirkpatrick et al 1995). PZP-22 has had no apparent effect on pregnancies in-progress, the health of off-spring, or the behavior of treated mares (Turner et al 1997). Ransom et al (2010) found no differences in how PZP-treated mares (compared to non-treated mares) allocated their time between feeding, resting, travel, maintenance, and other social behaviors in three studied populations of wild horses. The treatment process would be handled by trained staff. SOP's for use of PZP-22 are found in Appendix D. Mares receiving PZP-22 would experience increased stress when handled and freeze-marked. Any swelling or local reaction to the injection site would be short-term and localized.

[13] See footnote #1.
[14] See footnote #1.

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 the 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 acclimation 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 excess wild horses, the BLM would check the trap 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 extend until the target number of animals are removed in order to relieve areas of concentrated use, reach AML, implement population control measures, and remove animals residing outside HMA boundaries. Generally, bait/water trapping is most effective and is only appropriate when a specific resource in a given area used by the horses is limited, such as an area with limited water sources and limited water during the summer months. 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.

Wild horses Released Back into the HMA

Direct effects to wild horse populations as a result of the gathers include: altered herd population dynamics; altered age structure and/or sex ratio; reduced numbers and in instances where PZP-22 is used, lower population growth rates. Reducing the number of animals would improve range health and reduce the possibility that the excess number of wild horses would result in some animals experiencing starvation due to insufficient forage and/or water. There would be decreased competition with wildlife and livestock for forage and water. Reducing the wild horse population to within AML would also reduce the frequency or likelihood that the animals move outside the HMA onto lands not managed for wild horses. A thriving natural ecological balance would be maintained or restored throughout the gather area. Improved herd conditions would likely result in higher foal survival rates.

Population dynamics would be expected to normalize within weeks of the animals being returned to the HMAs. Wild horse populations would be expected to remain within AML for three to five years. If PZP-22 is applied to mares that treatment may further extend the timeframe that the population remains within AML.

Transport, Short-Term Holding, and Adoption Preparation
Wild horses removed from the range would be transported to a short-term holding facility using trucks with stock trailers. Animals would be segregated by sex and age, and loaded into separate compartments. Although transportation time for wild horses is limited to no more than 12 hours, actual transport time from the gather area to a short-term holding facility is expected to be much less. It is anticipated that the short-term holding facility would be in Palomino Valley, Nevada. During transport, potential impacts to individual wild horses can include stress, slipping, falling, being kicked or bitten, or stepped on by another animal.

Upon arrival at the short-term holding facility, the wild horses would be off-loaded and placed into holding pens where they are provided water and hay. A veterinarian would provide care and make any recommendation for an animal that would need to be euthanized.

After some time of adjustment to the short-term holding facility, the animals would be prepared for adoption. Preparation includes freeze-marking with a unique identification number, vaccination from common diseases, castration of studs, and de-worming. Potential impacts during adoption preparation would be similar to those that can occur during transport. A minimum of 700 square feet per animal is provided at the facility. Mortality averages approximately five percent (GAO 2008) including animals euthanized from pre-gather condition, animals unable to transition to feed, and animals which die accidentally during sorting, handling or preparation. As of August 2011, approximately 11,500 excess wild horses are in BLM's short-term holding facilities.

Adoption
Applicants who wish to adopt a wild horse must have at least 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 can conduct inspections. After one year, the applicant may take title to the horse at which point the animal become the property of the applicant. Adoptions are conducted in accordance with 43 CFR 4750.

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

Long-Term Grassland Pastures
As of August 2011, approximately 35,800 wild horses reside in long-term pastures. Potential impacts to individual wild horses from transportation to long-term pastures are similar to those impacts previously discussed for transportation to short-term pastures. One difference is that when being transported to long-term pastures, animals may be transported for up to 24 hours,

at which time they are off-loaded and provided eight hours of on-the-ground rest. During the rest period, each animal is provided water and hay.

Long-term pastures are designed to provide excess wild horses with humane, life-long care in a natural setting. The pastures are large enough in size (privately owned lands ranging in size from 1,100 to 46,000 acres) to allow free-roaming behavior with forage, water and shelter to sustain them in good condition. Mares and castrated stallions are segregated into separate pastures. Foals are born only to those mares recently gathered from the western public lands. When those foals are weaned at about eight to 10 months, they are then shipped to short-term holding facilities to be prepared and made available for adoption. A very small number of animals may be euthanized if their body condition is 3 or lower due to age and other factors. Although most wild horses residing on long-term pastures live longer than average, natural mortality averages approximately eight percent per year (GAO 2008).

Euthanasia or Sale Without Limitation
While euthanasia and sale without limitation are allowed under the WFRHBA, these activities are not permitted by BLM policy and current Congressional appropriations limitations.

4.1.2 BLM Sensitive Species

Any direct impacts to sensitive species under the Proposed Action would occur during gather operations. Direct, short-term, localized impacts could occur during gather operations from temporary spatial displacement of individual animals. Sensitive species present during gather operations would likely temporarily move away from the areas where vehicles and the helicopter are being used. This minor disruption would last no more than a few days in any one area. Furthermore, if the gather operations occurs during mid-winter, gather operations would not be expected to directly impact breeding or nesting because this falls outside critical breeding or nesting periods.

Reducing horse numbers to within the AML would be expected to indirectly benefit sensitive species because the health of the rangeland resources used by sensitive species would be protected from habitat degradation associated with wild horse overpopulation. Less vegetation would be consumed by wild horses, making it available to sensitive species for forage, nesting substrate, and/or cover. Less utilization and competition for forage, water, and space would be beneficial for sensitive species. Managing wild horse populations within the AML should maintain habitat conditions for sensitive species over the long-term by providing diverse plant communities that meet applicable life cycle requirements of any given species. Sensitive species such as the golden eagle or burrowing owl that forage in the gather area would benefit from a healthy prey base.

4.1.3 Migratory Birds

Any direct effects to migratory birds under the Proposed Action would occur during gather operations. Direct, short-term, localized impacts could occur to resident birds during gather operations from temporary spatial displacement of individual birds. Migratory birds, if present during gather operations would likely temporarily move away from the areas where vehicles

and the helicopter are being used. This minor disruption would last no more than a few days in any one area. Furthermore, gather operations would not be expected to directly impact breeding or nesting if the gather takes place mid-winter outside critical breeding or nesting periods.

Reducing horse numbers to within the AML would be expected to indirectly benefit migratory birds because the health of the rangeland resources used by birds would be protected from habitat degradation associated with wild horse overpopulation. Less vegetation would be consumed by wild horses, making it available to birds for forage, nesting substrate, and/or cover. Less utilization and competition for forage, water, and space would be beneficial for migratory bird species. Managing wild horse populations within the AML should maintain habitat conditions for birds over the long-term by providing diverse plant communities that meet applicable life cycle requirements of any given species.

4.1.4 General Wildlife

Any direct effects to general wildlife under the Proposed Action would occur during gather operations. Although some wildlife such as small mammals, rodents, and reptiles could be trampled or have burrows destroyed, overall the potential direct effects would likely be short-term and result from temporary spatial displacement of individual animals. Wildlife, if present during gather operations would likely temporarily move away from the areas where vehicles and the helicopter are being used. This minor disruption would last no more than a few days in any one area. The gather activities would also take place mid-winter outside critical breeding or nesting periods.

Reducing horse numbers to within the AML would be expected to indirectly benefit wildlife because the health of the rangeland resources used by wildlife would be protected from habitat degradation associated with wild horse overpopulation. Less vegetation would be consumed by wild horses, making it available to wildlife for forage, nesting substrate, and/or cover. Less utilization and competition for forage, water, and space would be beneficial for wildlife. Managing wild horse populations within the AML should maintain habitat conditions for wildlife over the long-term by providing diverse plant communities that meet applicable life cycle requirements of any given species.

4.1.5 Vegetation

Under the Proposed Action, any direct impacts to vegetation would occur during the gather operations. Motor vehicles would remain on existing roadways. No construction or vegetation clearing activities would occur. While the wild horses are being herded by helicopter, the animals may trample or crush some vegetation. Personnel and visitors in the area of the trap sites and holding corrals may trample or crush some vegetation. The timeframe for the gathers is expected to be several days in any specific area, which would result in limited and temporary impacts to vegetation. Mid-winter is also the dormant season for plants which would mean minimal impacts. To the greatest extent possible, trap sites and holding corrals will be placed in previously disturbed areas, further minimizing potential effects to vegetation.

As described in Section 3.4.5, data collected in 2011 documented heavy to severe forage utilization from wild horses within the Flanigan and Dogskin Mountain HMAs. A reduced number of wild horses in the gather area is likely to improve vegetative conditions. Plant production is likely to increase due to fewer wild horses eating the forage. More vegetation would increase the availability of habitat for general wildlife, BLM sensitive species, and migratory birds in the area.

4.1.6 Invasive Weeds, Non-Native Plant Species

The Proposed Action would not be expected to create conditions conducive to the spread of invasive weeds and non-native plants. The gather would also occur mid-winter, when invasive weeds and non-native plant species are dormant and post-seed. Gather activities would take place primarily in previously disturbed areas and vehicles would remain on existing roads, minimizing the opportunities for the spread of undesirable plants. Wild horses, like all wildlife, have the potential to transfer the seeds of undesirable plants from one area to another. Most invasive weeds and non-native plant species in the project area are already wide-spread. The gather of wild horses that would take place over only a few days in any specific area would not be expected to change the overall distribution of invasive weeds and non-native plant species.

4.1.7 Human Health and Safety

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 Public Observation Protocols (see Appendix C) that have been used in recent gathers to ensure that the public remains at a safe distance and does not impede gather operations. Appropriate BLM staffing (public affair specialists and law enforcement officers) would be present to assure compliance with 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.

4.1.8 Livestock Grazing

Reducing the number of wild horses may improve conditions of forage allocated for livestock. There could be some temporary displacement of livestock during the gather operations, however coordination with the livestock permittee(s) would take place prior to gather operations to ensure that any direct impacts to on-going grazing operations would be avoided.

4.2 Alternative B: Gather and Remove Excess Wild Horses Outside HMAs and Gather to Low AML on the Flanigan HMA

4.2.1 Wild horses

Impacts to wild horses under Alternative B would be similar to the Proposed Action. Potential stress to mares associated with the injection of PZP-22 would not occur under Alternative B. Changes in herd structure and behaviors due to sex ratio adjustment would also not occur. However, because these methods of population growth control would not be implemented, there could be a higher frequency of horse gathers in the future. Stresses associated with more frequent horse gather and removal efforts could increase under Alternative B.

4.2.2 BLM Sensitive Species

Effects to sensitive species under Alternative B would be similar to the Proposed Action except there could be more frequent horse gathers and removal efforts in the future because controlling population growth through PZP-22 injections and sex ratio adjustment would not be implemented. Any effects to sensitive species from gather operations could occur more often without applying these population growth control methods. Habitat conditions for sensitive species could deteriorate sooner under this alternative because of the more rapid growth in the wild horse population post-gather.

4.2.3 Migratory Birds

Effects to migratory birds under Alternative B would be similar to the Proposed Action except there could be more frequent horse gathers and removal efforts in the future because controlling population growth through PZP-22 injections and sex ratio adjustment would not be implemented. Any effects to birds from gather operations could occur more often without applying these population growth control methods. Habitat conditions for migratory birds could deteriorate sooner under this alternative because of the more rapid growth in the wild horse population post-gather.

4.2.4 General Wildlife

Effects to wildlife under Alternative B would be similar to the Proposed Action except there could be more frequent horse gathers and removal efforts in the future because controlling population growth through PZP-22 injections and sex ratio adjustment would not be implemented. Any effects to wildlife from gather operations could occur more often without applying this population growth control method. Habitat conditions for wildlife could deteriorate sooner under this alternative because of the more rapid growth in the wild horse population post-gather.

4.2.5 Vegetation

Impacts to vegetation under Alternative B would be similar to the Proposed Action. As described in Section 3.4.5, data collected in 2011 documented heavy to severe forage utilization from wild horses within the Flanigan and Dogskin Mountain HMAs. Because controlling population growth through PZP-22 injections and sex ratio adjustment would not be implemented, there could be a higher frequency of horse gathers in the future. Vegetative conditions could decline sooner. Any direct impacts to vegetation could increase slightly without implementation of population control methods.

4.2.6 Invasive Weeds, Non-Native Plant Species

Impacts to invasive weeds and non-native plant species under Alternative B would be similar to the Proposed Action. Because controlling population growth through PZP-22 injections and sex ratio adjustment would not be implemented, there could be a higher frequency of horse gathers in the future. As a result, the risk of spreading invasive weeds and non-native plant species during gather operations would increase slightly.

4.2.7 Human Health and Safety

The effects to human health and safety for Alternative B would be the same as the Proposed Action.

4.2.8 Livestock Grazing

The effects to livestock grazing for Alternative B would be the same as the Proposed Action.

4.3 Alternative C: No Action

4.3.1 Wild horses

Under the No Action Alternative, the BLM would not conduct a gather and removal of excess wild horses from within and outside the Flanigan, Dogskin Mountain and Granite Peak HMAs in 2012 and would not treat any mares with PZP-22 or adjust sex ratios in any of the HMAs. Wild horse populations currently exceed AML and would likely continue to increase between 10 to 15 percent per year in the HMAs. Deterioration of range health would occur or continue to occur until such time as AML is restored. No short-term direct impacts to wild horses would occur. Over the long-term there would be adverse effects to wild horse populations in the area. As the range deteriorates, there would be increased competition for available water and forage between wild horses, wildlife and livestock.

Wild horses are a long-lived species, with documented survival rates exceeding 95 percent for adults. Many wild horse herds grow at sustained high rates of 15 to 22 percent per year (BLM 2005a). As previously described in Section 2.4 (G), natural population controls including predation do not prevent wild horse populations from exceeding the range's capacity to sustain the horses. Under the No Action Alternative, the wild horse population in the Flanigan HMA (median trial) in 11 years would be 1,470 animals. For the Dogskin Mountain HMA the wild horse population (median trial) in 11 years would be 102 animals, and for the Granite Peak HMA the wild horse population (median trial) in 11 years would be 65 animals. For all WinEquus modeling results see Appendix F. Individual wild horses would be at risk of death by starvation and lack of water as the population continues to grow far in excess of the range's ability to meet their habitat needs. Mares and foals are affected the most by competition for limited resources. Fighting among studs would increase as they protect their position at scarce water sources, as well as injuries and death to all age classes. As populations continue to rise, and as resources become scarcer, wild horses would range further away from the gather area onto BLM and private lands not managed for wild horses. This would lead to increased conflicts with other multiple uses including wildlife, livestock grazing, and with domestic horses on public or private lands.

Allowing the deterioration of range resources that results from an overpopulation of wild horses is contrary to the WFRHBA, which mandates that the BLM "*prevent the range from deterioration associated with overpopulation*," and "*remove excess wild horses in order to preserve and maintain a thriving natural ecological balance and multiple use relationships in that area."* Under the No Action Alternative, the BLM would not be able to maintain a thriving natural ecological balance and multiple-use relationship on the lands it manages.

4.3.2 BLM Sensitive Species

No gather operations would occur under the No Action Alternative. Although no direct effects to sensitive species from potential trampling and spatial displacement would occur, allowing horse populations to increase over the upper limit of the AML could have adverse effects to sensitive species habitat. Over-utilization of forage and water sources by wild horses could occur if population numbers increase beyond the AML. Habitat could become degraded, which would decrease forage and cover available to sensitive species. Over time this could decrease the abundance of sensitive species in the gather area and inhibit the ability of plant communities to meet applicable life cycle requirements of sensitive species.

Sage-grouse require specific amounts of grass cover for optimal nesting habitat, an abundance of forbs for brood-rearing habitat, and water with sufficient vegetation to support insects and to provide cover (Connelly et al. 2000). Sage-grouse habitat can be adversely affected if grasses are over-utilized because horse populations are above the AML.

4.3.3 Migratory Birds

No gather operations would occur under the No Action Alternative. Although no direct, short-term, localized impacts to migratory birds from potential spatial displacement would occur, allowing horse populations to increase over the upper limit of the AML could have long-term adverse effects on migratory bird habitat. Over-utilization of forage and water sources by wild horses could occur if population numbers increase beyond the AML. Habitat could become degraded, which would decrease forage and cover available to migratory bird species. Over time this could decrease the abundance of bird species in the gather area and inhibit the ability of plant communities to meet applicable life cycle requirements of migratory birds.

4.3.4 General Wildlife

No gather operations would occur under the No Action Alternative. Although no direct effects to wildlife from potential trampling and spatial displacement would occur under this alternative, horse populations currently exceed the AML and would likely continue to increase. Allowing horse populations to increase over the upper limit of the AML can have long-term adverse effects to wildlife resources. Plant diversity can decrease and habitat structure can be altered if the AML is exceeded over time and vegetation and water sources are over-utilized (Beever and Brussard 2000). A less diverse plant community can be vulnerable to wildfire and invasive grasses such as cheatgrass. Cheatgrass displaces native perennial plants by germinating earlier and quicker. It is also adapted to frequent fires perpetuated by the fine fuels it creates. Beever at al. (2008) studied vegetation response to removal of wild horses and found sites without wild horses had greater shrub cover, total plant cover, plant species richness, and native grass cover than sites with wild horses. Wild horses will use areas of the HMAs that have more grasses because they are primarily grazers. Decreased cover and diversity of grasses and shrubs as well as decreased mammal burrow density have been documented at water sources used by wild horses (Beever and Brussard 2000, Ganskopp and Vavra 1986). Small mammals are prey for many species and less prey could negatively affect raptors and carnivores that inhabit the area.

Deterioration of range health would occur or continue to occur until the AML is restored. Over the long-term, wildlife species that utilize the rangeland in the gather area would be adversely affected by the deterioration of their habitat. Over time, declining habitat quality could decrease the abundance of wildlife species in and around the HMAs and inhibit the ability of plant communities to meet applicable life cycle requirements of wildlife species.

4.3.5 Vegetation

Under the No Action Alternative, the BLM would not conduct a gather, treatment and removal of wild horses within the Flanigan, Dogskin Mountain and Granite Peak HMAs in 2012. Wild horse populations currently exceed AML and would likely continue to increase at a rate of 10 to 15 percent per year. As described in Section 3.4.5, data collected in 2011 documented heavy to severe forage utilization from wild horses within the Flanigan and Dogskin Mountain HMAs. Deterioration of range health would occur or continue to occur until such time as AML is restored. No short-term direct impacts to vegetation would occur. Over the long-term, vegetation in the gather area would be adversely affected by the overpopulation of wild horses.

4.3.6 Invasive Weeds, Non-Native Plant Species

Under the No Action Alternative, the BLM would not conduct a gather, treatment and removal of wild horses within the Flanigan, Dogskin Mountain and Granite Peak HMAs in 2012. Wild horse populations currently exceed AML and would likely continue to increase. Although there would be no opportunity for the spread of invasive weeds or non-native plant species during horse gather operations if they do not take place, there could be an increased spread of the undesirable plants due to the a reduction in plant diversity and increased opportunities of weed spread as a result of the overpopulation of wild horses.

4.3.7 Human Health and Safety

Under the No Action Alternative, the BLM would not conduct a gather, treatment and removal of wild horses within the Flanigan, Dogskin Mountain and Granite Peak HMAs in 2012. There would be no effect on human health and safety because no motorized vehicle operations would occur.

4.3.8 Livestock Grazing

Under the No Action Alternative, the BLM would not conduct a gather, treatment and removal of wild horses within the Flanigan, Dogskin Mountain and Granite Peak HMAs in 2012. There would be no direct effects on livestock grazing because no gather operations would occur. Under the No Action Alternative, wild horses would continue to exceed the AML, utilizing forage allocated to livestock and contributing to heavy and severe utilization of forage plants. As wild horse populations grow, forage conditions would deteriorate, adversely affecting forage quantity and quality.

4.4 Residual Effects

"Residual effects" are those adverse effects that remain after implementation of mitigation measures. No major (significant) adverse effects have been identified in this EA. Measures

have been incorporated into the elements of the Proposed Action to avoid and minimize any adverse effects. No mitigation is necessary; there would be no residual effects.

5.0 CUMULATIVE EFFECTS

A cumulative effect is defined under NEPA as "the change in the environment which results from the incremental impact of the action, decision, or project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other action". "Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR Part 1508.7). Past, present, and reasonably foreseeable future actions are analyzed to the extent that they are relevant and useful in analyzing whether the reasonably foreseeable effects of the Proposed Action and Alternatives may have an additive and significant relationship to those effects.

Geographic Scope

The geographic scope of the Cumulative Effects Analysis is the gather area consisting of: the three HMAs, and an area of four miles adjacent to the HMAs for a total of approximately 231,103 acres, of which 28,802 acres are within the HMA boundaries (Figure 6). An area larger than the HMAs has been considered in this analysis because of the range occupied by the wild horses and because trap sites are likely to occur outside the HMAs. Although a large cumulative effects analysis area has been identified, actual gather operations and any direct effects to most resources would be confined to only a few acres.

Timeframe of Effects

The timeframe for the cumulative effects from the gather operations is seven to 10 days. All direct effects to resources would be short-term and occur during the gather operations. The time frame for the cumulative effects from the indirect effects associated with reducing the wild horse population is less than five years. After this timeframe, the wild horse population is likely to return to pre-gather levels unless there are additional removal and/or treatment actions taken by the BLM (See *Reasonably Foreseeable Future Actions*).

Past Actions

Wild horse management has been on-going since the enactment of the WFRHBA. Since 1973 the BLM has removed approximately 1,242 wild horses from within and adjacent to the Flanigan HMA, 50 wild horses from within and adjacent to the Dogskin Mountain HMA, and 138 wild horses from within and adjacent to the Granite Peak HMA. In 1973 the first population inventory for Dogskin Mountain and Granite Peak HMAs was six animals each compared to 96 for the Flanigan HMA. As described in Section 3.4.1 past decisions affecting wild horses includes: establishment of HMAs after enactment of the WFRHBA; issuance of MUDs and the HMAP, and establishment of AML's for the HMAs through public decision-making processes.

Livestock grazing, sheep and/or cattle, is known to have occurred in the area since at least the 1930's under grazing permits. As shown in Figure 5, portions of the Flanigan HMA overlap the Big Canyon, Winnemucca Ranch and Flanigan GAs, the Dogskin Mountain HMA is entirely within the Paiute Canyon GA, and the Granite Peak HMA is entirely within the Antelope Mountain GA. To facilitate the management of livestock, fencing, and temporary and permanent water

troughs have been installed within the GAs. The most recent decisions renewing term livestock grazing permits were issued for the Flanigan and Antelope Mountain GA's in 2007 (BLM 2007, 2007a).

Dispersed recreation occurs in the Virginia Mountains, Dogskin Mountain and Sand Hills. General activities include: rock hounding, sightseeing, hunting, off-highway vehicle (OHV) use, and wildlife viewing. The BLM permits non-commercial and commercial recreation events through its Special Recreation Permit program. The area is an "open and unlimited use" area for travel management. Although most vehicle use occurs on existing two-track trails and dirt roads, OHV use is permitted. Actual number of users per day or per year is not available, but the intensity of recreational use is generally low and dispersed. Most recreation use occurs during the spring and fall.

The Virginia Mountains, Dogskin Mountain and Sand Hills were subject to a historic regime of wildfire caused by lightning strikes. Natural-caused fire may have burned several acres to several thousand acres during one event. In more modern times, the area has also been subject to man-caused wildfire in addition to lightning-caused fire (Table 11). Several wildfires have occurred within the past 30 years adjacent to and within the Allotment. Typical wildfire patterns created a mosaic pattern on the landscape, burning intensely in some areas and removing all vegetation, and burning lightly in other areas, removing only grasses or groundcover. Re-seeding efforts have occurred within the gather area burned by fire. One fire of particular importance occurred in 1999, during which 61 percent of the Flanigan HMA burned. As a result, as much of the wild horse population at that time that could be rounded up was removed from the HMA due to the complete lack of forage (BLM 1999).

Table 11. Past Fire History and Reseeding.

HMA	Year	Activity	Acres
Flanigan	1999	Lightning-caused fire	10,584
	1999	Aerial re-seeding	10,584
Dogskin Mountain	1985	Unknown origin	670
	1988	Lightning-caused fire	2,374
Granite Peak	1984	Unknown origin	2,252
	1996	Human-caused fire	495
	2007	Lightning-caused fire	141

Present Actions

Under the Proposed Action, the BLM would conduct a gather and removal of wild horses and implement population control measures for released horses in January or February 2012. As described in the Proposed Action, all HMAs currently exceed AML. The proposed management actions are necessary to bring numbers to within AML in order to remove the excess wild horses and to prevent deterioration of rangeland health. Under the No Action Alternative, the BLM would not implement a horse gather at this time. Range health would continue to deteriorate as wild horse populations continue to increase even further in excess of AML.

Under the Proposed Action or Alternatives, the BLM would continue to permit livestock grazing within GA's that overlap the three HMAs. Fencing and maintenance of temporary and permanent water troughs continues. Implementation of the Proposed Action or Alternatives would not affect livestock grazing.

As described in Past Actions, recreation activities are on-going; use is generally dispersed and low intensity. No change to recreation would occur under either the Proposed Action or Alternatives.

Reasonably Foreseeable Actions

The BLM is likely to conduct substantially similar gather, treatment and removal of wild horses within these three HMAs during the period of 2013 to 2018 to maintain wild horse populations within AML and prevent deterioration of range health. The BLM will continue to monitor range and wild horse health to determine the timing of any future wild horse activities. Monitoring includes periodic population inventories, and observation of the distribution of wild horses and their ingress and egress from the HMAs.

The BLM currently permits livestock grazing within GA's that overlap the three HMAs. Fencing and maintenance of temporary and permanent water troughs would continue. Renewal of term livestock grazing permits are likely to occur in the future.

As described in Past and Present Actions, dispersed recreation is likely to continue in the future, but it is anticipated to remain similar in nature (dispersed and low intensity).

Unplanned lightning-caused or human-caused wildfire is likely to occur in the future. The intensity and scope of any such fire is unknown, and the impacts associated with any future fire(s) are too speculative to evaluate in this EA. Should any fire occur, post-fire rehabilitation including re-seeding with native plants would likely occur.

Effects Analysis

Resource topics considered under the Effects Analysis include all resources identified in Table 2 and Table 3 in Section 3.0 which "may be affected" by direct or indirect effects of the Proposed Action or Alternatives. There would be no cumulative effects to Human Health and Safety, therefore this resource is not carried further for analysis.

Wild horses

Considering identified past, present and reasonably foreseeable actions, overall cumulative effects under the Proposed Action would be beneficial for wild horses. There would be short-term direct effects to wild horse populations in the project area during gather operations. However, by returning the population to within AML, those remaining are likely to benefit from improved vegetative and range conditions. Cumulative effects under Alternative B would be similar to the Proposed Action. Under the No Action Alternative, cumulative effects would be adverse. No direct effects to wild horses would occur. Indirect cumulative effects from a continuing overpopulation of wild horses would be adverse. A thriving natural ecological

balance would not be maintained, as forage and water availability decrease as a result of overpopulation, overall wild horse health would be expected to be adversely affected.

BLM Sensitive Species

Considering identified past, present and reasonably foreseeable actions, overall cumulative effects under the Proposed Action would be beneficial to sensitive species. Reducing the number of wild horses would improve habitat (vegetation and conditions of water sources) and sensitive species that occur in the project area would likely benefit from this improvement. Cumulative effects under Alternative B would be similar to the Proposed Action. Under the No Action Alternative, the overpopulation of wild horses would continue unabated, and as populations continue to grow, range health (habitat) would deteriorate. Degraded range conditions would likely cumulatively adversely affect sensitive species. Under the No Action Alternative, cumulative effects would be adverse. Cumulative effects would result largely from the adverse indirect effects from the overpopulation of wild horses. A thriving natural ecological balance would not be maintained and habitat conditions for sensitive species would deteriorate, causing a potential long-term decline in species diversity and abundance.

Migratory Birds

Considering identified past, present and reasonably foreseeable actions, overall cumulative effects under the Proposed Action would be beneficial for migratory birds. Reducing the number of wild horses would improve habitat (vegetation and conditions of water sources) and migratory birds that occur in the project area would likely benefit from this improvement. Cumulative effects under Alternative B would be similar to the Proposed Action. Under the No Action Alternative, the overpopulation of wild horses would continue unabated, and as populations continue to grow, range health (habitat) would deteriorate. Degraded range conditions would likely cumulatively adversely affect migratory birds. Under the No Action Alternative, cumulative effects would be adverse. Cumulative effects would result largely from the adverse indirect effects from the overpopulation of wild horses. A thriving natural ecological balance would not be maintained and habitat conditions for migratory birds would deteriorate, causing a potential long-term decline in species diversity and abundance.

General Wildlife

Considering identified past, present and reasonably foreseeable actions, overall cumulative effects under the Proposed Action to general wildlife would be beneficial. Reducing the number of wild horses would improve habitat (vegetation and conditions of water sources) and wildlife species that occur in the project area would likely benefit from such improvement. Cumulative effects under Alternative B would be similar to the Proposed Action. Under the No Action Alternative, the overpopulation of wild horses would continue unabated, and as populations continue to grow, range health (habitat) would deteriorate. Degraded range conditions would likely cumulatively adversely affect general wildlife. Under the No Action Alternative, cumulative effects would be adverse. Cumulative effects would result largely from the adverse indirect effects from the overpopulation of wild horses. A thriving natural ecological balance would not be maintained and habitat conditions for general wildlife would deteriorate, causing potential long-term decline in species diversity and abundance.

Vegetation

Considering identified past, present and reasonably foreseeable actions, overall cumulative effects under the Proposed Action to vegetation would be beneficial. Reducing the number of wild horses would improve vegetation conditions by reducing the number of animals that consume forage. Cumulative effects under Alternative B would be similar to the Proposed Action. Under the No Action Alternative, the overpopulation of wild horses would continue unabated, and as populations continue to rise, vegetative conditions would cumulatively deteriorate. Under the No Action Alternative, cumulative effects would be adverse. No direct effects to vegetation would occur. Indirect cumulative effects from overpopulation of wild horses would be adverse. A thriving natural ecological balance would not be maintained and vegetation would deteriorate, causing a potential long-term decline in vegetative conditions and habitats, which could cause potential long-term declines in wildlife species associated with habitat in the area.

Invasive Weeds, Non-Native Plant Species

Considering identified past, present and reasonably foreseeable actions, overall cumulative effects under the Proposed Action to vegetation would be beneficial. Although there is some small risk that invasive weeds and non-native plants could spread as a result of disturbances from gather operations, the overpopulation of wild horses creates a higher risk of disturbances to native vegetative communities that would allow for the spread of these undesirable plants. Cumulative effects under Alternative B would be similar to the Proposed Action. Under the No Action Alternative, no cumulative effects would occur from gather operations because no gather would take place. However, over the long-term, the continued and increasing overpopulation of wild horses may have an adverse cumulative effect by creating conditions conducive to the spread of invasive weeds and non-native plant species.

Livestock Grazing

Considering identified past, present and reasonably foreseeable actions, overall cumulative effects under the Proposed Action to livestock grazing would be beneficial. Reducing the number of wild horses would return their population levels to the low range of AML. Under prior public decision-making processes, the MUDs and HMAP allocated forage to wildlife, livestock and wild horses. Removal of excess wild horses would improve the quality and quantity of forage, thereby benefiting forage allocated to livestock. Cumulative effects under Alternative B would be similar to the Proposed Action. Under the No Action Alternative, no cumulative effects would occur from gather operations because no gather would take place. However, over the long-term, the overpopulation of wild horses may have an adverse cumulative effect on forage quality and availability and may result in forage allocated to livestock being unavailable for use by livestock.

6.0 MITIGATION MEASURES AND MONITORING

Although no "significant" impacts to the human environment have been identified in this Final EA, the BLM has incorporated mitigation measures and SOPs into this Final EA that would be implemented during the gather operations to reduce or avoid adverse effects to wild horses. Standard Operating Procedures (SOPs) for Wild Horse Gathers are included in Appendix B, and SOPs for Use of PZP-22 are included in Appendix D. These SOPs represent the best methods for reducing impacts associated with the gathering, handling, and transporting of wild horses and collecting herd data.

Monitoring plans have been adopted for each of the HMAs as follows: Flanigan and Dogskin Mountain HMAs in 1995, and Granite Peak HMA in 1991 and are hereby incorporated by reference (BLM 1991, 1995, 1995a). Key elements of on-going monitoring include: the collection of hair samples for genetic baseline information; periodic population inventories; resource monitoring including collection of climate data; forage utilization; and wild horse distribution data. If monitoring indicates that genetic diversity in not being adequately maintained, young mares from HMAs in similar environments may be added every generation (every eight to 10 years) to avoid inbreeding and maintain acceptable genetic diversity.

7.0 PERSONS, GROUPS, AND AGENCIES CONSULTED

7.1 List of Preparers

Bureau of Land Management

Name	Title	Project Expertise
John Axtell	Wild Horse and Burro Specialist	Wild horses
Alan Shepherd	State Lead, Wild Horse and Burro Program	Wild horses
Steve Christy	Archeologist	Cultural Resources, Native American Religious Concerns
Brian Buttazoni	Planning and Environmental Coordinator	NEPA
Katrina Leavitt	Rangeland Management Specialist	Livestock, Vegetation
Ryan Leary	Rangeland Management Specialist	Vegetation
Pilar Ziegler	Wildlife Biologist	Migratory Birds General Wildlife, BLM Sensitive Species

7.2 Public Review

State-Wide Meeting.

A public hearing is 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. 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 concerns expressed and the BLM determined that no changes to the SOPs were warranted.

Review of this EA.

Comments were accepted on the *Flanigan, Dogskin Mountain and Granite Peak Horse Gather Environmental Assessment* until September 27, 2011. Only those comments received in a timely manner were considered. Following the 30-day public review period, the BLM considered all comments received and categorized them (see Appendix A for more details).

7.3 Tribes, Individuals, Organizations or Agencies Consulted

Tribes

Pyramid Lake Paiute Tribe
Reno-Sparks Indian Colony
Washoe Tribe of California and Nevada

Individuals

Adams, Pauline
Barnard, Harmon
Bowers, Carla

Brooks, Kelly
Butler, Etta
Capozzelli, J
Cormack, Ray
Dahl, Joe
Downer, Craig C.
Drews, Michael
Faria, Gregory A.
Freeman, Virginia
Glass, Alana Mae
Hall, Anne
Hana, Jo Ann
Kelly, Betty
Kirk, Michael
Kunow, Rebecca
Lamm, Willis
Lee, Jimmy
Lee, Amber
Martins, Anne
Matton, Charles
Matton, Bonnie
Mendes, Alan
Molini, William
Nappe, Tina
Paine, Ernest
Reeves, Elaine
Robinson, Mark
Royle, Roberta
Siegel, Steven
Steele, Lenore & Donald
Stewart, Mara
Sutherland, Susan
Warner, Barbara
Young, Craig

Organizations
American Horse Protection Association
American Wild Horse Preservation Campaign
Animal Welfare Institute
Big Canyon Ranch, Steve Capurro
Buckhorn Land & Livestock LLC
D.S. Ranches LLC, Dave Stix
In Defense of Animals
JHC Land & Cattle LLC, Ray Callahan

Nevada Cattlemen's Association
National Wildlife Federation
Nevada Grazing Board District N-3
Sierra Club
Sustainable Grazing Project
The Cloud Foundation
The John Muir Project
Wild Horse Organized Assistance (WHOA)

Agencies
Nevada State Clearinghouse (35 federal, State and county agencies)
Washoe County Commissioners

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APPENDIX A

COMMENTS ON THE DRAFT EA AND RESPONSES TO COMMENTS

Comments were accepted on the *Flanigan, Dogskin Mountain and Granite Peak Horse Gather Environmental Assessment* through September 27, 2011.

Although not required for an EA by regulation, an agency may respond to *substantive* and *timely* comments received. Substantive comments: 1) question, with reasonable basis, the accuracy of information in the EA; 2) question, with reasonable basis, the adequacy of, methodology for, or assumptions used for the environmental analysis; 3) present new information relevant to the analysis; 4) present reasonable alternatives other than those analyzed in the EA; and/or 5) cause changes or revisions in one or more of the alternatives. No response is necessary for non-substantive comments (BLM 2008).

I. Comments by Individuals and Organizations

The BLM received 18 comment letters from individuals and organizations (John Muir Project, The Cloud Foundation and American Wild Horse Preservation Campaign); although several comments from individuals appeared to be "form letter" comments as the comments were identical. Upon review and categorization of the comments, 27 unique statements were made. No comment resulted in a substantive revision to the EA in either the analysis that is included or the Alternatives themselves. The comments and responses are summarized below:

No.	Comment	Response
1.	Several commenters stated that horses are native animals; one commenter provided two scientific reports on fossil records and other supporting documents in support of their view that wild horses are native.	Outside the scope of the EA. The EA did not weigh in on the scientific debate as to whether or not wild horses on public lands are native or not, and whether or not they are descendants of horses left behind by Spanish explorers. Nor does the analysis depend on resolving this issue.
2.	Several commenters stated that use of helicopters causes stress, trauma and death to wild horses. Other commenters stated that the gather operations could cause spontaneous abortions by the mares.	As stated in Section 2.1, the use of helicopters is authorized by the WFRHBA and is the most efficient and humane method for conducting gather operations. Section 4.1.1 discussed the impacts to wild horses including stress, trauma and death. Mortality associated with helicopter use has been less than one percent.
3.	Several commenters stated that this proposal represents a giveaway to the livestock industry. Other commenters listed the comparison in numbers of cattle versus wild horses; that the BLM allocates too many resources to livestock and should allocate more to wild horses. Other commenters stated that the BLM failed to adopt an alternative that would reduce livestock grazing. One commenter stated that how the BLM determines the amount of forage livestock consumes underestimates the amount by 50%.	As stated in Section 1.6, consistent with the mandates of the WFRHBA, the BLM maintains the number of wild horses in a multiple use relationship with other wildlife and livestock grazing on public lands. BLM also has statutory mandates to manage public lands within grazing districts for livestock use, among other uses. As described in Section 3.4.1, previous public decision-making processes were used in establishing MUDs and the HMAP which allocated forage resources between wild horses, livestock, and wildlife. As described in Section 2.4 (B): changing livestock grazing is inconsistent with

		the CRMP; would require a land use plan to do so; current livestock grazing management is based upon a public decision-making process that is subject to specific regulatory requirements; and changing livestock grazing would not address the documented heavy and severe utilization of forage. How the BLM evaluates livestock forage consumption is outside the scope of this EA.
4.	Several commenters stated that the wild horse gather is a waste of taxpayer's dollars. Others stated that housing wild horses on pastures in the Midwest is a waste of taxpayer's dollars.	Outside the scope of this EA. The WFRHBA does include an economic test in its mandate that BLM remove excess wild horses from the public range.
5.	Several commenters stated that the low number of wild horses would not be able to maintain genetic viability of the herds.	As described in Sections 4.1.1 and 6.0, significant change in the genetic viability of the herds is not anticipated to occur because intermixing does occur and the BLM carries out genetic baseline monitoring. If monitoring indicates that genetic diversity is not being adequately maintained, the BLM may introduce young mares into the herd(s).
6.	Commenter stated that the EA failed to consider the economic impacts of the gather. Consider ecotourism opportunities. Another commenter noted the EA failed to take into account recreationists who view wild horses.	Socioeconomics and recreation was considered during the Interdisciplinary scoping described in Section 1.3; no information had been provided to the BLM that wild horse sightseeing contributes significantly to the local economy nor have specific ecotourism proposals been brought before the BLM for these HMAs. This resource was considered but not carried through the EA for full analysis. The EA fully analyzed all resources and program areas that may be affected by the Proposed Action or Alternatives, and rationale is provided in Section 3.2 Tables 3 and 4.
7.	Commenter stated that the EA failed to consider releasing captured horses residing outside the HMAs back into the HMAs. Another commenter stated that the BLM failed to consider an alternative that would not eliminate all wild horses outside the HMAs.	As described in Section 2.1, all HMAs currently exceed AML for wild horses. The WFRHBA mandates that wild horses residing outside HMAs be removed as excess animals.
8.	Commenter stated that the EA excluded documentation of range damage by wild horses.	As stated in Section 3.4.1, the EA described heavy and severe utilization of forage attributable to wild horses. Range specialists rely on key forage species, observation of wild horses in the area where data is collected, and observed presence or absence of horse sign (feces) in determining whether or not utilization is attributable to wild horses (rather than livestock or wildlife).
9.	Commenter stated that the BLM failed to consider alternatives that would: raise the AMLs for wild horses/decrease AMLs for livestock; and an alternative that would adjust the AUMs for wild horses.	Section 2.4 (B) addressed an alternative considered that would have reduced livestock grazing and Section 2.4 (F) would have increased the AML for wild horses. For the reasons discussed in the analysis, these alternatives were considered but eliminated from more detailed analysis.
10.	One commenter stated that the BLM is in violation	As indicated in Section 2.4 (C), under BLM's

	of the WFRHBA for: not managing the HMAs "principally" for wild horses and for removing all wild horses outside the HMAs.	regulations, some HMAs are designated principally for wild horses by becoming a Wild Horse and/or Burro Range, which has a different status than other HMAs. Designating a Wild Horse Range within these HMAs would require a land use plan amendment and public decision-making process that is outside the scope of this EA. As stated in Section 3.4.1, under the WFRBA, HMAs were established for the long-term management of wild horses consistent with other multiple uses of the area. Wild horses residing outside HMAs are considered excess and under the WFRHBA are to be removed.
11.	One commenter stated that mountain lions have been or are being removed from these HMAs to support the livestock industry. Another commenter stated that the thriving natural ecological balance has been upset by the removal of predators.	Outside of the scope of this EA. The primary responsibility for predator control and management, including the mountain lion, resides with the State of Nevada. The BLM does not have any information on predator control; individuals interested in mountain lion/predator control should make their requests to the Nevada Department of Wildlife and/or the USDA Animal and Plant Health Inspection Service Wildlife Services. There is also no evidence that predators are an effective means of controlling wild horse population growth.
12.	One commenter stated that the EA failed to provide evidence that wild horses are causing damage to riparian zones or other habitat features.	The EA does not state that damage attributable to wild horses is occurring in riparian zones. As stated in Section 1.1 et al, heavy and severe utilization of forage has been documented in the Flanigan and Dogskin Mountain HMAs, and this utilization is attributable to wild horses.
13.	One commenter stated that the BLM's population inventory for the Flanigan HMA in 2011 can't be 324 as the 2010 population inventory was 151. Another commenter noted that the documentation of the aerial census is not available.	The BLM completed a population inventory for the Flanigan HMA in April 2010 and the count was 232 wild horses. The population inventory for 2011 was 324, of which 45 were foals. The BLM maintains records of previous population inventories back to 1973 and they are available for viewing upon request.
14.	One commenter stated that the low AML is illegal because wild horse numbers are not excess if they are under the high AML.	As stated in Section 3.4.1, the AML is the optimum number of wild horses which result in a thriving natural ecological balance. As stated in Section 2.4 (E), gathering to the upper range of the AML would likely result in the AML being exceeded during the next foaling season, requiring another gather the following year. For this reason, BLM gathers to the low range of AML, which allows the population to remain at AML for a longer period of time before the population once again reaches the high range of AML.
15.	One commenter stated that the EA is inadequate because it does not address the other multiple uses of the land which may present conflicts with wild horses.	Outside the scope of this EA. When considering other authorized activities such as energy development, BLM analyzes the potential impacts of such activities on wild horses in NEPA analyses specific to those projects.

16.	One commenter supported raising the AML to 150-200 animals.	Outside the scope of this EA. As stated in Section 2.4.1 (F), raising the AML would be based on a separate decision-making process to analyze available monitoring data and/or require amending the land use plan.
17.	One commenter suggested establishing wild horses as a cultural resource.	Outside the scope of this EA.
18.	One commenter suggested analyzing the impacts to the public trust and psyche.	Outside the scope of this EA.
19.	One commenter suggested that livestock do more damage to public lands than wild horses.	Outside the scope of this EA. Livestock are managed under a permitting process that establishes a grazing management system (such as designating where cows can graze, when they can graze, and numbers that can graze in different pastures) designed to ensure that livestock grazing is consistent with rangeland health. BLM has documented heavy and severe utilization of forage within the Flanigan and Granite Peak HMAs that is directly attributable to wild horses. This data confirms that wild horses are currently in excess of the level necessary to achieve a thriving natural ecological balance.
20.	One commenter suggested removing livestock fencing to allow for natural migration of wild horses.	Outside the scope of this EA. These HMAs are not completely fenced in, and migration into and out of the HMAs is known to occur.
21.	One commenter suggested re-seeding of damaged areas and eradication of noxious and invasive weeds.	Outside the scope of this EA. The BLM has an on-going program for planting and seeding of native species, especially post-fire, and the BLM also has an on-going program to eradicate noxious and invasive weeds.
22.	Commenters suggested the need for an environmental impact statement (EIS).	The BLM has not identified any significant impacts in accordance with 40 CFR 1508.27 in the EA; therefore an EIS is not required. No comments were received on the draft Finding of No Significant Impact that was available for public review that would indicate significant impacts are likely to occur.
23.	Commenters stated that the EA failed to consider adaptive management (Secretarial Order 3270).	Although this Order expired in 2008, 43 CFR 46.145 encourages agencies to consider adaptive management in all NEPA documents. The BLM has taken this into account in preparing this horse gather plan.
24.	Commenters stated that the Proposed Action fails to fulfill the mandate to manage wild horses at the "minimum feasible level."	The full context of 43 CFR 4710.4 states that, "management shall be at the minimum level necessary to attain the objectives identified in the approved land use plan and herd management area plans." Conducting the horse gathers at this time is consistent with this regulation. The AML's for all three HMAs was reaffirmed in the 2001 CRMP.
25.	Commenter stated that the genetic analysis should be provided in the EA.	The BLM anticipates collecting hair samples for genetic analysis during this horse gather. As stated in Section 6.0, augmentation of a herd could occur if genetic sampling indicates such action is warranted. Such genetic data (once collected) would be

		available for viewing upon request.
26.	Several commenters stated that there is no emergency need to gather these wild horses.	BLM has not indicated that an emergency exists, nor does the EA reflect that an emergency situation exists. However, the population inventories show that wild horses are currently in excess of AML and that wild horses have moved beyond the boundaries of the HMAs in search of food, water and shelter, due to the overpopulation within the HMAs. Furthermore, heavy and severe utilization of forage by wild horses has been documented in the Flanigan and Granite Peak HMAs. Under the WFRHA, the BLM is mandated to remove wild horses when it has been determined that an excess exists, as is the case for these HMAs.
27.	One commenter stated that the BLM failed to consider a PZP-22 only alternative; another commenter stated that the BLM should consider the one-year dose of PZP.	Section 2.4 (I) and (J) consider these alternatives and provides the reasoning why they were not considered for more detailed analysis.

II. Comments by Agencies

The BLM received comments from three State agencies: the Nevada Department of Wildlife, Nevada Division of State Lands, and Nevada State Historic Preservation Officer. All expressed support for the horse gather as proposed.

APPENDIX B

STANDARD OPERATING PROCEDURES FOR WILD HORSE GATHERS

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 because they are old, sick or lame, or that 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 so as 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:

2. 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.

3. 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.

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

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

    b. All loading chute sides shall be a minimum of 6 feet high and shall be fully covered, plywood, metal without holes larger than 2" x 4".

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

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

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

5. 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.

6. 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.

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

8. 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.

9. 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.

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

11. 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.

12. Animals shall be transported to their final destination from temporary holding facilities as quickly as possible after gather unless prior approval is granted by the COR for unusual circumstances. Animals to be released back into the HMA following gather operations may be held up to 21 days or as directed by the COR. Animals shall not be held in traps and/or temporary holding facilities on days when there is no work being conducted except as specified by the COR. The Contractor shall schedule shipments of animals to arrive at final destination between 7:00 a.m. and 4:00 p.m. No shipments shall be scheduled to arrive at final destination on Sunday and Federal holidays, unless

prior approval has been obtained by the COR. Animals shall not be allowed to remain standing on trucks while not in transport for a combined period of greater than three (3) hours in any 24 hour period. Animals that are to be released back into the gather area may need to be transported back to the original trap site. This determination will be at the discretion of the COR/PI or Field Office horse specialist.

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

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

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

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

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

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

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

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

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

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

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

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

C. Use of Motorized Equipment

1. All motorized equipment employed in the transportation of gathered animals shall be in compliance with appropriate State and Federal laws and regulations applicable to the

humane transportation of animals. The Contractor shall provide the COR/PI, if requested, with a current safety inspection (less than one year old) for all motorized equipment and tractor-trailers used to transport animals to final destination.

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

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

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

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

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

    a. 11 square feet per adult horse (1.4 linear foot in an 8 foot wide trailer);
    b. 8 square feet per adult burro (1.0 linear foot in an 8 foot wide trailer);
    c. 6 square feet per horse foal (.75 linear foot in an 8 foot wide trailer);
    d. 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.

E. 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.

F. 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.

G. 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 any time or for any reason during BLM operations.

H. Responsibility and Lines of Communication

Contracting Officer's Representative/Project Inspector
John Axtell, Wild Horse and Burro Specialist, Carson City District Office
Alan Shepherd, Wild Horse & Burro Program Lead, Nevada State Office

The CORs and the PIs have the direct responsibility to ensure the Contractor's compliance with the contract stipulations. The Supervisory Natural Resource Specialists and the 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 C

PUBLIC OBSERVATION PROTOCOLS

The BLM recognizes and respects the right of interested members of the public and the press to observe the Flanigan, Dogskin Mountain, and Granite Peak wild horse gather. At the same time, BLM must ensure the health and safety of the public, BLM's employees and contractors, and America's wild horses. Accordingly, BLM developed these rules to maximize the opportunity for reasonable public access to the gather while ensuring that BLM's health and safety responsibilities are fulfilled. Failure to maintain safe distances from operations at the gather and temporary holding sites could result in members of the public inadvertently getting in the path of the wild horses or gather personnel, thereby placing themselves and others at risk, or causing stress and potential injury to the wild horses 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 or more 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 Information 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. However, the contractor and its staff will not be available to answer questions or interact with visitors.

- Observers must provide their own four-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 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 wild horses in, visitors must sit down in areas specified by BLM representatives and must not move or talk as the wild 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, lightening, wildfire, etc.).*

Guided Observation Day-Specific Protocol

A guided public observation 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 provide opportunities for 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 location and are escorted by BLM representatives to and from the gather site.

APPENDIX D

STANDARD OPERATING PROCEDURES FOR USE OF PZP-22

22-month time-release pelleted Porcine Zona Pellucida (PZP) vaccine:
The following implementation and monitoring requirements are part of the Proposed Action:

1. PZP-22 vaccine would be administered only by trained BLM personnel or collaborating research partners.
2. The fertility control drug is administered with two separate injections: (1) a liquid dose of PZP-22 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-22 over time similar to a time-release cold capsule.
3. Mares that have never been treated would receive 0.5 cc of PZP-22 vaccine emulsified with 0.5 cc of Freund's Modified Adjuvant (FMA) and loaded into darts at the time a decision has been made to dart a specific mare. Mares identified for re-treatment receive 0.5 cc of the PZP-22 vaccine emulsified with 0.5 cc of Freund's Incomplete Adjuvant (FIA).
4. Delivery of the vaccine would be by intramuscular injection into the gluteal muscles while the mare is restrained in a working chute. With each injection, the liquid or pellets would be injected into the left hind quarters of the mare, above the imaginary line that connects the point of the hip (hook bone) and the point of the buttocks (pin bone).
5. In the future, the vaccine may be administered remotely using an approved long range darting protocol and delivery system if or when that technology is developed.
6. All treated mares will be freeze-marked on the hip or neck HMA managers to positively identify the animals during the research project and at the time of removal during subsequent gathers.

Monitoring and Tracking of Treatments:
1. At a minimum, estimation of population growth rates using helicopter or fixed-wing surveys will be conducted before any subsequent gather. During these surveys it is not necessary to identify which foals were born to which mares; only an estimate of population growth is needed (i.e. # of foals to # of adults).
2. Population growth rates of herds selected for intensive monitoring will be estimated every year post-treatment using helicopter or fixed-wing surveys. During these surveys it is not necessary to identify which foals were born to which mares, only an estimate of population growth is needed (i.e. # of foals to # of adults). If, during routine HMA field monitoring (on-the-ground), data describing mare to foal ratios can be collected, these data should also be shared with the NPO for possible analysis by the USGS.
3. A PZP-22 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-22 Application

Report and accompanying narrative and data sheets will be forwarded to the NSO (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 SFFO detailing the quantity of PZP-22 issued, the quantity used, disposition of any unused PZP-22, the number of treated mares by HMA, field office, and State along with the freeze-mark(s) applied by HMA and date.

APPENDIX E

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
Renewable Resources and Planning

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

APPENDIX F

WinEquus Modeling Results

Flanigan HMA

Average Growth Rate in 10 Years (in percent)

	Alternative A	Alternative B	Alternative C
Lowest Trial	-1.2	3.6	13.5
10th Percentile	3.5	10.7	15.0
25th Percentile	5.1	12.0	16.0
Median Trial	6.8	14.6	17.0
75th Percentile	8.9	16.7	18.3
90th Percentile	10.3	18.0	19.9
Highest Trial	13.4	19.8	21.5

Population Size in 11 Years*

Alternative A	**Minimum**	**Average**	**Maximum**
Lowest Trial	61	97	270
10th Percentile	71	113	278
25th Percentile	76	120	284
Median Trial	83	124	292
75th Percentile	86	128	304
90th Percentile	90	132	326
Highest Trial	100	138	387
Alternative B	**Minimum**	**Average**	**Maximum**
Lowest Trial	49	91	272
10th Percentile	74	119	278
25th Percentile	82	122	283
Median Trial	86	126	292
75th Percentile	89	130	312
90th Percentile	92	132	339
Highest Trial	96	139	384
Alternative C	**Minimum**	**Average**	**Maximum**
Lowest Trial	259	478	809
10th Percentile	276	607	1,139
25th Percentile	283	650	1,258
Median Trial	295	729	1,470
75th Percentile	308	811	1,672
90th Percentile	325	855	1,814
Highest Trial	351	1010	2,288

* 0 to 20+ year old wild horses

Number of Wild horses Gathered, Removed and Treated in 11 Years*

Alternative A	Gathered	Removed	Treated
Lowest Trial	349	139	48
10th Percentile	402	152	60
25th Percentile	425	184	70
Median Trial	440	198	77
75th Percentile	452	214	86
90th Percentile	466	225	96
Highest Trial	525	298	116
Alternative B	**Gathered**	**Removed**	
Lowest Trial	189	158	
10th Percentile	272	228	
25th Percentile	288	244	
Median Trial	310	264	
75th Percentile	343	294	
90th Percentile	372	318	
Highest Trial	422	364	

* 0 to 20+ year old wild horses

Dogskin Mountain HMA

Average Growth Rate in 10 Years (in percent)

	Alternative A	Alternative C
Lowest Trial	-6.1	2.4
10th Percentile	4.6	11.4
25th Percentile	8.0	13.5
Median Trial	11.6	15.9
75th Percentile	14.7	17.8
90th Percentile	17.3	19.3
Highest Trial	21.4	24.3

Population Sizes in 11 Years*

Alternative A	Minimum	Average	Maximum
Lowest Trial	6	12	22
10th Percentile	9	16	23
25th Percentile	10	17	24
Median Trial	12	19	26
75th Percentile	14	22	30
90th Percentile	16	24	33
Highest Trial	22	28	38
Alternative C	**Minimum**	**Average**	**Maximum**
Lowest Trial	18	23	29
10th Percentile	22	42	76
25th Percentile	22	48	88
Median Trial	23	54	102
75th Percentile	25	59	122
90th Percentile	27	66	146
Highest Trial	33	93	202

* 0 to 20+ year old wild horses

Number of Wild horses Gathered and Removed in 11 Years*

Alternative A	Gathered	Removed
Lowest Trial	12	8
10th Percentile	38	21
25th Percentile	47	26
Median Trial	56	32
75th Percentile	65	37
90th Percentile	74	41
Highest Trial	92	58

* 0 to 20+ year old wild horses

Granite Peak HMA

Average Growth Rate in 10 Years (in percent)

	Alternative A	Alternative C
Lowest Trial	2.0	7.2
10th Percentile	8.1	14.1
25th Percentile	12.1	16.2
Median Trial	16.7	18.4
75th Percentile	20.1	21.4
90th Percentile	24.1	22.5
Highest Trial	28.6	28.1

Population Sizes in 11 Years*

Alternative A	Minimum	Average	Maximum
Lowest Trial	5	11	18
10th Percentile	9	14	19
25th Percentile	10	15	20
Median Trial	11	15	21
75th Percentile	12	16	24
90th Percentile	13	18	26
Highest Trial	14	22	40
Alternative C	**Minimum**	**Average**	**Maximum**
Lowest Trial	8	16	25
10th Percentile	11	22	44
25th Percentile	11	28	52
Median Trial	12	32	65
75th Percentile	13	38	82
90th Percentile	14	47	98
Highest Trial	18	72	171

* 0 to 20+ year old wild horses

Number of Wild Horses Gathered and Removed in 11 Years*

Alternative A	Gathered	Removed
Lowest Trial	8	7
10th Percentile	13	8
25th Percentile	24	17
Median Trial	32	22
75th Percentile	41	28
90th Percentile	48	34
Highest Trial	81	52

* 0 to 20+ year old wild horses

APPENDIX G

BLM Sensitive Species and Migratory Birds That May be Present in the HMAs (BLM 2010a, BLM 2011).

Common Name	Scientific Name	Sensitive Species	Migratory Bird
Big brown bat	*Eptesicus fuscus*	X	
Brazilian free-tailed bat	*Tadarida braziliensis*	X	
Bighorn sheep	*Ovis canadensis*	X	
Brewer's sparrow	*Spizella breweri*	X	X
Burrowing owl	*Athene cunicularia*	X	X
California myotis	*Myotis californicus*	X	
Dark kangaroo mouse	*Microdipodops megacephalus*	X	
Ferruginous hawk	*Buteo regalis*	X	X
Fringed myotis	*Myotis thysanodes*	X	
Golden eagle	*Aquila chrysaetos*	X	X
Greater sage-grouse	*Centrocercus urophasianus*	X	
Green-tailed towhee	*Pipilo chlorurus*		X
Hoary bat	*Lasiurus cinereus*	X	
Little brown bat	*Myotis lucifugus*	X	
Loggerhead shrike	*Lanius ludovicianus*		X
Long-eared myotis	*Myotis evotis*	X	
Long-legged myotis	*Myotis volans*	X	
Mourning dove	*Zenaida macroura*		X
Northern goshawk	*Accipiter gentilis*	X	
Pale kangaroo mouse	*Microdipodops pallidus*	X	
Pallid bat	*Antrozous pallidus*	X	
Pinyon jay	*Gymnorhinus cyanocephalus*	X	X
Pygmy rabbit	*Brachylagus idahoensis*	X	
Sage thrasher	*Oreoscoptes montanus*	X	X
Sage sparrow	*Amphispiza belli*		X
Silver-haired bat	*Lasionycteris noctivagans*	X	
Spotted bat	*Euderma maculatum*	X	
Townsend's big-eared bat	*Corynorhinus townsendii*	X	
Western red bat	*Lasiurus blossevillii*	X	
Western small-footed myotis	*Myotis ciliolabrum*	X	
Western pipistrelle bat	*Pipistrellus hesperus*	X	
Yuma myotis	*Myotis yumanensis*	X	