

# **Environmental Assessment**

## **White Mountain & Little Colorado Herd Management Areas Wild Horse Gather**

**WY-040-EA11-124**

**April 2011**



The BLM's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development, and energy production, and by conserving natural, historical, cultural, and other resources on public lands.

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**WY-040-EA11-124**

**Environmental Assessment**

**for**

**White Mountain & Little Colorado  
Herd Management Areas  
Wild Horse Gather**

**Prepared by**

**Bureau of Land Management  
Rock Springs, Wyoming**

**WY-040-EA11-124**

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# 1.0 Introduction

## 1.1 Background Information

This Environmental Assessment (EA) has been prepared to analyze the environmental effects of wild horse gather operations and potential population control methods (including fertility control treatment, sex ratio adjustment, spaying, and gelding) to achieve and maintain the established Appropriate Management Levels (AMLs) for the White Mountain and Little Colorado Herd Management Areas (HMAs). The BLM has determined that excess wild horses are present in White Mountain and Little Colorado HMAs above the AMLs.

This EA contains the site-specific analysis of potential impacts that could result with the implementation of a proposed action or alternatives to the proposed action. The EA ensures compliance with the National Environmental Policy Act (NEPA); it analyzes information to determine whether to prepare an Environmental Impact Statement (EIS) or issue a Finding of No Significant Impact (FONSI). A FONSI documents why implementation of the selected action will not result in environmental impacts that significantly affect the quality of the human environment.

The proposed project area (two HMAs) encompasses 1,014,557 acres of public, State, and private lands in Sweetwater, Lincoln, and Sublette counties in southwest Wyoming (Table 1 and Figure 1).

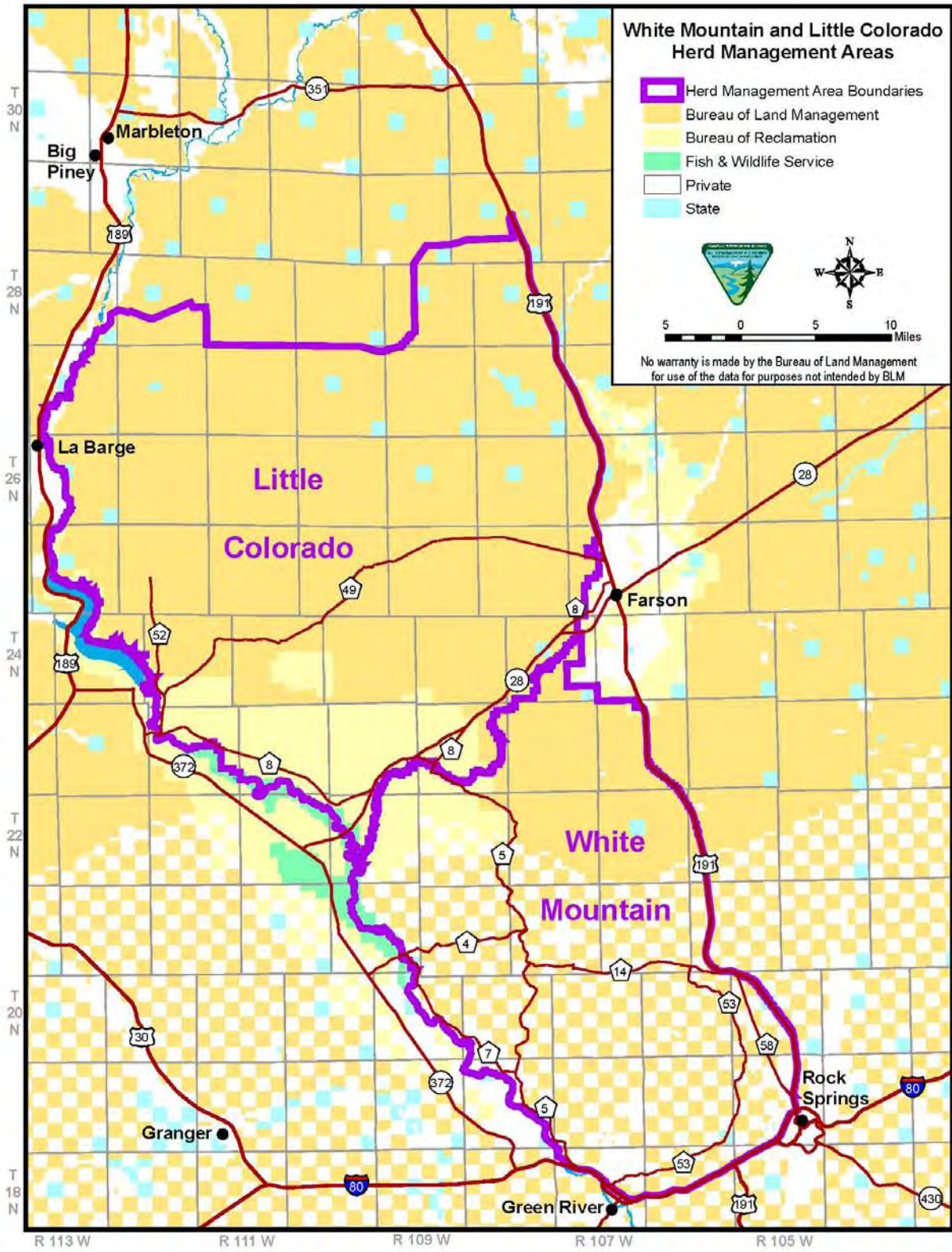
**Table 1. Project Area**

| HMA                             | Federal Acres (BLM) | Federal Acres (BOR/FWS) | State Acres   | Private Acres  | Total Acres      |
|---------------------------------|---------------------|-------------------------|---------------|----------------|------------------|
| White Mountain                  | 205,419             | 27,705                  | 3,026         | 147,648        | 383,798          |
| Little Colorado                 | 521,262             | 94,647                  | 12,851        | 1,999          | 630,759          |
| <b>Total Acres by Ownership</b> | <b>726,681</b>      | <b>122,352</b>          | <b>15,877</b> | <b>149,647</b> | <b>1,014,557</b> |

The Appropriate Management Level (AML) for the White Mountain HMA was based on a 1979 agreement entered into by the Rock Springs Grazing Association and Wild Horses Yes, which provided for the management of specific numbers of wild horses on the privately controlled lands and the unfenced contiguous public lands within the White Mountain HMA. The AML (205-300) was established in the Green River Resource Management Plan (RMP) (1997) based on this agreement. The Little Colorado HMA was established in August 1997, with the approval of the Green River Resource Management Plan. The AML for the Little Colorado HMA is set at a range of 69 to 100 wild horses.

Wild horses were last removed from the White Mountain HMA in November 2007, a total of 695 were captured; 610 were removed. At that time, the post-gather population was estimated at 205 horses. Wild horses were last removed from the Little Colorado HMA in November 2007, a total of 161 horses were captured, and 125 were removed. At that time, the post-gather population was estimated at 69 horses.

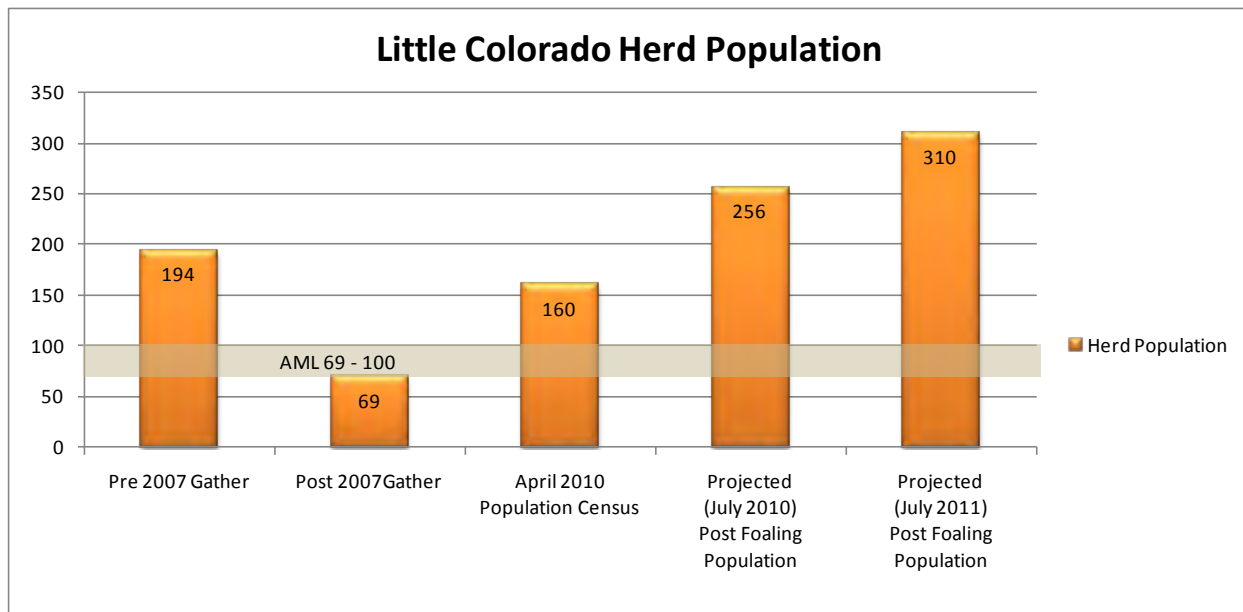
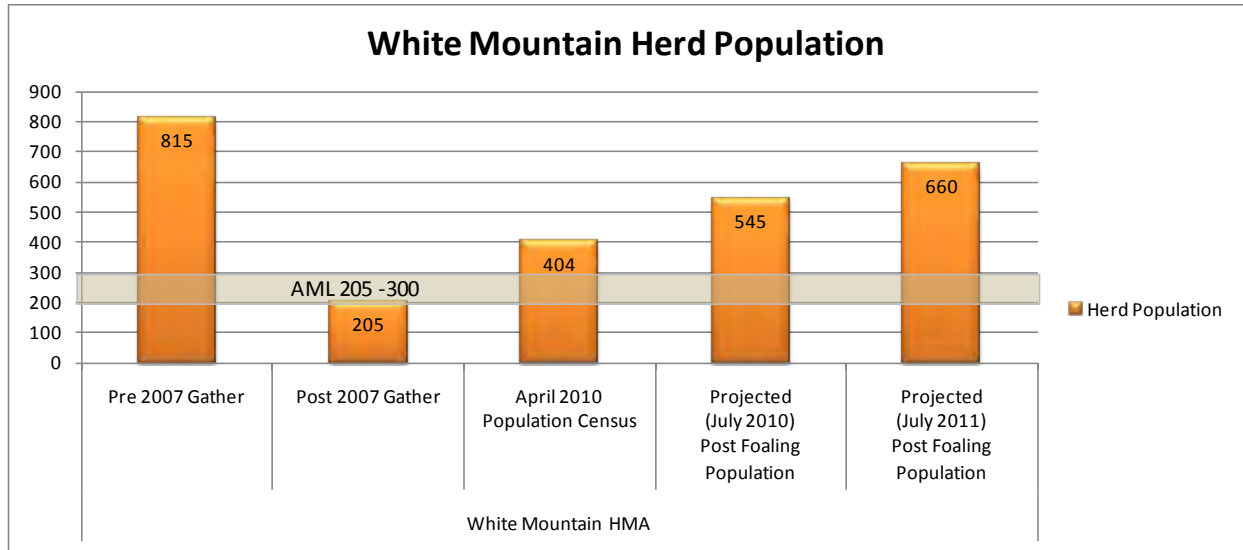
Figure 1. Map of the Affected Area



Aerial survey and distribution flights were completed in April 2010 in the White Mountain and Little Colorado HMAs. The April 2010 survey documented direct counts of 404 wild horses within the White Mountain HMA and 160 wild horses in the Little Colorado HMA.

Analysis of the information indicates that excess wild horses are present and require immediate removal (see Figure 2). As a result, any decision of the authorized officer will be implemented effective upon issuance under authority provided in 43 Code of Federal Regulations (CFR) 4770.3 (a) and (c).

**Figure 2. Wild Horse Population Projections**



Currently, the estimated population after 2011 foaling season would be approximately 660 wild horses in the White Mountain HMA and 310 wild horses in the Little Colorado HMA. The estimated current wild

horse population within the HMAs is based on the April 2010 census flights and adjusted 14% for unobserved and 21% for 2010 foal crop and a 25% recruitment for 2011 foal crop. Of the estimated 660 wild horses, approximately 455 are present above the low AML for the White Mountain HMA. Of the estimated 310 wild horses, approximately 241 are present above the low AML for the Little Colorado HMA.

Based upon all information available at this time, the BLM has determined that 696 excess wild horses need to be removed from the combined HMAs. This determination is based on the following factors including, but not limited to:

- The current estimated population of wild horses is 970, and 696 wild horses in excess of the AML lower limit. This estimate is based on the direct count population inventory conducted in April 2010 and includes the addition of the 2010 and 2011 foal crops.
- Use by wild horses is exceeding the forage allocated to their use by 3 times.
- By comparison, livestock use has averaged 41% of active preference in allotments within the White Mountain and Little Colorado HMAs respectively between 2006 and 2010. The BLM is currently not restricting permitted livestock use for the allotments within the HMAs. Some permittees have voluntarily opted for nonuse due to drought conditions and high horse numbers; however, the BLM did not request nonuse in these allotments.
- Utilization monitoring completed in 2009 documents heavy to severe utilization by wild horses on key forage species within upland areas (Central Well) of the White Mountain HMA.
- Utilization monitoring completed in 2009 documents moderate to heavy utilization by wild horses on key forage species within upland areas (Buckhorn) of the Little Colorado HMA.
- Analysis of the above information indicates that excess wild horses are present and require immediate removal. As a result, any decision of the authorized officer will be implemented effective on approximately June 1, 2011 under authority provided in 43 Code of Federal Regulations (CFR) 4770.3(c).

## **1.2 Purpose and Need**

The purpose of the proposed action is to maintain established AMLs in the White Mountain and Little Colorado HMAs consistent with the Green River RMP (1997). The need for this action is to remove excess animals in order to achieve a thriving natural ecological balance between wild horse populations, wildlife, livestock, vegetation, and water resources and to protect the range from deterioration associated with overpopulation of wild horses as authorized under Section 1333 (b) (2) of the 1971 Wild Free-Roaming Horses & Burros Act (1971). This would also meet multiple use and sustained yield objectives for the RSFO as identified in the Green River RMP (1997).

The proposed action and alternatives are also needed to assure that wild horses are managed at the minimum feasible level of management and in consultation with State wildlife agency as required in Section 1333(a) of the 1971 Act. Applying fertility control protocol and adjusting sex ratios as a part of the proposed action would slow reproduction rates of mares returned to the White Mountain and Little Colorado HMAs following the gather, allowing vegetation resources time to recover. It would also decrease gather frequency and disturbance to individual animals and the herd, and provide for a more stable herd structure.

The proposed management actions are also needed to be in conformance with the August 2003 Consent Decree confirmed by the United States District Court of Wyoming. This is an out-of-court settlement agreement between the State of Wyoming and United States Department of the Interior Bureau of Land Management. This agreement specifies that when information is gathered that indicates that an HMA within the State of Wyoming is determined to be over the established AML, the BLM has one year from discovery to remove wild horses to the low range of AML.

**Decision to Be Made** The BLM will select the action to be implemented to achieve and maintain the established Appropriate Management Levels (AMLs) for the White Mountain and Little Colorado HMAs.

### **1.3 Relationship to Statutes, Regulations, Plans, or Other Environmental Analyses**

#### **Conformance with Existing Land Use Plans**

The proposed action and other action alternatives are in conformance with both the Record of Decision and Green River RMP approved on August 8, 1997.

The Green River RMP (BLM 1997b) objectives for management of wild horses are to: 1) protect, maintain, and control viable, healthy herds of wild horses while retaining their free-roaming nature; 2) provide adequate habitat for free-roaming wild horses through management consistent with principles of multiple use and environmental protection; and 3) provide opportunity for the public to view wild horses. Gathering and removal of excess wild horses from the White Mountain and Little Colorado HMAs is in conformance with the Green River RMP. Wild horse numbers that were agreed to with private land owners and wild horse advocacy groups were addressed in developing the RMP. Wild horse HMAs were established and confirmed through the Green River RMP planning process.

#### **Conformance with Rangeland Health Standards and Guidelines**

The proposed action and other action alternatives are in conformance with the BLM Wyoming “Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management” (1997). The proposed action will assist in maintaining the health of the public lands within the HMAs. A copy of the BLM Wyoming “Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management” (1997) is available upon request from the BLM.

#### **Conformance with August 2003 Consent Decree State of Wyoming v. U.S. Department of the Interior, BLM (Civil Action No. 03 CV 169D)**

The proposed action and other action alternatives are in conformance with the Consent Decree that states ‘If BLM determines, based on the results of any inventory and on projected reproduction rates, that the wild horse population in any HMA or other area in Wyoming is likely to exceed AML in the following fiscal year, the BLM shall in its budget submission to the DOI for the next budget cycle include a request to reduce that HMA back to the AML. If the BLM fails to reduce the number of wild horses to AML by December 15 of the year of the next budget cycle, the State of Wyoming may petition the court to compel removal of horses over the AML in the HMA at that time based on the Wild Free-Roaming Horses and Burros Act and applicable law’ (Consent Decree 2003).

#### **Conformance with Court Order No. C79-275K**

The proposed action and other action alternatives are in conformance with court order No. C79-275K Mountain States Legal Foundation vs. James G. Watt, Secretary of the Department of the Interior, filed February 19, 1982, that states ‘the BLM has determined that the appropriate management level for the horse herds on the Salt Wells/Pilot Butte checkerboard lands is that level agreed to by the landowners in that area. All horses on the checkerboard above such levels are ‘excess’ within the meaning of 16 USC 1332(f) (1976 and Supp III)’ (Court Order, 1982).

#### **Relationship to Statutes, Regulations, or Other Plans**

Public lands are managed under the FLPMA, which provides that the public lands are to be managed in accordance with land use plans and under principles of multiple use and sustained yield to protect the quality of scenic, ecological, environmental, and archeological values; to preserve and protect public

lands in their natural condition; to provide feed and habitat for wildlife and livestock; and to provide for outdoor recreation 43 USC 1701(a)(8).1732(a). FLPMA also stresses harmonious and coordinated management of the resources without permanent impairment of the environment 43USC 1701(c).

The proposed action and action alternatives are in conformance with the regulations for implementing the Wild and Free-Roaming Horses and Burro Act found at 43 CFR 4700:

- 43 CFR 4700.0-6 (a): *Wild horses shall be managed as self-sustaining populations of healthy animals and in balance with other uses and the productive capacity of their habitat.*
- 43 CFR 4700.0-6 (e): *Healthy excess wild horses for which an adoption demand by qualified individuals exists shall be made available at adoption centers for private maintenance and care.*
- 43 CFR 4710.4: *Management of wild horses shall be at the minimum level necessary to attain the objectives identified in approved land use plans.*
- 43 CFR 4720.1: *Upon examination of current information and a determination by the authorized officer that an excess of wild horses or burros exist, the authorized officer shall remove the animals immediately.*

No federal, state, or local law or requirement imposed for the protection of the environment will be threatened or violated under the proposed action or any action alternatives described in detail in this EA.

## **1.4 Scoping, Public Involvement, and Issues**

Internal scoping by an interdisciplinary team identified issues of concern to be analyzed. Public comments on the various components of wild horse management on public lands in the White Mountain and Little Colorado HMAs have been received throughout the last several years. On April 9, 2010, the BLM issued a scoping letter for this proposed wild horse gather. In excess of 2,000 comment letters/emails were received from individuals, organizations, and agencies following the issuance of the White Mountain and Little Colorado HMAs, Wild Horse Gather Plan Scoping Letter addressing the proposed action. These comments represented a range of views of opinion and interpretation of selected pieces of data. The majority of these approximately 2,000 letters or emails were submitted as a form letter. All comment letters were reviewed and considered and resulted in approximately 15 unique substantive comments (see Appendix I, Summary of Scoping Comments). All the substantive comments will be considered in the development of the EA.

The following issues were identified for analysis:

- Impacts to wild horses within the HMAs
- Effects on wildlife and threatened and endangered species
- Impacts to vegetation, soils, and watersheds
- Effects on recreation and wilderness values
- Effects related to livestock grazing
- Cultural resource conflicts

## **2.0 Proposed Action and Alternatives**

This section of the EA describes the proposed action and alternatives, including any that were considered but eliminated from detailed analysis. Alternatives analyzed in detail include the following:

- Alternative A: Proposed Action - Remove Excess Animals to Lower Limit of AML range with Fertility Control and Adjustment of Sex Ratios (favoring stallions 60:40).
- Alternative B: Remove Excess Animals to Lower Limit of AML Range and Adjustment of Sex Ratios (favoring stallions 60:40).
- Alternative C: No Action Alternative - No Gather or Removal

- Alternative D: Remove All Animals and manage for a non reproductive herd returning gelded and spayed wild horses to Lower Limit of AML range.

The proposed action and other action alternatives were developed to meet the BLM purpose and need. Alternative C (No Gather or Removal) does not comply with the 1971 Wild Free-Roaming Horses Act (as amended), nor meet the purpose and need for action; it is included as a basis for comparison with the action alternatives.

## **Actions Common to Alternatives A, B and D**

The following actions are common to Alternatives A ,B and D:

- All capture and handling activities would be conducted in accordance with the Standard Operating Procedures (SOPs) described in Appendix II (SOPs). Multiple capture sites (traps) would be used to capture wild horses within the White Mountain and Little Colorado HMAs. Whenever possible, capture sites would be located in previously disturbed areas. Capture techniques would include the helicopter-drive trapping method and/or helicopter-roping from horseback. Bait trapping may also be utilized on a limited basis, as needed.
- An Animal and Plant Inspection Service (APHIS) veterinarian will be on-site, as needed, to examine animals and make recommendations to the BLM for care and treatment of wild horses in accordance with Washington Office Instruction Memorandum No. 2009-041 (*Euthanasia of Wild Horses and Burros for Reasons Related to Health, Handling and Acts of Mercy*, BLM 2009). On-site inspection by an APHIS veterinarian is required for any animals to be transported across State borders without testing for Equine Infectious Anemia (EIA) prior to transport. (A copy of this IM can be reviewed upon request at the RSFO.)
- Selection of animals for removal and/or release would also be guided by the BLM *Gather Policy, Selective Removal Criteria, and Management Considerations for Reducing Population Growth Rates* (Washington Office IM 2010-135, BLM 2010b). (A copy of this IM can be reviewed upon request at the RSFO.)
- All wild horses outside of the HMAs would be removed.

## Descriptions of Alternatives Considered In Detail

### **2.1 Alternative A: Proposed Action – Remove Excess Animals to Lower Limit of AML range with Fertility Control and Adjustment of Sex Ratios (favoring stallions 60:40)**

The Proposed Action is to gather approximately 90% (or about 873 wild horses) of the estimated current population (970 horses) in July 2011 or when funding permits. The estimated current wild horse population within the White Mountain and Little Colorado HMAs is based on the April 2010 flights and adjusted for two year's foal crop. Of the animals gathered, approximately 696 excess wild horses would be removed and shipped to BLM holding facilities in Rock Springs, Wyoming, and/or Cañon City, Colorado, where they will be prepared for adoption and/or sale to qualified individuals and/or long-term holding. The projected wild horse population remaining on the range following the gather would be about 205 in the White Mountain HMA and about 69 in the Little Colorado HMA. Gather operations are anticipated to take between two and four weeks for completion.

The 205 wild horses remaining in the White Mountain HMA would include approximately 139 wild horses that would be returned to the HMA. Approximately 89 would be studs and 50 would be fertility control treated mares. The 69 wild horses remaining in the Little Colorado HMA would include approximately 38 wild horses that would be returned to the HMA. Approximately 28 would be studs and 10 would be fertility control treated mares. After selection and treatment, these horses will be released into the immediate gather area. All the mares released would be subject to fertility control experimentation research protocol with a two-year treatment of Porcine Zona Pellucida (PZP). Fertility control would be conducted in accordance with Standard Operating Procedures as described in Appendix III (SOPs Fertility Treatment).

### **2.2 Alternative B: Remove Excess Animals to Lower Limit of AML Range and Adjustment of Sex Ratios (favoring stallions 60:40)**

Alternative B is to gather approximately 90% (or about 873 wild horses) of the estimated current population (970 horses) in July 2011. The estimated current wild horse population within the White Mountain and Little Colorado HMAs is based on the April 2010 flights and adjusted for two year's foal crop. Of the animals gathered, approximately 696 excess wild horses would be removed and shipped to BLM holding facilities in Rock Springs, Wyoming, and/or Cañon City, Colorado, where they will be prepared for adoption and/or sale to qualified individuals and/or long-term holding. The projected wild horse population remaining on the range following the gather would be about 205 in the White Mountain HMA and about 69 in the Little Colorado HMA. Gather operations are anticipated to take between two and four weeks for completion.

The 205 wild horses remaining in the White Mountain HMA would include approximately 139 wild horses that would be returned to the HMA. Approximately 89 would be studs and 50 would be mares. The 69 wild horses remaining in the Little Colorado HMA would include approximately 38 wild horses that would be returned to the HMA. Approximately 28 would be studs and 10 would be mares. After selection, these horses will be released into the immediate gather area.

### **2.3 Alternative C: No Action Alternative – No Gather or Removal**

Under the No Action Alternative, a gather to remove excess wild horses within the project area would not take place in July 2011. There would be no active management to control the size of the wild horse populations at this time. Wild Horse populations would continue to exceed AML, and continue to increase by approximately 20-25% annually. The growing wild horse population would consume additional forage which would not be available for other species to consume. However, existing management including monitoring would continue.

The Wild Free-Roaming Horses and Burro Act requires the BLM to protect the range from deterioration associated with overpopulation of wild horses, and to preserve and maintain a thriving natural ecological balance and multiple use relationship. The No Action Alternative would not comply with the 1971 Act or with applicable federal regulations and Bureau policy; nor would it comply with Wyoming's Rangeland Health Standards and Guidelines for Livestock Grazing Management, conformance with the Consent Decree, conformance with court order No. C79-275K Mountain States Legal Foundation vs. James G. Watt, Secretary of the Department of the Interior, filed February 19, 1982 . The No Action Alternative is included as a baseline for comparison with the action alternatives, as required under NEPA.

#### **2.4 *Alternative D: Remove All Animals and manage for a non-reproductive herd returning gelded and spayed wild horses to Lower Limit of AML range.***

Alternative D is to gather approximately 100% (or about 970 wild horses) of the estimated current population (970 horses) in July 2011. The estimated current wild horse population within the White Mountain and Little Colorado HMAs is based on the April 2010 flights and adjusted for two year's foal crop. Of the animals gathered, approximately 697 excess wild horses would be removed and shipped to BLM holding facilities in Rock Springs, Wyoming, and/or Cañon City, Colorado, where they will be prepared for adoption and/or sale to qualified individuals and/or long-term holding. All wild horses returned to the HMAs to make up the population would be gelded or spayed by a veterinarian (see Appendix VII). Approximately 125 geldings and 125 spayed mares would be returned to the White Mountain HMA and approximately 35 geldings and 35 spayed mares would be returned to the Little Colorado HMA. The projected wild horse population remaining on the range following the gather would be about 205 in the White Mountain HMA and about 69 in the Little Colorado HMA. Gather operations are anticipated to take between two and four weeks for completion.

The populations in the White Mountain and Little Colorado HMAs would be managed as non-reproducing herds. The population would be monitored and the population would be supplemented with wild horses from other HMAs as needed. In the case where all of the reproducing horses are not initially captured or people illegally turn out reproducing domestic horses into the HMAs a future gather action would be necessary to gather excess wild horses to the low AML.

#### **2.5 *Alternatives Considered but Eliminated from Detailed Analysis***

##### **Change the Current Established AMLs**

The Rock Springs Grazing Association and Wild Horses Yes entered into an historic agreement in 1979 which provided for the management of specific numbers of wild horses on the privately controlled lands and the contiguous public lands within the Rock Springs District (now the Rock Springs Field Office). The agreement was confirmed in a 1981 District Court Order.

The White Mountain HMA AML of 250 wild horses was established in the 1997 Green River Resource Management Plan with a management range of 205 to 300 adult horses based on this agreement. The Little Colorado HMA AML of 100 wild horses was established in the 1997 Green River Resource Management Plan with a management range of 69 to 100 adult horses based on this agreement. Deviating from existing policy, planning decisions, and agreements reached pursuant to the District Court Order are not considered options nor are they within the scope of this EA. Without the cooperation of private landowners, there is a possibility that these HMAs could be eliminated or boundaries redefined. Therefore, this alternative was considered by eliminated from detailed analysis.

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

An alternative considered but not carried forward for detailed analysis was the use of bait and/or water trapping (without the use of helicopter) as the exclusive gather method. This alternative was dismissed from detailed study for the following reasons: (1) the size of the area is too large for the use of this method (2) the presence of water sources on both private and public lands inside and outside the HMA boundaries would make it difficult to restrict wild horse access to selected water trap sites, and would extend the time required to remove excess wild horses; and (3) the aforementioned logistical difficulties would make it ineffective in meeting the purpose and need to maintain the AMLs in accordance with all applicable regulations and orders identified in Section 1.3. For these reasons, the identified capture method alternatives were eliminated from further consideration and are not analyzed in detail for the proposed action and alternatives.

## **Other Alternative Capture Techniques**

This alternative includes capture methods other than helicopters to gather excess wild horse, which were suggested through public comment. As no specific methods were suggested, the BLM identified chemical immobilization, net gunning, and wrangler/horseback drive trapping as potential methods for gathering wild horses. Chemical immobilization is a very specialized technique and strictly regulated. Currently, the BLM does not have sufficient expertise to implement this method and it would be impractical to use given the size of the HMAs, access limitations and the approachability of the wild horses. Net gunning techniques normally used to capture big game also rely on helicopters and are therefore not a consideration as an alternative to the helicopter-capture method. Use of wrangler on horseback drive-trapping to remove excess wild horses can be fairly effective on a small scale; however, due to the number of excess wild horses to be removed, the large geographic area (1,585 square miles) of the HMAs, and the approachability of the wild horses; this technique would be ineffective and impractical to meet the purpose and need. Horseback drive-trapping is also very labor intensive and can be very harmful to the domestic horses and wranglers during the gather operations. For these reasons, the identified capture method alternatives were eliminated from further consideration and are not analyzed in detail for the proposed action and alternatives.

## **No Gather, Fertility Control Only**

An alternative considered but not carried forward for detailed analysis was the use of fertility control methods only and no wild horse gather. This alternative does not meet the purpose and need to maintain the AMLs, as the existing population of wild horses within the HMAs is currently above the established AMLs and excess wild horses need to be removed in compliance with applicable regulations described in Section 1.3.

## **Incremental Approach for Wild Horse Removals**

An alternative considered but not carried forward for detailed analysis was the incremental approach of removing excess wild horses from the HMAs over a period of time. This alternative does not meet the purpose and need to maintain the AMLs, as the existing population of wild horses within the HMAs is currently above the established AMLs and excess wild horses need to be removed in compliance with applicable regulations described in Section 1.3. Due to the number of excess wild horses to be removed and the large geographic area of the HMAs, this technique would be ineffective and impractical to meet the purpose and need.

## **Remove Horses From One HMA and not the other Only**

An alternative considered but not carried forward for detailed analysis was removal of excess wild horses from either the White Mountain or Little Colorado HMAs only and conduct no gather for one of the HMAs. This alternative does not meet the purpose and need to maintain the AMLs, as the existing population of wild horses within both the White Mountain and the Little Colorado HMAs are currently above the established AMLs and excess wild horses need to be removed in conformance with the RMPs and compliance with applicable regulations described in Section 1.3. Additionally, there are limited physical or geographical boundaries to restrict movement of wild horses between the two HMAs.

## **3.0 Description of the Affected Environment and Environmental Consequences**

### **3.1 Introduction**

This section of the environmental assessment briefly discusses the relevant components of the human and natural environment which would be either affected or potentially affected by the proposed action and alternatives. Direct impacts are those that result from management actions while indirect impacts are those that exist once the management action has occurred. By contrast, cumulative impacts result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such action. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Analysis related to maintaining the AMLs for the White Mountain and the Little Colorado HMAs is tiered to the Final EIS for the Green River RMP (1996, p. 345-346).

Because of the proposed location of the gathering facilities, the following elements are not present and will not be analyzed further: Environmental Justice, Floodplains, Waste (Hazardous or Solid), Prime or Unique Farmlands, Water Quality, and Wild and Scenic Rivers.

The area covered by this analysis is within the jurisdiction of the BLM Rock Springs Field Office, Wyoming. It is bordered on the south by Interstate Highway 80, on the east by Wyoming Highway 191, on the north by the Rock Springs and Pinedale Field Office boundary, and on the west by the Green River. As shown in Table 1, over one million acres of public, State, and private lands are included in this analysis. Map 1 portrays the analysis area. The majority of the private land holdings in the White Mountain HMA are in a checkerboard land pattern with sections alternating from public to private. The Little Colorado HMA consists mostly of Bureau of Land Management and Bureau of Reclamation lands managed by the Rock Springs Field Office.

Elevation ranges from 6,330 feet along Alkali Creek, to over 7,932 feet on Pilot Butte. Summers are hot, and winters can range from mild to bitterly cold. Annual precipitation ranges from less than 7 to more than 12 inches per year. About half of the precipitation falls during the growing season from April through June, with the remainder coming in high intensity summer thunderstorms. Much of the precipitation from summer thunderstorms runs off in numerous drainages. Some of this water is captured in reservoirs or pits and is the primary source of water for wild horses, livestock, and wildlife.

### **Resources Present or Potentially Affected**

The resources that are present and may have potential to be affected by the proposed action or the alternatives include: Wild Horses; Wildlife; Vegetation, Soils, and Watershed; Recreation; Wilderness; Livestock Grazing; and Heritage Resources.

## **3.2 Wild Horses**

### **Affected Environment**

The White Mountain and Little Colorado HMAs. The Little Colorado HMA, managed by the Rock Springs Field Office, is approximately 628,529 acres of which 611,113 acres are public and the remaining 17,416 acres are privately controlled. The White Mountain HMA, managed Rock Springs Field Office, is approximately 391,409 acres of which 236,971 acres are public and the remaining 154,438 acres are privately controlled. The majority of the private land holdings in the White Mountain HMA are in a checkerboard land pattern with sections alternating from public to private. This land status pattern stems back to the land grants given to the railroad companies (in this case, the Union Pacific Railroad Company) to develop transportation corridors in the west. The Rock Springs Grazing Association owns or controls a majority of the private lands in the checkerboard within the White Mountain HMA.

Historically, the wild horses residing within the two HMAs have had free and fairly unrestricted movement between the White Mountain and Little Colorado HMAs. Two open-ended 2-wire electric fences border portions of the HMAs allowing wild horses to move unrestricted. Past capture, census, genetic health, and distribution data (BLM unpublished) indicate movement and interchange among the horses of these two HMAs.

Key monitoring areas for measuring forage utilization were established in the spring of 2008 in the uplands area near the Central Well and Skunk Canyon within the White Mountain HMA. Key monitoring areas for measuring forage utilization were established in the spring of 2008 in the uplands area near the Buckhorn Flowing Well and Jonah Gulch within the Little Colorado HMA. The key areas have shown light to moderate utilization in 2008 and moderate to heavy utilization in 2009 by wild horses.

The Rock Springs Grazing Association and Wild Horses Yes entered into an historic agreement in 1979 which provided for the management of specific numbers of wild horses on the privately controlled lands and the contiguous public lands within the White Mountain HMA. The AML of 250 wild horses was established in the 1997 Green River Resource Management Plan with a management range of 205 to 300 adult horses. Without the cooperation of the private land owners, the White Mountain HMA in the Rock Springs Field Office could be dissolved.

The current population for the White Mountain HMA is currently projected at 545 (660 after 2011 foaling) wild horses based upon the direct count of horses from the April 2010 flights conducted in accordance with Washington Office IM 2010-057 (BLM 2010a).

The Little Colorado HMA was established in the 1997 Green River Resource Management Plan with an appropriate management level range of 69 to 100 adult horses.

The current population for the Little Colorado HMA is currently projected at 256 (310 after 2011 foaling) wild horses based upon the direct count of horses from the April 2010 flights conducted in accordance with Washington Office IM 2010-057 (BLM 2010a).

Wild horses were last removed from the White Mountain and Little Colorado HMAs in November 2007 when a combined total of 856 horses were captured and 735 horses were removed. At the time, the combined post-gather population was estimated at 274 horses (205 in White Mountain HMA; 69 in Little Colorado HMA).

Baseline genetic diversity data was collected in 2001 for the White Mountain HMA. The blood samples were analyzed by Dr. E. Gus Cothran, Department of Veterinary Science, and the University of Kentucky.

His conclusions and recommendations regarding genetic diversity in the White Mountain herd state (Cothran 2001):

“Total genetic diversity in the White Mountain herd is relatively high, thus if population sizes are maintained at a level greater than 100 adult animals there should be little concern over the next few years. It would be useful to determine (if it is not known) whether there are actual subdivisions within the population that restrict gene flow among subgroups. At this point I would only recommend monitoring of population size. If the population size is less than 100 the herd should be monitored more closely, especially keeping a lookout for decreased foal production or increases in deformed or unhealthy looking foals. Loss of genetic variation can occur rapidly in small populations. The White Mountain herd appears to have a good base level of variability and considering that most of the sampled horses were older than six years, so that an increase in heterozygosity is possible.”

Baseline genetic diversity data was collected for the Little Colorado HMA during the November 2007 gather. The hair samples were analyzed by Dr. E. Gus Cothran, Department of Veterinary Integrative Bioscience Texas A&M University. His conclusions and recommendations regarding genetic diversity in the Little Colorado herd state (Cothran 2010):

“Genetic variability of this herd is moderately high but there is a possibility that herd size has been reduced which could lead to future loss of variation. Genetic similarity results suggest a herd with mixed ancestry that primarily is North American and likely ranch stock.

#### ***RECOMMENDATIONS***

“Current variability levels are high enough that no action is needed at this point. Depending upon the population size the herd may need some monitoring but there should be few or no problems for at least ten years.”

Additional genetic samples will be collected from wild horses released back to the HMAs for current genetic data analysis.

## **Environmental Consequences**

The WinEquus program, developed by Dr. Steven Jenkins at the University of Nevada at Reno was designed to assist the BLM evaluate various management plans and possible outcomes for management of wild horses. More information about the model is available upon request from the RSFO.

Population modeling was completed for three alternatives to analyze possible differences that could occur to the wild horse populations between alternatives. Modeling was completed for the White Mountain and Little Colorado HMAs. The modeling may not necessarily reflect actual on-the-ground results. One objective of the modeling was to identify if any of the alternatives “crash” the population or cause extremely low population numbers or growth rates. Minimum population levels and growth rates were found to be within reasonable levels and adverse impacts to the population are not likely. When comparing the differences between the three alternatives, the No Action alternative would result in the greatest population number with an average population of 2,525 in the White Mountain HMA and 276 in the Little Colorado HMA. According to the modeling, the proposed action (Alternative A) results in the lowest average population of 334 in the White Mountain HMA and 97 in the Little Colorado HMA. Alternative B resulted in an average population of 379 in the White Mountain HMA and 104 in the Little Colorado HMA. Graphic and tabular results are displayed in detail in Appendix IV (Wild Horse Population Modeling).

### **Effects Common to Alternative A, B and Alternative D**

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

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

In any given gather, gather-related mortality averages only about one half of one percent (0.5%), which is very low when handling wild animals. Approximately, another six-tenths of one percent (0.6%) of the captured animals could be humanely euthanized due to pre-existing conditions and in accordance with BLM policy (GAO-09-77). These data affirm that the use of helicopters and motorized vehicles has proven to be a safe, humane, effective, and practical means for the gather and removal of excess wild horses (and burros) from the public lands. As a further measure, it is BLM policy to limit the use of helicopters to assist in the removal of wild horses to July 1 through February 28. The use of helicopters to assist in the capture of wild horses is prohibited during the six weeks before and the six weeks that follow the peak of foaling. The peak of foaling falls within about a two week period during mid-April to mid-May for most wild horse herds. Therefore, the use of helicopters to capture wild horses is prohibited during March 1-June 30, unless an emergency situation exists.

Individual, direct effects to wild horses include the handling stress associated with the roundup, capture, sorting, handling, and transportation of the animals. The intensity of these effects varies by individual, and is indicated by behaviors ranging from nervous agitation to physical distress. When being herded to trap site corrals by the helicopter, injuries sustained by wild horses may include bruises, scrapes, or cuts to feet, legs, face, or body from rocks, brush or tree limbs. Rarely, wild horses will encounter barbed wire fences and will receive wire cuts. These injuries are very rarely fatal and are treated on-site until a veterinarian can examine the animal and determine if additional treatment is indicated.

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

To minimize the potential for injuries from fighting, the animals are transported from the trap site to the temporary (or short-term) holding facility where they are sorted as quickly and safely as possible, then moved into large holding pens where they are provided with hay and water. On many gathers, no wild horses are injured or die. On some gathers, due to the temperament of the horses, they are not as calm and injuries are more frequent. Overall, direct gather-related mortality averages less than 2% (extrapolated from 2007 gather data). During the last White Mountain and Little Colorado gathers in November of 2007, no horses died due to gather operations; however, seventeen horses were euthanized in the White Mountain HMA and one in the Little Colorado HMA due to old injuries with limb deformities, serious physical defects such as club feet, severe limb deformities or poor condition. Some of these conditions have a causal genetic component and the animals should not be returned to the range to avoid amplifying the incidence of the problem in the population.

Indirect individual effects are those which occur to individual wild horses after the initial event. These may include miscarriages in mares, increased social displacement, and conflict in studs. These effects,

like direct individual effects, are known to occur intermittently during wild horse gather operations. An example of an indirect individual impact would be the brief 1-2 minute skirmish between older studs which ends when one stud retreats. Injuries typically involve a bite or kick with bruises which do not break the skin. Like direct individual effects, the frequency of these effects varies with the population and the individual. Observations following capture indicate the rate of miscarriage varies, but can occur in about 1 to 5% of the captured mares, particularly if the mares are in very thin body condition or in poor health.

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

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

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

It is not expected that genetic health would be negatively impacted by the Proposed Action. The AML range of 274 - 400 should provide for acceptable genetic diversity of both HMAs combined (Cothran 2001; Cothran 2010).

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

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

About 697 excess horses would be removed. Animals would be transported from the capture/temporary holding corrals to the designated BLM short-term holding corral facility(s). From there, they would be made available for adoption or sale to qualified individuals or to long-term (grassland) pastures.

Wild horses selected for removal from the range are transported to the receiving short-term holding facility in a straight deck semi-trailers or goose-neck stock trailers. Vehicles are inspected by the BLM COR or PI prior to use to ensure wild horses can be safely transported and that the interior of the vehicle is in a sanitary condition. Wild horses are segregated by age and sex and loaded into separate compartments. A small number of mares may be shipped with foals. Transportation of recently captured wild horses is limited to a maximum of 8 hours. During transport, potential affects to individual horses can include stress, as well as slipping, falling, kicking, biting, or being stepped on by another animal. Unless wild horses are in extremely poor condition, it is rare for an animal to be seriously injured or die during transport.

Upon arrival at the short-term holding facility, recently captured wild horses are off-loaded by compartment and placed in holding pens where they are fed good quality hay and water. Most wild horses begin to eat and drink immediately and adjust rapidly to their new situation. At the short-term holding facility, a veterinarian examines each load of horses and provides recommendations to the BLM regarding care, treatment, and if necessary, euthanasia of the recently captured wild horses. Any animals affected by a chronic or incurable disease, injury, lameness or serious physical defect (such as severe tooth loss or wear, club feet, and other severe congenital abnormalities) would be humanely euthanized using methods acceptable to the American Veterinary Medical Association (AVMA). Wild horses in very thin condition or animals with injuries are sorted and placed in hospital pens, fed separately and/or treated for their injuries as indicated. Recently captured wild horses, generally mares, in very thin condition may have difficulty transitioning to feed. Some of these animals are in such poor condition that it is unlikely they would have survived if left on the range. Similarly, some mares may lose their pregnancies. Every effort is taken to help the mare make a quiet, low stress transition to captivity and domestic feed to minimize the risk of miscarriage or death.

After recently captured wild horses have transitioned to their new environment, they are prepared for adoption or sale. Preparation involves freeze-marking the animals with a unique identification number, drawing a blood sample to test for equine infections anemia, vaccination against common diseases, castration, and de-worming. During the preparation process, potential affects to wild horses are similar to those that can occur during handling and transportation. Serious injuries and deaths from injuries during the preparation process are rare, but can occur.

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

### **Adoption or Sale with Limitations, and Long-Term Pastures**

Adoption applicants are required to have at least a 400 square foot corral with panels that are at least six feet tall for horses over 18 months of age. Applicants are required to provide adequate shelter, feed, and water. The BLM retains title to the horse for one year and the horse and the facilities are inspected to assure the adopter is complying with BLM requirements. After one year, the adopter may take title to the horse, at which point the horse becomes the property of the adopter. Adoptions are conducted in accordance with 43 CFR 5750.

Potential buyers must fill out an application and be pre-approved before they may buy a wild horse. A sale-eligible wild horse is any animal that is more than 10 years old; or has been offered unsuccessfully for adoption three times. The application also specifies that all buyers are not to re-sell the animal to slaughter buyers or anyone who would sell the animal to a commercial processing plant. Sales of wild horses are conducted in accordance with Bureau policy.

Between 2007 and 2009, nearly 62% of excess wild horses or burros were adopted and about 8% were sold with limitation (to good homes) to qualified individuals. Animals 5 years of age and older are generally transported to long-term pastures (LTPs).

Potential effects to wild horses from transport to adoption, sale or LTPs are similar to those previously described. One difference is that when shipping wild horses for adoption, sale or LTP, animals may be transported for a maximum of 24 hours. Immediately prior to transportation, and after every 18-24 hours of transportation, animals are offloaded and provided a minimum of 8 hours on-the-ground rest. During the rest period, each animal is provided access to unlimited amounts of clean water and 25 pounds of good quality hay per horse with adequate bunk space to allow all animals to eat at one time. Most animals are not shipped more than 18 hours before they are rested. The rest period may be waived in situations where the travel time exceeds the 24-hour limit by just a few hours and the stress of offloading and reloading is likely to be greater than the stress involved in the additional period of uninterrupted travel.

LTPs are designed to provide excess wild horses with humane, life-long care in a natural setting off the public rangelands. There wild horses are maintained in grassland pastures large enough to allow free-roaming behavior and with the forage, water, and shelter necessary to sustain them in good condition. About 22,700 wild horses, that are in excess of the existing adoption or sale demand (because of age or other factors), are currently located on private land pastures in Iowa, Kansas, Oklahoma, and South Dakota. Located in mid or tall grass prairie regions of the United States, these LTPs are highly productive grasslands as compared to more arid western rangelands. These pastures comprise about 256,000 acres (an average of about 8-10 acres per animal). The majority of these animals are older in age.

Mares and castrated stallions (geldings) are segregated into separate pastures except one facility where geldings and mares coexist. Although the animals are placed in LTPs, they remain available for adoption or sale to qualified individuals who are interested in adopting or purchasing a larger number of animals. No reproduction occurs in the LTPs, but foals born to pregnant mares are gathered and weaned when they reach about 8-10 months of age and are then shipped to short-term facilities where they are made available adoption. Handling by humans is minimized to the extent possible although regular on-the-ground observation and weekly counts of the wild horses to ascertain their numbers, well-being, and safety are conducted. A very small percentage of the animals may be humanely euthanized if they are in very thin condition and are not expected to improve to a BCS of 3 or greater due to age or other factors. Natural mortality of wild horses in LTPs averages approximately 8% per year, but can be higher or lower depending on the average age of the horses pastured there (GAO-09-77, Page 52). The savings to the American taxpayer which results from contracting for LTH pastures averages about \$4.45 per horse per day as compared with maintaining the animals in short-term holding facilities.

#### **Euthanasia and Sale without Limitation**

While humane euthanasia and sale without limitation of healthy horses for which there is no adoption demand is authorized under the WFRHBA, Congress prohibited the use of appropriated funds between 1987 and 2004 and again in 2011 for this purpose.

**Impacts of Alternative A** Under the Proposed Action, the post-gather population of wild horses for the White Mountain HMA would be 205 and the Little Colorado would be 69. The post-gather numbers represent the lower limit of the AML range.

Under this alternative, all mares (~60) gathered and then selected for release back to the HMA would be treated with a two-year application of PZP prior to their release. The treated mares would equal approximately 23% of the post-gather mare population. Each of these mares, if pregnant, would be expected to foal normally during the 2012 foaling season. The PZP treatment would be expected to slow population growth starting in 2013 and be effective for 2-3 years following treatment. The treated mares would not be expected to foal the next 1 or 2 years following treatment. Therefore, wild horse numbers would be expected to exceed the upper limit of the AML range in year 4 following the gather (about 2015).

Mares treated with fertility control would be studied as part of ongoing fertility control research. For more information about this study, refer to: <http://www.fort.usgs.gov/WildHorsePopulations/default.asp>.

Mares receiving the fertility control inoculation would experience increased levels of stress from additional handling while they are being inoculated and freeze marked. There would be potential additional indirect impacts to animals at the isolated injection site following the administration of the fertility control vaccine. Injection site injury associated with fertility control treatments are extremely rare in treated mares, and may be related to experience of who is administering the fertility control. For monitoring purposes, wild horses treated with the PZP vaccine would be identified by the freeze-mark "HB" on the left hip.

**Impacts of Alternative B** Under Alternative B, the post-gather population of wild horses for the White Mountain and Little Colorado HMAs would be about 274. The post-gather numbers represent the combined lower limit of the AML range.

Under this alternative, all released mares would foal normally over the next 3- to 4-year period. Based on a normal projected population increase (21%), wild horse numbers are expected to exceed the upper limit of the AML range in Year 3 following the gather (about 2014).

Achieving the combined lower limit of AML for wild horses in the project area would allow for recovery of any vegetation that has been moderately to heavily utilized. Additional stress to the wild horses due to the fertility control implementation would not occur since fertility control would not be applied.

**Impacts of Alternative C** Under this alternative, no wild horses would be removed at this time, nor would fertility control treatment be implemented. As a result, wild horses would not be subject to any individual direct or indirect impacts described in the Proposed Action as a result of a gather operation. Following foaling in 2011, wild horse populations would be expected to grow to about 970 wild horses. Projected population increases would result in minimal potential for inbreeding over the long term, but would be expected to result in further deterioration of the range, and eventually lead to long-term impacts to both the health of the rangeland and the wild horse herds. Competition for the available forage and water resources would continue to increase as growing numbers of wild horses compete for the available forage and water resources. Lactating mares, foals, and older animals would be affected most severely. Social stress would also be expected to increase among animals as they fight to protect their position at scarce forage and water sources. Potential for injuries to all age classes of animals would be expected to increase.

Areas closest to the water would experience severe utilization and degradation. Over time, the animals would also deteriorate in body condition as a result of declining forage and increasing distances traveled to and from water to find forage. As competition for forage between livestock, wildlife, and wild horses

increases, livestock operators may choose to take nonuse. The maintenance of livestock water sources would decrease, reducing the availability and reliability of many water sources currently used by wild horses. Many wild horses, especially mares with foals, would be put at risk through the following summer due to a lack of forage and water, or would be expected to move outside the HMA boundaries in search of food and water, potentially risking injury/death of animals and resulting in increasing damage to public, private, and State lands.

**Impacts of Alternative D** Under the Proposed Action, the post-gather population of wild horses for the White Mountain HMA would be 205 and the Little Colorado would be 69. The post-gather numbers represent the lower limit of the AML range.

This alternative would result in a non-reproducing herd at the appropriate management level (205-White Mountain; 69-Little Colorado). The population would be monitored and is expected to be stable. Excess wild horses from other areas would be added to this population as needed to maintain its viability as a herd. Under this alternative, all mares gathered and then selected for release back to the HMA would be spayed by a veterinarian prior to their release. The treated mares would equal approximately 100% of the post-gather mare population. Under this alternative, all studs gathered and then selected for release back to the HMA would be gelded by a veterinarian prior to their release. The treated studs would equal approximately 100% of the post-gather male (gelded) population. Since this alternative would result in a non-reproducing herd, fewer gathers would be needed.

### **3.3 Wildlife, Threatened and Endangered Species, Special Status Species, and Migratory Birds**

#### **Affected Environment**

The mosaic of plant communities and topographic features that are found throughout the White Mountain and Little Colorado HMAs supports a wide variety of wildlife species that use the various habitats for resting, courtship, foraging, travel, supplies of food and water, thermal protection, escape cover and reproduction.

A variety of wildlife species occur or have the potential to occur in the project area. For a complete description of species and habitats found within BLM jurisdiction in the White Mountain and Little Colorado HMAs, see Chapter 3 of the Final EIS for the Green River RMP (1996, pp. 347-351). A summary of the wildlife resources identified as being potentially impacted by the Proposed Action is provided below.

#### **Big Game**

Mule deer, elk and antelope utilize the project area year-round. Approximately 417,000 acres (59%) total crucial winter range lie within the gather area of approximately 1,070,000 acres. The gather area contains approximately 344,000 acres antelope crucial winter range, 49,000 acres mule deer crucial winter range, 36,000 acres elk crucial winter range, and 17,000 acres moose crucial winter range, some of which are overlapping. There is also approximately 15,000 acres of elk parturition area. Areas within crucial winter range will be avoided November 15-April 30 or an exception to the activity will be required. Areas within elk parturition areas will be avoided May 1 through June 30 or an exception to the activity will be required.

#### **Raptors**

There is abundant habitat within the area for a variety of species including: Prairie falcon (*Falco mexicanus*), American kestrel (*Falco sparverius*), Red-tailed hawk (*Buteo jamaicensis*), Swainson's hawk (*Buteo swainsoni*), Northern harrier (*Circus cyaneus*), Burrowing owl (*Athene cunicularia*), Golden eagle (*Aquila chrysaetos*), Great-horned owl (*Bubo virginianus*) and Ferruginous hawk (*Buteo regalis*).

Nesting raptors will be protected by restricting disruptive activities February 1 through July 31 within a ½- to 1-mile radius. Trap sites will not be located within ½ to 1 mile of active raptor nesting sites.

### **Threatened, Endangered, Proposed and Candidate Species**

Five federally designated threatened, endangered, proposed, candidate or experimental animal species and one plant species have the potential to be present within the project area.

**Ute ladies'-tresses (Threatened)** Potential habitat may exist in the project area; however project activities will not take place in suitable riparian habitat for this species. Therefore this action will result in no impacts to Ute ladies' tresses.

**Black-footed Ferret (Endangered)** Potential ferret habitat (white-tailed prairie dog towns) exists in the project area. Past surveys conducted in relation to other development activities in the White Mountain and Little Colorado HMAs have not recorded black-footed ferret. Horse trap sites and staging areas associated with gathers are never placed in prairie dog towns due to the possibility of horses breaking their legs in the burrows. This action will have no impacts to black-footed ferrets and this species will not be addressed further in the document.

**Greater Sage-Grouse (Candidate)** A status review by the U.S. Fish and Wildlife Service was recently completed for the Greater sage-grouse (*Centrocercus urophasianus*) to determine if it warrants listing under the Endangered Species Act (ESA). The status review determined that the Greater sage-grouse (sage-grouse) warrants protection under the ESA but was precluded from listing in favor of species that are more imperiled. It is currently listed as a candidate species as well as a BLM Sensitive Species.

BLM records indicate that there are 17 Greater sage-grouse leks and 295,000 acres associated with breeding and nesting habitat within the White Mountain HMA. There are approximately 18 Greater sage-grouse leks and 312,000 acres of associated breeding and nesting habitat mapped as core sage-grouse area within the Little Colorado HMA. An additional 18,000 acres of nesting habitat are associated with leks outside of core sage-grouse areas.

In accordance with BLM policies and guidance, the following timing stipulations and surface disturbance restrictions will be used to determine the location of the trap sites during the gather:

- No surface disturbing and/or disruptive activities in mapped or modeled sage-grouse winter habitats/concentration areas that support Core area populations November 15-March 14.
- To protect breeding grouse, disruptive activities will avoid occupied grouse leks from 8:00 pm to 8:00 am daily March 1 through May 15 within 0.25 mile to 0.50 mile (0.6 mile within Core areas) depending on natural topographic barriers, terrain, line of sight distance, etc.

**Gray Wolf (experimental population)** The gray wolf is an experimental population throughout Wyoming. There have been creditable sightings of gray wolves 50 miles north of the HMAs; however, no confirmed sightings within either HMA. Therefore, the proposed action and alternatives will not impact the continued existence of the gray wolf and this species will not be further addressed in this document.

### **Sensitive Species Wildlife**

A number of animal species potentially present in the project area have been accorded "sensitive species" status (WY-2010-027). Sensitive mammal species that have the potential to occur, or that may have habitat located within the project area include the Idaho pocket gopher, pygmy rabbit, swift fox, dwarf shrew, spotted bat, long-eared myotis, fringed myotis, Townsend's big-eared bat, and white-tailed prairie dog. There are known white-tailed prairie dog towns and pygmy rabbit habitat in the area. Activity

causing ground disturbance will avoid associated habitat including prairie dog towns and tall sagebrush, so therefore, there are no anticipated effects to white-tailed prairie dogs or pygmy rabbits from the proposed actions.

Sensitive bird species that have the potential to occur in the area, or may have habitat located within the area include the ferruginous hawk, mountain plover, peregrine falcon, Greater sage-grouse, long-billed curlew, burrowing owl, sage thrasher, loggerhead shrike, Brewer's sparrow, sage sparrow, yellow-billed cuckoo, and bald eagle. Gather activity will not affect these species.

Mountain plover have been recorded in the project area, and potential mountain plover breeding/nesting habitat exists throughout the White Mountain and Little Colorado HMAs. Activity causing ground disturbance will avoid any identified nesting habitat from April 10 to July 10. The majority of the activity will occur after the nesting season.

Other sensitive species that have the potential to occur in the area, or may have habitat located within the area include the: Great Basin spadefoot toad, Northern leopard frog, the roundtail chub, leatherside chub, blue head sucker, flannel mouth sucker, and Colorado River cutthroat trout. Gather activity will not affect these species.

Sensitive plants that have the potential to occur within the project area include the Nelson's milkvetch, Cedar Rim thistle, Ownbey's thistle, and Gibben's penstemon. Habitats for these plants are described later in the document.

## **Environmental Consequences**

**Impacts of Alternative A** Trap sites will be constructed and operated under the recommendations of a wildlife biologist to avoid adverse impacts to wildlife, including known sage-grouse leks and winter concentration areas, active raptor nests, White-tail Prairie Dog towns, Pygmy Rabbit habitat, Mountain Plover habitat and big game crucial winter ranges and parturition areas. Appendix VI provides maps of known habitat locations. The Field Office will follow management procedures within crucial winter habitats by requesting winter use exceptions and consulting with the Wyoming Game and Fish Department, if applicable.

Wildlife adjacent to trap sites would be temporarily displaced during capture operations by increased activity of trap setup, helicopters and vehicle traffic but in most cases this displacement should only last 2-3 days in each trap area. Reduction of wild horse numbers would result in reduced competition for forage and water resources between wild horses and wildlife. The short-term stress and displacement during the gather operations should result in long-term benefits in improving habitat condition. Disturbance associated with wild horses along stream bank riparian habitat and adjacent upland habitat would be reduced.

**Impacts of Alternative B** Under Alternative B, impacts associated with capture and removal operations are expected to be similar to the proposed action. The effects of just removing the excess animals would be of a shorter duration due to increased population growth rates without the implementation of the fertility control protocol and sex ratio adjustment in favor of stallions (60:40) as in the Proposed Action.

**Impacts of Alternative C** Wildlife would not be temporarily displaced or disturbed under the No Action Alternative. However, there would be continued and increased competition with wild horses for limited water and forage resources. This competition would increase as wild horse numbers continued to increase annually. Although diet overlap is highest between wild horses and elk, fecal analysis data shows higher wild horse use of shrubs during the winter, which would also overlap more with the diets of antelope and mule deer. Wild horses are aggressive around water sources and some wildlife species may not be able to

compete successfully. The continued competition for limited resources would lead to increased stress or dislocation of native wildlife species. Although wildlife may move to locations outside the White Mountain and Little Colorado HMAs, these areas are likely already occupied, which may result in long-term reductions in wildlife populations. Additionally, increased competition between wild horses and wildlife species for the new growth important for plants to make and store carbohydrates and for promoting long-term vegetation recovery, could result impact vegetation recovery and encourage non-native or invasive plants to become established, displacing more desirable species used by wildlife. Residual nesting cover needed by greater sage-grouse and other nesting songbirds would not be adequate to hide and protect nests from predation. The long-term decline in vigor and cover or even the loss of native vegetation would reduce wildlife populations and diversity, and lower the likelihood of providing suitable habitat in order to support the Wyoming Game and Fish Department population objectives for big game species in this area.

**Impacts of Alternative D** Trap sites will be constructed and operated under the recommendations of a wildlife biologist to avoid adverse impacts to wildlife, including known sage-grouse leks and winter concentration areas, active raptor nests, White-tail Prairie dog towns, Pygmy rabbit habitat, Mountain plover habitat and big game crucial winter ranges and parturition areas.. Appendix VI provides maps of known habitat locations. The Field Office will follow management procedures within crucial winter habitats by requesting winter use exceptions and consulting with the Wyoming Game and Fish Department, if applicable.

Wildlife adjacent to trap sites would be temporarily displaced during capture operations by increased activity of trap setup, helicopters and vehicle traffic but in most cases this displacement should only last 2-3 days in each trap area. Competition for forage and water resources between wild horses and wildlife would be reduced in the short term and long term. The short-term stress and displacement during the gather operations should result in long-term benefits in improving habitat condition. Disturbance associated with wild horses along stream bank riparian habitat and adjacent upland habitat would be reduced.

### **3.4 Vegetation, Soils, and Watershed**

#### **Affected Environment**

There are a variety of vegetation types in the RSFO areas where wild horses can be found, both within and outside of wild horse HMAs. Vegetation types include: sagebrush, sagebrush/grass, saltbush, greasewood, desert shrub, juniper, grass, meadow, broadleaf trees, conifer, mountain shrub, half shrub and perennial forbs, and badlands. The predominant vegetation type is sagebrush/grass.

Plant communities are very diverse in this large area, reflecting the diversity in soils, topography, and geology found there. The high-elevation, cold-desert vegetation of the project area is composed predominately of Wyoming big sagebrush/grass and Gardner saltbush vegetation communities. Other plant communities present are: desert shrub, grassland, mountain shrub, juniper woodlands, and a very few aspen woodlands. Needle-and-thread, Indian ricegrass, bluebunch wheatgrass, western wheatgrass, junegrass, basin wild rye, sandhill muhly, Canby and little bluegrass, and threadleaf sedge are the predominant grasses and grass-like species. Wyoming big sagebrush, black sagebrush, bud sage, birdsfoot sage, Gardner's saltbush, spiny hopsage, four-wing salt bush, greasewood, bitterbrush, winterfat, horsebrush, Douglas and rubber rabbitbrush, and true mountain mahogany are important shrub species for wildlife. Forbs are common and variable depending on the range site and precipitation zone.

Wild horses generally prefer perennial grass species as forage when available. Shrubs are more important during the fall and winter, and in drought years. The species of grasses preferred depends on the season

of the year. Needle-and-thread and Indian ricegrass are most important during the winter and spring and wheatgrasses during the summer and fall.

The soils in the HMAs are highly variable in depth and texture as would be expected with the great variability in geology and topography that characterizes the area. Generally, the eastern third is a mix of sandy soils with high wind erosion potential and clayey soils with high water erosion potential, low bearing strength and varying amounts of salts. The western third has more loamy inclusions in the form of undulating uplands and alluvial complexes, with moderate erosion potential, while the middle third is a mixture of both. Virtually any soil condition that may be encountered in the region can be found somewhere within the HMAs. More specific soils information can be found in the draft soil surveys located in the BLM files in the RSFO.

The White Mountain and Little Colorado HMAs are within the Green River watershed. There are numerous named and unnamed contributing channels and associated wetlands. Among the most prominent of these are the Big Sandy River, Killpecker Creek, and Fontenelle Reservoir. There are many other smaller water bodies and ephemeral drainages scattered throughout the HMAs. The Green River Watershed is within the Colorado River Basin. Management of the Colorado River Basin is guided by the Colorado River Salinity Compact and other laws and regulations collectively referred to as, "The Law of the River" <http://www.usbr.gov/lc/region/g1000/lawofrvr.html>, which in part prescribes goals and objectives for improving watershed management to reduce delivery of sediment and salinity into the Colorado River.

### **Special Status Plant Species**

Special status plants are those species that are federally listed as threatened or endangered, proposed for listing, or candidates for listing under the ESA. They also include species designated by each BLM State Director as sensitive and those listed or proposed for listing by a state in a category implying potential endangerment or extinction. The BLM is mandated to protect and manage threatened, endangered, candidate, proposed, and sensitive species and their habitats. The federally listed Ute ladies'-tresses has habitat in the area but surveys throughout the area have not found any populations. It occurs in riparian areas below 7,000 feet. The BLM Wyoming sensitive plant species that grow, or have potential habitat in the project area are listed in Table 2. The Colorado butterfly plant, Desert yellowhead and blowout penstemon are not located within, or habitat is not found, in the project area.

All existing sites for horse gather holding facilities have been surveyed for special status plant species and have been cleared. Any new gather holding facility sites would be surveyed and cleared before operations begin. There should not be any impacts to sensitive species as a result of implementing the Proposed Action or other alternatives beyond what occurs normally by wild horse movements through the area.

No water depletions are associated with the proposed action; therefore, there should be no effect to any federal listed species present in the project area or downstream of the project area.

**Table 2. Wyoming Special Status Plant Species**

| Common Name                   | Scientific Name                                   | Habitat  |
|-------------------------------|---|--|
| Beaver Rim phlox              | <i>Phlox pungens</i>                              | Sparsely vegetated slopes on sandstone, siltstone, or limestone substrates 6,000-7,400'                    |
| Cedar Rim thistle             | <i>Cirsium aridum</i>                             | Barren, chalky hills, gravelly slopes, & fine textured, sandy-shaley draws at 6,700 - 7,200'               |
| Trelease's racemose milkvetch | <i>Astragalus racemosus</i> var. <i>treleasei</i> | Sparsely vegetated sagebrush communities on shale or limestone outcrops & barren clay slopes at 6500-8200' |

### Weeds

Federal agencies are directed by Executive Order 13112, Invasive Species, to expand and coordinate efforts to prevent the introduction and spread of invasive plant species (noxious weeds) and to minimize the economic, ecological, and human health impacts that invasive species cause. Weed populations are generally found along main dirt roads and two-tracks, in areas of livestock concentration, and in areas of intense recreational use. However, recent rangeland health monitoring has documented significant increases in invader species throughout the uplands. Motorized vehicles transporting seeds can be a major source of new infestations of weed species. The majority of the area has not been surveyed for noxious weeds. Noxious weed and other invasive species known to occur in the area include: hoary cress, houndstongue, Canada thistle, saltcedar, Black henbane, halogeton, Russian thistle, gumweed, goosefoot, and assorted mustards.

### Reclamation

Vegetation reclamation primarily is associated with natural gas development involving drilling pads, pipelines, and roads, as well as regional transmission pipelines for delivering natural gas to distant markets. Local gas development results in small, isolated disturbances that may or may not be fenced during reclamation activities. However, large regional pipelines result in long linear disturbances that are not fenced for vegetation recovery after reclamation has occurred.

### Environmental Consequences

**Impacts of Alternative A** Impacts from the gather operations would be temporary and include trampling of some vegetation and soil compaction, particularly at the trap sites and holding locations.

The removal of excess wild horses from inside the project area and associated non-HMA areas would circumvent over-utilization of forage and further reduction in vegetative ground cover. The quantity of forage throughout the HMAs could be increased. Impacts from wild horses could diminish and be beneficial. Vegetation composition, cover, and vigor could improve or be maintained near water sources where wild horses tend to congregate. An improvement in forage condition could lead to improved livestock distribution, which would prevent over-utilization and reduction in vegetation cover. Vegetative diversity and health should improve in areas where excess wild horses are removed. Adverse, short-term effects to vegetation and soils would occur at trap sites when gathers are being conducted. Vegetation would be disturbed by trap construction, and short-term trails and soil compaction may develop near and in the trap. Any vegetation removed would be minimal and localized.

Sheet and rill erosion would not exceed natural levels for the sites because the maintenance of AMLs would help ensure that a natural ecological balance would be maintained in and adjacent to the HMAs.

Perennial vegetation would continue to experience season-long grazing pressure, which is not conducive to optimum plant health and vigor. Soil erosion and plant health would continue to be compromised around water locations with season-long grazing, but elsewhere impacts should be minimal. Watershed health should improve throughout much of the area.

The over-utilization of range resources and subsequent reduction in vegetative ground cover promotes the establishment and spread of invasive species. The removal of excess wild horses could aid in the curtailment of the introduction and spread of noxious weeds and other invasive species.

**Impacts of Alternative B** Under Alternative B, the impacts associated with capture and removal operations are expected to be similar to the Proposed Action. Vegetation utilization would be similar to Alternative A with the expectation that wild horse population would be slightly larger without fertility control and sex ratio adjustments.

**Impacts of Alternative C** Under Alternative C, wild horse population control would not be implemented and no gather operations impacts would occur. This alternative would allow wild horse populations to continue to increase within the HMAs and nearby areas. Perennial vegetation would continue to experience seasonal-long grazing pressure by wild horses, and in locations where seasonal grazing from livestock still occurred, which is not conducive to optimum plant health and vigor. Soil erosion and plant health would continue to be most greatly affected around water locations, and to a lesser extent away from water sources. As native plant health deteriorates and plant cover, vigor, and litter are reduced, soil erosion increases and a long-term loss of productivity occurs. More desirable species, such as Indian ricegrass, needle-and-thread, basin wildrye, and bottlebrush squirreltail, would be reduced or lost from the native plant communities. Plant species that are less desirable or more grazing resistant, such as sand muhly, western wheatgrass, little bluegrass, threadleaf sedge and weeds, would be increased in terms of their composition within the affected plant communities. However, in some cases there would just be a greater amount of bare ground. Similar results would occur in the isolated riparian habitat within the White Mountain and Little Colorado HMAs, with sedges and grasses being replaced with Baltic rush, mat muhly, and weedy species. These impacts would also occur to a lesser extent outside the HMAs as horses move out in search of better forage or reliable water sources. Impacts would be cumulative over time and would affect areas beyond the HMAs. Eventually, long-term rangeland health would be jeopardized. In the absence of healthy rangelands, animal health would eventually be impacted, leading to increasing numbers of wild horses in poor body condition and at risk of starvation or death without human intervention.

As vegetation cover and litter decrease and bare ground increases, soil erosion would increase in proportion to herd size and vegetation disturbance. The shallow desert top soils cannot tolerate much loss without an associated loss in productivity and thus the ability to support a native plant community. Invasive non-native species could increase following increased soil disturbance and reduced native plant vigor and abundance. The greater impacts would be around water locations. Watershed health throughout the area would continue to decrease, resulting in increased sediment and salinity delivery into the Colorado River drainage. These impacts would be cumulative over time.

The No Action alternative would allow wild horse populations to increase within the White Mountain and Little Colorado HMAs and nearby areas as no population management would take place. Populations of wild horses might eventually stabilize at very high numbers near what is known as their food-limited ecological carrying capacity. At these levels, range conditions would deteriorate which would affect the native vegetation species as well as the habitat for special status species.

If wild horses are left unmanaged, damage to riparian areas may occur due to potential destruction of vegetation along streambanks. Erosion would increase and contribute to downstream sediment and salinity issues.

Invasive non-native plant species could continue to increase and invade new areas following increased soil disturbance and reduced native plant vigor and abundance. This would lead to both a shift in plant composition towards weedy species and a loss of productivity from loss of native species and the erosion of soils. There would also be increased impacts to areas outside the HMAs as horses move out in search of better forage. Impacts would be cumulative over time and would affect areas beyond the HMAs.

Reclamation efforts would be less likely to succeed as wild horse populations increase. All pads would require fencing for initial recovery of vegetation, however, once fences are removed, grazing by wild horses would result in loss of vegetation and destabilization of soils similar to adjacent rangelands. Linear features would not likely be fenced due to both the cost and restrictions they would place on movement of wildlife, wild horses, and livestock, as well as the cost involved. These sites would likely receive grazing use that would reduce or eliminate desirable species and promote weeds, less palatable plant species and bare ground which would, in turn, lead to increased soil erosion and water runoff into drainages or adjacent rangelands.

**Impacts of Alternative D** Under Alternative D, the impacts associated with capture and removal operations are expected to be similar to the Proposed Action. Vegetation utilization would be similar to Alternative A with the exception that wild horse populations would be decreased with spayed and gelded wild horses returned to the HMAs. There would be less forage used by a stable, non-reproducing wild horse herd.

### **3.5 Recreation**

#### **Affected Environment**

The public enjoys seeing wild horses roaming free in the Rock Springs Field Office areas. Although demand is not high, some people (residents and nonresidents) make special trips to see wild free-roaming horses in their natural environment. The public recreation experience is enhanced by viewing healthy horses and healthy rangelands in the HMAs. Two outfitters are permitted by BLM to conduct tours of the HMAs.

Other recreation in the project area is quite dispersed with the greatest amount occurring during the hunting seasons for the various game animals and birds. Primary recreational activities other than hunting includes camping, hiking, rock hounding, photography, wildlife and wild horse viewing, off highway vehicle (OHV) use, and sightseeing.

#### **Environmental Consequences**

**Impacts of Alternative A** During gather operations, the habitat areas immediately surrounding the trap and holding sites may be temporarily closed for approximately up to 3 days at satellite trap site and up to 2 weeks at a temporary holding trap site. Any areas closed would be reopened upon completion of the gather operations. The hunting experience may be decreased by helicopter noise and movement of wild horses through or amongst wildlife in the immediate area. Antelope hunt area 96 encompasses 612,494 acres. Deer hunt area 131 and Elk hunt area 100 both encompass 5,371,578 acres. The serviceable area around a trap site would be no more than a 10-mile radius which would be approximately 6,400 acres in comparison to the available hunt area still available within the HMA (606,094 acres for Antelope and 5,365,178 acres for deer and elk).

Implementation of the proposed action would be expected to improve rangeland health which would potentially enhance the aesthetic quality of recreational opportunities, such as hiking, wildlife viewing, and hunting. Opportunities to view wild horses in the HMAs would continue, however, there would be fewer animals in better body condition available for viewing than at present. During the capture

operation it may be necessary to temporarily close BLM roads to allow for the safe and humane capture of wild horses. This would be accomplished in a manner to impact the fewest recreational users as possible.

**Impacts of Alternative B** Under Alternative B, the impacts associated with capture and removal operations are expected to be similar to the proposed action. Fewer wild horses would be available for viewing during the first year following the gather. In years 2-3 following the gather, more mares with foals would be available for viewing than with the proposed action since fertility control and sex ratio adjustment favoring stallions would not be applied.

**Impacts of Alternative C** Where horse numbers increased, certain kinds of opportunities associated with the horse population would increase, although the condition of the horses could decline over time, rendering them less desirable for viewing. The quality of recreational opportunities associated with the quality of the habitat, such as viewing or hunting wildlife, would probably decline as the wild horse population increased beyond the carrying capacity of the habitat.

Some opportunities associated with the presence of wild horses might increase in the short term, but they would probably decline in the long term due to the increasing occurrence of obviously malnourished horses. Recreationists would likely encounter carcasses and their scavengers more frequently when the population of horses is in decline due to insufficient feed and/or water. Thus, although the increased population of wild horses might make them easier to find, the experience might not be as desirable due to the poor condition of the horses.

Other recreation opportunities would also be detrimentally affected in the long run due to the habitat degradation caused by wild horse overpopulation. Game species might be pressured out of the area in search of essential resources. Viewers might not need to go to the HMAs to view wild herds because the wild horses would be forced to expand their territories outside the current HMA boundaries in order to find the feed and water they need to survive. Once they establish themselves beyond the HMA boundaries, they would upset the balance among other species in the new habitat as they used resources required for the other species. Opportunities for viewing and hunting other wildlife could be severely reduced in the long run, both within the HMAs and beyond it.

**Impacts of Alternative D** Under Alternative D, the impacts associated with capture and removal operations are expected to be similar to the proposed action. Wild horse populations would be decreased with spayed and gelded wild horses returned to the HMAs. The same number of wild horses would be available for viewing after the gather and in subsequent years.

## **3.6 Wilderness**

### **Affected Environment**

Within the two HMAs there are lands that may have wilderness characteristics due to the presence of more than 5,000 acres of contiguous BLM-administered lands and the potential for undeveloped, natural areas. Portions of the White Mountain HMA are located within the checkerboard lands and do not meet the size criteria; however, there are areas of greater than 5,000 acres of BLM-administered lands within the HMA. The majority of the Little Colorado HMA is BLM-administered land. Both HMAs have areas of oil and gas development and various transportation routes present. A current inventory of the entire HMA areas (1,014,557 acres) has not been completed. No Wilderness Study Areas (WSA) are present within either HMA.

## Environmental Consequences

**Impacts of Alternatives A, B, and D** The gathering of excess horses will not impair the size, naturalness, solitude, or primitive recreation opportunities within the HMAs. According to BLM Manual 6303-Consideration of LWCs for Project-Level Decisions in Areas Not Analyzed in Accordance with a Land Use Plan, 'temporary facilities for wild horse and burro gathering activities' may be approved at the discretion of management if wilderness characteristics are not impaired. The placement of temporary trap sites may create surface disturbance. Site visits would be conducted upon selection of each location to determine the presence of wilderness characteristics.

**Impacts of Alternative C (No Action)** Under this alternative, no excess horses would be gathered or removed and no temporary trap sites would be used. No impacts to any existing wilderness characteristics, if present, would occur.

### 3.7 Livestock Grazing

#### Affected Environment

Domestic livestock are authorized to use the public lands under the authority of the Taylor Grazing Act, as amended. Livestock belonging to specific livestock operators are authorized to use specific areas of rangeland (grazing allotments) for specified periods of time in specified numbers.

Eight of the 80 grazing allotments in the RSFO jurisdiction occur within the White Mountain and Little Colorado HMAs. The current status of livestock grazing in the HMAs is depicted in Appendix V. In all cases, the grazing allotments and the authorizations of livestock use (Taylor Grazing Act of 1932, as amended) pre-date passage of the Wild, Free-Roaming Horse and Burro Act. Between 2006 and 2010, actual billed livestock use averaged 41% in the White Mountain and Little Colorado HMAs.

Sheep use primarily occurs during the winter (Dec 15-May 15) on the checkerboard lands as well as some cattle use. Primary cattle use occurs summer/fall (May 1-Oct 31) with some winter (Nov 1-Jan 31) cattle use off the checkerboard. The overall decline in the sheep industry has resulted in a low and variable rate of actual use by sheep operators. Some sheep operators have expressed interest in converting their sheep grazing use into cattle grazing.

The rangelands in the HMAs provide seasonal grazing for livestock (cattle and sheep). Wherever domestic livestock are authorized to use the public lands, range improvements (e.g., stock ponds, well water, fences, etc.) have been authorized. Most of these range improvements are operated and maintained by the livestock operators. Fencing is primarily used to keep livestock in specific allotments or pastures during specified seasons of use thereby improving range management. Livestock water is provided by springs, wells, intermittent and ephemeral streams, pipelines, and reservoirs. Many of these range improvements are water sources for wild horses.

## Environmental Consequences

**Impacts of Alternative A:** The proposed gather would not directly impact livestock operations within the gather area. Operations involved in removing wild horses may temporarily cause some disturbance to livestock present during the removal process. Livestock owners within the gather area would be notified prior to the gather, enabling them to take precautions and avoid conflict with gather operations.

An expected improvement in the quality and quantity of forage availability is expected where excess or strayed wild horses are removed. This would provide greater opportunity for improved range conditions within the related areas. With less grazing pressure, growing conditions can be expected to be improved,

and livestock distribution would improve. Grazing in this area is also addressed in the Record of Decision and Green River RMP (1997, p. 321-322).

**Impacts of Alternative B** Under Alternative B, the impacts associated with capture and removal operations are expected to be similar to the proposed action.

**Impacts of Alternative C** Under Alternative C, wild horse population control methods would not be implemented. This alternative would allow wild horse populations to increase within the project area and nearby non-HMA areas. Livestock operations with greater flexibility would likely apply for voluntary nonuse and immediately reduce livestock grazing within their allotments. However, operators with no other grazing options would reduce their grazing use as forage conditions deteriorated. Winter sheep operations would likely be the least impacted, but as wild horse diets become more dominated by shrubs and grass availability is low, the use by sheep would also be displaced by wild horses as demand for space, forage, and water increased. Displacement would be slow and indirect. Fence maintenance would increase due to increased numbers of wild horses and their potential damage to existing fencing. Operation and maintenance of existing water sources (including truck hauling of water to tanks) by livestock operators may not occur if there is no livestock use. Range conditions throughout the area would deteriorate, and even if wild horses are rounded up in the future or a population crash occurs during a bad winter, long-term vegetation recovery may require continued nonuse by livestock operations. These impacts would be cumulative over time.

**Impacts of Alternative D** Under Alternative D, the impacts associated with capture and removal operations are expected to be similar to the proposed action.

### **3.8 Heritage Resources**

#### **Affected Environment**

Prehistoric sites known to exist within the HMAs include open camps and lithic scatters. Historic sites known to exist include trash dumps, trails, roads, and structures associated with early settlement and commerce, or with the local ranching industry. Cultural Resource program support for the wild horse capture would consist of file search (Class I) and/or intensive field (Class III) inventories, and, if necessary, mitigation of impacts at the locations of the temporary horse holding sites. Support includes consultation with the Wyoming State Historic Preservation Office according to the Wyoming State Protocol agreement of the BLM National Cultural Resources Programmatic Agreement, which states inventory may not be required for “Animal traps and corrals in use for three days or less” (BLM 2006, Appendix B21).

#### **Environmental Impacts**

**Impacts of Alternatives A B, and D** Direct or indirect impacts to cultural resources are not anticipated to occur from implementation of Alternative A, B, or D. Surface disturbing activities at the trap locations would be minimal and no historic properties would be adversely affected due to avoidance and identification of conflicts. The RSFO archeologists would review all proposed temporary holding facility locations to determine if these have had a Class III cultural resources inventory, and/or if a new inventory is required. If cultural resources are encountered at proposed gather sites or temporary holding facilities, those locations would not be utilized unless they could be modified to avoid or mitigate adverse impacts to significant cultural resource site(s).

Within the HMAs, impacts to historic properties are limited to trampling. Naturally, fewer horses would result in lesser potential impacts to historic properties. Any increased trampling during gather operations would be minimal.

**Impacts of Alternative C** At the present time, a determination of no action would not adversely affect historic properties. However, a substantial increase in the number of horses over time may adversely affect historic properties by trampling.

### 3.9 Cumulative Impacts

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

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

The Past, Present, and Reasonably Foreseeable Future Actions applicable to the assessment area are identified in Table 3. Assessment areas are determined by what is practical and reasonable for each resource.

**Table 3. Past, Present, and Reasonably Foreseeable Future Actions**

| Project -- Name or Description  | Status (x) |         |        |
|---|------------|---------|--------|
|   | Past       | Present | Future |
| Livestock grazing   | x          | x       | x      |
| Wild horse gathers  | x          | x       | x      |
| Mineral exploration/Oil and gas exploration/Abandoned mine land reclamation           | x          | x       | x      |
| Recreation  | x          | x       | x      |
| Water and spring development (wells, development of springs, & fencing water sources) | x          | x       | x      |
| Invasive weed inventory/treatments  | x          | x       | x      |
| Wildlife/Big game studies   |            | x       | x      |
| Wild horse issues, AML adjustments and planning                                       | x          | x       | x      |
| Wind energy exploration and development   |            | x       | x      |

Any future proposed projects within the White Mountain and Little Colorado HMAs would be analyzed in an appropriate environmental document following site specific planning. Future project planning would also include public involvement.

#### Effect of Past, Present, and Reasonably Foreseeable Future Actions

All resource values described for the Affected Environment have been evaluated for cumulative impacts. If there are no direct or indirect impacts to said resources, there are likewise no expected cumulative impacts. The resources evaluated in this section for cumulative effects include: Wild Horses, Wildlife, Vegetation, Soils, Watershed, Recreation, Wilderness, Livestock Grazing, and Heritage Resources.

#### Wild Horses

Numerous gathers of wild horses have occurred throughout the White Mountain and Little Colorado HMAs in the past. The most recent gathers of wild horses was in November of 2007; these gathers were necessary to bring the existing wild horse population in line with population goals. Fertility control has been implemented in the past. Genetic testing has been completed in the White Mountain and Little Colorado HMAs; the results indicate that the existing wild horse population has variability levels high

enough that no action is needed at this point. Depending upon the population size the herd may need some monitoring but there should be few or no problems for at least ten years.

Past activities which may have affected wild horses within the White Mountain and Little Colorado HMAs include recreational uses, livestock grazing, and energy development. These activities can impact wild horses by reducing the quantity and quality of vegetation resources, as well as water quality and quantity. Past repeated gathers in the same areas or conducted too close together can affect horse behavior making them harder to capture. Past and current mineral, oil and gas activities and other similar projects could have impacts to wild horses due to increased disturbance and removal of vegetation. There are proposals for wind monitoring and development in the project area. Impacts to wild horses from wind development projects would be similar to those associated with mineral development.

All other foreseeable activities such as invasive weed treatment, vegetation harvesting etc., would likely result in negligible impacts to wild horses in the long term; this is because the areas of disturbance would be small compared to the overall size of the White Mountain and Little Colorado HMAs. An overall lower population and density of wild horses across the landscape would allow for more rapid recovery of native vegetation that is currently degraded; it would also reduce or eliminate the potential for further degradation. Moreover, by managing wild horse populations within the AML range, the expected improvement in rangeland health would be expected to lead to improved body condition, healthier foals, and ensure herd sustainability through drought years.

Implementation of Alternatives A, B, and D would benefit wild horses in the long term because there would be improved quality and quantity of resources (forage, water, cover, and space). Future offspring would also benefit from these improved resources; they would be expected to be larger, healthier, and better able to achieve their genetic potential. The application of fertility control, sex ratio adjustment favoring stallions 60:40 and removals to the lower limit of the AML in the Proposed Action would slow population growth over the next 2-3 year period thereby further reducing the impact to the vegetation over a longer period of time. Under Alternative B, the White Mountain and Little Colorado HMAs would be gathered to the lower limit of the AML and the population would be allowed to grow at normal rates thus the vegetation recovery would be expected to be slower than that of the Proposed Action because grazing pressure would increase at a faster rate following the removal of excess horses.

Under Alternative D, the White Mountain and Little Colorado HMAs would be gathered to the lower limit of the AML and the population not be allowed to grow at normal rates thus the vegetation recovery would be expected to be quicker than that of the Proposed Action because grazing pressure would not increase at a faster rate following the removal of excess horses.

Under Alternatives A, B, and D, continued monitoring and data collection would be needed to assess whether healthy and self-sustaining wild horse herds are being maintained on the HMAs over the long term. Monitoring of the project area will continue for wild horses as well as vegetation and water resources. Further evaluation is needed to determine if the White Mountain and Little Colorado HMAs is meeting the standards for rangeland health.

Under the No Action Alternative, there would be no long-term cumulative benefits to any rangeland user. Future generations of wild horses would experience continued range deterioration and loss of water sources and riparian habitat. At the current rate of annual population growth, the projected wild horse population would exceed 2,000 animals within 4 years. Left unchecked, irreparable damage to the habitat could result in the need to permanently remove all wild horses from the White Mountain and Little Colorado HMAs.

## **Wildlife, Threatened and Endangered Species, Special Status Species, and Migratory Birds**

Historic use by livestock, wild horse grazing, recreation, mineral exploration, mining and vegetation harvesting have likely impacted wildlife, special status species, and migratory bird habitat within the White Mountain and Little Colorado HMAs, especially near water locations. These activities result in loss of habitat and disruption of movement patterns. The current overpopulation of wild horses is also impacting wildlife habitat by increasing the competition for available forage and water and thermal protection. Alternatives A, B, and D would not contribute to cumulative impacts associated with impediments to wildlife movement. Cumulative impacts associated with range management, such as construction of other water projects and invasive weed treatments, are beneficial for wildlife and wildlife habitat. These projects/activities are implemented to enhance rangeland condition which benefit wildlife species and associated habitat.

The cumulative impacts associated with implementation of Alternatives A, B, and D would lead to overall improvement of rangeland resources and wildlife habitat. Under Alternatives A, B, and D, wild horse populations would be managed within the AML range over the next 3-4 year period. As a result, fewer wild horses would be present and the quality and quantity of these resources would be expected to improve. When combined with past, present, and reasonably foreseeable future actions, the potential for significant adverse cumulative impacts to wildlife habitat from implementation of Alternatives A, B, and D would be negligible.

No long-term cumulative benefits to any rangeland user would be expected with implementation of the No Action Alternative. The No Action Alternative would be expected to result in continued range deterioration, and lead to long-term adverse impacts to range and riparian health. Once long-term range and riparian health is impacted, any reasonably foreseeable projects or other management actions are unlikely to improve habitat for wildlife, sensitive species, or other values.

## **Livestock Grazing, Vegetation, and Soils**

The vegetation within the White Mountain and Little Colorado has been utilized by wild horses since the project area was first settled. Domestic livestock has grazed all portions of the HMAs in the past and is expected to continue in the future. Some of the range has a history of over-utilization. Livestock grazing has a history of over-grazing in some areas, but with allotment management plans and Grazing management plans, rangeland conditions have improved over time and are expected to continue to improve to meet multiple use objectives and overall rangeland health. Water has always been the limiting resource for livestock and wild horses within the HMAs. As a result, vegetation and soils located near water sources tend to be disproportionately utilized and trampled. Lack of adequate water in portions of the project area has prevented widespread utilization by livestock and wild horses.

Implementation of Alternatives A, B, and D would contribute to isolated areas of vegetation disturbance through the gather activities. In the long term, however, the achievement of AML in conjunction with proper grazing management and other foreseeable actions such as recreation, mineral exploration and reclamation, vegetation harvesting and invasive weed treatment, would contribute to improved vegetative resources.

Implementation of Alternatives A, B, and D would be expected to promote improvements to ecological condition. Excessive use by wild horses would not occur at riparian areas or outside the HMAs once AML is achieved and maintained. Key forage and browse species would improve in health, abundance and robustness, and would be more likely to set seed and reproduce, which in turn would contribute to improvements in rangeland health. The proposed population control and other foreseeable actions would begin to offset past negative trends in habitat modification by allowing for attainment of rangeland health standards and site-specific management objectives.

Implementation of the No Action Alternative would result in continued degradation of vegetation by wild horses. In the long term, this would cause native vegetation to be replaced by less palatable native plants or invasive species such as cheatgrass or noxious weeds. This degradation would increase competition between livestock and wild horses for available vegetation and water (e.g., horses tend to push cattle off or keep cattle off water when they are there drinking, etc.). Past impacts would not be offset and downward trends would continue to occur. When combined with past, present, and reasonably foreseeable future actions the potential for significant cumulative impacts to livestock grazing, vegetation, and soils is expected to be higher than Alternatives A, B, or D due to increased horse populations.

## **Recreation**

Recreational uses have occurred throughout White Mountain and Little Colorado HMAs since the surrounding areas were first settled. Recreational uses are increasing and expanding throughout the area. As a result, the need for recreation planning has increased. Recreation planning allows land management agencies to work to balance the resource needs with the demand for a variety of recreation uses which the public can enjoy within the HMAs.

Implementation of Alternatives A, B, and D would allow for continued viewing of wild horses. The aesthetic values provided in association with a variety of recreational opportunities would also be enhanced as the quantity and quality of vegetation within the area improves.

Implementation of the No Action Alternative would allow for recreational opportunities as they currently exist. Viewing opportunities of wild horses would be greater under this alternative; however, heavy utilization of vegetation would continue to occur, impacting the aesthetic values associated with various recreational opportunities. As animal health declines or animals leave the HMAs in search of food and water, some recreational opportunities would be less enjoyable. When combined with past, present, and reasonably foreseeable future actions the potential for significant cumulative impacts to recreation is expected to be higher than Alternatives A or B due to less aesthetic values.

## **Heritage Resources**

No cumulative impacts are anticipated for heritage resources. Trap site locations will avoid any identified archeological sites.

## **Mitigation Measures and Suggested Monitoring**

The White Mountain and Little Colorado HMAs would continue to be monitored post-gather. Data would be collected which would assist the BLM in determining whether existing AMLs are appropriate or need future adjustment (either up or down). Data collected would include observations of animal health and condition, climate (precipitation), grazing utilization and animal distribution, population census, range condition and trend, among other items.

Proven mitigation and monitoring are incorporated into the proposed action through standard operating procedures, which have been developed over time. These SOPs (Appendices II and III) represent the "best methods" for reducing impacts associated with gathering, handling, transporting, collecting herd data and applying fertility control.

Based on the analysis of impacts above and consideration of all design features, wild horse gather best management practices, standard operating procedures presented as part of the proposed action and alternatives, no additional mitigation measures are proposed or required.

## Residual Impacts

Under Alternative D, spaying and gelding would not be reversible and the horses would be non-reproductive.

## 4.0 Tribes, Individuals, Organizations, or Agencies Consulted

Tribes, individuals, organizations, and agencies were included in the scoping process. The letter soliciting scoping comments for the proposed gather in White Mountain and Little Colorado HMAs was mailed April 9, 2010.

### Tribes

Eastern Shoshone Business Council  
Eastern Shoshone Tribe  
Northern Arapaho Business Council  
Northern Arapaho Tribal Historic Preservation  
Shoshone-Bannock Cultural Resources  
Shoshone-Bannock Tribal Council  
Ute Tribal Council  
Ute Tribe Cultural Resources

### Agencies

Bureau of Indian Affairs  
Bureau of Land Management  
Carbon County Commissioners  
Fremont County Commissioners  
Mayor of Baggs  
Mayor of Wamsutter  
Mayor of Superior  
NRCS  
Office of the Governor of Wyoming  
Popo Agie Conservation District  
State of Wyoming agencies  
State Representatives  
State Senators  
Sublette County Commissioners  
Sweetwater County Commissioners  
Sweetwater County Conservation District  
Sweetwater County Planning Dept.  
U.S. Fish and Wildlife Service  
U.S. Representative Cynthia Lummis  
U.S. Senator John Barrasso  
U.S. Senator Michael B. Enzi  
Wyoming Game and Fish Department

### Organizations

Agri Kids USA  
American Horse Protection Association  
American Mustang Association  
Dream Catcher Wild Horse & Burro Sanctuary  
Friends of Animals

Hooved Animal Humane Society  
National Mustang Association  
National Wild Horse Association  
North American Mustang Assoc. & Registry  
Pryor Mountain Wild Mustang Center  
The Cloud Foundation  
University of Wyoming  
Western Watersheds Project  
Western Wyoming Mule Deer Foundation  
Whole Horse Institute  
Wild Horse Organized Assistance  
Wild Horse Spirit  
Wind River Backcountry Horsemen's Assoc.  
Wyoming Advocates for Animals  
Wyoming Business Council  
Wyoming Chapter of the Sierra Club  
Wyoming Livestock Board  
Wyoming Wilderness Association  
Wyoming Wildlife Federation  
Wyoming State Grazing Board

### Operators, Media, Libraries

4-Mile Sheep  
AL Land & Cattle Company  
Alkali Creek Grazing Association LLC  
Anadarko Petroleum Corporation  
Arapaho Grazing Association LLC  
Bar X Sheep Company  
Battle Mountain Co.  
Big Sandy & Green River Livestock Co.  
Blake Sheep Company & F.B. Espy  
Bonomo, Jensen, Kourbelas  
Carricaburu-Jauregui  
CE Brooks & Associates PC  
Central Bank & Trust  
Conservancy of the Phoenix  
Desert Cattle Co.  
Dr. Jason Howard PC  
Estate of Curtis Rochelle  
Evans Wells & Livestock

Fill-More Beef LLC/P.H. Livestock  
First Interstate Bank  
G Bar B Veterinary Service  
Hill Land and Livestock  
Hog-Eye Ranch LLC  
ISPM & B  
Janet's Inc.  
John S. Walters  
KBR  
Mad Dog & the Pilgrim Booksellers  
Maneotis Sheep Company  
Marty and Ragsdale  
Midland-Dunton Sheep Co.  
Mud Springs Livestock Company  
Olson Sisters Corporation  
Philp Sheep Company  
Pinedale Roundup  
Poor Farm LLC  
Quarter Circle Block LLC  
Quealy Properties, LLC  
Raftopoulos Brothers Livestock  
Rock Springs Grazing Association  
Rock Springs Library

Rocket Miner  
Salisbury Livestock Co.  
Salisbury Livestock Co./Banjo Sheep Co.  
Slagoski & Asay  
Smith Rancho Inc.  
Split Rock Holdings  
Stewart Creek LLC  
Stratton Sheep Co.  
Sublette Examiner  
Sue Pepe Young  
Sun Land and Cattle Co.  
Tall Grass, LLC  
Taurus Productions, Inc.  
Three Mill-Iron Ranch  
Triple A Cattle Company  
Tripp Family Trust  
Vermillion Ranch Limited Partnership  
W & M Thoman Ranches LLC  
Weber Ranch Inc.  
Western Wyoming Community College  
Wyoming Livestock Roundup  
Wyoming Outdoor Council  
Wyoming State Library

## 5.0 List of Preparers

This section contains the list of preparers and reviewers for this Environmental Assessment.

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K. Scott Stadler, Archeologist  
Jo Foster, Recreation Planner  
Dennis Doncaster, Hydrologist  
John Henderson, Fishery Biologist  
Jim Glennon, Botanist – T&E Plants  
Kimberlee Foster, NEPA Coordinator  
Angelina Pryich, Writer-Editor

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## Appendix I

### Summary of Scoping Comments

| No. | Scoping Comment  | BLM Response   |
|-----|--|--|
| 1   | Utilize BLM's discretion under 43 CFR 4710.5(a) to close or limit livestock grazing in the HMAs, and/or designate this area to be managed principally for wild horse herds under 43 C.F.R. 4710. 3-2.  | The issue of authorized livestock grazing use was previously decided in the Green River RMP, 1997.   |
| 2   | Re-evaluate and increase the AML for wild horses for these HMAs.   | The AMLs were established through prior separate decision-making processes. Increasing the AML would not eliminate the need to hold gathers and manage wild horse numbers. The BLM manages resources for multiple use; increasing the AML to manage the HMAs for only a single public land use is outside the scope of this EA. See 3.2 Wild Horses.   |
| 3   | Offer any ranchers grazing livestock in the HMAs the option to retire cattle grazing allotments to promote ecotourism activities.  | This is outside the scope of this analysis. The BLM has a multiple-use mandate to manage for all uses of the public land. Achieving and maintaining wild horse populations within established AMLs and controlling their population growth rates will enhance the public lands for the benefit of all users and resources. This in turn will increase the recreational experience in the area. |
| 4   | Implement and expand the current proposal of fertility control treatments to allow more horses to remain on the range.   | Fertility control has been incorporated into Alternative A.  |
| 5   | Implement range improvements and water enhancements that will benefit all animals, including wildlife and horses, living in the HMAs.  | Water range improvement projects do enhance and benefit all wildlife and wild horses. Some water wells and pipelines are shut down to manage livestock rotation or for winter maintenance.   |
| 6   | The management approach detailed in the EA as the proposed alternative continues the unsustainable cycle of roundups, removals, and stockpiling of horses in long-term holding facilities. ...this failed strategy is the inequitable distribution of resources within these HMAs. ...no threat to the 'thriving natural balance' is greater than the extensive livestock grazing. | The BLM has a multiple-use management mandate for meeting its mission of sustaining the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations. Current management actions for the wild horses include maintaining appropriate herd management levels for an ecological balance among wild horses and land and resource uses.     |

## Appendix I Summary of Scoping Comments

| No. | Scoping Comment  | BLM Response   |
|-----|--|--|
| 7   | EA omits discussion of Adaptive Management Strategy  | The Green River Resource Management Plan (RMP) and identifies management actions for wild horses. The Proposed Action and alternatives are in conformance to the RMP. Additionally, the Proposed Action and Alternatives B and D are in compliance with the 2003 Consent Decree (03 CV 169D) and Court Order C79-275K. See Section 1.3 of the EA for more details about conformance with applicable regulations.   |
| 8   | No evidence to support contention of wild horse ‘overpopulation’ presented; regular annual monitoring data-essential for validation of AML-is not provided   | The population estimates for the HMAs were determined through direct count. Although these counts were conducted in April 2010 in compliance with the BLM IM 2010-057, Wild Horse & Burro Population Inventory and Estimation.   |
| 9   | Alternatives recommendation: 1. Alternative to helicopter stampedes, 2. Reduction in livestock grazing, 3. Increasing AML based on current data, 4. Other on-the-range management strategies such as additional fertility control. | <ol style="list-style-type: none"> <li>1. See Section 2.5.</li> <li>2. Livestock grazing allocation decisions are land-use management decisions that are evaluated in the RMP development process and are outside the scope of this Proposed Action/alternatives analysis.</li> <li>3. The establishment of the AMLs is a land-use management decision that is evaluated as part of the RMP development process and is outside the scope of this Proposed Action/alternatives analysis.</li> <li>4. BLM specialists determined that the adjustment of the sex ratios (favoring stallions 60:40) was optimal for maintaining the herd.</li> </ol> |
| 10  | EA should adequately assess the impacts of short- and long-term holding on any horses  | Impacts to wild horses are presented in detail in Section 3.2.   |
| 11  | EA should consider the impacts of the abrupt mass removal of wild horses from the populations living in these two HMAs.  | The management of social structures of wild horse herds within the HMAs is not a management strategy identified in the GRRMP and is outside the scope of this Proposed Action/Alternatives analysis. Impacts to wild horses are addressed in Section 3.2.  |
| 12  | The BLM’s reliance on previous agreements inappropriately restricts wild horse management options and undermines the broad intent of NEPA.   | The BLM will continue to conduct actions in compliance with all legal agreements and regulations. See Section 1.3 of the EA for conformance information about the Proposed Action/alternatives.  |
| 13  | Suggested alternative: remove horses from only one HMA   | A discussion of this alternative is addressed in Section 2.5.  |

## Appendix I Summary of Scoping Comments

| No. | Scoping Comment   | BLM Response   |
|-----|---|--|
| 14  | The EA should evaluate the social, economic and legal impacts of the ware housing of the majority of captured horses in holding facilities, where they will join the 38,000 wild horses already warehoused at taxpayer expense. | Wild horse impacts from the Proposed Action/alternatives are addressed in Section 3.2. Decisions regarding the BLM Wild Horse and Burro Program policies are outside the scope of this EA. |
| 15  | You are leaving genetically unsustainable populations with these actions.   | Genetic information about the wild horse herd is discussed in Section 3.2.   |

## **Appendix II**

### **Standard Operating Procedures**

#### **SOPs 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* (March 2000).

Prior to any gathering operation, the BLM will provide for a pre-capture 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 capture operations necessitate the services of a veterinarian, one would be obtained before the capture would proceed. The contractor will be apprised of all conditions and will be given instructions regarding the capture and handling of animals to ensure their health and welfare is protected.

Trap sites and temporary holding sites will be located to reduce the likelihood of undue 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.

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

1. Helicopter Drive Trapping. This capture method involves utilizing a helicopter to herd wild horses into a temporary trap.
2. Helicopter Assisted Roping. This capture method involves utilizing a helicopter to herd wild horses or burros to ropers.
3. Bait Trapping. This capture method involves utilizing bait (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. Capture 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 captured. All capture attempts shall incorporate the following:

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

2. The rate of movement and distance the animals travel shall not exceed limitations set by the COR/PI who will consider terrain, physical barriers, weather, condition of the animals and other factors.
3. All traps, wings, and holding facilities shall be constructed, maintained and operated to handle the animals in a safe and humane manner and be in accordance with the following:
  - a. Traps and holding facilities shall be constructed of portable panels, the top of which shall not be less than 72 inches high for horses and 60 inches for burros, and the bottom rail of which shall not be more than 12 inches from ground level. All traps and holding facilities shall be oval or round in design.
  - b. All loading chute sides shall be a minimum of 6 feet high and shall be fully covered, plywood, metal without holes.
  - c. All runways shall be a minimum of 30 feet long and a minimum of 6 feet high for horses, and 5 feet high for burros, and shall be covered with plywood, burlap, plastic snow fence or like material a minimum of 1 foot to 5 feet above ground level for burros and 1 foot to 6 feet for horses. The location of the government furnished portable fly chute to restrain, age, or provide additional care for the animals shall be placed in the runway in a manner as instructed by or in concurrence with the COR/PI.
  - d. All crowding pens including the gates leading to the runways shall be covered with a material which prevents the animals from seeing out (plywood, burlap, plastic snow fence, etc.) and shall be covered a minimum of 1 foot to 5 feet above ground level for burros and 2 feet to 6 feet for horses
  - e. All pens and runways used for the movement and handling of animals shall be connected with hinged self-locking gates.
4. No modification of existing fences will be made without authorization from the COR/PI. The Contractor shall be responsible for restoration of any fence modification which he has made.
5. When dust conditions occur within or adjacent to the trap or holding facility, the Contractor shall be required to wet down the ground with water.
6. Alternate pens, within the holding facility shall be furnished by the Contractor to separate mares or jennies with small foals, sick and injured animals, and estrays 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 capture area(s). In areas requiring one or more satellite traps, and where a centralized holding facility is utilized, the contractor may be required to provide additional holding pens to segregate animals transported from remote locations so they may be returned to their traditional ranges. Either segregation or temporary marking and later segregation will be at the discretion of the COR.
7. The Contractor shall provide animals held in the traps and/or holding facilities with a continuous supply of fresh clean water at a minimum rate of 10 gallons per animal per day. Animals held for

10 hours or more in the traps or holding facilities shall be provided good quality hay at the rate of not less than two pounds of hay per 100 pounds of estimated body weight per day. An animal that is held at a temporary holding facility after 5:00 p.m. and on through the night, is defined as a horse/burro feed day. An animal that is held for only a portion of a day and is shipped or released does not constitute a feed day.

8. It is the responsibility of the Contractor to provide security to prevent loss, injury or death of captured animals until delivery to final destination.
9. The Contractor shall restrain sick or injured animals if treatment is necessary. The COR/PI will determine if injured animals must be destroyed and provide for destruction of such animals. The Contractor may be required to humanely euthanize animals in the field and to dispose of the carcasses as directed by the COR/PI.
10. Animals shall be transported to final destination from temporary holding facilities within 24 hours after capture unless prior approval is granted by the COR/PI 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/PI. 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/PI. 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. Animals that are to be released back into the capture area may need to be transported back to the original trap site. This determination will be at the discretion of the COR.

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

1. Capture attempts may be accomplished by utilizing bait (feed or water) to lure animals into a temporary trap. If the contractor selects this method 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 capture of animals.
  - c. Traps shall be checked a minimum of once every 10 hours.
2. Capture attempts may be accomplished by utilizing a helicopter to drive animals into a temporary trap. If the contractor selects this method the following applies:
  - a. A minimum of two saddle-horses shall be immediately available at the trap site to accomplish roping if necessary. Roping shall be done as determined by the COR/PI. Under no circumstances shall animals be tied down for more than one hour.
  - b. The contractor shall assure that foals shall not be left behind, and orphaned.
3. Capture 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 captured 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 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 captured 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 two (2) partition gates providing three (3) compartments within the trailer to separate animals. Tractor-trailers less than 40 feet shall have at least one partition gate providing 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.
6. Animals to be loaded and transported in any trailer shall be as directed by the COR/PI and may include limitations on numbers according to age, size, sex, temperament and animal condition. The following minimum square feet per animal shall be allowed in all trailers:

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

7. The COR/PI shall consider the condition and size of the animals, weather conditions, distance to be transported, or other factors when planning for the movement of captured animals. The COR/PI shall provide for any brand and/or inspection services required for the captured 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 capture 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**

Personnel working at gather sites will be advised of the illegality of collecting artifacts.

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. 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 consideration will be to protect the health and welfare of the animals being gathered. The public must adhere to guidance from the on site BLM representative. It is BLM policy that the public will not be allowed to come into direct contact with wild horses or burros being held in BLM facilities. Only authorized BLM personnel or contractors may enter the corrals or directly handle the animals. The general public may not enter the corrals or directly handle the animals at anytime or for any reason during BLM operations.

## **H. Responsibility and Lines of Communication**

### **Rock Springs Field Office - Contracting Officer's Representative/Project Inspector**

Jay D'Ewart

### **Alternate - Contracting Officer's Representative/Project Inspector**

Jake Vialpando  
Jonathan Sheeler  
Melanie Mirati  
Roy Packer  
Scott Fluer

### **Wyoming State Office - Contracting Officer's Representative/Project Inspector**

N/A

The Contracting Officer's Representatives (CORs) and the project inspectors (PIs) have the direct responsibility to ensure the Contractor's compliance with the contract stipulations. The Rawlins and Rock Springs Assistant Field Managers for Renewable Resources and the Rawlins and Rock Springs 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 Rock Springs and Canon City Corral 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 Assistant Field Managers for Renewable Resources. These individual will be the primary contact and will coordinate the contractor with the BLM Corrals to ensure animals are being transported from the capture 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 capture 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 III**

# **Standard Operating Procedures for Fertility Control Treatment**

The following management and monitoring requirements are part of the Proposed Action.

- The 22 month pelleted PZP vaccine would be administered by trained BLM personnel.
- The fertility control drug is administered with two separate injections: (1) a liquid dose of PZP is administered using an 18 gauge needle primarily by hand injection; (2) the pellets are preloaded into a 14 gauge needle. These are loaded on the end of a trocar (dry syringe with a metal rod) which is loaded into the jabstick which then pushes the pellets into the breeding mares being returned to the range. The pellets and liquid are designed to release the PZP over time similar to a time release cold capsule.
- Delivery of the vaccine would be as an intramuscular injection while the mares are restrained in a working chute. 0.5 cubic centimeters (cc) of the PZP vaccine would be emulsified with 0.5 cc of adjuvant (a compound that stimulates antibody production) and loaded into the delivery system. The pellets would be loaded into the jabstick for the second injection. With each injection, the liquid and pellets would be propelled into the left hind quarters of the mare, just below the imaginary line that connects the point of the hip and the point of the buttocks.
- All treated mares will be freeze-marked with two 3.5-inch letters on the left hip for treatment tracking purposes. The only exception to this requirement is that each treated mare can be clearly and specifically identified through photographs or markings. This step is to enable researchers to positively identify the animals during the research project as part of the data collection phase.
- At a minimum, estimation of population growth rates using helicopter or fixed wing surveys will be conducted the year preceding 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 mares).
- 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 mares). If during routine HMA field monitoring (on-the-ground), if data on mare to foal ratios can be collected, these data should also be shared with the NPO for possible analysis by the USGS.

- A PZP Application Data sheet will be used by the field applicators to record all the pertinent data relating to identification of the mare (including a photograph if the mares are not freeze-marked) and date of treatment. Each applicator will submit a PZP Application Report and accompanying narrative and data sheets will be forwarded to the NPO (Reno, Nevada). A copy of the form and data sheets and any photos taken will be maintained at the field office.
- A tracking system will be maintained by NPO detailing the quantity of PZP issued, the quantity used, disposition of any unused PZP, the number of treated mares by HMA, field office, and state along with the freeze-mark applied by HMA.

## **Appendix IV**

# **Wild Horse Population Modeling**

### **Population Model Overview**

WinEquus is a program used to simulate the population dynamics and management of wild horses created by Stephen H. Jenkins of the Department of Biology, University of Nevada at Reno. For further information about this model, you may contact Stephen H. Jenkins at the Department of Biology/314, University of Nevada, Reno, NV 89557.

Detailed information is provided within the WinEquus program available at <http://unr.edu/homepage/jenkins>, and will provide background about the use of the model, the management options that may be used, and the types of output that may be generated.

The population model for wild horses was designed to help BLM evaluate various management strategies that might be considered for a particular area. The model uses data on average survival probabilities and foaling rates of horses to project population growth for up to 20 years. The model accounts for year-to-year variation in these demographic parameters by using a randomization process to select survival probabilities and foaling rates for each age class from a distribution of values based on these averages. This aspect of population dynamics is called environmental stochasticity, and reflects the fact that future environmental conditions that may affect wild horse population's demographics can't be established in advance. Therefore each trial with the model will give a different pattern of population growth. Some trials may include mostly "good" years, when the population grows rapidly; other trials may include a series of several "bad" years in succession. The stochastic approach to population modeling uses repeated trials to project a range of possible population trajectories over a period of years, which is more realistic than predicting a single specific trajectory.

The model incorporates both selective removal and fertility treatment as management strategies. A simulation may include no management, selective removal, fertility treatment, or both removal and fertility treatment. Wild horse and burro specialists can specify many different options for these management strategies such as the schedule of gathers for removal or fertility treatment, the threshold population size which triggers a gather, the target population size following a removal, the ages and sexes of horses to be removed, and the effectiveness of fertility treatment.

To run the program, one must supply an initial age distribution (or have the program calculate one), annual survival probabilities for each age-sex class of horses, foaling rates for each age class of females, and the sex ratio at birth. Sample data are available for all of these parameters. Basic management options must also be specified.

### **Population Modeling – White Mountain and Little Colorado HMAs**

To complete the population modeling for the White Mountain and Little Colorado HMAs, version 1.40 of the WinEquus program, created April 2, 2002, was utilized.

## Objectives of Population Modeling

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

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

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

Initial age structure for the 2011 herd was developed from age structure data collected during the 2007 White Mountain and Little Colorado HMA gathers. The following tables show the proposed age structure that was utilized in the population model for the Proposed Action and Alternatives.

**Initial Age Structure  
White Mountain HMA**

| <b>Age Class</b> | <b>Females</b> | <b>Males</b> |
|------------------|----------------|--------------|
| Foal – 1         | 94             | 90           |
| 2                | 90             | 83           |
| 3                | 43             | 30           |
| 4                | 16             | 16           |
| 5                | 13             | 21           |
| 6                | 23             | 13           |
| 7                | 13             | 9            |
| 8                | 15             | 12           |
| 9                | 14             | 10           |
| 10-14            | 38             | 37           |
| 15-19            | 7              | 4            |
| 20+              | 2              | 0            |
| <b>Total</b>     | <b>368</b>     | <b>325</b>   |

**Initial Age Structure  
Little Colorado HMA**

| <b>Age Class</b> | <b>Females</b> | <b>Males</b> |
|------------------|----------------|--------------|
| Foal - 1         | 6              | 9            |
| 2                | 11             | 6            |
| 3                | 7              | 5            |
| 4                | 1              | 2            |
| 5                | 5              | 0            |
| 6                | 5              | 0            |
| 7                | 1              | 3            |
| 8                | 0              | 1            |
| 9                | 0              | 0            |
| 10-14            | 2              | 4            |
| 15-19            | 1              | 2            |
| 20+              | 0              | 0            |
| <b>Total</b>     | <b>39</b>      | <b>32</b>    |

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

**Sex ratio at Birth:** 50% Females; 50% Males

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

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

The following table displays the removal parameters utilized in the population model for the Proposed Action and all Alternatives:

**Removal Criteria**

| <i>Age</i> | <i>Percentages for Removals</i> |              |
|------------|---------------------------------|--------------|
|            | <b>Females</b>                  | <b>Males</b> |
| Foal       | 100%                            | 100%         |
| 1          | 100%                            | 100%         |
| 2          | 100%                            | 100%         |
| 3          | 100%                            | 100%         |
| 4          | 100%                            | 100%         |
| 5          | 0%                              | 0%           |
| 6          | 0%                              | 0%           |
| 7          | 0%                              | 0%           |
| 8          | 0%                              | 0%           |
| 9          | 0%                              | 0%           |
| 10-14      | 100%                            | 100%         |
| 15-19      | 100%                            | 100%         |
| 20+        | 100%                            | 100%         |

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

**Contraception Criteria  
(Alternative I)**

| <b>Age</b> | <b>Percentages for Fertility Treatment</b> |
|------------|--|
| Foal       | 0%   |
| 1          | 100%                                       |
| 2          | 100%                                       |
| 3          | 100%                                       |
| 4          | 100%                                       |
| 5          | 100%                                       |
| 6          | 100%                                       |
| 7          | 100%                                       |
| 8          | 100%                                       |
| 9          | 100%                                       |
| 10-14      | 100%                                       |
| 15-19      | 100%                                       |
| 20+        | 100%                                       |

**Population Modeling Criteria**

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

- Starting Year: 2011
- Initial gather year: 2011
- Gather interval: regular interval of three years
- Gather for fertility treatment regardless of population size: No
- Continue to gather after reduction to treat females: Yes
- Sex ratio at birth: 50% males
- Percent of the population that can be gathered: 90%
- Minimum age for long-term holding facility horses: Not Applicable
- Foals are included in the AML
- Simulations were run for 10 years with 100 trials each

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

**Population Modeling Parameters**

| <b>Modeling Parameter</b>                                   | <b>Alternative I<br/>Proposed<br/>Action<br/>(Remove to<br/>Low Limit of<br/>Management<br/>Range &amp;<br/>Fertility<br/>Control)</b> | <b>Alternative II<br/>(Remove to<br/>Lower Limit<br/>of<br/>Management<br/>Range)</b> | <b>Alternative<br/>III<br/>No Action<br/>(No<br/>Removal &amp;<br/>No Fertility<br/>Control)</b> |
|---|--|---|--|
| Management by removal and fertility control                 | Yes  | No  | N/A  |
| Management by removal only                                  | No   | Yes   | N/A  |
| Threshold Population Size for Gathers                       | LC: 100<br>WM: 300   | LC: 100<br>WM: 300  | N/A  |
| Target Population Size Following Gathers                    | LC: 69<br>WM: 205  | LC: 69<br>WM: 205   | N/A  |
| Gather for fertility control regardless of population size  | No   | No  | N/A  |
| Gathers continue after removals to treat additional females | Yes  | No  | N/A  |
| Effectiveness of Fertility Control: year 1                  | 94%  | N/A   | N/A  |
| Effectiveness of Fertility Control: year 2                  | 82%  | N/A   | N/A  |
| Effectiveness of Fertility Control: year 3                  | 68%  | N/A   | N/A  |

***Results of WinEquus Population Modeling***

Population modeling was completed for the proposed action and the alternatives. One hundred trials were run, simulating population growth and herd demographics to determine the projected herd structure for the next four years, or prior to the next gather. The computer program used simulates the population dynamics of wild horses. It was written by Dr. Stephen H. Jenkins, Department of Biology, University of Nevada, Reno, under a contract from the National Wild Horse and Burro Program of the Bureau of Land Management and is designed for use in comparing various management strategies for wild horses.

To date, one herd has been studied using the 2-year PZP vaccine. The Clan Alpine study, in Nevada, was started in January 2000 with the treatment of 96 mares. The test resulted in fertility rates in treated mares of 6% year one and 18% year two.

Interpretation of the Model

The estimated population of 660 wild horses in the White Mountain and Little Colorado HMAs was based on a April 2010 census, and was used in the population modeling. Year one is the baseline starting point for the model, and reflects wild horse numbers immediately prior to the gather action. A sex ratio of 50:50 was entered into the model for the post gather action population. In this population modeling, year one would be 2011. Year two would be exactly one year in time from the original action, and so forth for years three, four, and five, etc. Consequently, at year eleven in the model, exactly ten years in time would have passed. In this model, year eleven is 2021. This is reflected in the Population Size Modeling Table by “Population sizes in ten years” and in the Growth Rate Modeling Table by “Average growth rate in 10 years”. Growth rate is averaged over ten years in time, while the population is predicted out the same ten years to the end point of year eleven. The Full Modeling Summaries contain tables and graphs directly from the modeling program.

The initial herd size, sex ratio and age distribution for 2010 was structured by the WinEquus Population Model using data from the horses gathered and removed during the 2007 gather. This initial population data was then entered into the model and the model was used to predict various outcomes of the different alternatives, including the No Action Alternative for comparison purposes.

The parameters for the population modeling were:

1. gather when population exceeds 300 horses in the White Mountain HMA and 100 horses in the Little Colorado HMA
2. foals are included in AML
3. percent to gather 90
4. three years between gathers
5. number of trials 100
6. number of years 10
7. initial calendar year 2011
8. initial population size 660 horses in the White Mountain HMA and 310 horses in the Little Colorado HMA
9. 660 horses in the White Mountain HMA and 310 horses in the Little Colorado HMA
10. implement selective removal criteria
11. fertility control: Yes for Proposed Action( Alternative A) and No for Alternative B

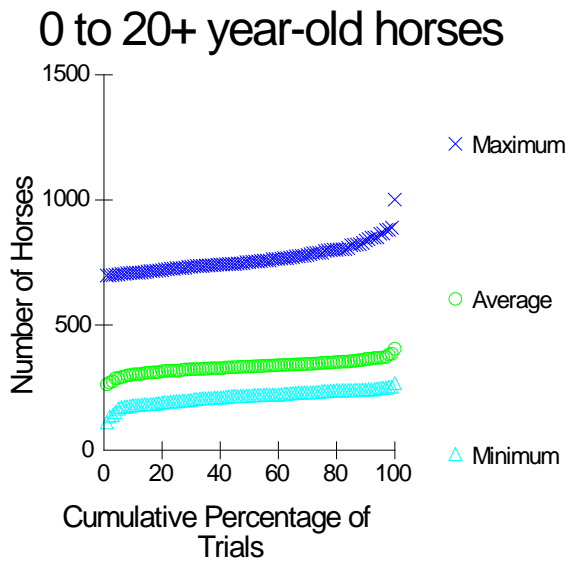
**Results – Proposed Action – Removal to 205 White Mountain and 69 Little Colorado with Fertility Control**

The parameters for the population modeling were:

- 1-10. The same as parameters listed above.
- 12. Yes, treat all mares released with fertility control.

***Population Size and Modeling Graph and Table (Gather and Fertility Control)***

***White Mountain HMA***

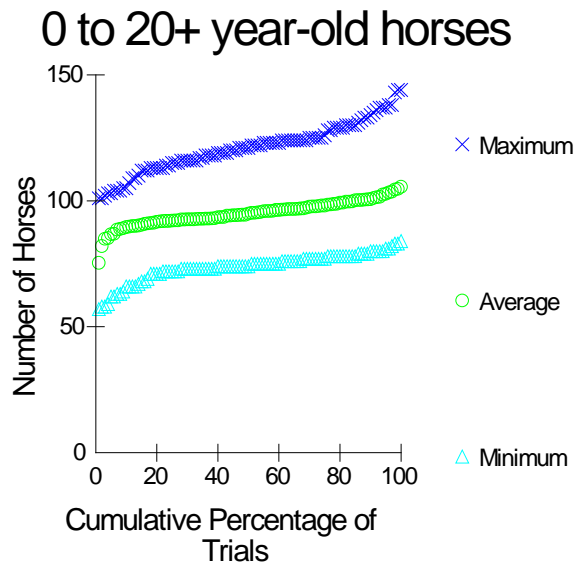


| <b>Population Sizes in 11 Years*</b> |                |                |                |
|--------------------------------------|----------------|----------------|----------------|
|                                      | <b>Minimum</b> | <b>Average</b> | <b>Maximum</b> |
| <b>Lowest Trial</b>                  | 111            | 263            | 698            |
| <b>10<sup>th</sup> Percentile</b>    | 180            | 303            | 709            |
| <b>25<sup>th</sup> Percentile</b>    | 196            | 318            | 728            |
| <b>Median Trial</b>                  | 218            | 334            | 752            |
| <b>75<sup>th</sup> Percentile</b>    | 236            | 349            | 792            |
| <b>90<sup>th</sup> Percentile</b>    | 242            | 365            | 840            |
| <b>Highest Trial</b>                 | 268            | 405            | 1,001          |

\* 0 to 20+ year-old horses

*Population Size and Modeling Graph and Table (Gather and Fertility Control)*

*Little Colorado HMA*

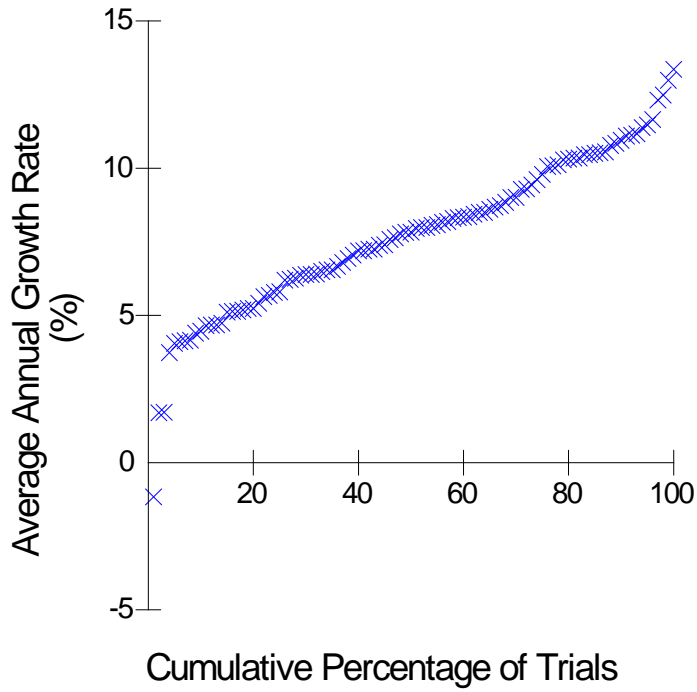


| Population Sizes in 11 Years*     |         |         |         |
|-----------------------------------|---------|---------|---------|
|                                   | Minimum | Average | Maximum |
| <b>Lowest Trial</b>               | 50      | 77      | 100     |
| <b>10<sup>th</sup> Percentile</b> | 64      | 88      | 106     |
| <b>25<sup>th</sup> Percentile</b> | 70      | 90      | 112     |
| <b>Median Trial</b>               | 73      | 94      | 117     |
| <b>75<sup>th</sup> Percentile</b> | 76      | 97      | 128     |
| <b>90<sup>th</sup> Percentile</b> | 79      | 100     | 134     |
| <b>Highest Trial</b>              | 84      | 111     | 153     |

\* 0 to 20+ year-old horses

*Growth Rate Modeling Graph and Table (Gather and Fertility Control)*

*White Mountain HMA*

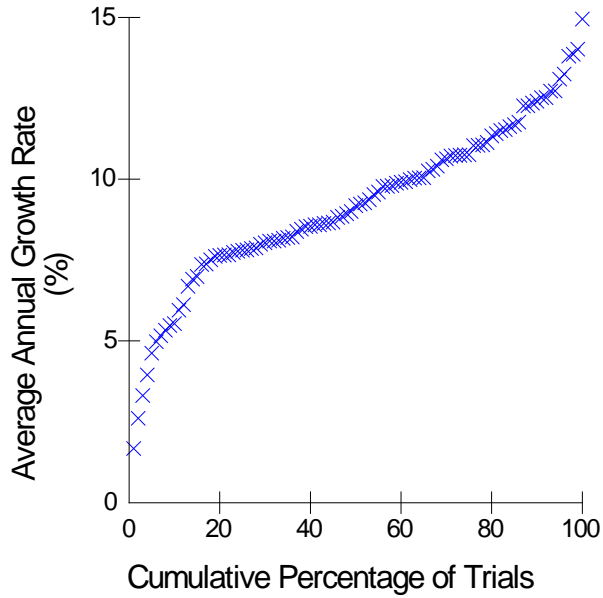


**Average Growth Rate in 10 Years**

|                 |      |
|-----------------|------|
| Lowest Trial    | -1.2 |
| 10th Percentile | 4.6  |
| 25th Percentile | 6.0  |
| Median Trial    | 7.9  |
| 75th Percentile | 9.9  |
| 90th Percentile | 11.0 |
| Highest Trial   | 13.4 |

***Growth Rate Modeling Graph and Table (Gather and Fertility Control)***

***Little Colorado HMA***



**Average Growth Rate in 10 Years**

|                 |      |
|-----------------|------|
| Lowest Trial    | 1.7  |
| 10th Percentile | 5.7  |
| 25th Percentile | 7.8  |
| Median Trial    | 9.2  |
| 75th Percentile | 10.9 |
| 90th Percentile | 12.5 |
| Highest Trial   | 15.0 |

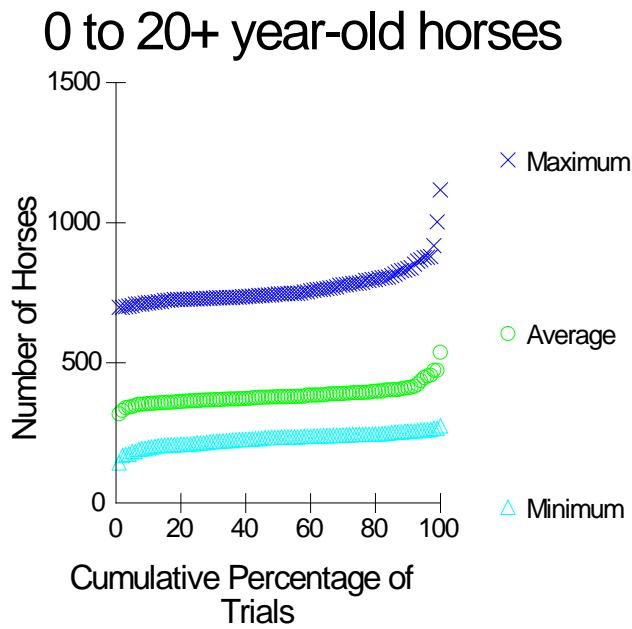
**Results – Alternative B – Removal to 861 with No Fertility Control**

The parameters for the population modeling were:

- 1-10. same as parameters listed above.
- 11. No, do not treat mares released with fertility control.

***Population Size and Modeling Graph and Table (Gather Only)***

***White Mountain HMA***



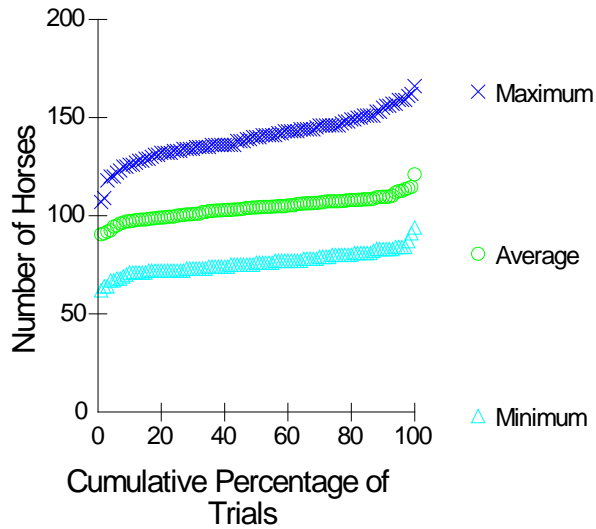
| <b>Population Sizes in 11 Years*</b> |                |                |                |
|--------------------------------------|----------------|----------------|----------------|
|                                      | <b>Minimum</b> | <b>Average</b> | <b>Maximum</b> |
| <b>Lowest Trial</b>                  | 143            | 318            | 698            |
| <b>10<sup>th</sup> Percentile</b>    | 198            | 355            | 714            |
| <b>25<sup>th</sup> Percentile</b>    | 214            | 365            | 728            |
| <b>Median Trial</b>                  | 234            | 379            | 746            |
| <b>75<sup>th</sup> Percentile</b>    | 244            | 394            | 786            |
| <b>90<sup>th</sup> Percentile</b>    | 256            | 412            | 838            |
| <b>Highest Trial</b>                 | 275            | 537            | 1,117          |

\* 0 to 20+ year-old horses

*Population Size and Modeling Graph and Table (Gather Only)*

*Little Colorado HMA*

0 to 20+ year-old horses

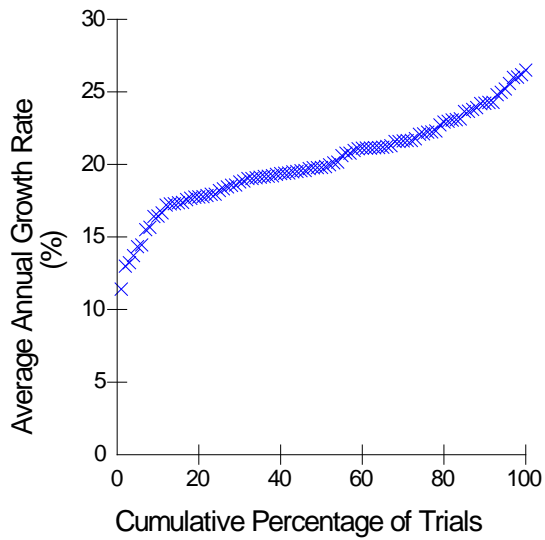


| Population Sizes in 11 Years*     |         |         |         |
|-----------------------------------|---------|---------|---------|
|                                   | Minimum | Average | Maximum |
| <b>Lowest Trial</b>               | 62      | 90      | 107     |
| <b>10<sup>th</sup> Percentile</b> | 71      | 97      | 126     |
| <b>25<sup>th</sup> Percentile</b> | 72      | 100     | 133     |
| <b>Median Trial</b>               | 76      | 104     | 140     |
| <b>75<sup>th</sup> Percentile</b> | 80      | 107     | 146     |
| <b>90<sup>th</sup> Percentile</b> | 83      | 110     | 156     |
| <b>Highest Trial</b>              | 94      | 121     | 166     |

\* 0 to 20+ year-old horses

## Growth Rate Modeling Graph and Table (Gather Only)

### White Mountain HMA

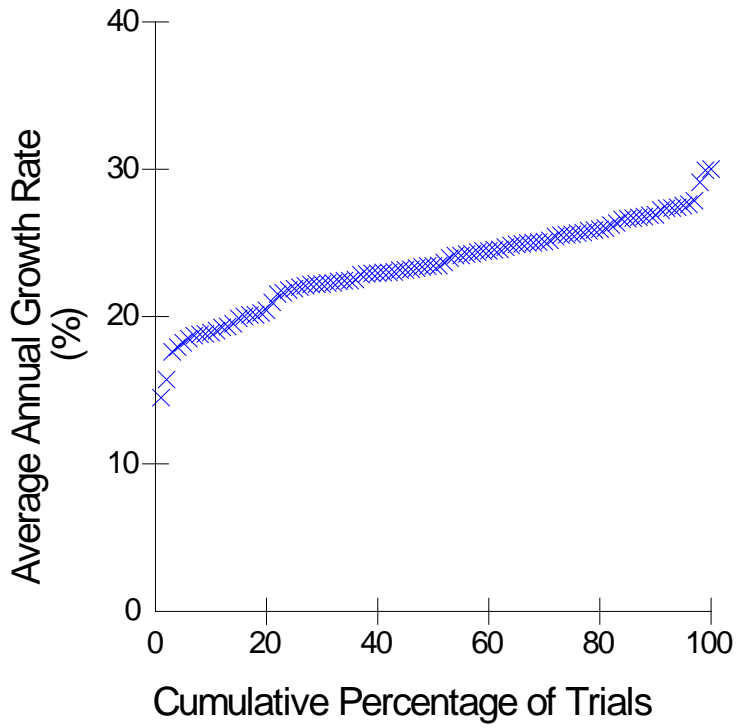


### Average Growth Rate in 10 Years

|                 |      |
|-----------------|------|
| Lowest Trial    | 11.4 |
| 10th Percentile | 16.6 |
| 25th Percentile | 18.3 |
| Median Trial    | 19.8 |
| 75th Percentile | 22.2 |
| 90th Percentile | 24.2 |
| Highest Trial   | 26.5 |

***Growth Rate Modeling Graph and Table (Gather Only)***

***Little Colorado HMA***



**Average Growth Rate in 10 Years**

|                 |      |
|-----------------|------|
| Lowest Trial    | 14.5 |
| 10th Percentile | 19.0 |
| 25th Percentile | 22.0 |
| Median Trial    | 23.5 |
| 75th Percentile | 25.6 |
| 90th Percentile | 27.1 |
| Highest Trial   | 30.0 |

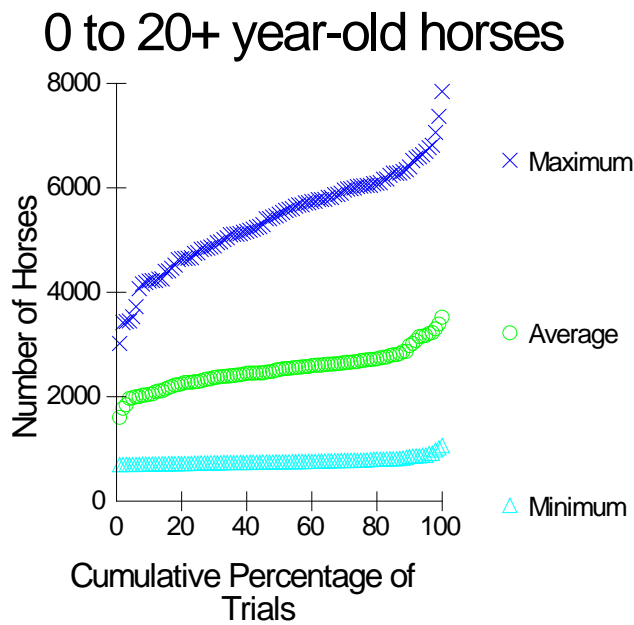
**Results – No Action**

The parameters for the population modeling were:

1. Do not gather in 2010
2. Foals are not included in AML
3. Percent to gather 0

***Population Size Modeling Graph and Table (No Action)***

***White Mountain HMA***

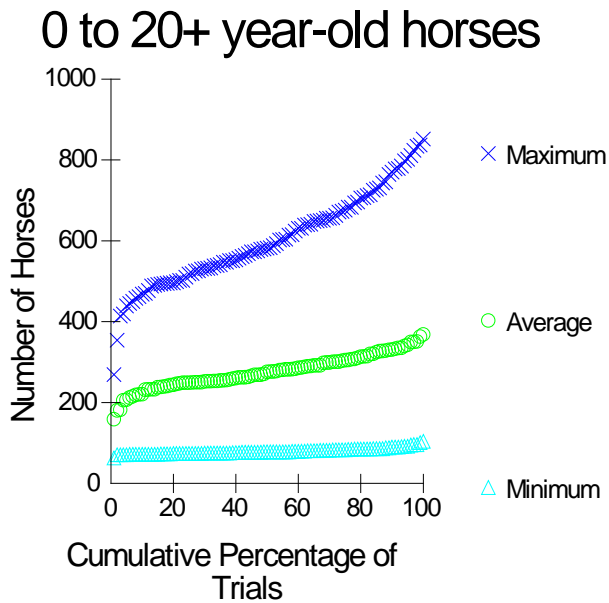


| <b>Population Sizes in 11 Years*</b> |                |                |                |
|--------------------------------------|----------------|----------------|----------------|
|                                      | <b>Minimum</b> | <b>Average</b> | <b>Maximum</b> |
| <b>Lowest Trial</b>                  | 700            | 1,602          | 3,018          |
| <b>10<sup>th</sup> Percentile</b>    | 712            | 2,048          | 4,220          |
| <b>25<sup>th</sup> Percentile</b>    | 729            | 2,295          | 4,790          |
| <b>Median Trial</b>                  | 753            | 2,525          | 5,512          |
| <b>75<sup>th</sup> Percentile</b>    | 785            | 2,693          | 6,035          |
| <b>90<sup>th</sup> Percentile</b>    | 860            | 2,999          | 6,461          |
| <b>Highest Trial</b>                 | 1,064          | 3,521          | 7,845          |

\* 0 to 20+ year-old horses

*Population Size Modeling Graph and Table (No Action)*

*Little Colorado HMA*

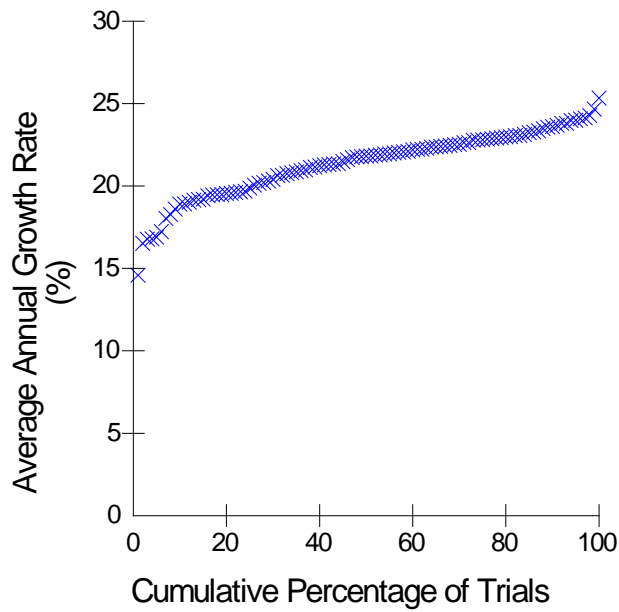


| Population Sizes in 11 Years*     |         |         |         |
|-----------------------------------|---------|---------|---------|
|                                   | Minimum | Average | Maximum |
| <b>Lowest Trial</b>               | 63      | 159     | 269     |
| <b>10<sup>th</sup> Percentile</b> | 72      | 226     | 469     |
| <b>25<sup>th</sup> Percentile</b> | 74      | 249     | 518     |
| <b>Median Trial</b>               | 78      | 276     | 582     |
| <b>75<sup>th</sup> Percentile</b> | 84      | 305     | 680     |
| <b>90<sup>th</sup> Percentile</b> | 90      | 332     | 774     |
| <b>Highest Trial</b>              | 104     | 368     | 852     |

\* 0 to 20+ year-old horses

***Growth Rate Modeling Graph and Table (No Action)***

***White Mountain HMA***

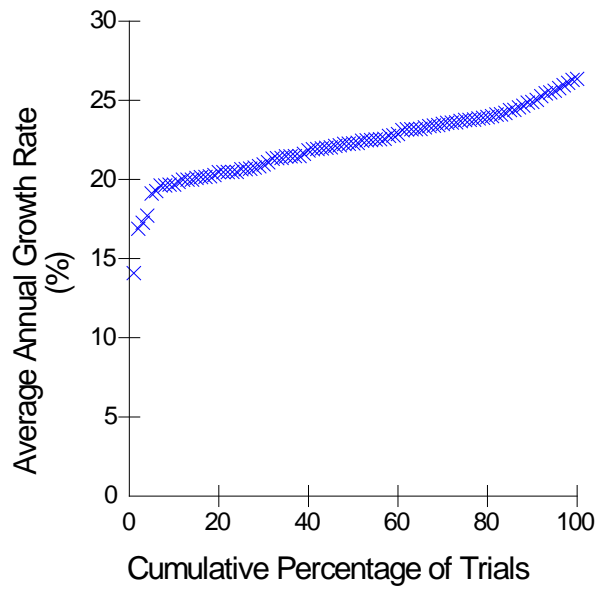


**Average Growth Rate in 10 Years**

|                 |      |
|-----------------|------|
| Lowest Trial    | 14.6 |
| 10th Percentile | 18.9 |
| 25th Percentile | 20.0 |
| Median Trial    | 21.8 |
| 75th Percentile | 22.8 |
| 90th Percentile | 23.6 |
| Highest Trial   | 25.3 |

## ***Growth Rate Modeling Graph and Table (No Action)***

### ***Little Colorado HMA***



#### **Average Growth Rate in 10 Years**

|                 |      |
|-----------------|------|
| Lowest Trial    | 14.1 |
| 10th Percentile | 19.8 |
| 25th Percentile | 20.7 |
| Median Trial    | 22.3 |
| 75th Percentile | 23.8 |
| 90th Percentile | 25.0 |
| Highest Trial   | 26.4 |

This table compares the projected population growth for the proposed action and the alternatives at the end of the ten-year simulation. The population averages are from the median trial. No population modeling was done for Alternative D because it would be a non-reproducing herd.

| <b>Modeling Statistic</b><br>White Mountain and Little Colorado HMAs | <b>Alternative A<br/>Proposed Action</b> |                 | <b>Alternative B – No<br/>Fertility Control</b> |                 | <b>Alternative C<br/>No Action</b> |                 |
|--|--|-----------------|---|-----------------|------------------------------------|-----------------|
|  | White Mountain                           | Little Colorado | White Mountain                                  | Little Colorado | White Mountain                     | Little Colorado |
| Population in Year One   | 205                                      | 69              | 205   | 69              | 205                                | 69              |
| Median Growth Rate   | 7.9                                      | 9.2             | 19.8  | 23.5            | 21.8                               | 22.3            |
| Average Population   | 334                                      | 97              | 379   | 104             | 2,525                              | 276             |
| Lowest Average Population  | 263                                      | 77              | 318   | 90              | 1,602                              | 159             |
| Highest Average Population   | 405                                      | 111             | 537   | 121             | 3,521                              | 368             |

**Appendix V**  
**Livestock Grazing Status within White Mountain and Little Colorado HMAs**

| Allotment Name | Allotment Number | Number of Operators | Active AUMs | Year | Billed AUMs | % Used | Livestock Type  | Season of Use | HMA |
|----------------|------------------|---------------------|-------------|------|-------------|--------|-----------------|---------------|-----|
| Poston         | 13005            | 2                   | 3,418       | 2010 | 832         | 24%    | Cattle<br>Sheep | 5/1-<br>12/31 | LC  |
|                |                  |                     |             | 2009 | 645         | 19%    |                 |               |     |
|                |                  |                     |             | 2008 | 687         | 20%    |                 |               |     |
|                |                  |                     |             | 2007 | 723         | 21%    |                 |               |     |
|                |                  |                     |             | 2006 | 921         | 27%    |                 |               |     |
| Boundary       | 13026            | 2                   | 2,996       | 2010 | 785         | 26%    | Cattle<br>Sheep | 5/1-<br>1/31  | LC  |
|                |                  |                     |             | 2009 | 762         | 25%    |                 |               |     |
|                |                  |                     |             | 2008 | 950         | 32%    |                 |               |     |
|                |                  |                     |             | 2007 | 698         | 23%    |                 |               |     |
|                |                  |                     |             | 2006 | 611         | 20%    |                 |               |     |
| Sublette       | 13027            | 2                   | 6,072       | 2010 | 2,690       | 44%    | Cattle<br>Sheep | 5/1-<br>1/31  | LC  |
|                |                  |                     |             | 2009 | 2,351       | 39%    |                 |               |     |
|                |                  |                     |             | 2008 | 3,475       | 57%    |                 |               |     |
|                |                  |                     |             | 2007 | 2,502       | 41%    |                 |               |     |
|                |                  |                     |             | 2006 | 2,647       | 44%    |                 |               |     |
| Big Sandy      | 13024            | 4                   | 3,374       | 2010 | 1,600       | 47%    | Cattle<br>Sheep | 5/1-<br>10/31 | LC  |
|                |                  |                     |             | 2009 | 1,816       | 54%    |                 |               |     |
|                |                  |                     |             | 2008 | 1,717       | 51%    |                 |               |     |
|                |                  |                     |             | 2007 | 1,272       | 38%    |                 |               |     |
|                |                  |                     |             | 2006 | 1,032       | 31%    |                 |               |     |

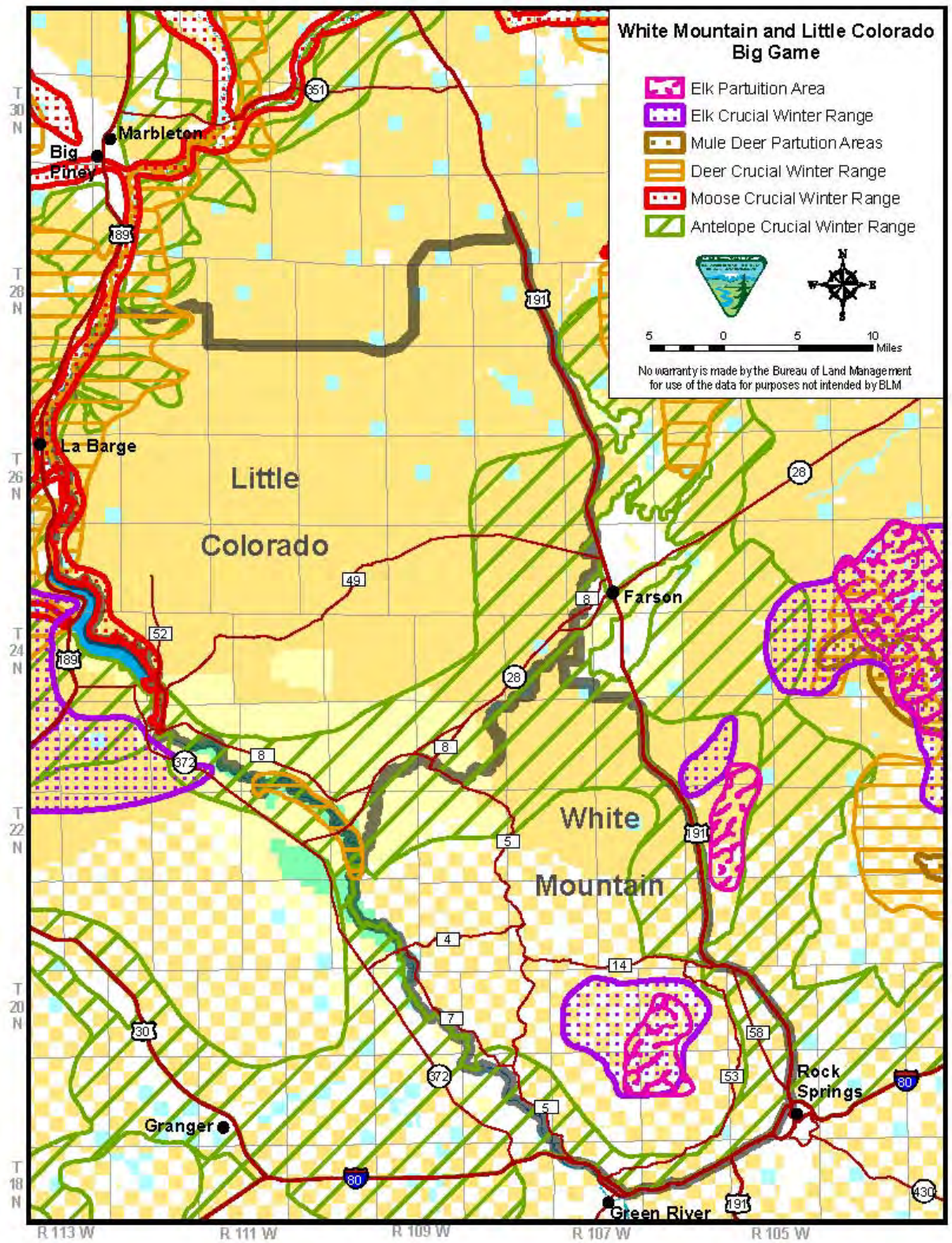
LC=Little Colorado; WM = White Mountain

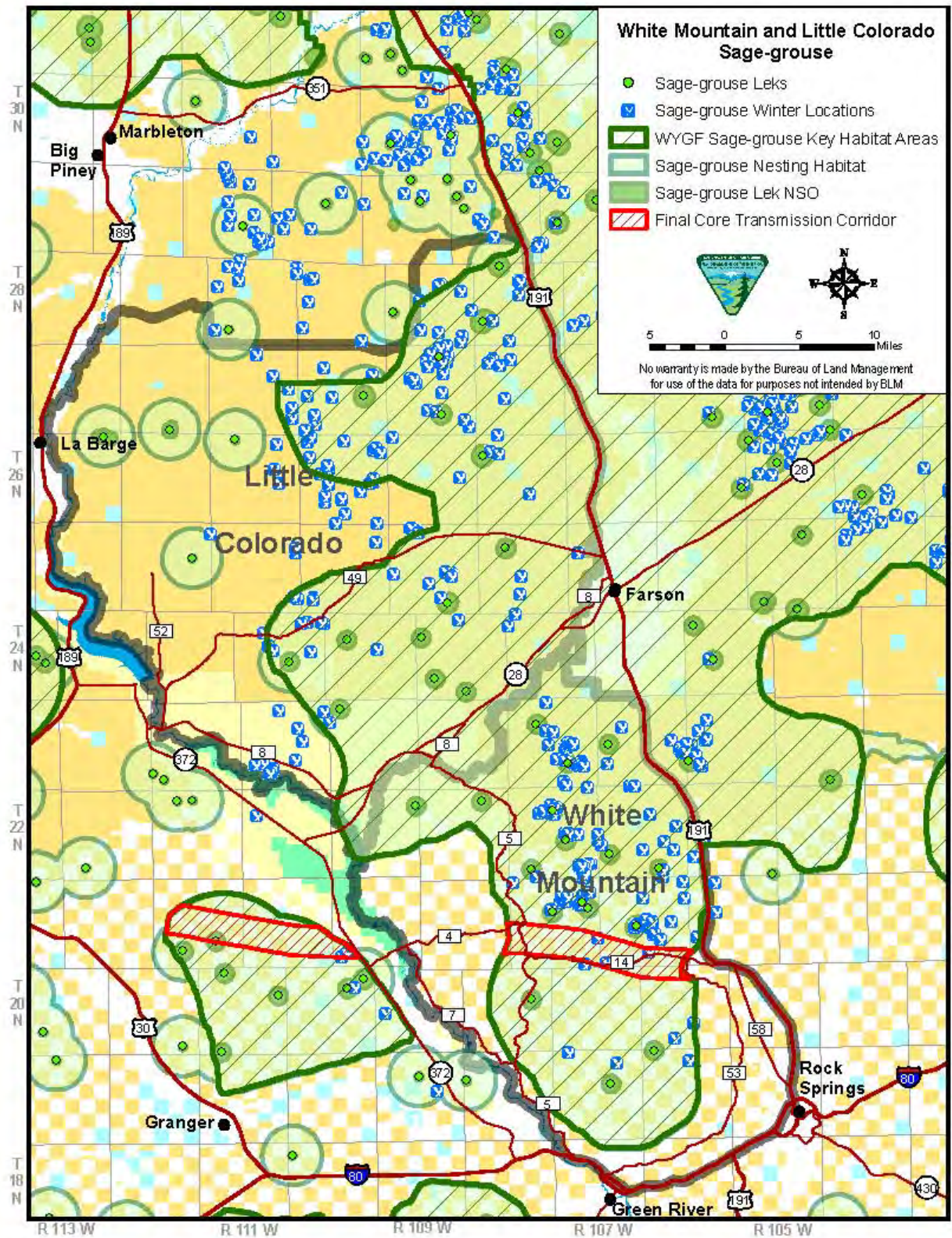
| Allotment Name | Allotment Number | Number of Operators | Active AUMs | Year | Billed AUMs | % Used | Livestock Type             | Season of Use | HMA   |                            |                        |
|----------------|------------------|---------------------|-------------|------|-------------|--------|----------------------------|---------------|-------|----------------------------|------------------------|
| Figure Four    | 13023            | 2                   | 6,644       | 2010 | 2,673       | 40%    | Cattle                     | 5/10-1/10     | LC    |                            |                        |
|                |                  |                     |             | 2009 | 2,565       | 39%    |                            |               |       |                            |                        |
|                |                  |                     |             | 2008 | 2,341       | 35%    |                            |               |       |                            |                        |
|                |                  |                     |             | 2007 | 2,113       | 32%    |                            |               |       |                            |                        |
|                |                  |                     |             | 2006 | 2,539       | 38%    |                            |               |       |                            |                        |
| Eighteen Mile  | 13017            | 7                   | 18,994      | 2010 | 10,504      | 55%    | Cattle<br>Sheep            | 5/1-1/31      | LC    |                            |                        |
|                |                  |                     |             | 2009 | 9,467       | 50%    |                            |               |       |                            |                        |
|                |                  |                     |             | 2008 | 11,831      | 62%    |                            |               |       |                            |                        |
|                |                  |                     |             | 2007 | 10,293      | 54%    |                            |               |       |                            |                        |
|                |                  |                     |             | 2006 | 8,512       | 45%    |                            |               |       |                            |                        |
| Lombard        | 13022            | 5                   | 6,643       | 2010 | 2,781       | 42%    | Cattle<br>Sheep            | 5/1-1/31      | WM/LC |                            |                        |
|                |                  |                     |             | 2009 | 2,699       | 41%    |                            |               |       |                            |                        |
|                |                  |                     |             | 2008 | 3,257       | 49%    |                            |               |       |                            |                        |
|                |                  |                     |             | 2007 | 2,675       | 40%    |                            |               |       |                            |                        |
|                |                  |                     |             | 2006 | 2,699       | 41%    |                            |               |       |                            |                        |
| Highway-Gasson | 13025            | 10                  | 5,208       | 2010 | 2,828       | 54%    | Cattle<br>Sheep            | 5/1-1/29      | WM/LC |                            |                        |
|                |                  |                     |             | 2009 | 3,390       | 65%    |                            |               |       |                            |                        |
|                |                  |                     |             | 2008 | 3,522       | 68%    |                            |               |       |                            |                        |
|                |                  |                     |             | 2007 | 2,726       | 52%    |                            |               |       |                            |                        |
|                |                  |                     |             | 2006 | 2,377       | 46%    |                            |               |       |                            |                        |
| Rock Springs   | 13018            | 20                  | 107,901     | 2010 | 45,950      | 43%    | Cattle<br>Sheep<br>*Horses | Yearlong      | WM/LC |                            |                        |
|                |                  |                     |             | 2009 | 46,656      | 43%    |                            |               |       | *(west of the Green River) | (primarily winter use) |
|                |                  |                     |             | 2008 | 45,918      | 43%    |                            |               |       |                            |                        |
|                |                  |                     |             | 2007 | 40,918      | 38%    |                            |               |       |                            |                        |
|                |                  |                     |             | 2006 | 43,355      | 40%    |                            |               |       |                            |                        |

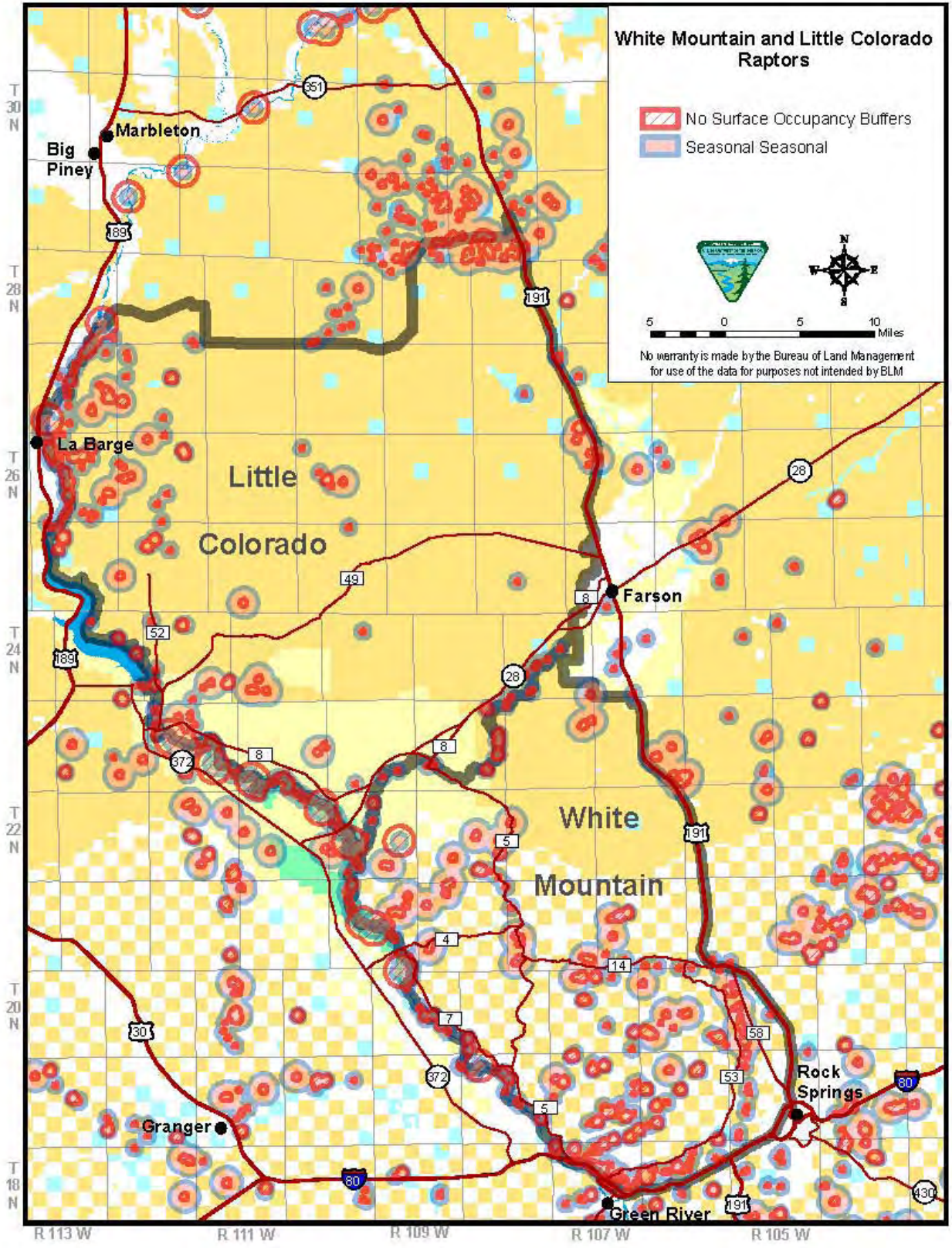
LC=Little Colorado; WM = White Mountain

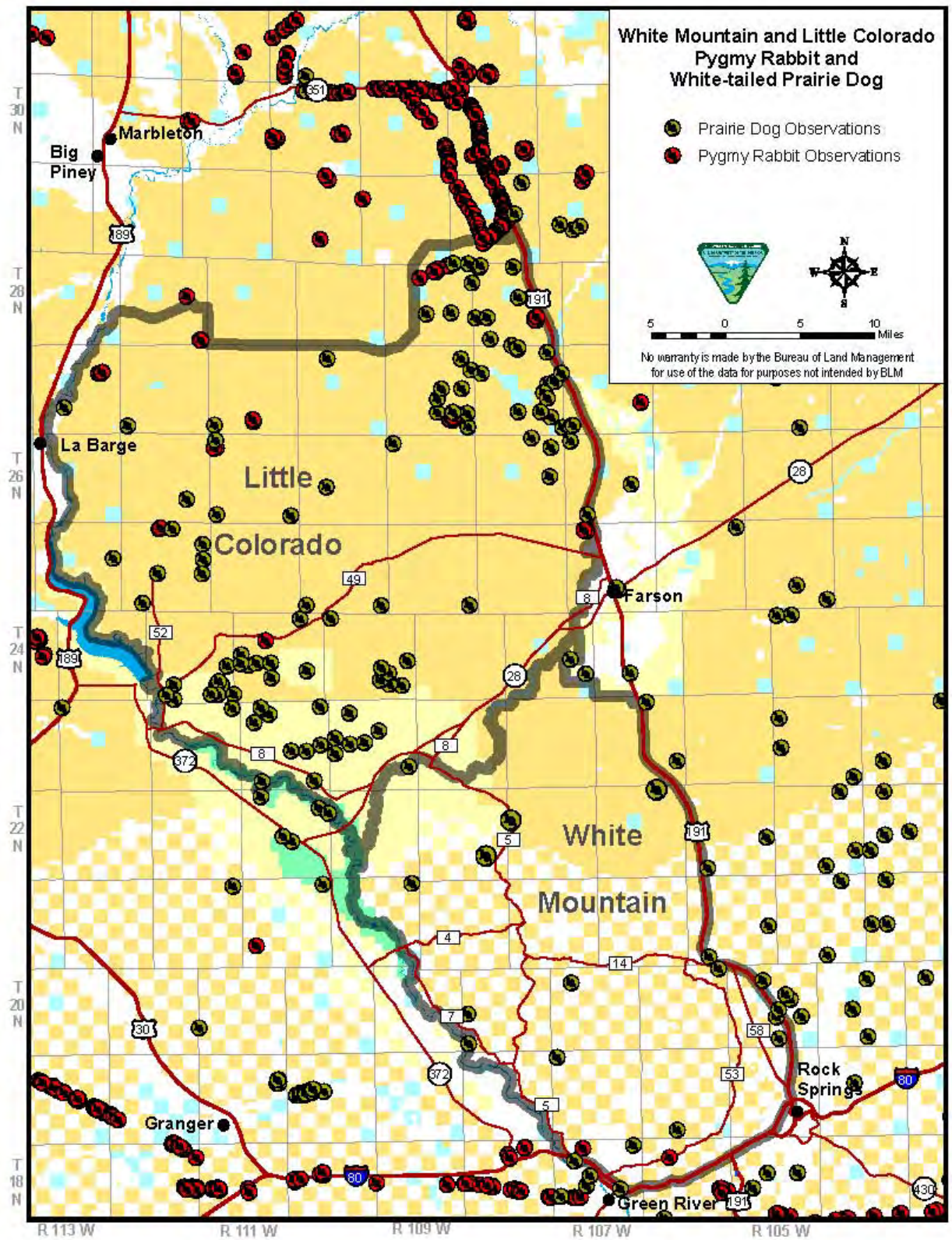
\*WMLC Average Billed AUMs = 41%

**Appendix VI**  
**Maps of Known Wildlife Habitat Locations**









## **Appendix VII**

### **Standard Operating Procedures**

#### **for**

### **Spaying Mares**

The detailed spaying procedure is medically described in “Equine Medicine and Surgery, Volume II, Fifth Edition” (Colahan 1999).

- The surgical procedure would be performed by a licensed and accredited large animal veterinarian.
- The mares that are sorted to be spayed and returned to the HMA will be brought to the Rock Springs corral facility. Particular attention will be given to each mare not to cause or induce any undue stress.
- Mare will be restrained at working facility
- Given pre-anesthetic of Xylazine and Ketamine
- Protection provided to ensure animal is unable to injure self during procedure
- IV catheter is installed with general anesthetic triple drip of GG, Ketamine, and Xylazine
- Small incision in front of udder
- Remove the ovaries
- Close suture
- Freeze brand letter “S” (representing spayed)
- Recovery, including pain reliever, antibiotic, and tetanus
- Recovery pen with free choice hay

The mare will be held and observed a minimum of two weeks to ensure proper healing without any infection or abnormalities. After final inspection by the veterinarian, the mare will be loaded into an enclosed horse trailer and returned to its home herd area.

It is documented in medical literature that a mare that is in foal going through the spay procedure will continue to carry the foal to term until birth. From this time on the mare will not cycle and will not have any additional foals because the ovaries were removed.

This procedure is very similar to spaying of small animals such as cats and dogs.

#### **Reference**

Colahan, Patrick T.; I.G. (Joe Mayhew; Alfred M. Merritt; James N. Moore. 1999. Equine Medicine and Surgery, volume II, Fifth Edition. Mosby, Inc. St. Louis, Missouri. Pp. 1158-1159.