

Wild Horse Gathering for the Fifteenmile Wild Horse Herd Management Area Worland Field Office

Environmental Assessment WY-010-EA04-83

1.0 Introduction

1.1 Background Information

The purpose of this environmental assessment (EA) is to analyze the impacts associated with the Bureau of Land Management's (BLMs) proposal to remove excess wild horses from the Fifteenmile Wild Horse Herd Management Area (HMA) in the summer or fall of 2004 to restore the range to a thriving natural ecological balance and prevent deterioration of the range. The EA will also address whether or not a fertility control treatment should be applied to mares released back to the range following the gather.

The Fifteenmile HMA is located approximately 35 miles north-west of Worland, within Washakie, Big Horn, and Park Counties, Wyoming. The HMA is approximately 83,130 acres in size. Approximately 7,000 acres within the HMA, or about 8% of the total, is privately owned. Refer to attached map.

The AML for wild horses within the Fifteenmile HMA was established in 1985 at 70 to 160 mature horses (Fifteenmile Wild Horse Herd Management Plan, EA No. WY-011-EA5-50). The AML was established based on in-depth analysis and monitoring data including precipitation data, livestock grazing preference and actual use, wild horse herd inventory and actual use, forage utilization, vegetation condition and trend. The AML was further evaluated and affirmed in 1990 with the Evaluation and Update to the Fifteenmile Wild Horse Herd Management Area Plan/Capture Plan (EA No. WY-016-EA0-008), and in 2000, Wild Horse Gathering for the Fifteenmile Wild Horse Herd Management Area (EA No. WY-010-EA0-083). As discussed in these documents, the AML is the optimum number of horses which can graze without damage to the range.

The Fifteenmile HMA was last gathered in 2000 to remove excess wild horses. Following that gather, approximately 136 horses remained on the range. The sex ratio was estimated to be 46% female and 54% male. Aerial census in the fall of 2002 revealed a total of 172 horses. An aerial census was also conducted in the winter of 2003, prior to foaling, and a total of 186 horses were observed. Based on these observations, the average annual population increase for the Fifteenmile HMA since the last removal is approximately 12%. It is estimated that the 2004 post foaling population of the Fifteenmile HMA will be approximately 210 total wild horses. This population level is above the upper range of the established AML. Monitoring data collected since the AML was established indicates that the current AML of 70 to 160 mature wild horses is appropriate and that excess animals are present and require removal.

1.2 Need for the Proposal

The need for management of wild, free roaming horses is to maintain a thriving natural ecological balance and to preserve the multiple use relationship that exists in the areas affected by wild

horses. Management is needed to maintain the health of the public rangelands that wild horses and other animals depend on.

A variety of monitoring data has been collected since the AML was established, including vegetative trend, utilization and use pattern mapping, watershed health evaluations, and precipitation. In general, forage utilization levels vary from year to year based upon vegetative production, and the number of horses present in the HMA. When the wild horse population is at the lower range of the AML, most of the HMA receives slight to light use (less than 40% utilization of current year's production). As the wild horse population approaches the upper range of the AML, the preferred horse use areas receive moderate to heavy use (41% to 80% utilization of current years production), while other areas still receive slight to light use. This is due to poor wild horse distribution, primarily from lack of reliable water. Use pattern mapping each fall has indicated increasingly large areas of heavy use each year with increasing wild horse numbers, since the last wild horse removal in the fall of 2000. This forage utilization is attributed solely to wild horses, with minor wildlife use, since domestic livestock grazing within the HMA has been in voluntary non-use for several years.

In addition, the Bighorn Basin has been subjected to severe drought conditions since 2000, with no relief anticipated in the near future. According to BLM precipitation monitoring data, the Fifteenmile HMA received approximately 65% of normal precipitation from 2000 to 2003. Current year's precipitation, from October, 2003 through June, 2004, indicates that the HMA has received 52% of normal precipitation (BLM Dead Indian Rain Gauge). Forage production in the HMA since 2000 has been very low, with minimal production in 2004. Forage availability for wild horses since the drought began has declined each year, as well as the health and vigor of the key forage plant species. Residual forage levels in most of the HMA are extremely low, impacting not only wild horses, but degrading wildlife habitat and watershed conditions. Current forage levels in the Fifteenmile HMA would not be adequate to sustain the existing wild horse population until the next growing season without a serious decline in the physical condition of the animals.

Water availability in the HMA is also severely limited. Water for wild horses comes exclusively from reservoirs that collect runoff. Under normal conditions, there are eight to ten reservoirs that provide water for wild horse use. As of mid-July, 2004, only four reservoirs in the HMA are providing water for wild horses, and two of these are expected to be dry within one to two weeks. As water levels decline, horses are forced to range further in search of water and forage, causing additional stress on the animals. Available water levels are currently not adequate to sustain the wild horse population through the remainder of the summer. The wild horses in the Fifteenmile HMA are still determined to be in good physical condition, but that situation could change rapidly as water and forage availability continues to deteriorate. There is a distinct possibility that hauling water to the HMA to sustain the wild horse herd may be necessary before the end of summer.

Vegetation and population monitoring in relation to use by wild horses in the HMA has determined that current wild horse population levels are at risk of exceeding the range's capacity to sustain wild horse use over the long term. This situation is compounded by the current drought conditions. Resource damage is occurring in parts of the HMA, and is likely to continue to occur without immediate action to reduce wild horse numbers. Continued resource damage would significantly reduce the sustained yield of the rangeland, thereby affecting the capability of the public lands within the HMA to sustain a viable wild horse population in the future.

The proposed capture and removal is needed to remove the excess animals in order to achieve a thriving natural ecological balance between wild horse populations, wildlife, livestock and

vegetation, and to protect the range from the deterioration associated with overpopulation of wild horses as authorized under Section 3(b) (2) of the 1971 Free-Roaming Wild Horses and Burros Act (1971 Act) and section 302(b) of the Federal Land Policy and Management Act of 1976. It is imperative that excess wild horses be removed as soon as possible, to insure that adequate forage and water is available to sustain the remaining wild horses within the HMA.

1.3 Conformance with Existing Land Use Plans (LUPs)

The Proposed Action is subject to the Record of Decision and Approved Resource Management Plan (RMP) for the Grass Creek Planning Area, approved in September, 1998, which established the following objective for wild horse management in the WFO jurisdiction:

“In the Fifteenmile Wild Horse Herd Management Area (herd area), maintain free-roaming wild horses in a thriving ecological balance.” [Page 21]

The RMP specified the following management actions necessary to achieve the above objective:

“The herd area will be managed for an initial herd size of at least 70 and no greater than 160 mature animals. To the extent possible, horses will be managed at the lower end of this range during periods of drought.” [Page 21]

“The Fifteenmile Wild Horse Herd Gathering Plan will be kept up-to-date and implemented for roundups. Emphasis will be placed on gathering horses that wander outside the herd area or onto privately-owned lands.” [Page 21]

“Wild horses will be allocated 2,300 animal unit months (AUMs) of forage annually.” [Page 22]

The Proposed Action has been determined to be in conformance with this plan as required by regulation (43 CFR 1610.5-3(a)). The Fifteenmile HMA has been designated as suitable for long term sustained wild horse use in the Grass Creek RMP, and the proposed capture and removal conforms to the land use decisions and resource management goals and objectives of the land use plan.

1.4 Conformance with Rangeland Health Standards and Guidelines

The Fifteenmile HMA has been assessed for Conformance with the Wyoming Standards for Healthy Rangelands, and the HMA has been determined to be in Conformance with the Standards. Table 1, below, summarizes this assessment, or refer to Appendix A, Wyoming Rangeland Standards Conformance Review Summary.

Table 1 – Wyoming Rangelands Standards Conformance Review

Rangeland Health Standard	Meets Standard	Does Not Meet Standard	Not Applicable	Unknown
Soils	XX			
Riparian/Wetland			XX	
Upland Vegetation	XX			
Biodiversity	XX			
Water Quality				XX
Air Quality	XX			

1.5 Relationship to Statutes, Regulations or Other Plans

Gathering excess wild horses is in compliance with Public Law 92-195 (Wild Free-Roaming Horse and Burro Act of 1971) as amended by Public Law 94-579 (Federal Land Policy and Management Act of 1976), and Public Law 95-514 (Public Rangelands Improvement Act of 1978). Public law 92-195, as amended, requires the protection, management, and control of wild free-roaming horses and burros on public lands. The preparation and transport of wild horses will be conducted in conformance with all applicable state statutes.

The Proposed Action is in conformance with all applicable regulations at 43 Code of Federal Regulations (CFR) 4700 and policies. The following are excerpts from 43 CFR relating to the protection, management, and control of wild horses under the administration of the BLM.

43 CFR 4700.0-2 One of the objectives regarding wild horse management is to manage wild horses “as an integral part of the natural system of the public lands under the principle of multiple use . . .”

43 CFR 4700.0-6(a-c) Requires that BLM manage wild horses “...as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat ... considered comparably with other resource values ...” while at the same time “...maintaining free-roaming behavior.”

43 CFR 4710.3-1 “HMA's shall be established [through the land use planning process] for maintenance of wild horse and burro herds.”

43 CFR 4710.4 “Management of wild horses and burros shall be undertaken with the objective of limiting the animals' distribution to herd areas.”

43 CFR 4720.1 “Upon examination of current information and a determination by the authorized officer that an excess of wild horses or burros exists, the authorized officer shall remove the excess animals immediately.”

Under 43 CFR 4180 it is required that all BLM management actions achieve or maintain healthy rangelands.

All federal actions must be reviewed to determine their probable effect on threatened and endangered plants and animals (the Endangered Species Act).

Federal actions must also be reviewed to determine their probable effect on cultural and historic properties. This process is termed section 106 consultation (Section 106 of the Historic Preservation Act).

Executive Order 13212 directs the BLM to consider the President’s National Energy Policy and adverse impacts the alternatives may have on energy development.

The Proposed Action is also in conformance with the Fifteenmile Wild Horse Herd Management Area Plan, EA No. WY-011-EA5-50 (1985), which established the original AML for the HMA of 70 to 160 mature wild horses, and the Evaluation and Update to the Fifteenmile Wild Horse Herd Management Area Plan/Capture Plan, EA No. WY-016-EA0-008 (1990). These documents were affirmed by the Interior Board of Land Appeals in *Animal Protection Institute of America et al.* (IBLA 90-412). This document also references the environmental

assessment, Wild Horse Gathering for the Fifteenmile Wild Horse Herd Management Area, EA No. WY-010-EA0-083, and Decision Record and Finding of No Significant Impact (2000).

No other permits or authorizing actions are required prior to implementing the Proposed Action.

2.0 Alternatives

This chapter describes the Proposed Action and alternatives, including any that were considered but eliminated from detailed analysis. Alternatives analyzed in detail include the following:

- Alternative 1 (Proposed Action) – Gather to Low Range AML (70 Mature Horses)
- Alternative 2 – Gather to Low Range AML (70 Mature Horses) with Fertility Control
- Alternative 3 (No Action) – No Gather/Removal

Alternatives 1 and 2 were developed based on the need to remove excess animals in order to manage the range in a thriving natural ecological balance and multiple-use relationship and to prevent range deterioration. The removal of wild horses under these alternatives would ensure that the wild horses remaining within the HMA have adequate forage and water to survive and maintain satisfactory physical condition. Removal of excess wild horses would also help to sustain the long-term productivity of the rangeland resources on the public lands that wild horses depend on. Application of fertility control is also analyzed to determine whether or not its use would be cost effective and result in reducing reproduction rates in mares released back to the range and in reducing gather frequency and decreasing disturbance to herd social structure. Although Alternative 3 (No Action) does not comply with the 1971 Act, as amended, nor meet the purpose and need for this action, it is included as a basis for comparison with the two action alternatives.

2.1 Actions Common to Alternatives 1 and 2

The following actions are common to Alternatives 1 and 2:

- Gather operations would be conducted in accordance with the Standard BLM Operating Procedures for Wild Horse Removal (Appendix B) The helicopter drive method would be used for this gather, and would include multiple gather sites. To the extent possible gather sites (traps) would be located in previously disturbed areas. Post-gather, every effort would be made to return released animals to the same general area from which they were gathered.
- An Animal and Plant Inspection Service (APHIS) veterinarian may be on-site, as needed, to examine animals and make recommendations to BLM for care and treatment of wild horses. A veterinarian would be consulted prior to euthanasia in accordance with Washington Office Instruction Memorandum (IM) 2001-165.
- Animals would be removed using a selective removal strategy (Gather Policy and Selective Removal Criteria for Wild Horses, Washington Office IM 2002-095). Selective removal criteria for this gather would include:
 - a. Age Class Four Years and Younger:** Wild horses four years of age and younger may be removed and placed into the national adoption program.
 - b. Age Class Ten Years and Older:** Wild horses ten years of age and older may be removed and placed into long-term holding.

Any animals within this age class that are in the Henneke category of 2 or less and have no chance of timely improvement would be evaluated for euthanasia. Any euthanasia would be in accordance with Washington Office Instruction Memorandum 2001-165. Older horses that, in the opinion of the Authorized Officer, may survive if released but probably would not tolerate the stress of removal, preparation, and holding would be evaluated for return to the HMA.

c. Age Class Five to Nine Years: Wild horses aged five to nine years old should be removed last and only if the HMA cannot achieve AML without their removal.

The National selective removal criteria would be followed to the extent possible. Exceptional animals that represent historic colors, size and/or confirmation may be chosen for release outside of the selective removal priorities. Weak, unhealthy and unthrifty animals would not be selected for release back onto the HMA.

To enhance the selection process, more animals than required by the Proposed Action or Alternatives would initially be separated for release, and then a final sorting completed to select the exact animals for release, based on traits and ages of all of the animals initially selected for release. Additionally, in the case that a certain number of wild horses evade gather, and have been confirmed by the BLM WH&B Specialist, the total number of animals released may be reduced by this number.

- Blood samples would be acquired to determine whether or not BLMs management is maintaining acceptable genetic diversity (avoiding inbreeding depression). The blood samples would be collected from horses returned to the HMA, if possible. Other data including sex and age distribution, reproduction, survival, condition class information (using the Henneke rating system), color, size and other information may also be recorded, along with the disposition of that animal (removed or released).
- A primary focus would be placed on gathering horses that are located on grazing allotments outside of the HMA. All areas outside of the HMA would be considered total removal areas.

2.2 Proposed Action and Alternatives

2.2.1 – Alternative 1 (Proposed Action) – Gather to Low Range AML (70 Mature Horses)

Under this alternative, BLM would continue to implement a population management strategy for the Fifteenmile HMA in which wild horses would be managed in a range from 70 to 160 mature horses.

This alternative would involve capturing about 210 wild horses, returning about 70 mature animals to the HMA, and removing the remainder of the horses. BLM would also assess sex, age and color, herd health (pregnancy/parasite loading/physical condition, etc.) and collect blood samples for genetic analysis. Individual animals would be sorted as to age, size, sex, temperament, and/or physical condition. Selected animals would then be returned to the range, while excess wild horses would be sent to Bureau facilities for adoption or long term holding.

2.2.2 – Alternative 2 – Gather to Low Range AML (70 Mature Horses) with Fertility Control

Alternative 2 would continue implementation of a population management strategy for the Fifteenmile HMA in which wild horses would be managed in a range from 70 to 160 mature wild horses. Part of the Alternative would involve capturing about 210 wild horses, returning about 70 mature animals to the HMA, and removing the remainder of the horses. The Bureau would also assess sex, age and color, herd health (pregnancy/parasite loading/physical condition, etc.). Blood samples would be collected for genetic analysis and individual animals would be sorted as to age, size, sex, temperament, and/or physical condition. Selected animals would then be returned to the range. Excess wild horses would be sent to Bureau facilities for adoption or long term holding.

Also under Alternative 2, immunocontraceptive research would be conducted, with the results monitored as appropriate. Breeding age mares selected for release back to the range would be treated with Porcine zona pellucidae (PZP) vaccine which would inhibit reproduction of the treated mares for two breeding seasons.

The following management and monitoring requirements are part of Alternative 2:

- PZP vaccine would be administered by trained BLM personnel.
- A liquid dose of PZP would be administered concurrently with a time released portion of the drug (pelleted formulation) to breeding mares returned to the range (the pellets are injected with the liquid and are designed to release PZP at several points in time much the way time-release cold pills work).
- Delivery of the vaccine would be as an intramuscular injection by jab stick syringe or dart with a 12 gauge needle or 1.5" barbless needle, respectively while mares are restrained in the 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 placed in the barrel of the syringe or dart needle and would be injected with the liquid. Upon impact, the liquid in the chamber would be propelled into the muscle along the pellets¹.
- All treated mares would be freeze-marked on the hip to enable researchers to positively identify the animals during the research project as part of the data collection phase.
- At a minimum, monitoring of reproductive rates using helicopter flyovers would be conducted in years 2 through 4 by locating treated mares and checking for presence/absence of foals. The flight scheduled for year 4 would also assist in determining the percentage of mares that have returned to fertility. In addition, field monitoring would be routinely conducted as part of other regular ground-based monitoring activities.
- A field data sheet would be forwarded to the field from BLMs National Program Office (NPO) prior to treatment. This form would be used to record all pertinent data relating to identification of the mare (including a photograph when possible), date of treatment, type of treatment (1 or 2 year vaccine, adjuvant used) and HMA, etc. The form and any photos would be maintained at the field office and a copy of the completed form would be sent to the authorized officer at NPO (Reno, Nevada).

¹ This delivery method has been used previously to deliver immunocontraceptive vaccine with acceptable results. Administration of this two year vaccine to mares would be expected to be 94% effective the first year, 82% effective the second year, and 68% effective the third year. To date, one herd area 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% in year one, 18% in year two and 32% in year three. Average fertility rates in untreated mares range between 50-60% in most populations. The Clan Alpine fertility rate in untreated mares, obtained from direct observation in September of each year, average 51% over the course of the study.

- A tracking system would 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.
- The field office would assure that treated mares did not enter the adoption market for three years following treatment. In the rare instance, due to unforeseen circumstances, treated mares were removed from the HMA before three years has lapsed, they would be maintained in either a BLM facility or a BLM-contracted long term holding facility until expiration of the three year holding period. In the event it would be necessary to remove treated mares, their removal and disposition would be coordinated through NPO. After expiration of the three year holding period, the animals may be placed in the adoption system.

2.2.3 – Alternative 3 (No Action) – No Gather/Removal

Under the No Action Alternative, no gathering would take place. The herd would be allowed to increase until it reached levels where predation and environmental factors, coupled with density-dependant adjustments in reproductive rates stabilized the populations. Considering the limited forage and water availability due to the continuing drought conditions in the Fifteenmile HMA, it is anticipated that selection of this alternative could result in a rapid decline in the physical condition of the wild horses in the near future from increasing competition for available forage and water. This alternative would not be in conformance with the 1971 Act, or the Grass Creek RMP.

2.3 Alternatives Considered But Eliminated From Further Analysis

One alternative considered was using fertility control measures only to regulate wild horse populations. Periodic capture operations would be required to administer PZP vaccine to mares, or suitable remote delivery methods would need to be developed. This alternative was eliminated from further analysis since the vaccine has not been formally approved by the Food and Drug Administration for management-based applications. Even with formal approval, an effective remote delivery methodology (aerial or water based) has not been developed for current formulations. Additionally, the current data suggest that repeated long-term applications of the vaccine may affect fecundity. Also, this alternative would not reduce wild horse numbers to a level that current rangeland conditions within the HMA can support.

3.0 Environmental Impacts

This chapter will assess the environmental impacts (either positive or negative) on the components of the human environment either affected or potentially affected by the Proposed Action and Alternatives. Direct impacts are those that result from the actual gather and removal of wild horses in the Fifteenmile HMA. Indirect impacts are those impacts that exist once the excess animals are removed. 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 actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The numbers, age, and sex of animals proposed for removal are derived from WinEquus (Wild Horse Population Model) Version 1.40 developed by Dr. Stephen H. Jenkins, Associate Professor, Department of Biology, University of Nevada, Reno. See the attached Appendix C – Population Modeling, which establishes the parameters used for the HMAs population modeling runs.

Critical elements of the human environment (USDI-BLM 1988) and their potential to be affected by the Proposed Action and Alternatives must be considered. These critical elements are listed below in Table 2. The elements that are determined to be not affected will not be analyzed or discussed further in this document.

Table 2 – Critical Elements Checklist

Critical Element	Present	Affected
Air Quality	Yes	No
Areas of Environmental Concern (ACECs)	No	No
Cultural Resources	Yes	Yes
Environmental Justice	No	No
Floodplains	No	No
Invasive, Non-native Species	No	No
Migratory Birds	Yes	No
Native American Religious Concerns	No	No
Prime or Unique Farmlands	No	No
Special Status Species	Yes	No
Waste, Hazardous or Solid	No	No
Water Quality (Surface and Ground)	Yes	No
Wetlands and Riparian Zones	No	No
Wild and Scenic Rivers	No	No
Wilderness	Yes	Yes

3.1 Wild Horses

Existing Situation

HMA Description

As discussed in the Background Information (EA-Page One), the Fifteenmile HMA is located approximately 35 miles north-west of Worland, within portions of Washakie, Big Horn, and Park Counties, Wyoming. The HMA is approximately 83,130 acres in size. Approximately 7,000 acres within the HMA, or about 8% of the total, is privately owned. Elevation ranges from 4,600 feet along Fifteenmile Creek, to 6,100 feet on Tatman Mountain. Summers are extremely hot, and winters can range from mild to bitterly cold.

Annual precipitation ranges from 4 to 12 inches per year, with an average of 6.7 inches per year. Overall precipitation from 2000 through 2003 was approximately 65% of normal. 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. Due to the highly erosive nature of the soils, these reservoirs and pits quickly fill with sediment, thereby reducing their capacity to hold water. Evaporation rates are also very high due to the hot, dry weather experienced during the summer months. In some parts of the HMA that receive very little wild horse use, vegetative cover and litter have increased to the point that storm runoff is insufficient to fill some reservoirs and pits. Because of these factors, water availability is a major concern in the HMA.

The Fifteenmile HMA was established in 1985. The established AML is 70 to 160 mature horses. At the time that the AML was established, mature horses were considered to be horses 2 years of

age and older. The Grass Creek RMP allocated a total of 2,300 AUMs of forage for wild horses, which is the amount of forage required to sustain 160 mature wild horses, along with immature animals, when the population is at the upper range the AML.

Some of the horses frequently travel outside of the HMA onto adjacent grazing allotments. The following grazing allotments are regularly used by wild horses:

- New Burlington Allotment No. 00509
- Fernandez Blu-Jay Allotment No. 00510
- South Tatman Allotment No. 00612
- Timber Creek Allotment No. 00626
- Tatman Mountain Common Allotment No. 00639
- Snyder Allotment No. 00640
- West Five Mile Allotment No. 00651
- North Tatman Allotment No. 00674

A small band of horses, approximately 10 to 20 head, is located in the Fivemile area about 15 miles east of the HMA. There is no known interaction between these horses and the horses in the Fifteenmile HMA. Several attempts have been made to remove these horses over the past 20 years, but due largely to the remoteness of the area and rugged topography, a few horses have always evaded capture.

Four years of consecutive drought has limited water available to wild horses, and severely limited forage production in the HMA (refer to Section 1.2). This has resulted in heavy use of forage near available water sources, and in preferred wild horse use areas.

Gather History and Population Characteristics

Recent gathers in the Fifteenmile HMA were conducted in 1984, 1991, 1994 and 2000. In 1984 and 1991 the gather was a gate cut (nearly all gathered horses removed), while the 1994 and 2000 gathers were age selective. During the 1994 gather, many of the young adoptable horses were removed, with predominately older horses returned to the HMA. During the 2000 gather, many of the older horses were removed, returning the herd to a more typical age structure. Table 3 shows the number of wild horses that were gathered and the number removed during the recent gathers.

Table 3 – Number of Wild Horses Gathered, Removed, and Remaining

Year	Number Gathered	Number Removed	Estimated Number Remaining
1984	360	360	69
1991	151	129	116
1994	185	141	97
2000	233	161	136

Following the 1994 gather, the sex ratio of the herd was estimated to be 30% female and 70% male, due to the large percentage of older stud horses which were returned to the HMA. Following the 2000 gather, when many of these older horses were removed, the sex ratio was estimated to be 46% female and 54% male.

Data from the 2000 gather was used to determine animal colors and the approximate frequency of the color within the herd. The frequencies of colors found during the 2000 gather were: bay (49%), gray (18%), sorrel (12%), pinto (9%), roan (6%), brown (4%), and black (2%).

The current wild horse population, prior to the 2004 foaling period, is estimated to be 186 horses, based upon the latest census in the winter of 2003. The horse population following the 2004 foaling period is projected to be approximately 210 horses.

No predation of wild horses has been documented in the HMA, and it is considered to have little or no effect on the wild horse population.

Genetic Diversity and Viability

Blood samples were collected from horses removed during the 1991 and 2000 gathers to develop genetic baseline data (e.g. genetic diversity, historical origins of the herd, unique markers). The samples were analyzed by Dr. E. Gus Cothran, Department of Veterinary Science, University of Kentucky. His conclusions and recommendations regarding genetic diversity in the Fifteenmile herd are summarized as follows:

“Genetic variability of the Fifteenmile herd is very high, among the highest levels seen in horse populations. The high variation is probably due to a mixed origin of the herd and possibly continued gene flow. The genetic similarity and RML cluster analysis support the mixed nature of this herd.” (Cothran, 2001)

“No action is needed at this time. As long as the population size is kept at around 100 individuals, genetic variation should not decay to detrimental levels for several generations. Caution is advised to avoid population sizes of 50 or fewer horses. Much of the genetic diversity of this herd is in rare variants that could be lost quickly if population size is maintained at extremely low levels.” (Cothran, 2001)

Environmental Impacts

The following table provides a summary of the population modeling results for each alternative, as derived from the wild horse population model, WinEquus (Appendix C). A total of 50 trials were run for 10 years, to assess the potential results of each possible management scenario. The results shown in Table 4, below, represent the median trial for each alternative.

Table 4 – Population Modeling Summary

Alternative	Population Size (0 to 20+ age horses)				Number of Horses Gathered, Removed, and Treated			Growth Rate
	Lowest Minimum	Minimum	Average	Maximum	Horses Gathered	Horses Removed	Horses Treated	
(1) Gather to 70 Mature Horses (Proposed Action)	70	94	155	242	349	234	0	16.7%
(2) Gather to 70 Mature Horses with Fertility Control	54	94	154	244	372	236	43	13.8%
(3) No Removal (No Action)	187	204	444	788	0	0	0	14.1%

Population modeling projects that the minimum, average, and maximum population size would be lowest under Alternative 1 and 2. The lowest minimum population size under Alternative 1 would be within the parameters specified by Dr. Cothran for maintaining a genetically viable herd. The lowest minimum population size under Alternative 2, which would utilize fertility control treatments, would come dangerously close to approaching the level at which Dr. Cothran indicated that acceptable genetic variation could be lost. The overall population growth rate would be somewhat lower under Alternative 2 than under Alternative 1.

The population modeling also indicated that two removals would be required in the next 10 years to maintain the population within the limits of the AML. Under Alternatives 1, a second removal would most likely be required in 2009, while under Alternative 2, utilizing fertility control treatments, the second removal would not be necessary until 2010 or 2011. However, the total number of horses gathered and removed over the 10 year trial period would be similar for Alternatives 1 and 2.

Under Alternative 3, the No Action alternative, the wild horse population within the Fifteenmile HMA would grow to a level that would quickly exceed the carrying capacity of the range.

Impacts Common to Alternatives 1 and 2

The Wild Free-Roaming Horse and Burro Act of 1971 (Public Law 92-195 as amended) states that all management activities shall be at the minimum feasible level. The minimum feasible level of management would require that removals and other management actions that directly impact the population, such as helicopter census, occur as infrequently as possible (3 to 5 years). To the extent practical, these alternatives would allow maintenance of a self sustaining population, as well as maintaining a thriving natural ecological balance.

Reducing the wild horse population in the Fifteenmile HMA to 70 mature horses would meet the intent of the Wild Free Roaming Horse and Burro Act that all management actions shall be at the minimum feasible level. The following positive impacts for wild horses and their habitat would occur:

- A thriving natural ecological balance would be achieved and maintained by reducing the population to the lower limit of the management range.
- With limited forage and water availability due to the ongoing drought, the wild horses remaining on the range would experience decreased competition and stress for available resources.
- Ensure a viable population of wild horses that would survive, and be successful during poor years when elements of the habitat are limiting due to severe winter conditions, drought or other uncontrollable and unforeseeable environmental influences to the herd.
- Annual gathers would not be required which would allow for a greater level of herd stability and band integrity.
- Gathers would only occur when the population approaches or exceeds the upper limit of the management range, anticipated to be every 5 to 7 years.
- The wild horse population would be subjected to the stresses associated with gathering and handling as infrequently as possible.

Selective Removal Criteria

Direct impacts associated with Alternatives 1 and 2 would consist of selecting wild horses for release that possess the historic characteristics (color pattern, sex ratio) and age structure that are typical of the herd demographics of the Fifteenmile HMA. The National Selective Removal Policy (described in Section 2.1) would be followed to the extent possible. Animals selected for release would be the most capable of surviving environmental extremes, thus ensuring a viable population is present in the HMA. Utilizing the selective removal criteria would result in a positive impact for the long term health and stability of the population.

The effect of removal of horses from the population is not expected to have significant impact on herd population dynamics, age structure or sex ratio, as long as the selection criteria for the removal maintains the social structure and breeding integrity of the herd. The selective removal strategy for the Fifteenmile HMA would maintain the age structure (of critical breeding age animals), the sex ratio and the historic range of characteristics currently within the herd. This flexible procedure would allow for the correction of any existing discrepancies in herd dynamics, which could predispose a population to increased chances for catastrophic impacts.

Potential negative impacts to the long term health and stability of the population could occur from exercising poor selection criteria not based on herd demographics and age structure. These negative impacts would include modification of age or sex ratios to favor a particular class of animal. Effects resulting from successive removals causing shifts in sex ratios away from normal ranges are fairly self evident. If the selective removal criteria favor studs over mares, it would be expected to result in decreased band size, increased competition for mares, and an increase in the size and number of bachelor bands. If the selective removal criteria favor mares over studs, it would be expected to result in fewer and smaller bachelor bands, decreased competition for mares, and a likelihood of larger band sizes.

The effects of successive removals on populations causing shifts in herd demographics favoring younger horses (under 15 years) would also have direct consequences on the population. These impacts are not thought of typically as adverse to a population. They include development of a population, which is expected to be more biologically fit, more reproductively viable, and more capable of enduring stresses associated with traumatic natural and artificial events.

Gather Operations

These direct impacts include: handling stress associated with the gathering, processing, and transportation of animals from gather sites to temporary holding facilities, and from the temporary holding facilities to an adoption preparation facility. The intensity of these impacts varies by individual, and is indicated by behaviors ranging from nervous agitation to physical distress. Mortality does occur during a gather however it is infrequent and typically is no more than one-half to one percent of the total animals gathered.

Impacts which may occur after the initial stress of herding and capture include: spontaneous abortion in mares, increased social displacement, and conflict in studs and mares. Spontaneous abortion following capture is rare, depending on the time of year gathered. Traumatic injuries that may occur typically involve biting and/or kicking which results in bruises and minor swelling but normally does not break the skin. These impacts occur intermittently and the frequency of occurrence varies with the individual.

Population wide impacts may occur during or immediately following the implementation of Alternatives 1 or 2. They include the displacement of bands during capture and the associated re-dispersal, temporary separation of members from individual bands of horses, re-establishment of bands following release, and the removal of animals from the population. With the exception of the changes to herd demographics, direct wide population impacts have proven to be temporary in nature with most if not all impacts disappearing within hours to several days of release. No observable effects associated with these impacts would be expected within one month of release except for a heightened shyness toward human contact. Observations of animals following release have shown horses relocate themselves back to their home ranges within 12 to 24 hours of release.

All activities would be carried out in accordance with current BLM policy, with the intent of conducting as safe and humane a gather as possible. Recommended actions incorporate proven Standard Operation Procedures (Appendix B) which have been developed over time. These SOPs represent the best methods for reducing impacts associated with gathering, handling, transporting and collecting herd data.

Data Collection

Direct impacts associated with data collection involve increased stress levels to the animals as they are restrained in the portable aging chute. Those animals selected for blood sampling may become very agitated as the samples are drawn. Once the animal is released from the chute, stress levels decrease rapidly. The collection of data is a positive impact to the long term management of the population. This data would be used to develop population specific objectives that would help to ensure the long term viability of the population. This procedure is within the intent of the Act, as it relates to managing populations at the minimum feasible level.

Alternative 1: Proposed Action - Gather to Low Range AML (70 Mature Horses)

The direct impacts of the Proposed Action would include capturing approximately 210 wild horses, returning approximately 70 mature horses to the HMA, and removing the remainder of the horses. Direct impacts associated with the Proposed Action also include potential changes to herd demographics, and stress associated with gathering. The effect on herd demographics was discussed in the Selective Removal Criteria section, and the stress associated with gathering was discussed under Gather Operations (refer to Section 3.1).

Implementation of the Proposed Action would prevent the population from increasing beyond the upper limit of the management range until the fifth year, 2009. Gathering to the lower limit of the management range (70 mature horses) would allow the wild horse population to increase over time to the upper limit of the management range (160 mature horses). When this level is exceeded, another gather would be scheduled. Because the HMA would be gathered again when the upper limit of the management range is exceeded, resource degradation associated with wild horses would be minimized. Under the Proposed Action, horses left on the range would have adequate forage, water and space. A thriving natural ecological balance would exist within the HMA and adjacent to it. Reducing the population to 70 mature horses would benefit the remaining horses by improving the quality and quantity of forage. This would ensure a vigorous and viable breeding population, reduce stress on vegetative communities and wildlife, and be in compliance with the Wild Free Roaming Horse and Burro Act, and the Grass Creek Resource Management Plan. Reducing the wild horse population to 70 mature horses would also maintain the wild horse population at a level that Dr. Cothran indicated would preserve the genetic diversity of the Fifteenmile wild horse herd.

Alternative 2: Gather to Low Range AML (70 Mature Horses) with Fertility Control

The direct impacts of Alternative 2 would include capturing about 210 wild horses, releasing 70 mature horses back to the HMA, and removing the remainder of the horses. Direct impacts associated with this alternative include potential changes to herd demographics, and stress associated with gathering. The effect on herd demographics was discussed in the Selective Removal Criteria section, and the stress associated with gathering was discussed under Gather Operations (refer to Section 3.1). Of the animals released back to the range, about 20 breeding age mares would be treated with two-year immunocontraceptive (PZP) vaccine. This vaccine has shown effectiveness of 94% in year one, 82% in year two and 68% in year 3.

Each mare to be released would receive a single-dose of the two-year PZP contraceptive vaccine, as described in Section II. When injected, PZP (antigen) causes the mare's immune system to produce antibodies that bind to her eggs, effectively blocking sperm penetration and fertilization (ZooMontana, 2000). PZP is relatively inexpensive, meets BLM requirements for safety to mares and the environment, and could be administered in the field. Also, among mares, PZP contraception appears to be completely reversible, and to have no ill effects on ovarian function if the mare is not contracepted for more than 3 consecutive years. PZP would not affect normal development of the fetus, hormone health of the mare or behavioral responses to stallions, should the mare already be pregnant when vaccinated (Kirkpatrick, 1995). Turner (1997) also found that the vaccine has proven to have no apparent effects on pregnancies in progress, the health of offspring, or the behavior of treated mares. Inoculated mares would foal normally in 2005, and the contraceptive would limit foal production in 2006 and 2007. Near normal foaling rates would be expected to resume in 2008.

Mares receiving the vaccine would experience slightly increased stress levels from additional handling while being inoculated and freeze marked. There may be some swelling at the injection site following the administration of the fertility control vaccine, but this would be a temporary, short term impact. Injection site injury associated with fertility control treatments is extremely rare in treated mares, and may be related to experience of the person administering the vaccine. Injection of the vaccine would be controlled, handled and administered by a trained BLM employee, researcher or veterinarian. Any direct impacts associated with fertility control are expected to be minor in nature and of short duration. The mares would quickly recover once released back to the HMA.

The implementation of fertility control applications appears to be most beneficial in herds with a higher growth rate. Since the last removal in 2000, the Fifteenmile herd has only increased approximately 12% per year. Population modeling has shown that with this lower than normal growth rate, the benefits of fertility control are not as apparent. Over the next 10 year period, the number of horses gathered under this alternative would be nearly identical to the Proposed Action, and the number of horses removed would be only slightly lower. Also, this alternative would provide the greatest potential for the minimum population size to approach the level at which Dr. Cothran indicated that acceptable genetic variation could be lost.

Other environmental consequences related to reducing the number of horses in the Fifteenmile HMA would be nearly identical to the Proposed Action.

Alternative 3: No Action - No Removal of Wild Horses

Under this alternative, horses would not experience the stress associated with gathering, removal or adoption. The current population of wild horses would continue to increase, and exceed the carrying capacity of the range. According to population modeling, the population size would approach 800 horses within the next 10 years, which is well above the carrying capacity of the Fifteenmile HMA. Though it may require many years for the population to reach catastrophic levels, by exceeding the upper limit of the management range, this alternative poses the greatest risk to the long-term health and viability of the Fifteenmile HMA wild horse population, wildlife populations, and the vegetative resource.

The population of wild horses would compete for the available water and forage resources. The areas closest to water would experience severe utilization and degradation of the range resource. Over the course of time, the animals would deteriorate in condition as a result of declining forage availability and the increasing distance traveled between forage and water sources. The mares and foals would be affected most severely. The continued increase in population would eventually

lead to catastrophic losses to the herd, which would be a function of the available forage and water and the degradation of the habitat. A point would be reached where the herd reaches the ecological carrying capacity and both the habitat and the wild horse population would be critically unhealthy.

Ecological carrying capacity of a population is a scientific term, which refers to the level at which density-dependant population regulatory mechanisms would take effect within the herd. At this level, the herd would show obvious signs of ill fitness, including poor individual animal condition, low birth rates, and high mortality rates in all age classes due to disease and/or increased vulnerability to predation (Coates-Markle, 2000). In addition, irreparable damage would occur to the habitat through overgrazing, which is not only depended upon by wild horses but by wildlife (which include sensitive species), and permitted livestock. All multiple uses of the area would be impacted. Significant loss of wild horses in the Fifteenmile HMA due to starvation and disease would have obvious consequences to the long-term viability of the herd. Irreparable damage to the resources, which would include primarily vegetative, soil and watershed resources, would have obvious impacts to the future of the Fifteenmile HMA and all other uses of the resources, which depend upon them for survival.

This alternative would not be acceptable to the BLM nor most members of the public. The BLM realizes that some members of the public advocate “letting nature take its course”, however allowing horses to die of dehydration and starvation would be inhumane treatment and would clearly indicate that an overpopulation of wild horses existed in the HMA. The Wild Free-Roaming Horse and Burro Act of 1971, as amended, mandates the Bureau to “*prevent the range from deterioration associated with overpopulation*”, and “*remove excess horses in order to preserve and maintain a thriving natural ecological balance and multiple use relationships in that area*”. Additionally, Promulgated Federal Regulations at Title 43 CFR 4700.0-6 (a) state “*Wild horses shall be managed as self- sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat*”.

3.2 Vegetation, Soils and Watershed

Existing Situation

The majority of soils in the HMA are desert soils developed under low precipitation with minimal topsoil development--Aridisols and Entisols. The soils are mostly fine textured with areas of sand dunes, badlands, and saline areas with severe erosion potentials when disturbed. Loss of topsoil from these desert soils lead to an irreplaceable loss in soil productivity, and thus ability to regain natural plant communities if lost.

Vegetation in the HMA varies from desert shrub to sagebrush/grass. Major plant species in the desert shrub type consist of Gardner's saltbush (*Atriplex gardnerii*), greasewood (*Sarcobatus vermiculatis*), Indian ricegrass (*Oryzopsis hymenoides*), Sandberg bluegrass (*Poa sandbergii*), bottlebrush squirreltail (*Sitanion hystrix*), saltgrass (*Distichlis spp.*), and pricklypear cactus (*Opuntia spp.*). Wyoming big sagebrush (*Artemisia tridentata*), bluebunch wheatgrass (*Agropyron spicatum*), western wheatgrass (*Agropyron smithii*), needle-and-thread (*Stipa comata*), prairie junegrass (*Koeleria nitada*), and blue grama (*Bouteloua gracillis*) are the primary components of the sagebrush/grass type. There are no known threatened and endangered or sensitive plants located within the Fifteenmile HMA.

Fifteenmile Creek is a cottonwood-lined ephemeral stream that originates above the HMA, and flows through the center of the HMA before draining into the Bighorn River at Worland. Fifteenmile Creek is a WYDEQ Class 3B water. Class 3 waters are waters, other than those

designated as Class 1, that are intermittent, ephemeral or isolated waters and because of natural habitat conditions, do not support nor have the potential to support fish populations or spawning. Uses designated on Class 3 waters include aquatic life other than fish, recreation, wildlife, industry, agriculture and scenic value. Class 3B waters are tributary waters including adjacent wetlands that are not known to support fish populations or drinking water supplies and where those uses are not attainable. Class 3B waters are intermittent and ephemeral streams with sufficient hydrology to normally support and sustain communities of aquatic life including invertebrates, amphibians, or other flora and fauna which inhabit waters of the state at some stage of their life cycles. In general, 3B waters are characterized by infrequent linear wetland occurrences or impoundments within or adjacent to the stream channel over its entire length. Siltation from Fifteenmile Creek into the Bighorn River has been a primary focus of concern in recent years. There are also numerous smaller drainages and reservoirs scattered throughout the HMA.

Environmental Impacts

Alternatives 1 and 2 - The removal of excess wild horses from the herd area would avoid potential over-utilization of forage and reduction in vegetative ground cover. Vegetation composition, cover, and vigor would improve or be maintained, especially near water sources. Potential for competition for forage and water between wild horses, wildlife and livestock, and surface disturbing activity in around water sources would be reduced. Quantity of forage would be increased. The increased vegetative cover would protect soils and reduce erosion of the surface soil layer.

Physical surface disturbance would occur at the trap sites due to the erection of the traps, trampling by horses, and vehicle traffic. When the horses are herded some vegetation would be disturbed. Extreme surface disturbance occurs within the paddocks of the trap due to the milling about by the horses; however, the total impacted area would be less than one-quarter acre per trap site. The vegetation in these areas should recover quickly. Vehicles would damage vegetation, but staying on existing roads and trails minimizes the impact.

Maintaining wild horse populations at the established AML would produce no adverse cumulative impacts to vegetation, soils and watersheds.

Alternative 3 - Increased use over the entire HMA would adversely impact soils and vegetation health, especially around the water locations. As native plant health deteriorates and plants are lost, soil erosion would increase. The shallow desert topsoil can not tolerate much loss without losing productivity and thus the ability to be revegetated with native plants. Invasive non-native plant species would increase and invade new areas following increased soil disturbance and reduced native plant vigor and abundance. This would lead to both a shift in plant composition towards weedy species and an irreplaceable topsoil and productivity loss from erosion. These impacts would be cumulative over time. There would also be increased impacts to areas outside the HMA as horses move out in search of better forage.

3.3 Wildlife

Existing Situation

The HMA provides valuable habitat for a variety of wildlife species, including crucial winter and winter/yearlong habitat for mule deer and pronghorn. The area also provides winter, breeding, and brood rearing habitat for sage grouse. Numerous other raptors, small mammals, passerines, and predators inhabit the area as well.

There are primarily 3 priority vegetative habitat types within the HMA that comprise the bulk of the wildlife use and needs. Upland sagebrush stands, upland grasslands, and floodplain shrub stands. The preferred upland sagebrush stands are typically $\geq 10\%$ canopy cover sagebrush with a healthy understory composition of herbaceous and forb species. These stands are particularly important to wintering big game and wintering and nesting sage grouse, as well as numerous other sagebrush obligate passerines like the sage thrasher, sage sparrow, and Brewer's sparrow. The upland grasslands typically comprise $\leq 10\%$ sagebrush canopy cover with the predominant vegetation being grasses with some component of forbs. These sites can be important foraging areas for mule deer, pronghorn, and sage grouse, particularly in the spring and summer when diets shift from shrubs to grasses and forbs. Sage grouse depend on these more open grasslands during brood rearing when they are foraging on both forbs and insects. These areas also contain most of the white-tailed prairie dog colonies within the HMA. The prairie dog colonies themselves provide habitat for other sensitive species like the burrowing owl and ferruginous hawk, as well as the mountain plover. Like the sagebrush stands, a complex diversity of species in the grasslands is advantageous because it provides for an extended green-up period, and this equates to an increase in protein intake. The floodplain shrub stands provide mule deer both valuable cover and forage. Rabbitbrush, greasewood, sagebrush, as well as some cottonwood and willow are valuable forage species, particularly in the fall and winter. These shrub stands also provide much needed forbs in the spring and early summer. The cover provided in these bottoms is particularly critical during breeding season when mule deer are most vulnerable. The variety of structure provided in the cottonwood and willow components of these bottoms is also valuable foraging and nesting habitat for numerous passerines, woodpeckers, and some raptor species.

Other vegetative communities provided within the HMA that are important to wildlife species are the saline upland sites, and riparian areas associated with reservoirs and seeps. The saline uplands provide nesting and foraging habitat for mountain plover. The saltbush component of these sites can be important forage for pronghorn and mule deer at times. Riparian areas and their associated aquatic and wetland vegetation provide forage and cover to waterfowl and some passerines. These wet areas with succulent vegetation and abundant insects are also important foraging areas for sage grouse broods, particularly during late brood rearing when most other upland sites have dried up and vegetation has cured out.

All of the above habitat types can be vulnerable to improper grazing management, by both wild horses and livestock. If grazing is managed with the objectives of maintaining or improving species composition, structural diversity, and plant vigor, the valuable components of these vegetative habitats should remain sustainable for the wildlife species that depend upon them. Communities most valuable and most at risk in terms of importance to wildlife are the upland sagebrush stands and the floodplain shrub stands. Over-utilization of either the sagebrush canopy or the grass/forb understory would decrease both production and diversity of the entire community. In addition, habitat enhancement projects would be considered in situations where vegetative communities are not meeting objectives for species composition, structural diversity, and vigor.

Environmental Impacts

Alternatives 1 and 2 – Under these alternatives, the horses left on the range would have adequate forage, water, and space. Wildlife species would be able to live in a natural ecological balance within the HMA and adjacent to it. Improved quality and increased quantity of forage would help to obtain or maintain objective wildlife populations as defined by the Wyoming Game and Fish Department.

Wildlife populations in areas where excess wild horses are gathered could be disrupted for a short time during the gathering operations. Once gathering operations cease, these effects would stop.

The short-term effects are a result of human presence and the noise of the helicopter which may cause wildlife to seek cover in areas away from gathering routes. However, large game species should return to the area within a few days. Capture activities would not cause abandonment of normal habitat areas. There would be no long-term adverse effect on wildlife.

BLM data and past experience show that removal of excess horses from areas of wild horse concentration would improve habitat conditions for wildlife. This effect would be most pronounced around water sources and would benefit both game and non-game wildlife. Maintaining wild horse populations at AML through the removal of excess wild horses enables wildlife populations to utilize the forage that would otherwise be used by the excess wild horses. No adverse cumulative impacts to wildlife are anticipated.

Alternative 3 – Unmanaged 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 significantly. Due to the lack of large predators to limit population growth in the HMA, wild horse numbers would eventually exceed the carrying capacity of the HMA and adjacent areas. Competition for water sources and forage resources would increase between wildlife species, specifically pronghorn and mule deer. Inter specific competition over time could affect pronghorn and mule deer, especially in crucial winter ranges. Large game species may be displaced over time and population levels and overall health of the herds would diminish.

Under this alternative, sage grouse may be impacted from deteriorated range condition if vegetation required for nesting, specifically residual grasses within and adjacent to sagebrush pockets, becomes depleted. Under this alternative, raptors would not be impacted by wild horses and implementation of management practices. The impacts described above would be cumulative over time.

3.4 Domestic Livestock

Existing Situation

There are 5 unfenced grazing allotments located within the HMA. These grazing allotments are:

- LU Allotment No. 00604 (part)
- Badger Gulch Allotment No. 00652
- Allen Basin Allotment No. 00669
- Pitchfork Allotment No. 00676
- Hunt Oil 15 Mile Allotment No. 00862

The total permitted livestock grazing on these allotments is 7,925 AUMs. This use is permitted as winter sheep use, from November through March. The majority of this livestock use has been in voluntary non-use for several years, but could be activated at any time by the permittees.

In contrast to the amount of authorized livestock use, the overall recommended stocking level for both livestock and wild horses in the HMA is about 5,670 AUMs, based on rangeland vegetation inventory data. The Grass Creek RMP specified that annual forage use by domestic livestock would not be allowed to exceed 3,370 AUMs.

Environmental Impacts

Alternatives 1 and 2 – While at present there is no direct competition between wild horses and domestic livestock within the HMA, due the amount of non-use taken by the livestock permittees, there is competition for forage and water between livestock and wild horses which are on grazing

allotments outside of the HMA. Also, the livestock permits within the HMA could be activated by the permittees at any time. In general, increased wild horse numbers would result in increased competition between horses and livestock.

Under these alternatives, there would be no long-term effect on domestic livestock. Maintaining the wild horse population at the AML would ensure that the quality and quantity of forage for domestic livestock, both in and near the HMA, would be adequate. Temporary stress which could occur in conjunction with gathering operations would be minimized or avoided by careful attention to timing and location of activities and close communication with the owners of the domestic livestock.

There would be no adverse cumulative impacts to domestic livestock as a result of implementing Alternatives 1 or 2.

Alternative 3 – Under this alternative, increasing horse populations would first displace livestock in the HMA, and then over time in adjacent areas surrounding the HMA. Displacement would be slow and indirect. As competition for forage and water increased, it would become less economically favorable to utilize the areas with domestic livestock. Authorized livestock grazing would be reduced or eliminated. This would have a negative economic impact on livestock producers. Range conditions in and around the HMA would deteriorate significantly. These impacts would be cumulative over time.

3.5 Wilderness

Existing Situation

All or part of 3 Wilderness Study Areas (WSA's) are located within or near the HMA. The Bobcat Draw WSA, covering 18,540 acres, is located almost entirely within the south-east part of the HMA. A small portion of the Sheep Mountain WSA is located in the north-east part of the HMA. The wild horses in the Fivemile area, approximately 15 miles east of the HMA, are generally found within or near the Red Butte WSA.

Until these areas are designated wilderness or released from further consideration by Congress, they are managed under the Interim Management Policy (IMP) for lands under wilderness review. Under the IMP, WSA's are managed so as not to impair the suitability of such areas for Congressional preservation as wilderness. At present, all activities permitted in WSA's must be temporary uses that create no surface disturbance, nor involve permanent placement of structures.

Environmental Impacts

Alternatives 1 and 2 – These alternatives meet the nonimpairment criteria as it is temporary, it would cause no surface disturbance, and no reclamation is needed. The use of a helicopter to gather wild horses is specifically allowed in handbook H-8550-1, Interim Management Policy and Guidelines for Lands Under Wilderness Review (page 43). There would be a short-term impact on solitude for any visitors who are present in the WSA's while the helicopter is being used. The time frame involved is very limited. Removal of excess wild horses would help to protect the vegetative cover within the WSA's, and would be beneficial for the wild horses which remain in the area. No wild horse trap site locations are planned within WSA boundaries.

There would be no adverse cumulative impacts to wilderness as a result of implementing Alternatives 1 or 2.

Alternative 3 – Impacts of an increased wild horse herd size would probably decrease the naturalness of the WSA's and therefore impair their suitability for designation as wilderness. The

previously described impacts to soils, vegetation, wildlife, wildlife habitat and watershed function would have a detrimental effect on the WSA's ecosystem. Impacts on the naturalness of the WSA's could come in many forms, primarily in the form of excessive erosion due to increased horse traffic and reduced soil stabilizing vegetative cover, and a change in the number of members of other species displaced by the increased competition for resources. Also, the deteriorated habitat would negatively impact opportunities for primitive and unconfined recreation.

3.6 Recreation

Existing Situation

Some members of the public enjoy seeing wild horses roaming free in the Fifteenmile area. Both residents and non-residents occasionally make special trips to the area to view wild horses in their natural environment. Visitor use has not been documented due to its random nature.

Other recreation in the HMA is quite dispersed with the greatest amount occurring during the hunting seasons for the various game animals and birds. Some other recreational uses of the area include mountain biking, horseback riding, ATV use, sightseeing, and photography.

Environmental Impacts

Alternatives 1 and 2 – Maintaining wild horse populations at the established AML guarantees the opportunity for the public to view wild horses in a wild and free-roaming state. Although there would be fewer horses to view, the remaining horses would be in better condition than under the No Action alternative. Additional recreational opportunities would be provided by wild horse adoption and adoption events. Since wildlife and wildlife habitat benefit from the removal of excess horses, there is a beneficial effect for recreationalists who view game and non-game species and those who hunt. Public access to the trap site locations may be temporarily limited, if necessary, so as not to disrupt the gather operations. There would be no adverse cumulative impacts to recreation as a result of implementing Alternatives 1 or 2..

Alternative 3 – Short-term impacts to recreationists observing wild horses on the range would be positive, as there would be more horses over a larger area. Over time, however, the condition of the wild horses would decline, as would the habitat (an adverse cumulative impact). Increases in wild horse numbers would likely mean a decline in the opportunity to enjoy wildlife-related consumptive and non-consumptive recreation. There would be no opportunity to adopt a wild horse from the area.

3.7 Heritage Resources

Existing Situation

Only a small fraction of the land surface within the HMA has been inventoried for heritage resources. As a result, archaeologists have recorded only twenty-nine archaeological properties. Prehistoric site types known to exist within the HMA include open camps, lithic scatters, and rock art. Historic site types include trash dumps, trails, roads, and structures associated with the local farming and ranching industries.

Environmental Impacts

Alternatives 1 and 2 – Following the requirements of the Wyoming State Protocol, impacts to historic properties, as defined by 36 CFR 800.2(e), are not anticipated because if historic properties are identified through Class III inventory the Protocol requires mitigation of adverse effects. Where Class III inventories have not been or would not be conducted, impacts to historic

properties are limited to trampling. Naturally, fewer horses would result in lesser potential impacts to historic properties.

Alternative 3 – 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.

3.8 Energy Development

Existing Situation

At the present time, energy development within the HMA is limited to the staking of two exploratory natural gas wells just inside the north boundary of the HMA. Road construction to provide access to these locations is scheduled to begin in the summer of 2004. The majority of the proposed road construction is located outside of the HMA. Drilling operations at the well sites are anticipated to begin in September, 2004.

Environmental Impacts

Alternatives 1 and 2 – The primary wild horse trap site location is located approximately 7 miles from the proposed drilling locations. Any wild horses located within the vicinity of the road construction or drilling operations would be herded out of these areas by helicopter. Road construction activities may need to pause briefly to allow horses to be herded from the area. This impact would be very short-term in nature, not expected to exceed a few minutes. If the road construction is completed at the time of the gather, it could provide increased public access to the HMA. Access for the general public may be temporarily limited, if necessary, so as not to disrupt the gather operations.

Alternatives 1 and 2 are in compliance with Executive Order 13212, which directs the BLM to consider the President's National Energy Policy and adverse impacts the alternatives may have on energy development. No adverse impacts to energy development are anticipated under Alternatives 1 and 2.

Alternative 3 – No adverse impacts to energy development are anticipated under the No Action Alternative. Selection of Alternative 3 would also be in compliance with Executive Order 13212.

3.9 Cumulative Impacts

The HMA contains a variety of resources and supports a variety of uses. There are a number of other BLM conducted and authorized activities ongoing in and adjacent to the HMA. Any alternative course of wild horse management has the opportunity to affect and be affected by those activities. Most of those activities depend in one way or another on the maintenance of a healthy landscape. The cumulative impacts of Alternatives 1 and 2 would be to maintain a thriving natural ecological balance and preserve the multiple use relationship among all resources within and surrounding the Fifteenmile HMA. The cumulative impacts of Alternative 3 would be that a thriving natural ecological balance would not be maintained, and the multiple use relationship within the Fifteenmile HMA would not be preserved. Cumulative impacts to the long-term viability of the horse herd would be monitored through genetic marker analysis in accordance with the Standard Operation Procedures (Appendix B).

4.0 Consultation and Coordination

The Bureau of Land Management is responsible for obtaining public input on proposed actions within the wild horse program. Public input has been solicited for several actions proposed since the establishment of the Fifteenmile HMA.

In accordance with 43 CFR 4740.1(b), a formal statewide hearing regarding the use of helicopters for the roundup of wild horses in Wyoming is held each year. The public is provided an opportunity to discuss concerns and questions with BLM staff.

Extensive public scoping was conducted prior to and during the preparation of the Grass Creek RMP, which established the current decisions regarding the management of the Fifteenmile WHA. Several public meetings were held throughout the Bighorn Basin. Numerous comments were received regarding the Fifteenmile HMA, and were incorporated in the RMP to the extent possible.

5.0 List of Preparers

Following is a list of preparers and reviewers for this Environmental Assessment:

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