United States Department of the Interior
BUREAU OF LAND MANAGEMENT
White River Field Office
73544 Highway 64
Meeker, Colorado 81641

In Reply Refer To:
4710; 4720 (CO-11000)

August 1, 2006

NOTICE OF FINAL DECISION
FULL FORCE AND EFFECT
2006 PICEANCE-EAST DOUGLAS HERD MANAGEMENT AREA
WILD HORSE REMOVAL

Following a thorough review of current monitoring data and recognizing wild horses are to be managed in thriving, natural ecological balance with other multiple uses and resources, the Bureau of Land Management, White River Field Office (WRFO) has determined the wild horse population in the Piceance-East Douglas Herd Management Area (HMA) exceeds the appropriate management level (AML) and is no longer in balance with other resources managed in the HMA. In accordance with the Federal Land Policy and Management Act of 1976; the Wild, Free Roaming Horse and Burros Act of 1971; the 43 Code of Federal Regulation (CFR) 4720.1; and the White River Resource Management Plan, WRFO plans to gather approximately 436 wild horses from within the HMA and all wild horses located outside of the HMA (approximately 50-100 wild horses) in September, 2006.

This full force and effect decision entails the capture of approximately 436 wild horses and the age selective removal of approximately 301 wild horses from the Piceance-East Douglas Herd Management Area and the capture and removal or relocation of approximately 62 wild horses from outside the Piceance-East Douglas Herd Area. The full force and effect decision also includes the capture and removal of all wild horses that have relocated into allotments adjoining the Piceance-East Douglas Herd Management Area. The majority of captured horses between the age of foal and five (5) years will be placed into the BLM adoption program. Exceptions to this will be horses deemed unadoptable; horses desirable for return to the herd, and horses determined unable to withstand the stress associated with the aspects of capture, transport, and confinement. Horses older than five years of age will either be offered for adoption or sent to long term holding facilities. At the completion of the removal project the Piceance-East Douglas herd will consist of approximately 135 adult wild horses. Allotments adjoining the Herd Management Area will not contain wild horses.

Fertility control will be applied to approximately 40 to 60 mares that will be gathered and then returned to the HMA.

The gather operation will primarily be completed using the helicopter drive-trapping and helicopter-roping methods of capture while hay and water trapping are considered secondary

capture methods. Helicopter-roping will only be used on a case-by-case basis, for specific horses, when roping is determined more effective than helicopter drive-trapping. A veterinarian will be on site or on immediate call during the gather project.

In response to crucial range conditions resulting from drought, and to allay the risk of range degradation likely to occur should the removal be delayed, this action will be completed under the auspice of a full force and effect decision. The decision will be implemented as soon as funding becomes available, and following a thirty day appeal period granted to assure affected and interested parties time to review this management decision. The full force and effect decision remains in effect until the action described in CO-110-06-030-EA is completed. The rationale for placing this decision in full force and effect is as follows:

1. Any delay in action would have a direct, negative impact on plant communities relied upon by wild horses, wildlife, and livestock and, in turn, would consequently negatively affect the habitat of these animal species.
2. Drought conditions have resulted in substantially low plant vigor and production with consequent limited forage for wild horses and other range users.
3. Implementation of the plan is expected to bring the wild horse population, wildlife, livestock and plant community into a state of thriving, natural ecological balance.
4. Wild horses that have relocated outside the Piceance-East Douglas Herd Management Area into locations outside the boundaries will be removed.

Authority: The authority for this decision is contained in Title 43 of the Code of Federal Regulations 4700.0-6(a), Policy, which states: "Wild horses and burros shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat."

Title 43 of the Code of Federal Regulations 4710.4, Constraints on Management that states: "Management of wild horses and burros shall be undertaken with the objective of limiting the animals' distribution to herd areas."

Sec. 3(a) and (b) and Sec. 4 of the Wild Free-Roaming Horse and Burro Act (P.L. 92-195) as amended, and in Title 43 of the Code of Federal Regulations, 4700.0-1, Purpose which recognizes the protection of wild horses by stating: "The purpose of these regulations is to implement the laws relating to the protection, management, and control of wild horses and burros under the administration of the Bureau of Land Management."

Full Force and Effect Authority: The authority for the Full Force and Effect decision can be found at 43 Code of Federal Regulations 4770.3(c) which states: "The authorized officer may place in full force and effect decisions to remove wild horses or burros from public lands if removal is required by applicable law or to preserve or maintain a thriving ecological balance and multiple use relationship. Full force and effect decisions shall take effect on the date specified, regardless of an appeal. Appeals and petitions for stay of decisions shall be filed with the Interior Board of Land Appeals, as specified in this part."

Appeals: Within 30 days of receipt of this decision, interested and affected parties have the right of appeal to the Board of Land Appeals, Office of the Secretary, in accordance with the regulations at 43 Code of Federal Regulations, Part 4, Subpart E, and 43 Code of Federal Regulations 4770.3(a) and (c). Within 30 days after filing a Notice of Appeal, parties are required to provide a complete statement of the reasons why you are appealing. The appellant has the burden of showing that the decision appealed from is in error. If a party wishes to file an appeal and petition for a stay, the petition for a stay must accompany the notice of appeal and be in accordance with 43 Code of Federal Regulations, submitted to (1) the Regional Solicitor's Office, Rocky Mountain Region, P.O. Box 25007, Denver, Colorado, 80225 and (2) White River Field Office, 73544 Highway 64, Meeker, Colorado, 81641. The original documents should be filed with the White River Field Office.

Any party requesting a stay bears the burden of proof to demonstrate why a stay should be granted. A petition for a stay of a decision pending appeals shall show sufficient justification based on the following standards:

- The relative harm to the parties if the stay is granted or denied,
- The likelihood of the appellant's success on the merits,
- The likelihood of immediate and irreparable harm if the stay is not granted, and
- Whether the public interest favors granting the stay.

Additional Information: Contact Melissa J. Kindall, Range Technician at 970/878-3842 with questions relating to this management decision.

Approval:

For Grant M Paine — August 1, 2006

Kent E. Walter, Field Office Manager — Date
White River Field Office

U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2006-030-EA

CASEFILE/PROJECT NUMBER (optional):

PROJECT NAME: 2006 Piceance-East Douglas Wild Horse Gather Plan

LEGAL DESCRIPTION: The Piceance-East Douglas Herd Management Area encompasses approximately 158,281 acres of lands administered by the Bureau of Land Management, White River Field Office, Meeker, Colorado, as well as 31,741 acres of lands not managed by BLM with the following legal description:

T1N R97W Sec 2-24
T1N R98W Sec 1-36
T1N R99W Sec 1-20, 30, 31
T1N R101W Sec 1-36
T2N R97W Sec 18-20, 28-34
T2N R98W Sec 2-36
T1S R98W Sec 1-36
T1S R100W Sec 19, 29-32
T1S R101W Sec 1-4, 9-15, 22-26, 36
T2S R98W Sec 1-36
T2S R99W Sec 1-36
T2S R100W Sec 1-36

APPLICANT: Bureau of Land Management; White River Field Office

ISSUES AND CONCERNS (optional): None

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Induction: Following a thorough review of current monitoring data and recognizing wild horses are to be managed in thriving, natural ecological balance with other multiple uses and resources, the Bureau of Land Management, White River Field Office (WRFO) has determined the wild horse population in the Piceance-East Douglas Herd Management Area (HMA) exceeds the appropriate management level (AML) and is no longer in balance with other resources managed in the HMA. In accordance with the Federal Land Policy

and Management Act of 1976; the Wild & Free Roaming Horse and Burros Act of 1971; Title 43 Code of the Federal Regulation (CFR), Part 4720.1; and the White River Resource Management Plan.

Proposed Action: In compliance with 43 CFR 4710.4, all wild horses located outside the boundaries of the HMA approximately 50-100 head and approximately 436 head within the HMA will be captured. WRFO plans to remove approximately 301 wild horses from within the HMA and all wild horses (approximately 50-100) located outside of the HMA in September, 2006. The majority of these animals will be transported to the BLM Canon City wild horse holding facility. The wild horses will be removed in accordance with the current age selective removal policy. This policy identified the following priorities for removal: 1) 5 years old or younger; 2) 6 to 15 years old; 3) 16 years of age or older. The horses returned to the HMA will be released into the general vicinity from which they were captured. Horses determined unable to withstand the stress associated with capture, handling and transport will be returned to the HMA. At completion of the project the herd will consist of approximately 135 horses; the lower range of the appropriate management level of 135-235 wild horses.

In addition, the WRFO proposes to apply fertility control to the wild horse mares (approximately 40 to 60 head) that will be released back into the Herd Management Area. This action is being considered to help decrease the herd growth rate while continuing to manage a healthy, viable wild horse herd. All of the mares identified to be released back into the Herd Management Area will receive the 22-month time release PZP (Porcine Zona Pellucida) immunocontraceptive vaccine (with a maximum of 80% of the mares within the Piceance-East Douglas herd). Reference Appendix B for the Fertility Control Treatment method proposed under this environmental assessment.

The project will be completed by a BLM Wild Horse & Burro (WH&B) National Program Contractor using helicopter drive-trapping, helicopter assisted roping, water and hay trapping.

All wild horses gathered will be trucked to the Yellow Creek Corral holding facility (or contractor holding facility) were they will receive appropriate food and water. They will be paint- marked to identify the location from which they were gathered, aged, sorted into stud pens, dry mare pens, and mare/foal pens. They will be held at the holding facility until they are further trucked to the BLM wild horse permanent holding facilities located in Canon City, Colorado, or released back into the HMA. It is currently proposed to hold a wild horse adoption at the Yellow Creek Corrals upon completion of the gather for approximately 25 head with the date to be decided upon and advertised at a later date.

No Fertility Control Alternative: This alternative mirrors the Proposed Action with the exception that the selected mares will not be treated with immunocontraception (fertility) drugs. The herd would be reduced to the lower range of the AML and then allowed to increase naturally, without human manipulation. Annual herd recruitment is estimated to be between 20% and 23%. All wild horses would be removed from outside the HMA.

No-Action Alternative: Under this alternative, no gather operation would be conducted and the horses would be allowed to expand at the existing rate of 20+% annually. The horse population

would be approximately 436 in 2006 (February 2006 Census counted 363 wild horses within the HMA) and 523 wild horses in the year 2007.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD:

The No-Action alternative was eliminated from further consideration because it is in direct conflict with the wild horse management objectives identified in the July, 1997 White River RMP Record of Decision, and the 1971 Wild and Free-Roaming Horse and Burro Act, PL-92-195. The Act mandates the Bureau to prevent range deterioration resulting from wild horse overpopulation, and directs the BLM to preserve and maintain a thriving natural ecological balance and multiple use relationships in areas where horses are managed as a component of multiple uses.

NEED FOR THE ACTION:

The twofold intent of this action is to restore a thriving, natural, ecological balance to the affected range resources, and to allow for long term maintenance of wild horse herd health and viability. The AML range of 135 to 235 horses was derived from the analysis of range monitoring data accumulated between 1981 and 2002 that indicated the Piceance-East Douglas HMA will support an average of 165 horses over any extended period. The analysis used to determine this AML range is documented in the White River Field Office Wild Horse Program Analysis and Operational Plan (July 1999).

The need for the planned gather arises from the legal requirement that wild horse herd management adhere to 43 CFR 4700.0-2 which states, in part, that [wild horses will be managed] "as an integral part of the natural system of the public lands under the principle of multiple use…", with 43 CFR 4700.0-6 which identifies that [wild horses] "shall be managed as self-sustaining animals in balance with other uses and the productive capacity of their habitat.", and with P.L. 92-195, Sec. 3 (b) (2) which identifies the need to maintain appropriate numbers of wild horses within their HMA's.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Page 2-26, Wild Horse Management, Paragraph 2, "Wild horses will be managed to provide a healthy, viable breeding population with a diverse age structure."

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, the Colorado Bureau of Land Management approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The entire White River Resource area has been classified as either attainment or unclassified for all pollutants, and most of the area has been designated prevention of significant deterioration (PSD) class II. The proposed action is not located within a ten mile radius of any special designation air sheds or non-attainment areas. The air quality criteria pollutant likely to be most affected by the proposed actions is the level of inhalable particulate matter, specifically particles ten microns or less in diameter (PM_{10}) associated with fugitive dust. No air quality monitoring data is available for the survey area. However, it is apparent that current air quality within the herd management area is good because only one location on the western slope (Grand Junction, CO) is monitoring for criteria pollutants other than PM_{10}. Furthermore, the Colorado Air Pollution Control Division (APCD) estimates the maximum PM_{10} levels (24-hour average) in rural portions of western Colorado to be near 50 micrograms per cubic meter ($\mu g/m^3$). This estimate is well below the National Ambient Air Quality Standard (NAAQS) for PM_{10} (24-hour average) of 150 $\mu g/m^3$ (CDPHE-APCD, 2005).

Environmental Consequences of the Proposed Action: Reductions in the local horse herd will minimize the grazing impact horses currently have on the vegetation. As a result, effective ground cover is expected to increase which will reduce exposure of soils to eolian processes minimizing potential fugitive dust production. Air quality is expected to benefit from removal of horses.

Environmental Consequences of the No Fertility Control Alternative: Impacts to Air quality would be similar to the proposed action except the improvments would not be realized over as long a period.

Mitigation: None.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

Affected Environment: The East Douglas portion of the HMA contains the Coal Draw ACEC. This ACEC was designated for the unique paleontological resources contained within its

boundary. Four ACEC's designated for rare plants occur within the Piceance Basin portion of the HMA. The Duck Creek ACEC encompasses 3,430 acres; 2,434 acres lie within the HMA. The Duck Creek ACEC was designated for primary management of the threatened Dudley Bluffs bladderpod (*Lesquerella congesta).* The South Cathedral Bluffs ACEC encompasses 1,280 acres of which about 400 acres lie within the HMA. This ACEC was designated for primary management of three rare plants that are BLM's sensitive species list, the Piceance bladderpod, the Utah gentian and the sun loving meadowrue. The Upper Greasewood ACEC encompasses 2,434 acres of which about 1,200 acres lie within the HMA. This ACEC was designated for primary management of one BLM sensitive plant (the Piceance bladderpod) and several remnant plant communities. The Lower Greasewood ACEC encompasses 205 acres which lie within the HMA and was designated for primary management of one BLM sensitive plant (the narrow-stem Gilia) and remnant pinyon/juniper woodland.

Environmental Consequences of the Proposed Action: Potential impacts to paleontological resources, such as those within the Coal Draw ACEC, are described Paleontology section below. Impacts to the rare plant resources of the other four ACECs (Duck Creek, South Cathedral, Upper and Lower Greasewood) could also occur. The reader is referred to the Threatened and Endangered Plants discussion below.

Environmental Consequences of the No Fertility Control Alternative: Same as proposed action.

Mitigation: See Paleontology for the Coal Draw ACEC and to Threatened and Endangered Plants below for mitigation for the rare plants occurring in the other four ACECs.

CULTURAL RESOURCES:

Affected Environment: The Piceance Basin, in general, and the core herd area specifically, is known to contain a wide variety of prehistoric and historic resources. Sites include but are not necessarily limited to open lithic scatters, open campsites, wickiup villages, and horse trap sites. Such sites seem to be particularly concentrated on the ridges overlooking the various tributaries to Yellow Creek, particularly where the Piñon-juniper and sagebrush vegetation communities come together. Recent inventory data suggests that site densities tend to be very high throughout the area. Horse traps, both prehistoric and historic seem to be concentrated on ridges in the Piñon-juniper vegetation communities where the traps can be camouflaged. Historic resources are primarily related to early ranching and livestock grazing efforts and are concentrated along the moister drainage bottoms. Sites include, but are not limited to, old homesteads, line shacks, corrals, pasture fences, occasional irrigation ditches and hay meadows.

Environmental Consequences of the Proposed Action: Reduction of horses to the low end of the AML range and initiating immunocontraceptive fertility control will serve to reduce the concentration of horses in sensitive site locations. Use of fertility control to reduce the recruitment rate will serve to help extend the time that sites are protected by reduced numbers due to the reduction of herd recruitment rates. Reduction of concentration in high site density

areas will reduce the damage to sites from trampling due to concentration, from trailing to water or foaling areas or thermal cover locations where horses congregate to avoid intense summer heat or shelter from intense winter cold conditions. Horses may also scratch and rub on standing features such as wickiup poles or fence poles which serve to accelerate the collapse of the structures present. Reducing horse numbers will reduce the impacts associated with these activities.

Environmental Consequences of the No Fertility Control Alternative: Impacts would be similar to the proposed action except for not implementing the fertility control along with the horse removal would shorten the time that sites are protected.

Mitigation: Horse trap locations and holding areas, except for the Yellow Creek holding facility, will need to be sited to avoid archaeological resources. In areas with acceptable levels of inventory no additional field work should be necessary except to ensure that sites in the near vicinity can be adequately avoided by drive lines, wing fences and traps. In areas where inadequate inventory data exists an inventory will be necessary to ensure that any resources present are avoided.

INVASIVE, NON-NATIVE SPECIES (This includes vegetation information related to Public Land Health Standard 3.)

Affected Environment: On the East Douglas portion of the HMA weeds of concern include; tamarisk, Russian olive, cheatgrass, thistles (Canada, bull and musk), knapweeds (Russian, spotted and diffuse), houndstongue, burdock and hoary cress. Tamarisk, Russian olive, Canada thistle, bull thistle and hoary cress are all found in the riparian community primarily East and Main Stem of Douglas creek. Cheatgrass is relegated to the drier upland sites that have disturbed native vegetation. These sites are highly susceptible to invasion by noxious weeds and without control these areas are expected to be dominated by cheatgrass, houndstongue and burdock. Monitoring studies in the Tommy's Draw pasture are showing localized severe overgrazing by wild horses. These sites are undergoing vegetation composition changes of decreasing desirable perennial plant species. These species are being replaced by annual species, primarily cheatgrass, annual mustards and annual chenopods. Within Tommy's Draw there has also been an increase in houndstongue and burdock.

Environmental Consequences of the Proposed Action: Removal of the horses would decrease the intensity and duration (season long) of grazing use within the target area of Tommy's Draw. Even though there would be decreases in grazing use, because of the reductions in perennial species these sites are not expected to recover over the short term of five years and may have crossed a threshold where mechanical treatment would be required to restore these communities.

Gather activities would disturb soils in localized areas, primarily associated with traps and holding pens. Follow-up inspections by BLM of these sites and treatment of any noxious weeds would prevent noxious weeds from invading and dominating adjacent native plant communities. Hay utilized at trap sites or holding facilities could be a source of noxious weeds.

Environmental Consequences of the No Fertility Control Alternative: Same as proposed action except benefits of reduced horses would be shorter duration.

Mitigation: Any hay fed at trap sites or holding facilities, on BLM, will be certified as weed free. Any noxious weeds that establish as a result of the proposed action will be controlled by the BLM.

MIGRATORY BIRDS

Affected Environment: A large array of migratory birds fulfills nesting functions throughout the area's woodland and shrubland habitats during the months of May, June, and July. Species associated with these shrubland and woodland communities are typical and widely represented in the Resource Area and region. Those bird populations associated with this Resource Area's shrublands and pinyon-juniper identified as having higher conservation interest (i.e., Rocky Mountain Bird Observatory, Partners in Flight program) are listed below. These birds are typically well distributed in extensive suitable habitats. Species classified with the forest types (aspen/fir) are best associated with limited aspen and Douglas fir stands along the Cathedral Rim—a habitat type that does not normally attract or sustain horse use.

Birds with High Conservation Priority by Habitat Association in Herd Management Area:

	Habitat Association			
	Sagebrush	**Pinyon-juniper**	**Mountain shrub**	**Aspen/fir**
Birds	Brewer's sparrow, green-tailed towhee	gray flycatcher, pinyon jay, juniper titmouse, black-throated gray warbler, violet-green swallow	blue grouse, Virginia's warbler	broad-tailed hummingbird, red-naped sapsucker, purple martin, Cordilleran flycatcher, MacGillivray's warbler

Portions of perennial or intermittent systems inside the HMA boundary (e.g., Left Fork Stake Springs Draw, Duck Creek, Box Elder Gulch, Corral Gulch, Yellow Creek, Tommy's Draw, and the East and mainstem of Douglas Creek) and those outside the HMA boundary (e.g., Spring Creek, Boise Creek) support a contingent of riparian-affiliated (willow and tamarisk) migratory birds, including: yellow warbler, yellow-breasted chat, blue grosbeak, and lazuli bunting. Although uncommon and sporadic breeding species at this time, willow flycatcher and common yellowthroat are expected to increase in abundance and distribution as the larger channels (i.e., Douglas Creeks) continue to develop more stable and extensive willow and sedge dominated components.

Environmental Consequences from All Alternatives: This document analyzes prescribed horse removal and alternative forms of population management, but authorizes no activities that risk the take of migratory birds or their nests. Gather operations commonly involve the use of aircraft and considerable ground activity, but these activities would be relegated to the fall months outside the migratory bird nesting season.

Mitigation: None.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Public Land Health Standard 4)

Affected Environment: No threatened or endangered animals would be directly involved with, or influenced by, the proposed action. The White River below Piceance Creek is designated critical habitat for the endangered Colorado pike-minnow. Taylor Draw dam, five miles east of Rangely, currently impedes fish access to those portions of the river above Kenney Reservoir.

See the Terrestrial Wildlife section for a discussion of BLM-sensitive greater sage-grouse.

Environmental Consequences of the Proposed Action: Enhanced ground cover and residual litter attending reductions in the intensity and duration of grazing use would incrementally reduce the amount of sediment contributed to the White River and habitats occupied by Colorado pike-minnow. However, only the East Douglas portion (about 30%) of the HMA enters the White River below Kenney Reservoir, which otherwise acts as an effective trap for any upstream sediment (i.e., the Piceance Basin portions of the HMA). Because overland erosion and sediment attributable to the present number of excess horses in the HMA and outlying areas probably constitutes a minor fraction of total sediment load, and although a positive effect, it remains inconceivable that the proposed action would have a discernible influence on the condition, integrity, or function of the lower White River as pike-minnow habitat.

Environmental Consequences of the No Fertility Control Alternative: Same as the proposed action, but by suppressing effective fecundity, the risk and intensity of grazing effects attributable to a chronic excess of horses (i.e., exceeding established population objectives) would be reduced in the short term.

Mitigation: None.

Finding on the Public Land Health Standard for Threatened & Endangered species: Colorado pike-minnow habitat associated with the lower White River in Colorado currently meets the land health standard. Adjusting horse populations consistent with approved objectives (both alternatives) would remedy the incremental, but detrimental influences of elevated grazing use on watershed and channel conditions (i.e., sediment contribution to the White River) and would more fully complement meeting of the land health objectives.

THREATENED AND ENDANGERED PLANTS: (This includes all information related to plants in Public Land Health Standard 4.)

Affected Environment: Two plant species listed as federally threatened (FT) and four plant species listed as BLM sensitive species (BS) occur within the areas of consideration for this removal action.

SPECIES	COMMON NAME	STATUS	LOCATION
Gentianella trotuosa	Utah Gentian	BS	South Cathedral ACEC

SPECIES	COMMON NAME	STATUS	LOCATION
Gilia stenothyrsa	Narrow-Stem Gilia	BS	Lower Greasewood ACEC
Lesquerella congesta	Dudley Bluffs Bladderpod	FT	Duck Creek ACEC Lower Yellow Creek
Lesquerella parviflora	Piceance bladderpod	BS	South Cathedral ACEC Upper Greasewood ACEC
Physaria obcordata	Piceance Twinpod	FT	Lower Yellow Creek
Thalictrum heliophilum	Sun-Loving Meadowrue	BS	South Cathedral ACEC

Nearly all the known populations of these plant species occurring within the area of consideration with the exception of the Piceance twinpod and the Dudley Bluffs bladderpod which also occur within the boundaries of one of the four designated ACECs. All six plants occur on habitats that are barren to semi-barren shales of the Green River Formation or of the Uinta Formation in the case of the narrow-stem Gilia.

Monitoring studies have been established within the HMA on populations of five of the six species. Monitoring studies in the South Cathedral Bluffs ACEC have shown stable populations for the Utah gentian, the Piceance bladderpod and the sun-loving meadow-rue. All three plants occur on shale barrens that are moderately to very steep and are not foraged upon by large herbivores due to the stature of the plant, steepness of the slope and the barrenness of their habitat. Absolutely no evidence was observed at these monitoring sites that horses have ever occupied the habitats for these three species. Likewise, monitoring studies for the narrow-stem Gilia in the Lower Greasewood ACEC have shown very little use of this plant's habitat by horses. Its habitat is also shale barrens on very steep slopes. Monitoring studies on narrow-stem Gilia have shown stable populations that are not foraged upon by large herbivores. Two monitoring sites for the Dudley Bluffs bladderpod occurs in the Duck Creek ACEC, one within the HMA and one within Pasture B of the Square S allotment. Both monitoring sites were established in May, 1996. Each has been sampled four times with the most recent sample taken in May, 2000. The monitoring study within the HMA has shown a declining trend with a 29 percent decrease in the density of the Dudley Bluffs bladderpod. The monitoring study outside the HMA within Pasture B had a 10 percent decline in the density of the Dudley Bluffs bladderpod the 2nd year following establishment. The last two samples (in 1999 and in 2000) have shown an improving trend in density back to the same density as in 1996 when the study was established.

Trampling damage by horses was noted at both study sites. The damage noted was from horses trailing across the study sites, from some horses rolling in the seemingly barren soil and from some horses scuffling and fighting. In most cases due to the weight of the animal and the size of their hooves, some individual plants that were trampled were uprooted or severed at the crown resulting in death of the plant. There are two known locations of the Piceance twinpod within the area under consideration, one population within the HMA and a similar sized population in Pasture A of the Square S allotment. Both populations occur on the east slope of lower Yellow Creek. Both populations contain about 200 plants and are located on the upper third of very steep slopes. No monitoring studies occur for the Piceance twinpod within the area under consideration. No evidence has been observed at either site that indicates horses or any other large herbivore has ever occupied these sites.

Environmental Consequences of the Proposed Action: The potential impacts associated with the proposed action are short term impacts from placement of traps and wings or herding horses with a helicopter on or across the habitat of one on these special status plant species. Also, long term impacts can be associated with the number of horses within the areas under consideration over a given period of time. The Dudley Bluffs bladderpod is likely the only special status plant species that could be impacted by the proposal. No short or long term impacts, negative or positive, are anticipated to occur to the other five special status plant species occurring within the removal area. No impacts are anticipated to these five plants due to the steepness of their habitat and due to the lack of evidence that horses use their habitats. Those species include the Piceance twinpod, the narrow-stem Gilia, the Piceance bladderpod, the Utah gentian and the sun-loving meadowrue. They are not discussed further. During the removal operation, horses are herded by helicopter to a trap site. When the horses are not near the trap, they are allowed to proceed at their own pace, rather than being driven by the helicopter, on trails they are familiar with and use frequently. This part of the operation is not expected to impact the Dudley Bluffs bladderpod. Any trails used in the gather operation which cross habitat for this plant are well used and have been so for many years. No individuals of this plant are expected to occur within these well traveled trails.

The greatest potential for impact from the removal operation on the Dudley Bluffs bladderpod is the location and placement of the trap and the trap wings. Construction of the wings and trap involves mostly hand labor and very little surface disturbance. Some disturbance comes from horses being pushed and squeezed in the wings and the trap. There is surface trampling by the horses in the wings and in the trap. If the trap or wings were located on habitat for this plant, it is likely that a large number of individual plants would be destroyed especially inside the trap. It is not BLM's intent to utilize any potential habitat of the Dudley Bluffs Bladderpod or destroy any individuals of this plant in any aspect of the removal operation. The mitigation noted below will be used to avoid any known or potential habitat for this plant during removal operations. With the noted mitigation, the physical removal of horses as proposed is not likely to affect the Dudley Bluffs bladderpod.

The proposed action is not likely to have any effect, positive or negative on the Piceance twinpod, the narrow-stem Gilia, the Piceance bladderpod, the Utah gentian nor the sun-loving meadowrue. The proposed action is likely to affect the Dudley Bluffs bladderpod but not likely to adversely affect the viability of any populations within the area under consideration.

Environmental Consequences of the No Fertility Control Alternative: Will be the same as the proposed action.

Mitigation: No facilities associated with removal actions (trap sites including any wings, corrals, holding pens, etc.) will be allowed within the boundaries of the Duck Creek ACEC. A botanical inventory for the presence of *Lesquerella congesta* (Dudley Bluffs bladderpod) and/or *Physaria obcordata* (Piceance twinpod) and any potential habitat for either species would be conducted on all facilities before any activity takes place within Pastures A and B of the Square S allotment and within T1N, R98W; T1N, R99W; T1S, R98W and T1S, R99W of the Yellow

Creek allotment. Any plant locations or potential habitat identified in the inventory will become complete avoidance areas for any facilities proposed for use in this removal action.

Any facilities associated with removal actions (trap sites including any wings, corrals, holding pens, etc.) placed within the South Cathedral Bluffs ACEC, the Upper Greasewood ACEC or the Lower Greasewood ACEC will have a botanical inventory conducted for the BLM sensitive plants known to occur within one of these ACECs. Any plant locations identified in the inventory will become complete avoidance areas for any facilities proposed for use in this removal action.

Finding on the Public Land Health Standard for Threatened & Endangered species: There is no reasonable likelihood that the proposed action or alternative would have an influence on the condition or function of Threatened, Endangered, or Sensitive plant species provided that the mitigation is followed. Thus there would be no effect on achieving the land health standard.

WASTES, HAZARDOUS OR SOLID

Affected Environment: Any equine medical products may be used on the wild horses requiring medical attention. Any products used will be collected by the contract veterinarian and/or qualified BLM personnel. Approximately 35 wild horses will be prepared for adoption at the Yellow Creek Corrals. These wild horses will be vaccinated and freeze branded. All needles will be handled by the contract veterinarian and/or by qualified BLM personnel. The liquid nitrogen used for freeze branding will be handled by BLM personnel familiar with freeze branding and handling of liquid nitrogen. The Porcine Zona Pellucida (PZP) would be handled by trained BLM personnel and/or the veterinary team doing the primer and booster at the Yellow Creek Corrals.

Environmental Consequences of the Proposed Action: Wild horses offered by adopt to the public require vaccinations and permanent identification marks through freeze branding. Porcine Zona Pellucida (PZP) would be used for fertility control in the mares being released back into the HMA. Each mare will receive a permanent, specific freeze brand marking of an Alpha-numeric on the left hip. Needles or equipment and supplies used for freeze branding and fertility control could present a hazard to public safety.

Environmental Consequences of the No Fertility Control Alternative: Same as proposed action less the PZP.

Mitigation: All needles and/or medical supplies will be collected and disposed of by the contract veterinarian or trained BLM personnel. The liquid nitrogen will be handled only by experienced personnel familiar with freeze branding. The Hazardous Materials Coordinator will be notified in the case of nitrogen spillage. The Porcine Zona Pellucida (PZP) would be handled by trained BLM personnel and/or the veterinary team doing the primer and booster at the Yellow Creek Corrals.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: The management area lies primarily within the upper Douglas Creek watershed and the Yellow Creek drainage which are both partially perennial tributaries to the White River. The White River is a tributary to the Green River (in Utah) which is a tributary to the Colorado River. Spring discharge from these semi-arid lands generally occurs from mid March through early May. Runoff-producing rainfall occurs as localized storms in the late summer and early fall.

The "Status of Water Quality in Colorado – 2004" plus the 2006 update (CDPHE, 2006b) were reviewed for information related to the proposed recreation area. The herd management area is situated entirely within the White River Drainage Basin. The following table (Table 1) shows the affected water quality stream segments, area impacted (in acres), as well as any special designations for each of the affected stream segments.

Table 1

Stream Segment	River Basin	Acres Affected	Designated Beneficial Uses	Use Protected (Y/N)	303(d) listed?	M&E listed?	Impairment
12	White	18,540	Aquatic Life Warm 1, Recreation 1a, Water Supply, Agriculture	N	N/A	N/A	N/A
13a	White	73,834	Aquatic Life Warm 2, Recreation 2, Agriculture	Y	N/A	N/A	N/A
13b	White	123,695	Aquatic Life Warm 2, Recreation 2, Agriculture	Y	N/A	N/A	N/A
15	White	2,642	Aquatic Life Warm 2, Recreation 1b, Agriculture	N	N/A	N/A	N/A
16	White	1	Aquatic Life Warm 2, Recreation 2, Agriculture	Y	N/A	N/A	N/A
22	White	40,345	Aquatic Life Warm 2, Recreation 1b, Agriculture	Y	Douglas Creek	Soldier Creek	Sediment
23	White	21,893	Aquatic Life Cold 1, Recreation 1a, Water Supply, Agriculture	N	N/A	N/A	N/A

Stream segments 12, 15 and 23 have not been classified as use protected. An intermediate level of water quality protection applies to waters that have not been designated outstanding waters or use-protected waters. For these waters, no degradation is allowed unless deemed appropriate following an antidegredation review. Stream segments13a, 13b, 16, and 22 have been designated as use protected. The antidegredation review requirements in the Antidegredation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. Numeric standards for each stream segment can be found in Regulation No. 37 Classifications and Numeric Standards for Lower Colorado River Basin (CDPHE, 2004a).

Newly promulgated Colorado Regulations Nos. 93 and 94 (CDPHE, 2006c and 2006d, respectively) were also reviewed for information related to the proposed project area drainages. Regulation No. 93 is the State's list of water-quality-limited segments requiring Total Maximum Daily Loads (TMDLs). The 2006 list of segments needing development of TMDLs includes one segments affected by the HMA, segment 22, tributaries to the White River, Douglas Creek to the Colorado/Utah boarder, specifically West Evacuation Creek, and Douglas Creek (sediment impairments). Regulation 94 is the State's list of water bodies identified for monitoring and evaluation, to assess water quality and determine if a need for TMDLs exists. The list includes the White River segment 22. A significant portion (40,345 acres) of the herd management area

is situated in the Douglas Creek catchment area. Douglas Creek was added to the states 303(d) list of impaired watersheds requiring TMDLs effective April 30, 2006. Compliance and consistency with the state nonpoint source management plan, state water quality standards and the Clean Water Act (CWA) is mandatory. The CWA places responsibility for protection of water quality with the states and requires federal agency compliance.

Environmental Consequences of the Proposed Action: Removal of wild horses would aid in relieving pressures on the existing drainage areas. Because wild horses tend to remain in the same area year after year, watershed conditions in sensitive watersheds are at an extreme risk of becoming more degraded if horses are left to exceed AML. Proper grazing practices within fragile watersheds are consequential in reducing erosion and sedimentation from both streambed and upland sources. Improving the rangeland condition and vegetation cover by reducing the amount of vegetation grazed by wild horses, would have a positive affect on watershed stability and water quality. It is expected that fertility control on mares would help keep the number of yearly increases (foals being born) to a minimum. This too, would have a positive affect on watershed conditions.

Environmental Consequences of the No Fertility Control Alternative: Impacts would be similar to the proposed action except the benefits derived from fertility control (less foals being born) would not be realized over the short-term.

Mitigation: None

Finding on the Public Land Health Standard for water quality: With the exception of Douglas Creek (listed on the states 303(d) list for sediment impairments) most of the affected watersheds within the herd management area are identified as meeting land health standards. However, many of the upper tributaries are ephemeral in nature and do not meet standards during periods of peak flows. Reducing horse numbers within the herd management area will help return portions of stream segment 22 back to meeting standards.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: Within those areas currently occupied by horses, there are a number of perennial or intermittent systems that support riparian vegetation, both within (e.g., Left Fork Stake Springs Draw, Box Elder and Corral Gulch, Duck and Yellow Creeks, Tommy's Draw, and East and mainstem Douglas Creeks) and outside (e.g., Spring Creek, Boise Creek) the HMA. A number of these systems are not noticeably influenced by horse use. Horses are not prone to use deeply incised channels or areas in close proximity to heavily traveled roads (e.g., East and main stem Douglas Creeks, Duck Creek). Beaver are present on both Main Stem and East Douglas creek and the flooded areas behind the beaver dams largely discourage livestock and horses from traveling the floodplain. There are currently insufficient numbers of horses in the Spring Creek and Boise Creek area and riparian habitats on Magnolia to noticeably influence these systems (minimum 14 channel miles), though grazing-related effects continue to be pertinent and would become apparent if these populations outside the HMA are allowed to expand.

The overall status and condition of riparian-bearing channels in the HMA potentially influenced by horses are consistently assigned a "functional at-risk" condition rating with slowly improving to non-apparent trends. Typically, these channels suffer from poorly developed bank and floodplain vegetation which is dominated by facultative upland species or grazing-tolerant introduced species. Many of these systems involve nonfunctional reaches that attend recent or active downcutting events. These conditions and their inability to establish proper functioning conditions or a strong improving trend lies with their continued subjection to inappropriate duration, timing, and intensity of grazing and trampling effects from livestock, horses and, in some cases, big game. At population levels within the AML range, horse distribution within the HMA tends to display pronounced seasonal elevation shifts similar to big game. At higher population densities, and due to their territorial nature, horse distribution becomes increasingly uniform and sedentary across the HMA, and any tendency for horses to move between discrete seasonal ranges weakens. At higher densities, including current populations, horse distribution involves year-round occupation of the HMA's lowest elevation ranges to the northeast and east.

Current horse use within the HMA (i.e., more sedentary range use) tends to compromise seasonal livestock grazing regimens that have been designed and implemented to reduce the intensity and duration of grazing use of riparian and valley terrace vegetation. For example, the Left Fork of Stake Springs, associated with higher elevation mixed shrub habitats receives about 30-45 days of livestock use during the spring/early summer, but is subject to over 200 days of horse use (May through November). Tommy's Draw is grazed by livestock for 60 days in the spring and 45 days in the winter versus over 250 days spring through the early winter season use by horses. Similarly, lower Yellow Creek is grazed by livestock for 40 days in the spring and 60 days in winter versus virtual yearlong use by horses at present. Persistent, long duration use through the growing season invariably reduces the vigor and density of herbaceous components and prompts shifts in composition to grazing or trampling tolerant species such as redtop, Kentucky bluegrass, dandelion, and yarrow plus invites the establishment and proliferation of noxious weeds. These shallow and relatively weakly-rooted species provide little resistance to erosion and are incapable of supporting proper functioning channel conditions. This situation is most applicable on two miles of the Left Fork of Stake Springs, three miles of Tommy's Draw, and some less confined reaches within the lower six to eight miles of Yellow Creek channels.

Removal of nearly 70% of the horses within the HMA is expected to promote more seasonality in subsequent grazing use patterns by horses, relieve the influence of long duration horse use, and allow livestock management prescriptions designed to enhance riparian and channel conditions to operate as intended. Cumulative grazing use patterns that are more seasonal, of shorter duration, and of reduced intensity would be more consistent with desired maintenance or improvement of these at-risk riparian and channel systems.

In all cases, horses contribute to the cumulative removal of herbaceous material from channel features and valley terraces. The 200 to 300 horses presently excess to the prescribed AML range of 135 to 235 horses within the HMA and all horses outside the HMA (62 head), either through prolonging the duration and/or intensity of grazing use, exacerbate grazing-related effects on riparian condition and function, including: 1) increasing the rate and absolute quantity of bank and floodplain vegetation removed, which impairs the systems ability to capture and retain

sediment for channel development and restoration processes (this effect can involve extending concentrated use more deeply into the growing season or increasing dormant season use when there are no further opportunities for regrowth and reestablishment of effective stubble), 2) prolonging growing season use that depresses the vigor and density of channel vegetation and selects against those obligate herbaceous forms that yield optimum channel stability and erosion resistance, and 3) reducing plant vigor and density and reducing residual surface litter on valley terraces, which reduces moisture infiltration and alluvial storage that sustains and prolongs delivery to adjacent channels through the summer and fall months. Reducing the duration and intensity of grazing on valley terraces along riparian-bearing channels within the HMA would increase foliar cover, surface litter, and stem/root mass densities, thereby enhancing moisture infiltration and directly increasing channel recharge and contributing incrementally to prolonged flow and vegetation expression in adjacent channels. Removal of horses outside the HMA would eliminate the minor influence of horse use on about 14 miles of riparian-bearing channel, but more importantly, would eliminate the potential for the eventual development of grazing-related problems on these systems as horse populations expand.

Environmental Consequences of the Proposed Action: Actual gather operations would have no direct impact on any riparian or wetland sites as no traps will be placed in or adjacent to riparian areas.

Environmental Consequences of the No Fertility Control Alternative: Same as the proposed action, but by suppressing effective fecundity, the risk and intensity of grazing effects attributable to a chronic excess of horses (i.e., exceeding established population objectives) would be reduced in the short term.

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: Adjusting horse populations to meet approved population objectives within the HMA would substantially reduce ungulate grazing use intensity and the deleterious effects of season-long grazing regimes on affected channel systems. This management action would complement recent improvements in livestock grazing management and promote grazing use compatible with sustained improvements in channel function and condition.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No flood plains, prime and unique farmlands, or Wild and Scenic Rivers exist within the area affected by the proposed action. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: Overgrazing removes the vegetation that protects soils during runoff events. The production of vegetation is dependent on conditions we do and do not control. Some of these conditions are the amount and distribution of precipitation, water infiltration rates, subsurface soil conditions and management practices.

The soils have been mapped by the Natural Resources Conservation Service (NRCS) in an Order III soil survey for Rio Blanco County. Complete detailed maps and mapping unit descriptions are found in the published survey (NRCS 1982) and are on file at the White River Resource Area office. Listed below, are major soil mapping units which occur within the Piceance HMA.

Soil Number	Soil Name	Affected Acres	Ecological site	Salinity Mmohs	Erosion Potential
73	Rentsac channery loam	68,476	Pinyon-Juniper woodlands	<2	Moderate to very high
74	Rentsac-Moyerson-Rock Outcrop complex	56,127	PJ Woodlands/Clayey Slopes	<2	Moderate to very high
91	Torriorthents-Rock Outcrop complex	41,159	Stoney Foothills	-	Very high
36	Glendive fine sandy loam	11,501	Foothills Swale	2-4	Slight
15	Castner channery loam	10,122	Pinyon-Juniper woodlands	<2	Moderate to very high
75	Rentsac-Piceance complex	8,334	PJ woodland/Rolling Loam	<2	Moderate to high
10	Blazon, moist-Rentsac Complex	7,967	Pinyon-Juniper woodland	2-4	Moderate to very high
53	Moyerson stony clay loam	7,799	Clayey Slopes	2-4	Very high
1	Abor Clay Loam	6,722	Clayey Foothills	<4	High
42	Irigul channery loam	6,142	Loamy Slopes	<2	Very high
13	Bulkley channery silty clay loam	5,023	Pinyon-Juniper woodlands	<2	High
104	Yamac Loam	3,775	Rolling Loam	<2	Slight to moderate
70	Redcreek-Rentsac complex	3,748	PJ woodlands/PJ woodlands	<2	Moderate to high
58	Parachute Loam	3,310	Brushy Loam	<2	Very high
41	Havre loam	3,236	Foothill Swale	<4	Slight
59	Parachute-Rhone loams	2,831	Mountain Loam	<2	Moderate to high
87	Starman-Vandamore complex	2,743	Dry Exposure/Dry Exposure	<2	Moderate to very high
43	Irigul-Parachute complex	2,535	Loamy Slopes/Mountain Loam	<2	Slight to high
64	Piceance fine sandy loam	2,501	Rolling Loam	<2	Moderate to high
76	Rhone loam	2,399	Brushy Loam	<2	Very high
96	Veatch channery loam	2,330	Loamy Slopes	<2	Moderate to very high
21	Cliffdown-Cliffdown Variant complex	1,851	Saltdesert Breaks	<2	Slight to moderate

Soil Number	Soil Name	Affected Acres	Ecological site	Salinity Mmohs	Erosion Potential
90	Torrifluvents gullied	1,461	None	-	Very high
78	Rock Outcrop	1,447	None	-	Slight
89	Tisworth fine sandy loam	1,421	Alkaline Slopes	>4	Moderate
56	Northwater loam	1,218	Aspen Woodlands	<2	Moderate to very high
11	Borollic Calciorthids-Guben Complex	1,081	Stony Foothills/Rolling Loam	<2	Moderate to high
69	Razorba channery sandy loam	990	Spruce-Fir woodland	<2	Very high
55	Nihill channery sandy loam	974	Saltdesert Breaks	<2	Moderate to very high
95	Uffens loam	864	Alkaline Slopes	4-8	Moderate
35	Gaynor-Midway silty clay loam dry	853	Silty Saltdesert	<2	Moderate to high
7	Billings silty clay loam	752	Alkaline Slopes	2-8	Moderate to high
33	Forelle loam	735	Rolling Loam	<2	Moderate
31	Dollard silty clay loam	657	Clayey Foothills	<2	Very high
6	Barcus channery loamy sand	654	Foothills Swale	<2	Moderate
46	Kinnear fine sandy loam	641	Loamy Saltdesert	<4	Slight
48	Kobar silty clay loam	604	Deep Clay Loam	<2	Moderate
25	Colorow sandy loam	555	Sandy Saltdesert	<2	Slight
66	Potts-Begay fine sandy loams	520	Loamy Saltdesert/Sandy Saltdesert	<2	Moderate
67	Rabbitex flaggy loam	407	Pinyon-Juniper woodland	<2	Moderate to very high
9	Blakabin-Rhone-Waybe complex	394	Brushy Loam/Brushy Loam/Dry Exposure	<2	Moderate to very high
94	Turley fine sandy loam	367	Alkaline Slopes	2-4	Slight to moderate
93	Turley fine sandy loam	338	Alkaline Slopes	2-4	Slight
5	Badland	306	None	-	Very high
82	Silas loam	276	Mountain Swale	<2	Slight to moderate
62	Patent loam	252	Rolling Loam	<2	High
37	Glenton sandy loam	189	Alkaline Slopes	<4	Moderate
22	Clifterson channery loam	155	Loamy Saltdesert	<2	Moderate
49	Kobar silty clay loam	135	Deep Clay Loam	<2	Moderate to high
34	Forelle loam	60	Rolling Loam	<2	Moderate to high
38	Guben loam	60	Rolling Loam	<2	Slight
61	Patent loam	41	Rolling Loam	<2	Moderate
92	Trembles loam Wet	40	Salt Meadow	<2	Slight
102	Work Loam	36	Deep Loam	<2	Moderate to high
40	Hagga loam	22	Swale Meadow	2-8	Slight
47	Kobar silty clay loam	15	Deep Clay Loam	<2	Slight

In addition, 77 percent of the soils within this HMA have soil properties (i.e. saline, very high erosion potential with slopes greater than 35%, subject to flooding, etc.) that restrict their use. Impacts to soils would be the same as any surface disturbing activity. Managing for proper

vegetation cover and litter is a condition we have control over. Implementing proper management practice protects the watersheds from soil loss caused by water erosion during spring snowmelt and intense rainfall.

Environmental Consequences of the Proposed Action: Removal of wild horses would aid in relieving pressures on the existing drainage areas. Annual runoff from public land is quite variable and is dependent on soil type and properties, vegetation type and density, watershed aspect and slope, amount of precipitation, and management practices. Forage deficits could deplete the vegetation cover needed to protect watersheds from runoff/erosion and could cause long-term increases in hill slope soil erosion. Sensitive (e.g. fragile soils) watersheds have a very high erosion potential and are frequently high is salts. It is evident from the data collected by the USGS, that the affected drainages often contribute increased sediment/salt loads to the White River. Because wild horses tend to remain in the same area year after year, watershed conditions in these sensitive watersheds are at an extreme risk. Proper grazing practices within fragile watersheds are consequential in reducing erosion and sedimentation from both streambed and upland sources. Direct and indirect impacts from gather activities would include but are not limited to, disturbance of vegetation and soil compaction at the trap sites. These impacts are expected to be short-term recovering to pre-horse removal conditions within three years.

Environmental Consequences of the No Fertility Control Alternative: Without the use of fertility control the range would continue to experience watersheds at extreme risk levels.

Mitigation: None.

Finding on the Public Land Health Standard for Upland Soils: Most of the affected soils within the herd management area currently are meeting standards for upland soil health. However, areas identified as being in early seral states which are dominated by undesirable plant species such as cheatgrass (see Invasive, Non-Native Species and Vegetation portions of this document) do not meet standards. Portions of the herd management area in early seral states have significantly reduced infiltration and permeability rates which can lead to increased hill slope soil erosion.

VEGETATION (includes a finding on Standard 3)

Affected Environment: The reader is referred to the 1996 White River Resource Area (WRRA) Removal Plan/Rangeland Evaluation, WRRA Environmental Assessment (EA) 96-072 and the 2002 Piceance-East Douglas HMA EA/Gather Plan, WR-02-049. Both these documents have detailed vegetation data and analysis.

Extensive information regarding the vegetation resource is available for review in the White River ROD/RMP. Vegetation in the project area is dominated by pinyon-juniper woodland sites. At the higher elevations the pinyon/juniper community is replaced by a mountain shrub type of mountain big sagebrush, serviceberry, chokecherry and snowberry, with pockets of aspen and subalpine fir on the north facing slopes. The top of the Cathedral Bluffs and the head of Greasewood feature a grassland community favored by horses for summer range. At the lowest

elevations Wyoming big sagebrush and basin big sagebrush/greasewood communities predominate. An Ecological Site Inventory of the entire Piceance-East Douglas HMA was completed from 1991-1993. An Ecological Site inventory was completed for the Greasewood portion of the HMA in 1997. The range sites are: Foothill Swale, Rolling Loam, Stony Foothills, Clayey Slopes, Loamy Slopes, Alkaline Slopes, Clayey Foothills, Brushy Loam, Mountain Loam, Dry Exposure and Mountain Swale. A complete description of these range sites, their physical, climatic, soil and vegetation components is available at the White River Field Office.

Photo #1- Willow Creek Fire 2001, showing moderate utilization.

Photo #2 - Willow Creek Fire 2005, showing heavy wild horse use and increasing rabbitbrush.

Monitoring Studies

Rangeland monitoring, utilization, focused on the Barcus –Pinto Unit of the HMA primarily because of the fact that when the Piceance part of the HMA is overpopulated, wild horses tend to use this unit on a continuous rather than seasonal basis. This monitoring continues to show wild horse utilization in excess of prescribed levels both on a seasonal and yearlong basis. Utilization studies were conducted using the Key Forage Plant method.

Piceance Portion Piceance East Douglas HMA Wild Horse Utilization Summary 2003-2005

Key Area	Season of Use				% Utilization By Species						
	Spring	Summer	Fall	Winter	Indian Rice Grass	Western Wheat Grass	Bluebunch Wheat Grass	Blue Grass (mutton sandberg)	Thickspike Wheat grass	Needle and Thread	Winter fat
2003											
Pinto Mesa		X			63	50		60			63
Pinto Gulch			X		70	44		60		62	
Pinto Gulch			X			70	50			61	
Pinto Mesa			X			55	70	70		66	
Pinto Mesa			X			60		60		69	
2004											
Middle Barcus				X	56		66				
Middle Barcus				X			50	23			68
North Barcus				X	56		64		54		
North Barcus				X	64		70		57		
Pinto Mesa	X					35		50		45	
Pinto Mesa	X							50		44	
Pinto Mesa	X				50		54			49	
Pinto Mesa	X				68		53			50	
Pinto Mesa	X					45				59	
2005											
North Barcus				X	85		84		81		
North Barcus				X	76		78		76		
North Barcus	X				66	43	64				
Pinto Mesa	X				60		64			50	
Pinto Mesa	X					35	63			56	
Pinto Mesa	X				63		70				
Pinto Mesa		X			70	59				60	

East Douglas Portion Piceance East Douglas HMA Wild Horse Utilization Summary 2001, 2005

Year	Key Area	Season of Use C-Cattle H-Horses				% Utilization By Species					
		Spring	Summer	Fall	Winter	Western Wheat Grass	Crested Wheat grass	Pubescent wheatgrass	Orchard grass	Bluebunch wheatgrass	Carex
2001	Willow Cr Fire	C,H	H	C,H	H		37	47	90		
2001	Tommy's Uplands	C,H	H	C,H	H	43				43	
2001	Tommy's Bottom	C,H	H	C,H	H	70					
2001	Tommy's Pipeline	C,H	H	C,H	H			70			
2001	Wild Rose	C,H	H	C,H	H	42					
2001	Horse Pasture	C,H	H	C,H	H	50					
2005	Willow Cr Fire	C,H	H	C,H	H		Not Found	84	Not Found		
2005	Tommy's Uplands	C,H	H	C,H	H	50					50
2005	Tommy's Bottom	C,H	H	C,H	H		90	90			
2005	Tommy's Pipeline	C,H	H	C,H	H			90			
2005	Wild Rose	C,H	H	C,H	H	40					
2005	Horse Pasture	C,H	H	C,H	H			70			

Studies continue to show that utilization of the forage resource exceeds both the White River ROD/RMP and Herd Management Area Plan limits both on a seasonal and yearly basis. The immediate past and current levels of forage utilization coupled with the severity of the drought conditions from 2001-2004 continues to negatively impact rangelands throughout the HMA.

Rangeland trend studies set up to monitor the success of fire rehabilitation projects in Barcus Creek, North Barcus and East Greasewood have also documented the ongoing negative impact that the overpopulation of wild horses is having on desirable plant species in these areas.

Environmental Consequences of the Proposed Action: Failing to remove wild horses will increase the numbers of wild horses by approximately 20% each year and 100% in four years. Utilization on those sites showing heavy or severe rates are expected to remain unchanged with horses continued use of these areas and the need to range further to acquire forage. As the horses range out further in search of forage, utilization both in terms of intensity and duration will increase on these areas as well. The end result will be degradation of these communities in composition and productivity which will require the horses to continue their search for forage. The above scenario is exactly what is occurring in the Tommy's Draw area where as horses have expanded their range outside of the HMA and degradation of plant communities are occurring. The photos below are of the Willow Creek fire which is immediately outside of the East Douglas Herd Management Area boundary.

Removal of the 35 horses in the Tommy's Draw area and immediately outside of the HMA will decrease use in these areas by 795 AUMs which would decrease forage utilization between

horses and livestock by more than 63%. In addition year-long grazing would be reduced until horses reoccupy the area, with the expected result that these plant communities will recover.

Applying immunocontraception would, in the case of the wild horses released back into East Douglas area allow the population to recover to approximately 26 horses in 2010 (this figure is 10%/year rate).

Rangeland monitoring studies continue to support the need for a drastic reduction in the population of horses in the Piceance – East Douglas HMA so that rangeland recovery may take place. Should the proposed action be fully implemented and the horse population managed in the future within the prescribed AML rang, e then it is reasonable to expect that rangeland vegetation would experience both a short and long term recovery in cover and production.

Environmental Consequences of the No Fertility Control Alternative: Gathering the horses down to the low end of the AML without fertility control will mean that by the next scheduled gather in approximately 2010 (4 year cycle), the adult population will exceeded the high end of the AML by at approximately 40 head of wild horses and possibly upwards of 100 head of wild horses. This overpopulation is not compatible with maintaining and improving rangeland conditions as prescribed in the White River ROD/RMP.

Mitigation: Monitoring will assist identifying any additional actions necessary; i.e. aggressive rehabilitation and re-vegetation efforts including but not limited to aerial and drill seeding with adapted species especially following large wildland fires within the Herd Management Area.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): In summary, the current and immediate past overpopulation of wild horses and their utilization of rangelands in the Piceance – East Douglas HMA is inconsistent with and is a direct contradiction of the Colorado Standards for Rangeland Health adopted July 1, 1997.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: The larger mainstem and East Douglas Creeks and Yellow Creek are the only systems capable of supporting higher order aquatic habitats (i.e., vertebrate forms) within the area occupied by horses. Mainstream Douglas and East Douglas Creek are proper functioning systems that have sustained a long term improving trend in aquatic habitat conditions. Lower East Douglas Creek, a willow-dominated system heavily colonized by beaver, is occupied throughout its length by speckled dace and occasionally by trout that disperse from upstream reaches. Enhanced flow delivery from East Douglas Creek has initiated improving trends in mainstem Douglas such that willows continue to expand downstream and laterally as does the persistence and extent of beaver occupation. At the present time and in spite of flow variability and heavy periodic sediment loads that severely limits habitat conditions for fish and other vertebrate forms; Douglas Creek persists in supporting discontinuous populations of speckled dace.

Beaver have sporadically occupied portions of lower Yellow Creek, a larger sedge-dominated system, over the past 20 years, but within 3 miles of the White River, recent occupation by beaver has tended to be more expansive and prolonged. As of 1993, no fisheries had ever been documented from Yellow Creek, but recent investigations by BLM found relatively strong populations of native speckled dace and introduced white sucker below the Barcus Creek confluence.

Environmental Consequences of the Proposed Action: Horse use is not currently influencing riparian character or aquatic conditions in the Douglas Creek drainage. Removal of horses as proposed would ensure that continued expansion of horse populations would not begin to adversely influence these systems. Vegetation density and residual aftermath remaining after the grazing period (including regrowth) on those portions of Yellow Creek now sustaining yearlong use by horses would be expected to undergo marked improvement in the short term (see discussion in Riparian section). Reducing the HMA's horse population by 70% should have the effect of not only reducing the intensity of use during the grazing period, but, by reestablishing seasonality in grazing use patterns, allow effective vegetation recovery after the grazing use period. By removing the influence of yearlong horse use, livestock grazing systems that have been designed to operate in a manner that is more compatible with riparian and channel function would be allowed to express themselves in the longer term development of obligate riparian/wetland forms (e.g., sedge, rush) which offer superior erosion resistance and are key elements in supporting processes that improve and restore channel function. Proper functioning systems, by merit of riparian vegetation expression, increased channel stability, prolonged flow, and more complex channel morphology, generally support richer and more diverse animal communities than degraded stream systems, be it a vertebrate or invertebrate.

Environmental Consequences of the No Fertility Control Alternative: Same as the proposed action, but by suppressing effective fecundity, the risk and intensity of grazing effects attributable to a chronic excess of horses (i.e., exceeding established population objectives) would be reduced in the short term.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): Aquatic habitats associated with the HMA currently meet the land health standards. Adjusting horse populations to meet approved population objectives within the HMA would substantially reduce grazing use intensity and the deleterious effects of season-long grazing regimes in localized portions of these watersheds and would complement recent improvements in livestock grazing management. Both alternatives would support and strengthen sustained improvements in aquatic habitat conditions consistent with continuing to meet land health standard.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: Big Game: Horse distribution in this Resource Area is coincident with the seasonal ranges of mule deer and elk. Elk populations in Game Management Units 21 and 22 (part of DAU E-10) are thought to be fairly consistent with Colorado Division of Wildlife's (CDOW) long-term population objective. Although the numbers of elk in DAU E-10 are thought to be at population objective, it is believed that the number of animals actually occupying public land portions of Piceance Basin has declined since 1996, whereas elk in the Douglas basin are thought to have undergone modest increases since that time. Deer population objectives are consistent with those authorized in the White River ROD/RMP in 1997 for the Piceance and Douglas planning units, but their current status varies widely. Although overall deer populations exceed objectives in the expansive DAU D-7 (which includes Piceance Basin), winter use in GMU 22 may more accurately mirrors trends in adjoining units to the south (about 30% below objective). Wintering deer populations are thought to be substantially lower (as much as 50%) than desired objectives in Douglas (GMU 21).

In general, the seasonal ranges of horses are not as spatially distinct as big game and their continuous, yearlong pattern of occupation tends to largely coincide with traditional big game transition and winter ranges. This distribution pattern appears to be exaggerated at higher horse densities. The effects of horse removal on big game habitats involves the incremental reduction in the rate, persistence, and ultimate degree of herbaceous and woody plant material removed by large grazers within and surrounding the HMA. Forage-related impacts between horses and big game are additive to and similar in nature to livestock and interspecific big game competition. Although horses compete with big game for forage resources, authorized forage use within the HMA has been integrated in a multiple use context. However, the demographics of current horse populations aggravate forage-related competition between and among deer, elk, and livestock by exceeding the range of authorized use (i.e., currently 200 head over the upper end of AML) and extending to at least 100,000 acres outside the HMA.

Competitive interaction among horses and big game during the summer is most likely when horses co-habit ranges in close proximity to Piceance Basin's relatively limited aspen habitats. Favored fawn and calf-rearing habitat along the Cathedral Rim is best represented by aspen woodlands and surrounding mixed shrub communities within 1 mile of free water. Considering the attraction of water for all summer/fall grazers, these areas are frequently subjected to heavy use of herbaceous growth. Declining availability in preferred forb forage, both through grazing use and a decline in conditions amenable to soil moisture retention (i.e., standing crop and litter), reduces the prospects of deer or elk maintaining favorable nutritional status through the fawn or calf-rearing period. In any case, increasing numbers of horses impose still further on a limited herbaceous forage base and increases the likelihood of short-term overuse and long-term deterioration of rangeland productivity and plant diversity in favored big game summer habitats.

Horses have expanded their range to include expanses of important big game winter habitats outside the HMA (see table in Affected Environment). In situations where herbaceous forage is limited (i.e. excessive grazing use, declining range condition, or limited site potential) horses make increasing use of woody forages relied upon by wintering deer. Forage competition is exaggerated with coincident use of southerly exposures during the winter use period by deer and

horses. Horses, by virtue of behavior and physique, are capable of seeking new range when forage supplies are exhausted, whereas deer, because of strong and rigid fidelity to traditional seasonal home ranges, will remain on discrete winter range parcels depleted by transient and gregarious groups of horses. It appears, too, that horses exert indirect and long-term influences on woody forage supplies on deer winter and transitional ranges by quickly discovering and making prolonged use of vegetation manipulation projects or wildfires (e.g., a number of recent large fires on Calamity Ridge). Although emerging herbaceous growth is likely the primary attraction, horses wander extensively through these areas during the growing season, stripping leaves from leaders of resprouting shrubs. This form of use causes the leaders to die-back, reducing the availability of dormant woody forage for subsequent winter use and reducing overall plant vigor and further growing season production, as well as causing a long-term shift in community structure and composition adverse to deer.

The current distribution of horses in Piceance Basin outside the HMA boundary involves double the extent of Piceance Basin's deer and elk ranges as authorized within the HMA. Current horse distribution in the Douglas basin east of mainstem Douglas and East Douglas Creeks involves relatively little big game range outside the HMA (approximately 5,000 acres each of deer general winter range and elk severe winter range).

Relative extent(%) of big game seasonal ranges within authorized HMA boundary and that coinciding with current horse distribution						
	Deer			**Elk**		
Seasonal Ranges	HMA within Piceance Basin	Current Piceance Basin	HMA within Douglas Basin	HMA within Piceance Basin	Current Piceance Basin	HMA within Douglas Basin
General Winter Range	16	35	15	23	58	17
Severe Winter Range	16*	40*	5	48	96	17
Summer Range	17	31	2*	5*	12*	---
*Designation conveyed to habitats that, within a given herd area (DAU), are most limited in supply or are of inordinate value; the loss or deterioration of which would adversely affect the species.						

The mid to late winter/early spring period (December to early May) presents the greatest nutritional challenge for deer, in part, because the quantity and accessibility of forage is constrained by snow accumulations and the nutritional properties of available forage are low. Adequate forage volume and quality are essential for avoiding excessive and irreversible weight loss that results in excessive winter mortality and inadequate fetal development. Under heavy snow conditions and under normal circumstances by February, deer are often relegated to south facing slopes on late winter ranges (i.e. severe winter ranges) which offer moderated daytime temperatures and snow depth. Although forage volume is small, south-facing slopes promote early herbaceous emergence and minimal constraint in accessing forage. Severe winter ranges are those that by virtue of elevation and aspect moderate the effects of snow depth and temperatures during winters of heavy snowfall and extreme cold. They are specifically defined as that part of the winter range where 90% of the animals are located when snowpacks are a maximum in the worst two years out of 10, but receive consistent annual use by large numbers of animals in the late winter and early spring months.

In March and April, deer seek and make increasing use of emerging herbaceous forage (up to 40% grasses). Early spring (April-May) forage supplies and availability are essential for increasing the physical condition of deer recuperating from winter deficiencies in preparation for spring movements, accelerated fetal growth and development, and subsequent lactation. Summer diets (June-August) involve 60-90% herbaceous forage, primarily forbs. As forbs progress toward dormancy with the onset of warmer and drier summer conditions, their nutritional value declines, and management that prolongs the availability of succulent, high quality forage is of great advantage. As the sites producing fresh herbaceous material decline through late fall, browse begins to assume a dominant and nutritionally superior dietary fraction. Throughout this period (August through December), deer must assimilate nutrients and energy in excess of need, thereby allowing for the production and storage of fat and protein reserves in preparation for winter. Nutritional assimilation is strongly enhanced by a diverse diet, regardless of season. There are indications that depressed deer production and periodic low winter fawn survival is depressing the resilience of Piceance and Douglas populations and is indicative of forage-related deficiencies on ranges occupied outside the late winter season (i.e. spring and early winter). CDOW has responded to this issue, in part, by reducing herd objectives in the Douglas and Piceance basins by 10-20% for deer (compared to 1987-90 populations) and adopting a management strategy of maintaining smaller, more resilient herds with enhanced productivity and reduced winter carryover. DOW is also continuing to curb/reduce the rate of elk expansion in Piceance and Douglas basins through regulated harvest.

Raptors/Nongame: Raptor nesting activities (i.e. hawks, eagles, and owls) are dispersed throughout the project area in pinyon-juniper woodlands (e.g. Cooper's hawk, long-eared owl) and on rock outcrops (e.g. golden eagle). The bulk of nest activities are normally complete by early August, but late attempts or renesting can lapse through the first two weeks of August. Although limited, nesting records for all potentially affected species indicate that virtually all buteo hawks, eagles, and owls would successfully fledge young by late July. Conversely, about 15% of accipitrine hawk nesting attempts (i.e., sharp-shinned and Cooper's hawks) would not have fledged young by early August. The maintenance of raptor populations (production and recruitment) is largely dependent on its small mammal and bird prey base.

The wide variety of habitats encompassed by the HMA support a broad array of nongame birds and mammals that are typical of the region's woodland and shrubland communities. These nongame populations appear in appropriate density and widely distributed in extensive like-habitats across the Resource Area and northwest Colorado; there are no narrowly endemic or highly specialized species known to inhabit those lands potentially influenced by this action. Nongame animal populations are relied upon to provide sufficiently abundant and diverse prey to satisfy the requirements of the predator array. Under any given circumstance, nongame populations are generally more diverse and abundant when the habitat's herbaceous component, as substrate for cover or forage, is better expressed in terms of height, ground cover, and compositional diversity.

Sage-grouse: The current Herd Management Area encompasses about 7% of all occupied sage grouse range in the Piceance Basin, including 13% of delineated production and brood areas. Horses outside the HMA presently occupy 18% of Piceance Basin's sage grouse ranges, including 31% of available brood and production areas. There is serious concern over the

dramatic decline of sage grouse populations throughout the western United States, and in particular, small, insular populations aptly represented by the Piceance Basin/Roan Plateau birds. This concern has prompted a hunting closure in this area and may yet culminate in the nation-wide listing of sage grouse as a threatened species. Major concerns that perennially surface as sage grouse management issues include:

- excessive grazing use of riparian/wet meadow areas or upland meadows which provide a persistent source of broadleaf herbs during the brood period (mid-May through August)
- excessive removal of herbaceous cover on production (nesting) and brood areas during the previous fall and winter, and during the nesting and early brood-rearing periods (April-August)
- Mesic upland meadows and adjacent drainage bottoms and spring sites produce persistent broadleaf herbage and insects favored and nutritionally required by grouse broods from April through August.

Deterioration of upland meadows and channel systems and premature depletion of broadleaf forage is considered a factor coequal with sagebrush conversion in contributing to declines in continental sage grouse populations. Optimal nest habitat consists of sagebrush stands with conformation that provides effective horizontal and vertical concealment. Understory herbaceous components, including grasses, complements horizontal nest concealment and improves microclimatic (e.g. temperature, humidity, wind) conditions at the nest site. There is evidence suggesting that both nest success and the survival of young broods is markedly enhanced by well developed herbaceous understories beneath and among sagebrush canopies. Heavy grazing use not only reduces the availability of forbs and, perhaps, invertebrates as grouse forage, but aggravates soil moisture loss in the later part of the growing season, and typically prompts retreat of broods to light or moderately utilized ranges, if available. Throughout the year, but particularly during the reproductive period (April through August), sage grouse are behaviorally relegated to the gently sloping sagebrush and mixed brush ridgetop situations at higher elevations of Piceance Basin--habitat that is generally confined to narrow ridgetop situations, and areas for which horses show mutual preference spring through fall.

Environmental Consequences of the Proposed Action: Big Game: Horse gather operations conducted in September would not coincide with any important big game activity or function. Short term disturbance caused by helicopter flyovers on higher elevation summer and transition ranges would be of no significant consequence in terms of animal distribution or energetics.

Competitive interaction among horses and big game during the summer is most likely when horses co-habit ranges in close proximity to Piceance Basin's relatively limited aspen habitats. Favored fawn and calf-rearing habitat along the Cathedral Rim is best represented by aspen woodlands and surrounding mixed shrub communities within 1 mile of free water. Considering the attraction of water for all summer/fall grazers, these areas are frequently subjected to heavy use of herbaceous growth. Declining availability in preferred forb forage, both through grazing use and a decline in conditions amenable to soil moisture retention (i.e., standing crop and litter), reduces the prospects of deer or elk maintaining favorable nutritional status through the fawn or calf-rearing period. In any case, increasing numbers of horses impose still further on a limited

herbaceous forage base and increases the likelihood of short-term overuse and long-term deterioration of rangeland productivity and plant diversity in favored big game summer habitats.

Under the proposed action, reducing the overall grazing load through horse reduction or removal would provide both immediate and longer-term indirect improvement in big game forage conditions throughout the year. Grazing management which moderates or defers use of mutually preferred forages would increase herbaceous forage availability, reduce reliance on alternate woody forage by livestock and horses or inappropriate seasonal use by big game (as a winter forage base for deer), and maintain or enhance plant diversity and vigor in the mixed shrub and sagebrush communities (promoting divergent forage selection and enhancing animal nutrition, especially on late summer through early winter ranges). Although non-wildlife grazing use, including horses, can be managed in a manner that enhances or maintains important forage attributes of seasonal big game ranges, the cumulative influence of inappropriate grazing use (timing or intensity) that depresses the vigor, density, persistence and diversity of vegetation is counterproductive to all species. Present horse use within the HMA is about double the maximum that is currently authorized (midpoint of AML range). Removal of excess horses from within the HMA would reduce cumulative grazing use on herbaceous and woody forage within the HMA by 15-20%.

Removal of horses from areas outside the HMA boundary would eliminate competitive influences of horses from about 20% of the overall deer winter range in Piceance Basin, including 24% of its critical severe winter range habitats and 14% of the Basin's deer summer range extent. Similarly, horse removal outside the HMA would remove forage competition attributable to horses on about 35% of Piceance Basin's elk winter ranges, including nearly half of its severe winter range extent and 7% of its critical elk summer range.

Raptors-Nongame: Horse removal operations in September would occur after non-game (including raptor) nesting activities are complete and would have no influence on non-game reproductive functions.

Reducing excess grazing influences on herbaceous understory expression lends impetus for widespread enhancement and development of herbaceous ground cover and woody elements throughout the project area's woodland and shrubland habitats--key determinants in the capacity of habitats to support raptors and their small mammal and nongame bird prey. Removing unauthorized horse use and reducing horse populations within the HMA to objective levels more compatible with sustained plant vigor and range capacity would help reverse deteriorating or static rangeland trends and would contribute incrementally to improved understory expression across 40% of the Piceance Basin and 22% of the Douglas Creek watersheds.

Grouse: Proposed horse removal would decrease the total ungulate grazing load by 15-20% within the HMA. It is estimated that grazing reductions within the HMA would be capable of increasing effective herbaceous cover heights on nest and brood ranges by up to 2 inches across 7% of all occupied sage-grouse range, including 13% of delineated production and brood areas in Piceance Basin. The influence of year-round grazing use attributable to horses would be removed from an additional 11% of overall sage-grouse range in Piceance Basin, including 18% of delineated brood and nest habitats. Proposed horse removal and reductions would provide

tangible relief of grazing-related influences being imposed on sage-grouse nesting and brood rearing functions and would aid in achieving grazing management consistent with maintenance and recovery of this species in Piceance Basin.

Environmental Consequences of the No Fertility Control Alternative: Same as the proposed action, but by suppressing effective fecundity, the risk and intensity of grazing effects attributable to a chronic excess of horses (i.e., exceeding established population objectives) would be reduced in the short term.

Mitigation: Surveys for raptor nesting activity will be conducted by WRFO staff on those trap sites proposed for use or development prior to August 15. In the event an active raptor nest is found in the vicinity of trapping operations, these sites will be afforded a buffer adequate to effectively isolate nesting activity from disruptions generated from horse trapping operations.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): Although wildlife habitat conditions in the HMA and surrounding allotments generally meet the public land health standard, elevated grazing loads attributable to horse populations in substantive excess of established objectives detract from the availability and utility of vegetation resources as wildlife forage and cover. Both alternative actions would be effective in ensuring continued meeting of the land health objectives by moderating grazing effects across the HMA and removing horse-related influence from surrounding areas outside the HMA.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation		X	
Cadastral Survey	X		
Fire Management			X
Forest Management		X	
Geology and Minerals		X	
Hydrology/Water Rights			X
Law Enforcement		X	
Noise			X
Paleontology			X
Rangeland Management			X
Realty Authorizations		X	
Recreation			X
Socio-Economics	X		
Visual Resources	X		
Wild Horses			X

FIRE MANAGEMENT

Affected Environment: Projects completed within and adjacent to the horse management area for wildland fuels management include the Wolf Ridge prescribed burn, Natural Soda brush beating, and the Greasewood wildland fire use rehabilitation. The Wolf Ridge burn occurred within the HMA treating 550 acres. Since the completion of this project undesired invasive annuals including cheatgrass have established on the site and now average 22% of the species composition and 4% of the total plant cover on the treated site. This is of concern in the post fire environment where the average plant cover for the treated site is only 14.8%. Pretreatment the project area did have cheatgrass however the species was a minor component of the plant community comprising less than 5% of the species composition. Since the completion of the prescribed burn in August 2004 a resident horse herd of unknown size has utilized the burn area all four seasons of the year. The early seral perennial vegetation has been directly impacted by continued year round grazing to a threshold where aggressive annuals may dominate the site without some deferment of grazing within the burn area. Cattle grazing has been deferred from the burn area since 2004 to the present to allow re-establishment of early seral perennial vegetation which would indicate a correlation between horse utilization and undesirable species composition within the burn area.

The Natural Soda Project and Greasewood rehabilitation projects occurred outside the HMA and upon completion of the projects horse herds have taken up residence within close proximity to each project. The Natural Soda Project was a cooperative project between BLM and Natural Soda Inc. to protect the soda mine from damage by wildfire and to enhance mule deer winter ranges. Natural Soda Inc. provided native seed to enhance degraded sagebrush understories. Upon completion of the project a horse herd living outside the HMA began utilizing these treatment areas throughout the fall of 2005 to present with moderate to severe utilization observed. This use could jeopardize the seeding efforts designed to enhance mule deer winter ranges, because of the continued use through the critical growing season, as well as the partnership developed between BLM and Natural Soda Inc to manage for land health. The Greasewood WFU rehabilitation was a project designed to preempt cheatgrass establishment utilizing native grasses and forbs on the north end of Magnolia Bench well outside the HMA. The project was completed in December 2004 and had exceptional first season growth and establishment. Going into the fall of 2005 a horse herd moved onto the fire from the eastern side of Magnolia bench. The utilization in the spring of 2006 has been severe in Greasewood Gulch and the adjoining uplands.

From a fire ecology perspective, increased cheatgrass dominance within a plant community leads to a disruption in the natural fire cycle by increasing the fine fuel loading and fuel bed continuity. This results in an increased fire return interval which leads to larger uncharacteristically intense fires that further degrade native plant communities.

Environmental Consequences of the Proposed Action: Removal of horses that are present outside the HMA and managing the HMA at the appropriate management level will aid in maintaining the ecological stability of native plant communities. Plant communities will be less susceptible to weed invasion, including increased dominance of cheatgrass. This will decrease

the potential to change the fire regime of the affected native plant communities from infrequent fire return intervals (≥ 100 years) to more frequent ≤ 10 year fire cycles which inhibit native plant growth and establishment and favor short lived, flashy annuals which result in uncharacteristically large and difficult to control fires.

Environmental Consequences of the No Fertility Control Alternative: Same as above.

Mitigation: None.

HYDROLOGY AND WATER RIGHTS:

Affected Environment: There are many water sources within the herd management area, and horse trampling around these water sources occurs. When the numbers of horses within the herd management area are not controlled, negative impacts such as trampling, removal of vegetation to bare ground and eventually head cutting will occur.

The primary drainages affected by the proposed action are Douglas Creek, Yellow Creek (tributary to White River) and Ryan Gulch (tributary to Piceance Creek). Overland runoff to these streams results mostly from snowmelt in spring and short-duration, high- intensity rainstorms in summer. Most main streams within the Douglas Creek, Piceance Creek and Yellow Creek basins are intermittent, meaning some reaches have no flow while other reaches have perennial flows. Base-flow to these streams originates principally from springs and other ground water inflow. Surface discharge and periodic water quality records are available on Douglas Creek and Yellow Creek for the years 1973-1982 and 1988 to present in the Colorado annual water resources reports (U.S. Geological Survey). Yellow Creek's annual mean water discharge for period of record is 2.28 cubic feet per second. To signify the magnitude of an intense rainstorm, the historical instantaneous peak flow on this drainage occurred on September 7, 1978, where 6,800 cubic feet per second were measured using the slope area technique. In the White River Water Atlas, there have been 90 springs identified in the Herd Management Area. Seventy-seven of the springs have had inventories and fifty-one have water rights filed on them. The data collected in these inventories is listed below.

SECTION NUMBER	TOWNSHIP	RANGE	MAP CODE	WATER RIGHT	SC	PH	Q IN GPM	DATE MEASURED
6	2N	99W	119-01	85CW341	5851	8	0	11-Jul-83
4	2N	99W	119-02		2589	7	1.15	31-Aug-83
1	2N	100W	119-03	85CW460	5000	8		05-Jul-83
1	2N	100W	119-04		5589	9	0.02	30-Jun-83
12	2N	100W	119-05		5249	9	0.05	30-Jun-83
10	2N	100W	119-06		9563	8	1.5	30-Jun-83
7	2N	99W	119-07	85CW341	3469	9	0.13	05-Jul-83
					3648	7	0.04	12-Jul-83
9	2N	99W	119-09	85CW412	1659	8	0.08	31-Aug-83
17	2N	99W	119-10		1411	9	0.46	12-Sep-83
19	2N	99W	119-12	85CW458	4600	8	0.88	13-Jul-83
9	2N	100W	119-13	85CW461	2402	8	0.61	30-Jun-83

SECTION NUMBER	TOWNSHIP	RANGE	MAP CODE	WATER RIGHT	SC	PH	Q IN GPM	DATE MEASURED
9	2N	100W	119-15	85CW461	2201	8	0.16	30-Jun-83
9	2N	100W	119-16	85CW461	6617	7		30-Jun-83
19	2N	99W	119-19	85CW458	2691	8	8.11	13-Jul-83
19	2N	99W	119-20	85CW458	8347	9	0.75	13-Jul-83
18	2N	99W	119-21	85CW458	5563	8	0.09	13-Jul-83
18	2N	99W	119-22	85CW458	6192	7	0.02	13-Jul-83
18	2N	99W	119-23					13-Sep-83
7	2N	99W	119-24	85CW341	5170	8	0.93	12-Jul-83
6	2N	99W	119-26		6742	9	0.08	11-Jul-83
6	2N	99W	119-27		6321	9		11-Jul-83
1	2N	100W	119-28	85CW460	4834	9	0.02	05-Jul-83
7	2N	99W	119-30	85CW411	3907	8	1	12-Jul-83
7	2N	99W	119-31	85CW411	2132	8	1.56	12-Jul-83
6	2N	99W	119-32	85CW411	8160	6	0.13	12-Jul-83
6	2N	99W	119-35					11-Jul-83
6	2N	99W	119-36		5710	9		11-Jul-83
5	2N	99W	119-40	85CW410	3380	8	17.9	15-Sep-83
15	2N	100W	119-44		3945	7		30-Jun-83
6	2N	99W	119-45	85CW341	6508	10	0.01	11-Jul-83
6	2N	99W	119-46		6017	7		12-Jul-83
7	2N	99W	119-48	85CW411	2215	8	0.07	12-Jul-83
18	2N	99W	119-50	85CW458	50000	8		13-Jul-83
19	2N	99W	119-51	85CW458	3816	8	3.16	13-Jul-83
19	2N	99W	119-52	85CW458	6440	9	0.12	13-Jul-83
19	2N	99W	119-53	85CW458	13000	9		13-Jul-83
19	2N	99W	119-54	85CW458	9820	8	0.03	13-Jul-83
5	2N	99W	119-55	85CW368	4450	8	0.41	15-Sep-83
26	2N	98W	146-02		4198	8		16-Sep-83
31	2N	99W	148-06	85CW459	1415	8	1.39	31-Aug-83
24	2N	100W	148-34	85CW462	8034	9	4.17	26-Aug-83
30	2N	99W	148-44	85CW459	2057	8	0.95	31-Aug-83
28	1N	101W	149-02		11419	8	0.2	21-Jun-84
33	1N	100W	149-03	AR72,81CW4	2549	8	1	14-Aug-84
4	1N	101W	149-04	85CW455	1957	9	0.54	26-May-83
35	2N	101W	149-12	85CW374	6251	8	7.5	14-Aug-84
18	1S	100W	156-03	85CW376	6283	9	12	14-Aug-84
32	1S	100W	156-05	85CW377	8610	8	20	13-Jun-84
32	1S	100W	156-06	85CW443	3269	8	0.7	09-Jul-84
32	1S	100W	156-07	85CW443	3175	9	4.6	09-Jul-84
9	2S	100W	156-09		3078	9	100	26-Jun-84
18	1S	100W	156-14	85CW376	3096	9	0.5	14-Aug-84
18	1S	100W	156-15	85CW376	4645	9	5	14-Aug-84
21	1S	100W	156-16		2049	7	2.5	14-Aug-84
32	1S	100W	156-19	85CW377	9479	8	0.8	13-Jun-84
32	1S	100W	156-20		5096	8	0.2	13-Jun-84

SECTION NUMBER	TOWNSHIP	RANGE	MAP CODE	WATER RIGHT	SC	PH	Q IN GPM	DATE MEASURED
32	1S	100W	156-21	85CW377	11076	8	1.9	13-Jun-84
5	1S	100W	156-24	85CW375	8132	7	3.8	14-Aug-84
6	2S	99W	157-01	82CW317	2780	7	5.8	27-Jul-83
					1694	9	23.6	31-Aug-82
7	2S	99W	157-02		1619	8	5.3	31-Aug-82
16	1S	100W	157-10		2078	8	21.9	28-Jul-83
22	1S	100W	157-11	85CW446	2328	8	7.5	02-Aug-83
23	1S	100W	157-14		2409	8	5.6	02-Aug-83
25	1S	100W	157-15		2869	8		26-Jul-83
25	1S	100W	157-16		2505	7		27-Jul-83
25	1S	100W	157-17		2468	7		27-Jul-83
2	2S	100W	157-19	85CW363	1870	7		20-Jul-83
25	1S	100W	157-23		2365	8		02-Aug-83
25	1S	100W	157-25		1932	8	7.5	26-Jul-83
26	1S	100W	157-26		2783	8		02-Aug-83
23	1S	100W	157-28		2101	8	1.5	02-Aug-83
9	2S	99W	157-36		1585	8		26-Jul-83
2	2S	100W	157-44	85CW363	2203	7		20-Jul-83
12	3S	100W	174-01		1277	7	4.22	17-Aug-82
22	2S	100W	174-02				45.2	19-Jul-83
					2102	8	2.73	27-Jul-83
24	2S	100W	174-03		2275	8		19-Jul-83
					1223	7	0.26	17-Aug-82
1	3S	100W	174-09	82CW317	826	8	22.5	21-Jul-83
					735	9	3.69	24-Aug-82
22	3S	100W	174-11	82CW317	609	8	3.35	25-Aug-82
14	2S	100W	174-12	85CW383	1641	7		18-Jul-83
36	2S	100W	174-13		1287	8	54.6	20-Jul-83
2	3S	100W	174-29	85CW388	2795	9	0.3	13-Aug-84
11	3S	100W	174-30	85CW388	2360	8	7.1	10-Jul-84
2	3S	100W	174-31	85CW351	1718	8	3.53	21-Jul-83
14	2S	100W	174-34	85CW364	2484	8	0.5	18-Jul-83
14	2S	100W	174-35	85CW364	2021	7		18-Jul-83
1	3S	100W	174-46	85CW351	1965	8	6.67	25-Jul-83
36	2S	100W	174-48		1867	8	12.5	26-Jul-83
31	2S	99W	174-49	85CW382	3916	8	4.5	26-Jul-83
26	2S	100W	174-53	85CW367	775	8	0.28	20-Jul-83
14	2S	100W	174-66		3008	7	3.3	18-Jul-83
2	3S	100W	174-67	85CW351	1041	8	4.34	21-Jul-83
2	3S	100W	174-68	85CW351	1278	8	1.3	21-Jul-83
1	3S	100W	174-69	85CW351	908	8	8.57	21-Jul-83
1	3S	100W	174-70	85CW351	995	8	0.25	21-Jul-83
1	3S	100W	174-71		2300	8	0.74	25-Jul-83
1	3S	100W	174-72	85CW394	2288	8	0.63	25-Jul-83
26	2S	100W	174-73	85CW366	1729	7	7.3	26-Jul-83

In addition to these springs, there are also two water gaps located on Yellow Creek for horse, livestock and wildlife watering. Implementation of the proposed action including fertility control will be most beneficial to water resources.

Environmental Consequences of the Proposed Action: Removal of wild horses and limiting the number of wild horses on the range would aid in relieving pressures on the existing water sources.

Environmental Consequences of the No Fertility Control Alternative: Short term reductions in the number of horses within the herd management area will benefit spring sources and stream channel morphology in the immediate future. However, without any control over reproduction in the herd, benefits from horse removal will be only short term.

Mitigation: None

PALEONTOLOGY

Affected Environment: The area of the Piceance Basin consists primarily of horizontal plains and near vertical outcrops of the Uinta Formation of Eocene age. The area is known to produce fossils of large mammals, particularly herbivores such as *Titanotherium, Uintatherium* and *Coryphodon*. Smaller species may also be present but are poorly reported. The area has also produced vegetation fossils including some of the most easterly known, well preserved samples of *Araucaria* in addition to various bits of petrified wood and various leaf impressions. Well preserved samples of palm, a type of willow and sycamore have also been reported from the area. Other invertebrates that have been recently reported from the shale fingers in the formation include a variety of insect fossils previously unreported from the area.

Inventory data indicate that horse trampling can negatively impact exposed fossils. These impacts are manifest by badly fragmented or crushed fossils found on the surface of the more horizontal and gently sloping areas of the formation.

Environmental Consequences of the Proposed Action: Reduction of the numbers of horses to the lower end of the AML and implementation of fertility control would significantly reduce the overall damage to exposed fossils by limiting the opportunity for concentrations of horse on exposed localities with the attendant trampling, crushing and displacing of the fossils. A reduction in the rate at which the herd grows extends the time span where exposed fossils are protected from higher concentrations of animals that could potentially cause damage from trampling. Fossils could be impacted by gather operations if trap sites and associated wing fences or holding facilities are located in known and reported fossil localities. Careful siting of trap sites and holding facilities would also limit the damage to exposed fossils and fossil localities.

Environmental Consequences of the No Fertility Control Alternative: Impacts would be similar to the proposed action except for not implementing the fertility control along with the horse removal would shorten the time exposed fossils are protected.

Mitigation: Known and reported fossil localities shall be avoided when locating trap sites and associated wing fences and holding facilities. Sites without adequate inventory data will need to be examined for the presence of fossils during trap site selection activities. Trap facilities may need to be modified to avoid impacting identified fossil resources.

RANGELAND MANAGEMENT:

Affected Environment: The reader is referred to the 1996 White River Resource Area (WRRA) Removal Plan/Rangeland Evaluation, WRRA Environmental Assessment (EA) 96-072 and the 2002 Piceance-East Douglas HMA EA/Gather Plan, WR-02-049. Both these documents have detailed vegetation data and analysis. Neither of the decisions of these documents was fully implemented because past gathering operations were not completely able to gather the number of horses necessary to bring the population down to the established AML.

Site specific impacts on vegetation in key areas have been described in the Rangeland Evaluation section of the 1996 WRRA Wild Horse Removal Plan/EA and in the 2002 Piceance - East Douglas HMA EA/Gather Plan. In general, maintenance of wild horses at current population levels is causing an accelerated decline in desirable vegetation. Rangelands within the affected area will continue to suffer loss of individual species, production, cover and site potential unless immediate action is taken to adjust stocking as described in the Evaluation. Utilization, trend and precipitation monitoring data clearly substantiate the need for the proposed action in order to effect a significant positive change in vegetation within the Herd Management Area. Cheatgrass (Bromus tectorum) continues to occur in virtually all key areas. This species' presence and its increase in the plant composition in the plant communities in the HMA is a direct result of an undesirable level of grazing disturbance directly attributable to overstocking of wild horses. The only way to avoid increases in cheatgrass composition or affect its actual decline as a component of the vegetation on a given site is to manage to maximize the vigor and productivity of desirable native plant species so that there is no niche (opportunity) for the invasion or proliferation of cheatgrass. This can be difficult with any level of yearlong horse use. However, providing for the plant growth requirements of preferred species is most attainable with stocking of wild horses commensurate with the planned forage allocation.

Piceance-East Douglas Herd Management Area: The Piceance-East Douglas Herd Management Area includes all or part of four grazing allotments. The table below shows the relationship between livestock grazing administration and the HMA.

Allotment	Operator	Acres	BLM Preference
Yellow Creek	Burke Brothers	63,191*	2,725
Square S, Pasture C	Mantle Ranch and Boone Vaughn	18,126*	289
Cathedral Bluffs	W. Russell Withers	57,761	2,597
Greasewood	Oscar Wyatt	27,810*	1,567
	HMA Total	166,888	7,178

* BLM acres only.

Livestock use on the Yellow Creek allotment for the period 1996- 2005 was as follows:

YEAR	AUMS	YEAR	AUMS
1996	1692	2001	2157
1997	2186	2002	1394
1998	2186	2003	1689
1999	2186	2004	1503
2000	2157	2005	1649
		YEARS	**AUMS**
Mean Use		1996-2001	2139
Average Use		1981-1995	2104
Average Use		1996-2005	1907
Average Use		2001-2005	1678

Livestock use on the Yellow Creek allotment from 1996 - 2001 was essentially identical to the level analyzed in the 1996 Rangeland Evaluation. Livestock use from 2002-2005 on the Yellow Creek allotment has been less than the level analyzed in the 1996 Rangeland Evaluation.

Precipitation in the HMA ranges from over 20 inches per year at highest elevations on the Cathedral Bluffs to less than 10 inches at the lower elevations. Precipitation in the region is relatively evenly distributed throughout the year with no notable wet or dry periods. The table below shows the growing season precipitation from the Pinto Mesa Remote Access weather station (April through October), and yearlong data taken from the Weather Station in Rangely, Colorado.

Year	Growing Season Precipitation (Inches) Pinto Mesa Remote Access Weather Station	Annual Precipitation (Inches) in Rangely, CO
1996	3.80	14.42
1997	13.61	13.84
1998	6.24	11.06
1999	8.05	8.55
2000	6.51	10.40
2001	4.06	11.34
2002	4.36	6.73[X]
2003	4.28	6.51
2004	6.03	8.84[X]
2005	9.93	12.15[M]
Average	6.69	10.38

[M] Used to indicate data element missing. No December recording for 2005.
[X] Totals based on incomplete time series. 1 to 9 days are missing.

The Society for Range Management defines drought as “prolonged dry weather, generally when precipitation is less than three-quarters of the average annual amount”. The conventional wisdom is that it would take several years of precipitation above the mean to “break” a period of drought. The period of 1995- 2005 is best characterized as a drought period and this period is likely just part of a long term warmer drier period in terms of geologic time, an altithermal. In fact, drought is more the norm than the exception in this region.

Correlation of precipitation with wild horse use: For the period of 1991-2005 which has been

drier than normal (or a drought), we have had a horse population that has been consistently above the Appropriate Management Level for the Piceance- East Douglas HMA (135-235). Often the population has been more than double the AML. Heavy season long use of rangeland grasses has resulted in marked decreases in grass plant cover, production and ultimately in plant mortality. An extended period of normal precipitation *in combination* with maintenance of horse populations within the appropriate management level will be necessary for rangeland recovery such that we are in compliance with the Standards for Rangeland Health.

East Douglas Part of the Herd Management Area: The East Douglas Portion of the Herd Management Area is located in the Cathedral Bluffs grazing allotment. The Herd Management Area portion, of this allotment, is used by livestock during the fall, winter and spring months. There are two pastures Hogan Draw and Tommy's Draw. Hogan Draw pasture contains 30,659 acres of public land. Tommy's Draw pasture contains 27,109 acres of public land.

Hogan Draw pasture: Annual precipitation is 10 inches to 12 inches. This pasture is characterized by deeply dissected drainages. The vegetation in this area is mostly hillside bunchgrass with ridgetop pinyon-juniper stands and greasewood bottoms. The livestock grazing program for the Hogan Draw pasture, defers grazing every year allowing forage plants the complete growing season for growth and reproduction. Horse use on this pasture is related to the availability of water. Very few wild horses remain in the Hogan Draw pasture since moving onto the Spring Creek allotment. The lack of perennial water on the Hogan Draw pasture limits the number of horses. On wet years where Main Stem Douglas Creek continues to flow, horses have adequate water. During dry years horses migrate South to Tommy's Draw pasture, or if gates are left open, the horses move into Spring Creek, as happened the spring of 2001. During the spring of 2001 approximately 25 horses moved into the Spring Creek allotment from Cathedral Bluffs Allotment. As of 2006 these horses have not returned to the East Douglas part of the Herd Management Area. Hogan Draw pasture has the potential to support approximately 10 horses based on water availability.

Tommy's Draw pasture: An analysis of forage availability conducted in 2001 estimated the Tommy's Draw pasture was capable of supporting 17 horses on a yearlong basis. A similar analysis conducted in 2006 was inconclusive, wild horse numbers have increased from 27 head in 2001, to 52 horses in 2006, horses have continued to overuse the areas identified in 2002, but have shifted their use to the south outside the Herd Management Area. Livestock use has decreased 58% averaging 580 AUMs in the Tommy's Draw Pasture over the past five years and range condition and production continue to decline. During 2005 livestock used 464 AUMs and wild horses used 780 AUMs for a total of 1,244 AUMs. Removal of the 35 horses outside the HMA and retaining the horses in Cow Canyon and Rocky Point Draw (17 horses) would improve the distribution of horses and remove the horses from the most damaged rangelands.

Annual precipitation is 12 inches to 15 inches. This pasture is characterized by deeply dissected drainages running up to the Cathedral Bluffs. The vegetation in this pasture is sage/western wheatgrass bottoms, south hillsides with bunchgrass association, north hillsides are pinyon/juniper grading into a mountain browse type at the upper elevations. Water sources include East and Mainstem Douglas Creek and Tommy's Draw, all of which are perennial through this pasture. There are also numerous springs along the base of the Cathedral Bluffs of

which few can be considered reliable. There are scattered stock ponds which generally are dry during the summer months. Tommy's Draw Pasture is grazed by livestock during the spring and fall, 4/1 to 5/31 and 11/15 to 12/30. As expected impacts from horse grazing were found further from water than were cattle. Horse use was found in Cow Canyon, Rocky Point Draw, Dry Lake, Coal, Bowman, Horse Pasture, Tommy's draws and along the bench above Cathedral Creek. Cattle impacts were found in all draws, with highest utilization rates near water. The area around Tommy's draw and Cathedral Bluffs showed concentrated use by horses.

Actual Use for Livestock, East Douglas portion of the Herd Management Area:

Year	Base Cattle Herd Number	Cattle AUMs Hogan Draw	Cattle AUMs Tommy's Draw	Total Cattle AUMs
1999	420	1502	804	2306
2000	433	1587	674	2259
2001	440	1509	398	1730
2002	396	2024	405	2429
2003	360	732	175	907
2004	275	1227	183	1406
2005	453	1008	464	1472

Base Herd Number is the approximate number of cattle run during the year. Cattle are removed and added as forage conditions allow. This is reflected in the Total Cattle AUMs.

Given the analysis in this section the Herd Management Area is capable of supporting 171 horses in conjunction with other multiple uses, a figure considered to be approximately the same as the 165 estimate that has been the White River target since the 1996 gather plan and environmental assessment. Once achieved it will be possible to monitor actual conditions within the AML range and get a more precise view of the actual carrying capacity. Managing wild horses in the range of 135 to 235 animals described in the proposed action will assure that the AML (as calculated in this section) will be achieved over the four year gather cycle, and over any extended period of time. This AML range will achieve long term vegetation and watershed objectives while taking into consideration the remaining approved multiple uses.

Environmental Consequences of the Proposed Action: Implementation of the proposed action would result in destruction of vegetation at individual trap sites. Depending on the duration a trap is used and the number of horses gathered there, this vegetation loss would be short term. In most cases, sites for the actual trap enclosure are selected because they don't have a heavy vegetation cover. Recovery of herbaceous species could be expected to occur in one to two years.

When wild horses are managed at planned levels in the HMA they distribute themselves in accordance with seasonal ranges. At current populations summer range becomes limiting and horses tend to occupy spring, fall and winter ranges yearlong, to the detriment of these sites.

Implementation of the proposed action will provide forage vegetation species with relief from grazing pressure and therefore, enhance their ability to perform basic plant functions including growth, storage and utilization of carbohydrate reserves, and reproduction, ultimately resulting in an increase in plant vigor, cover and production on range sites. The net result will be improved rangeland health. However, this recovery could take a minimum of five to seven years (Cook

and Child, 1971) and most likely would take 10-15 years with maintenance of the recommended horse stocking rate.

Environmental Consequences of the No Fertility Control Alternative: Gathering the horses down to the low end of the AML without fertility control will mean that by the time horses are scheduled for gather in 2010 (4 year cycle), the adult population will have exceeded the high end of the AML by at least 40 and possibly up to 100 horses. This overpopulation is not compatible with maintaining and improving rangeland condition as prescribed in the White River ROD/RMP.

Environmental Consequences of the No Fertility Control Alternative: Not applying immunocontraception would in the case of the wild horses released back into East Douglas area will allow the population to recover to approximately 38 horses in 2010.

Mitigation: None.

RECREATION

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM manages the ERMA as custodial providing for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The Piceance-East Douglas Herd Management Area is within the northwestern corner of Colorado Division of Wildlife (CDOW) Game Management Unit (GMU) 22 as well as the northeast corner of GMU 21. Both GMUs are heavily used by public land hunters during the fall mule deer and elk big game hunting season from August through November. Additionally, the following Special Recreation Permits have been issued for big game hunting outfitting within the Piceance-East Douglas Herd Management Area: Rimrock Outfitters, Brush Mountain Outfitting, Outlaw Adventures and Peters Hunting Service.

Environmental Consequences of the Proposed Action: If helicopter horse gather operations coincide with big game hunting seasons, it is likely that conflict between public land hunters and the gather operations will develop. Gather operations may disrupt public land hunters to a degree that the recreational activity, in this case big game hunting, may not be able to occur within helicopter gather operation impacted areas of the White River ERMA.

Environmental Consequences of the No Fertility Control Alternative: Similar consequences to that of the Proposed Action.

Mitigation: Avoid; if at all possible, gather operations on western (Cathedral Bluffs area) portions of gather area at higher elevations due to increased concentrations of public land hunters on September 16th and 17$^{th.}$ Additionally, inform Colorado Division of Wildlife field going personnel of gather operations, specifically: duration, reason for gather and mitigation measures.

NOISE

Affected Environment: All of the areas identified for gather will be temporarily affected by noise associated with helicopters and increased vehicular traffic.

Environmental Consequences of the Proposed Action: The gather is expected to take as long as 10 days to complete. During this time the gather helicopter will be operating daily in specific locations within the areas identified for horse capture. The helicopter will not remain in any given location for long durations of time; rather the noise associated with helicopter use will be intense, isolated and short-lived between one gather location and another. Vehicular traffic in the form of motor vehicles and equipment pulled by these motor vehicles will occur in locations within the gather area. Again, this activity will focus in locations where wild horses are being captured and will shift from location to location on an almost daily basis.

Environmental Consequences of the No Fertility Control Alternative: Same as for proposed action.

Mitigation: None

WILD HORSES

Affected Environment: 1) Horse Herd Distribution: The proposed action makes reference to six geographic regions within the Piceance-East Douglas Herd Management Area. These geographic regions correspond with areas of preferred habitat that form distinct home ranges. These distinct home ranges are terrain and vegetation driven and an asset because they promote good distribution in the HMA. While the home ranges of all six groups overlap, particularly among animals using adjacent geographical regions, each geographic region hosts a herd with a unique habitat use pattern.

- The *Greasewood horses* summer on Calamity Ridge at the head of Greasewood Creek and use the lower reaches and part of the Barcus-Pinto region in the winter, fall and spring.

- The *Rocky Ridge horses* utilize a range centered on Black Mountain which includes lower Yellow Creek, Barcus Creek, and lower Greasewood. Their home range and preferred forage use area overlaps with that of the Barcus-Pinto herd principally in the Barcus and Yellow Creek drainages.

- The *Barcus-Pinto horses'* core distribution area is Pinto Mesa, the area between Barcus Creek and Pinto Gulch. This unit's range extends over into Barcus Creek proper which is used extensively for forage, particularly in the summer months. The lower reaches of Barcus Creek are particularly vulnerable to overgrazing when horse numbers exceed the AML range. The herd's affinity for Pinto Mesa is the result of a nearly ideal mixture of habitat features including thermal cover, large open foraging areas and proximity to reliable water sources. Pinto Mesa's prime habitat and central location within the

Piceance Portion of the HMA, makes it the area with the most overlap among the geographic regions of the HMA. Animals from the Greasewood, Rocky Ridge, Barcus Pinto and Boxelder herds all use this area. At proper stocking levels, the area serves as valuable fall, winter and early spring range, but most horses leave the area for the growing season. When numbers exceed the Appropriate Management Level the summer range becomes limiting and bands from Greasewood, Rocky Ridge and Barcus-Pinto tend to remain in the area during the entire growing season.

- The *Boxelder horses*' home range includes a rectangular block of rangeland with prime summer habitat on the Cathedral Bluffs to the west and lower elevation habitat for the other seasons to the east. On 84 Mesa, at the east end of the region, the Boxelder herd overlaps with the Barcus-Pinto herd. The key winter use area of this sub-unit is the south exposures of Dry Gulch and, to a lesser extent, the south slope of Corral Gulch below its junction with Water Gulch. The herd's summer use area features the upper reaches of Boxelder and Corral Gulch on the Cathedral bluffs, due to the favorable mix of water and foraging habitat. The key summer forage habitats are the dry exposure and loamy slope range sites. On Cathedral Bluffs the Boxelder herd intermingles with animals from the Square S, Pasture C, and East Douglas herds.

- The *Square S, Pasture C* horses' home range coincides with a pasture in the Square S grazing allotment that is fenced on three sides. The Pasture C herd winters on the south slopes along the lower reaches Stake Springs. When the snow melts, the bands move south and west to the upper elevation ridges to preferred foraging habitat on the Cathedral Bluffs. The ridgetop grasslands that are their primary habitat are the Dry Exposure and Loamy Slopes range sites. Pasture C horses sometimes move west into the East Douglas portion of the HMA. Gates on the fenceline between Pasture C and the Boxelder Region are commonly left open when not needed for livestock management, so the Boxelder and Pasture C horses interchange frequently.

- The *East Douglas horses* focus on the rugged west face of the Cathedral Bluffs. Some of these horses summer on the top of the bluffs in the vicinity of Tommy's Draw, where they overlap with the Boxelder and Square S, Pasture C herds. The inventory conducted in 2006 found 35 of the 52 horses counted south of the Herd Management Area on the Cathedral Creek pasture of the Cathedral Bluffs allotment.

The following table is the intended locations of horses to be removed and released back in to the HMA by estimated numbers/populations based on 2006 Census: The ratio of stallions to mares that will be released in each location will be 50/50 to the best of our ability.

AREA	FEBRUARY 2006 CENSUS DATA	PROJECTED POPULATION AUGUST 2006	HORSES TO BE REMOVED UNDER THE PROPOSED ACTION	POST GATHER POPULATION
East Douglas	51	61	43	17
Greasewood/Barcus Pinto	166	199	137	62
Rocky Ridge	13	16	10	6
Boxelder	65	78	54	24

AREA	FEBRUARY 2006 CENSUS DATA	PROJECTED POPULATION AUGUST 2006	HORSES TO BE REMOVED UNDER THE PROPOSED ACTION	POST GATHER POPULATION
Square S, Pasture C	49	59	40	19
Corral Gulch/Boxelder	19	23	17	6
North Piceance HA	25	30	30	0
Adjoining Allotments	27	32	32	0

2) Herd Genetics and Population History: Wild horses in the Piceance-East Douglas herd possess balanced conformation and somewhat refined features. The majority of the horses stand between 14.2 and 15 hands and weigh between 800 and 1,000 lbs. In 1995, E. Gus Cothran, the Director of the Equine Blood Typing Research Laboratory at the University of Kentucky, evaluated the genetic makeup of the Piceance-East Douglas herd. Cothran's report stated, in part: "The primary conclusions from the analysis of genetic variability of the White River Resource Area horse herd are that significant genetic subdivision of the herd exists and that, in general, genetic variation within subdivisions is relatively low. Within the HMA genetic diversity is fairly high. From a management standpoint, this is almost ideal situation. Population subdivision with limited inbreeding within subdivisions and occasional exchange of individuals among subdivisions is one of the best strategies for the long term maintenance of genetic variability. The subdivision of the HMA population with levels of dispersal that now appear to exist should be sufficient to maintain genetic variation within the area for many generations even if relatively small numbers are maintained within subdivisions. If additional interchange of individuals appears to be needed in the future, transfer of one or two year old females every three to five years would be the most efficient strategy."

Cothran's study determined the herd shows the closest similarity to the North American breeds, as well as to the Thoroughbred, Arabian and draft horse groups. The Piceance-East Douglas herd has the closest relationship to Colorado's Little Book Cliffs wild horse herd.

The first census of this herd was completed in 1974 with 139 wild horses recorded during the flight. Since 1974 herd population has been recorded during census as high as 389 in 1995 and as low as 93 horses in 1985 (probable mortality resulting from severe winter weather conditions.) The following table shows the population history in the Piceance East Douglas Herd Management Area determined through census gathers and expected herd recruitment.

YEAR	CENSUS DATA	ESTIMATED POST-FOAL POPULATION	NUMBER OF HORSES REMOVED	YEAR	CENSUS DATA	ESTIMATED POST-FOAL POPULATION	NUMBER OF HORSES REMOVED
1974	139	167		**1991**	272	326	21
1979	283	340		**1992**			75
1980	194	233	133	**1993**	215*		58
1981	225	270	185	**1994**			103
1982	207	248		**1995**	389	466	
1983			54	**1996**			239
1984			10	**1997**	286	343	135
1985	93	112	7	**1999**	242	290	92
				2002	294	353	241

*Piceance portion of the HMA only.

The following sex ratio data was collected during the 6 gathers:

YEAR	FILLY %	COLT %	MARE %	STUD %
1980	50	50	53	47
1983	50	50	47	53
1985	40	60	52	48
1996	59	41	61	39
1997	47	53	50	50
1999	56	44	54	46
2002	45	55	58	42

The filly: colt ratio was recorded as 50:50 during two of the six gathers. The remaining four gathers suggest a normal fluctuation in the filly to colt ratio with fillies varying between 44% and 56% of the animals captured.

The herd's adult sex ratio appears to favor females over males. Females meet or exceed 50% of the captured population in 5 of the 6 years of data collection. The reason for a higher proportion of adult females in the herd is most likely the result of human manipulation as well as natural selection. To date, male horses have been favored for removal by the BLM during removal projects. Research suggests that natural selection in wild horse herds favors females over males. Garrott (1990) concluded "foal sex ratios tend to be close to parity while there is a trend towards a preponderance of females in the adult segment of the populations." "The tendency toward a skewed adult sex ratio [towards females] therefore is not the result of a skewed ratio at birth but reflects either a disparity in survival rates between males and females or differential probability of capture."

To date, while the Piceance-East Douglas herd sex ratio appears to favor females, the ratio does not notably lean towards one sex over another. Variations can likely be attributed to normal fluctuations.

3) Herd Age, Sex and Color Ratio: Herd age and sex data collected during 6 gathers between 1980 and 2002 were compared to determine any notable changes in age, sex or color structure within the herd over a 22 year time span.

Piceance East-Douglas HMA
Age Distribution Percent by Gather Year

AGE	GATHER YEAR						
	1980	**1983**	**1994**	**1996**	**1997**	**1999**	**2002**
Foals	23	21	20	23	23	21	21
1	20	2	2	8	5	1	13
2	11	12	7	20	7	14	13
3	7	23	34	11	9	12	8
4	8	2	11	4	9	5	5
5	3	3	none	3	3	4	3
6	3	11	none	5	5	3	3
7	5	5	7	4	6	4	5
8	3	8	5	5	5	10	5

AGE	GATHER YEAR						
	1980	1983	1994	1996	1997	1999	2002
9	3	2	1	1	5	2	5
10	2	2	3	trace*	2	1	2
11	2	3	4	1*	3	2	6
12	4	3	5	*	3	1	5
13	5	3	none	*	2	3	T
14	1	1	none	*	2	1	T
15	1	3	1	*	3	5	3
16	none	trace	none	*	1	none	1
17	none	none	none	*	1	none	T
18	none	none	none	*	2	none	1
19	none	none	none	*	1	1	0
20	none	none	none	*	2	2	1
+20	1	trace	none	*	2	2	T

*Note that in 1996 of the 87 head of wild horses returned to the Piceance-East Douglas Herd Management Area 77 head of the wild horses were 10+ years but specific ages were not identified on the records. The remaining ten (10) head of wild horses were as follows: four (4) 1996 foals, one (1) yearling, one (1) three year old, and four (4) five year olds.

A typical age structure for hoofed, wild ungulates (which includes wild horses) is pyramid in shape with the majority of animals included in the youngest age categories. A comparison of herd age structure based on 6 gathers between 1980 and 2002 suggest the Piceance-East Douglas herd retains a sound, varied age structure with the majority of animals within the younger age classes.

The herd's foal crop fluctuates between 20% and 23% of the population and averages at 22% of the herd. The one discrepancy in the herd's age structure is seen in the yearling age class. In 1980 20% of the animals captured were recorded as yearlings. This percent drops notably in the other 4 years of data, ranging between 1% and 5%. A case may be made for human error in aging the captured horses since census figures support an average population increase of 22%. Garrott (1990), in his doctorate paper on the demography of wild horses completed in 1990 analyzed 60,116 samples and found a frequent misclassification of yearling horses as two-year olds. The error was due to animals being classified as two-year olds because the incisors had fully erupted. Even though a sizeable number of yearlings have erupted incisors they are not in contact, thus the discrepancy. The possibility of human error accounting for the low number of yearlings recorded in these gathers is supported by comparing the number of yearlings recorded in 1994 (2%) with the number of four-year old horses captured in 1997 (9%).

The proportion of older (over 10 years of age) horses increased somewhat between 1997 and 1999. This increase is likely the result of the program's age selective gather policy that went into effect in 1994 and resulted in older horses being returned to the range. To date, age gather operations do not appear to have negatively affected the Piceance-East Douglas herd's age structure; the herd remains composed of horses under 10 years of age. However, during the 2002 gather and removal operation horses over the age of 10 were removed from the area and placed in BLM facilities. Of the 27 mares and 31 studs gathered 12 mares and 6 studs were released

back into the Herd Management Area therefore it is believed that the population will not increase in older (over 10 years of age) but perhaps realize a more diverse spread in age classes.

4) Color Composition: Herd color composition data collected during 6 gathers between 1980 and 2002 were compared to determine any notable changes in color structure within the herd over a 22 year time span.

Piceance-East Douglas HMA
Color Composition by Gather Year

Color	Gather Year					
	% 1980	% 1983	% 1994	% 1997	% 1999	% 2002
Bay	19	25	60	52	18	33
Grey	10	11	15	10	25	26
Red Roan	9	1	none	none	5	2
Sorrel	23	15	4	9	10	10
Blue Roan	5	3	none	none	1	0.5
Brown	10	13	7	5	16	11
Black	14	19	10	23	23	8
Pinto	none	2	1	1	trace	1
White	none	none	none	none	none	none
Buckskin	3	3	1	none	none	4
Palomino	2	3	none	none	none	0.5
Chestnut	5	1	1	trace	none	3
Cremello	none	none	none	none	none	1

As evidenced from the table above, diversity in herd color does not appear to have changed appreciably between 1980 and 2002. Rarer colors accounted for a combined 16% of the animals captured in 1980; 11% in 1983; and 5% in 1994. These colors were absent in 1997 and in 1999. The decrease in herd color variation is most likely partially attributable to human manipulation and partially due to unknown internal factors. Both Bay and gray horses possess a varied range of color diversity and have increased in the herd. Preserving what color is left in this herd and possibly introducing horses with more unusual color into the herd could be expected to increase herd color variation over time. Uniquely colored wild horses stand out and can be used as 'marker' horses during monitoring and capture projects.

Environmental Consequences of the Proposed Action: All phases of the capture, holding, adoption preparation and transport will be carried out according to Bureau policy with the intent of conducting a safe, humane operation. If conditions warrant, or if animal health and welfare is in jeopardy at any time, gather operations will be delayed, or halted. Disturbance of wild horses by activities associated with any gather are unavoidable. There is always the possibility that wild horses will be injured or killed during any phase of the removal operation. Mortality of a random few animals would not be expected to change the overall integrity of the wild horse herd.

All horses will experience varying levels of stress during herding, capture, handling and holding. Stress levels, and the potential for injury, will be highest immediately following capture, when animals are moved through the chutes in preparation for adoption and when animals are being transported between the Yellow Creek Corrals and the BLM Canon City holding facility.

Confinement of animals at the temporary holding facility and during transport will increase the likelihood of injury, and stress/confinement related illness. Some young foals may become separated from their mothers while being driven by the helicopter to trap locations. Some of the pregnant mares will be in the second trimester of pregnancy and could abort as a result of the stress imposed by gather activities.

Well-constructed traps, safety-conscious corral construction at the holding facility, well-maintained equipment, and additional pens for animals determined best kept separate from other animals will decrease stress, and the potential for injury and illness. Experienced BLM personnel will be on-site during all phases of the operation. A contract veterinarian will be either on-site or on-call at all times during the operation. Observers will be asked to remain some distance from the animals during all phases of capture, holding and preparation to minimize the level of activity.

Wild horses will be handled only to the extent necessary. Animals identified for relocation will be released with minimal handling in an expedient time frame. Injured animals will be examined and, when necessary, treated by a qualified veterinarian, and separated from other captured horses. Animals determined by the veterinarian as not treatable, or determined that treatment would be less humane than destruction, will be or humanely destroyed by the veterinarian, contractor, or by qualified agency personnel.

Population-wide direct impacts can occur during or immediately following a gather and include band displacement, modification of herd demographics, and the separation of members of individual bands of horses. With the exception of changes to herd demographics, direct population wide impacts have proven, over the last 20 years, to be temporary in nature with most, if not all impacts disappearing within hours to several days of release. The one observable effect associated with gather activities is the herd's heightened awareness of human presence, helicopters and motorized equipment following a gather activity.

Appendix C consists of an analysis designed to evaluate the ability of the herd to rebound given the current age selection management directives and the AML range of 135 to 235 horses. The analysis works on the premise that the gather data collected in 2002 is representative of current herd demographics. The Jenkins wild horse population model was used to pro-rate the expected age and sex structure of the pre-gather herd. The population model was then used to decrease the herd to 135 horses using current age selective management directives. Pertinent management data, described in Appendix C of this document, was entered into the model.

A series of projections using both demographic and environmental variables were developed to ascertain possible long-term effects resulting from the current program directives and the current AML range established for this herd. Modeling studies with 100 trials per simulation supported the premise that the Piceance-East Douglas herd can be expected to continue to rebound in size and desirable sex ratio following the 2006 selective gather and fertility control treatment.

In each of the trials run, lowering the herd to 135 animals, while taking into consideration environmental variables programmed into the simulations, did not result in the population falling below its capacity to rebound. The model runs resulted in an average population growth 6-14%.

This average is conservative relative to the 20+% population increase known to be typical in the Piceance-East Douglas Herd. The population model suggests that the herd would exceed the 235 upper management ranges when gathered every 4th year. Because of the conservative nature of the model, the field office assumes that any gather proposal that appears sound in the model will also be appropriate in the Herd Management Area.

Herd demographic data will be compared and analyzed with data collected during previous gathers and then compared with data from future gathers. The effects of age and sex selection in the Piceance-East Douglas herd will be weighed with White River Field Office's Land Use Plan objectives, as well as, objectives in the White River Field Office Wild Horse Program Analysis and Operational Plan.

The WRFO is charged with maintaining the Piceance-East Douglas wild horse herd with the only tools available to achieve such a request being wild horse gathers and their associated removals. With the introduction of fertility control into the Piceance-East Douglas wild horse herd a greater level of maintenance could be realized. The WRFO proposes to apply fertility control to the wild horse mares (approximately 50 to 70 head) that will be released back into the Herd Management Area. It would be necessary for the WRFO to monitor the Piceance-East Douglas wild horse herd by census in the years 2008 and 2010. With the 2008 and 2010 census information the WRFO would make informed decisions on any future use of fertility control as a tool for partial suppression of the herd growth rates in the Piceance-East Douglas Herd, as well as the need for a gather in 2010.

This environmental assessment makes no commitment to long term use of fertility control. Prior to any subsequent gather operation, data collected from herd census monitoring would be incorporated into any future proposed management actions.

The BLM would be able to maintain the herd to the existing AML of 135-235 wild horses with minimal size fluctuations. The question and answer document by Kirkpatrick and Fazio summarizes nearly 20 years of research on fertility control and its application in wild horse herds. The use of fertility control would allow select wild horse mares an opportunity to achieve improved body condition until their next foaling and realize a greater life span on their home range within the Piceance-East Douglas Herd Management Area due to fewer gather operations based on herd recruitment.

Environmental Consequences of the No Fertility Control Alternative: A greater number of wild horses would be realized and would require larger or more frequent gathers if fertility control is not considered as a viable alternative.

Mitigation: Once horses have been removed from outside the herd area a renewed focus will be to prioritize placement of cattleguards (modification for wild horses as per Bureau standards) at locations specific to fence crossing on roads that experience high public use and present a risk of being left open. Cattleguards would reduce the potential for horses crossing out of the Herd Management Area. The same can be said for the fences that are considered to be boundary fences. A renewed focus will be to prioritize sections that have issue with wildlife damage and present a high risk of damage from outside sources (i.e., cut fences for hunting

purposes, etc.). Reference Appendix B for the Fertility Control Treatment method proposed under this environmental assessment.

Refer to Appendix A (Standard Operating Procedures) of this document for mitigation included with implementation of the Proposed Action and the Alternative to Reduce Herd to Lower AML Range but not to implement Fertility Control on Select Mares.

CUMULATIVE IMPACTS SUMMARY:

Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Issues of major importance that are analyzed are maintaining rangeland health and proper management of wild horses within the established boundaries of a Herd Management Area.

Past actions regarding the management of wild horses have resulted in the current wild horse population within the Herd Management Area and some areas outside of the boundary. Wild horse management has contributed to the present resource condition and wild horse herd structure within the area. Removal of excess wild horses to the lower point of the Appropriate Management Level (135 animals) would be expected to promote vegetation recovery and to maintain remaining animals in healthy condition. Until the area can be gathered, negative impacts to vegetation, soils, and riparian areas will continue and excess wild horses will continue to compete with native wildlife for the available water and vegetation.

While this analysis focuses on the removal of 301 excess wild horses within the HMA, the50-100 wild horses outside the HMA, and fertility control of approximately 65 wild horse mares within the Herd Management Area, the related action that is foreseeable within the HMA is the overall improved management of the wild horses and their habitat. The proposed action should result in stabilization efforts being realized in the fact that fewer, if any, horses will seek habitat outside of the Herd Management Area due to a longer term of lower herd numbers and improved rangeland health.

REFERENCES CITED:

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CDPHE-WQCC, 2006d. "Regulation No. 94, 2006 Colorado's Monitoring and Evaluation List," effective April 30, 2006.

Cothran, E. Gus, Ph.D., Department of Veterinary Science, University of Kentucky, Lexington, KY, 1995, "Genetic Analysis of the feral horses of the White River Resource Area of Colorado"

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Garrott, Robert A., Ph.D., Wildlife Conservation, University of Minnesota, PhD Thesis, 1990. (Dissertation: Demography of Feral Horse Populations in the Western United States).

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PERSONS / AGENCIES CONSULTED: This EA and gather plan was distributed to members of the general public, special interest groups, and interagency personnel for review and comment.

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Nate Dieterich	Hydrologist	Air Quality, Water Quality, Surface and Ground Hydrology and Water Rights, Soils
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern, Threatened and Endangered Plant Species
Michael Selle	Archeologist	Cultural Resources Paleontological Resources
Bob Fowler	Forester	Invasive, Non-Native Species, Forest Management
Ed Hollowed	Wildlife Biologist	Migratory Birds, Threatened, Endangered and Sensitive Animal Species, Wildlife Terrestrial and Aquatic
Melissa J. Kindall	Hazmat Collateral	Wastes, Hazardous or Solid
Ed Hollowed	Wildlife Biologist	Wetlands and Riparian Zones
Chris Ham	Outdoor Recreation Planner	Recreation, Visual Resources, Wilderness, Access and Transportation,
Mark Hafkenschiel	Rangeland Management Specialist	Vegetation, Rangeland Management
Ken Holsinger	Natural Resource Specialist	Fire Management

Name	Title	Area of Responsibility
Paul Daggett	Mining Engineer	Geology and Minerals
Mark Hafkenschiel Bob Fowler	Rangeland Management Specialist Forester	Rangeland Management
Linda Jones	Realty Specialist	Realty Authorizations
Melissa J. Kindall	Range Technician	Noise, Wild Horses

Finding of No Significant Impact/Decision Record (FONSI/DR)

CO-110-2006-030-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analysis of the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION/RATIONALE: It is my decision to approve the Proposed Action with the mitigation listed below as analyzed in the 2006 Piceance-East Douglas Wild Horse Environmental Assessment and Gather Plan to include the following:

1. The reduction of the Piceance-East Douglas wild horse herd to 135 wild horses, the lower end of appropriate management level range for the herd equaling a removal of approximately 301 wild horses.
2. The removal of approximately 50-100 wild horses from BLM administered allotments adjoining the Piceance-East Douglas Herd Management Area with these animals either be selectively returned to the inside of the Herd Management Area or placed into the BLM adoption program.
3. The introduction of Fertility Control (PZP) on selected mares that will be returned to the Herd Management Area (approximately 40-60 head).

The herd will be reduced to 135 wild horses within the Herd Management Area. Approximately 301 wild horses will be removed from within the Herd Management Area and all horses that have drifted outside the Herd Management Area boundaries will be removed and either be **selectively returned to the** inside of the Herd Management Area or placed into BLM's wild horse adoption program.

The planned action is in accordance with the Code of Federal Regulations (CFR) 43, part 4700 which addresses the management of wild, free-roaming horses and burros. Specifically applicable to this removal action is subpart 4700.0-6, Policy; subpart 4710, Management Considerations; and subpart 4720, Removal.

The proposed action has been placed in full force and effect status in keeping with 43 CFR 4770.3(c) which authorizes the Bureau of Land Management to issue a full force and effect decision to remove wild horses from public and private lands. The planned removal will adhere to the policies and specifications included in the 2006 EA, as well as, to the specifications included in the National Program Office Wild Horse Removal Contract #NAR050089. This Decision Record is considered in effect until the actions included in the Proposed Action have been completed.

Gather Method: The gather and removal of wild horses from the proposed locations will be completed using helicopter drive trapping, helicopter drive roping, water, or hay trapping. The work will be completed by a nationally awarded gather contractor.

Rationale for Approval of the Proposed Action: The decision to removal wild horses from the Piceance-East Douglas Herd Management Area is based on vegetation monitoring studies which document that an ecological balance currently does not exist within the Herd Management Area. The proposed action will encourage restoration of a balance of use between wild horses, wildlife, and livestock.

The decision to remove wild horses determined in excess of what their range can support is in conformance with 43 CFR 4700.0-6 and 43 CFR 4720.1. The decision to remove wild horses from outside the Herd Area boundaries is in conformance with 43 CFR 4710.4. The decision to release animals in specified age groups back into the Herd Area is in conformance with current Wild Horse and Burro Program directives. The removal decision conforms with the 1971 Wild, Free-Roaming Horse and Burro Act, PL-92-195; with current regulations, policy, directives, and the objectives contained in CO-110-06-030-EA.

Rationale for Full Force and Effect: The rationale for placing the action into full force and effect is based on the following:

- The planned gather supports the management of wild horses in the Piceance-East Douglas Herd Management Area identified in the 1997 White River Resource Area RMP.
- Reducing wild horse numbers, as identified in the 2006 EA, will encourage protection of key forage species from the overuse attributed to wild horses. The delay resulting from an appeal likely would result in direct, negative impacts on plant communities relied upon by the various range users. This situation, in turn, would negatively affect local watersheds and the habitat of the animals dependant upon this vegetation.
- Limitation of wild horse distribution to inside the Piceance-East Douglas Herd Management Area, is in keeping with CFR 43 4710.4 regulations. A delay in the gather would increase the incidence of horses relocating outside the Herd Management Area boundaries as competition between wild horses, wildlife and livestock increase.
- Completion of the planned removal in a timely, cost efficient manner is an action which benefits the taxpaying public.

MITIGATION MEASURES:

1. Cultural Resources: Horse trap locations and holding areas, except for the Yellow Creek Corrals (temporary holding facility), will need to be sited to avoid archaeological resources. In areas with acceptable levels of inventory no additional field work shall be necessary except to ensure that sites in the near vicinity can be adequately avoided by drive lines, wing fences and traps. In areas where inadequate inventory data exists an inventory will be necessary to ensure that any resources present are avoided.

2. Threatened and Endangered Plants/Areas of Critical Environmental Concern (ACEC): No facilities associated with removal actions (trap sites including any wings, corrals, holding pens, etc.) will be allowed within the boundaries of the Duck Creek ACEC. A botanical inventory for the presence of *Lesquerella congesta* (Dudley Bluffs bladderpod) and/or *Physaria obcordata* (Piceance twinpod) and any potential habitat for either species would be conducted on all facilities before any activity takes place within Pastures A and B of the Square S allotment and within T1N, R98W; T1N, R99W; T1S, R98W and T1S, R99W of the Yellow Creek allotment. Any plant locations or potential habitat identified in the inventory will become complete avoidance areas for any facilities proposed for use in this removal action. Any facilities associated with removal actions (trap sites including any wings, corrals, holding pens, etc.) placed within the South Cathedral Bluffs ACEC, the Upper Greasewood ACEC or the Lower Greasewood ACEC will have a botanical inventory conducted for the BLM sensitive plants known to occur within one of these ACECs. Any potential locations identified in the inventory will become complete avoidance areas for any facilities proposed for use in this removal action.

3. Wastes; Hazardous and Solid: The Porcine Zona Pellucida (PZP) would be handled by trained BLM personnel and/or the veterinary team doing the primer and booster at the Yellow Creek Corrals. All needles and/or medical supplies will be collected and disposed of by the contract veterinarian or trained BLM personnel. The liquid nitrogen used for freeze branding will be handled by BLM personnel familiar with freeze branding and handling of liquid nitrogen. The hazmat coordinator will be notified in the case of a nitrogen spill.

4. Noxious Weeds: Any hay fed at trap sites or holding facilities will be certified as weed free. Any noxious weeds that establish as a result of the Proposed Action will be controlled by the BLM and their Certified Pesticide Applicators.

5. Wild Horses: Monitoring would continue for the wild horses living within the Herd Management Area, more specifically, those mares receiving fertility control. Refer to Appendix A, EA #CO-110-06-030, Standard Operating Procedures of the Proposed Action.

6. Paleontology: Known and reported fossil localities shall be avoided when locating trap sites and associated wing fences and holding facilities. Sites without adequate inventory data will need to be examined for the presence of fossils during trap site selection activities. Trap facilities may need to be modified to avoid impacting identified fossil resources.

7. Wildlife, Terrestrial: Surveys for raptor nesting activity will be conducted by WRFO staff on those trap sites proposed for use or development prior to August 15, 2006. In the event an active raptor nest is found in the vicinity of trapping operations, these sites will be afforded a buffer adequate to effectively isolate nesting activity from disruptions generated from horse trapping operations.

8. Recreation: Avoid; if at all possible, gather operations on western portions of gather area (Cathedral Bluffs area) at higher elevations due to increased concentrations of public land hunters on September 16th and 17th. Additionally, inform Colorado Division of Wildlife field going personnel of gather operations, specifically: duration, reason for gather and mitigation measures.

NAME OF PREPARER: Melissa J. Kindall

NAME OF ENVIRONMENTAL COORDINATOR: Caroline P. Hollowed

SIGNATURE OF AUTHORIZED OFFICIAL: for Grant M. Parrie
for Kent E. Walter, Field Manager

DATE SIGNED: 08/01/06

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Appendix A

Standard Operating Procedures

The following considerations and guidelines are considered the technical portion of the 2006 Piceance East Douglas Wild Horse Gather Plan. This appendix outlines the safety considerations involved with the technical aspects of capturing wild horses, transporting the horses to temporary holding facilities, handling the captured animals and shipping the horses to the BLM Canon City, Colorado, or to the Rock Springs, Wyoming holding facility. This appendix defines the roles and responsibilities of individuals directly involved with the planned gather project.

The gather will be completed through a nationally awarded gather contract. Agency personnel will be directly involved in the completion of the project. The same procedures for capture and handling of wild horses apply to contractors, to agency personnel, and to volunteers.

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

A. Capture Method Descriptions

1. Helicopter drive trapping

The helicopter drive-trapping method of capture will be the primary method used to capture horses inside the HMA. The following stipulations and procedures will be followed during the contract period to ensure the welfare, safety and humane treatment of the wild horses in accordance with the provisions of 43 CFR 4700 and with the KG Livestock, Incorporated gather contract. The capture will be conducted by BLM personnel and the contractor; both of whom are experienced in the humane capture and handling of wild horses. The same rules apply to both the contractor and to BLM personnel.

Helicopter drive-trapping involves using a helicopter to spot and then herd horses towards a pre-constructed trap. The trap is constructed of portable, round-pipe steel panels. Funnel-shaped trap wings are built out from the corners of the trap to funnel horses into the trap. Trap wings are built with jute or snow fence, which is draped over and tied around trees or steel posts. The wings form a visual barrier to the horses and they usually enter the trap without being aware they are being trapped.

The helicopter pilot completes a recon prior to trapping to see where the bands are located. Once the trap and wings are ready for use, the pilot starts moving one or more bands of horses toward the trap and into the wings. The number of horses/number of bands moved towards a trap at one time depends on a variety of facets including proximity of bands to the trap; the number of horses in each band; the distance bands travel to the trap; topography, weather conditions, temperature, time of year, animal condition and trap dimensions.

The pilot herds the horses into the wings of the trap and then hovers while a ground crew on foot and/or horseback comes in behind the horses, hazes them into the trap corral and closes a gate

behind the trapped horses. The helicopter remains in the trap wings close enough to keep the horses from running back out of the trap and far enough away to assure safety of the ground crew and the horses. Once the gate is closed, or when the pilot sees it is best for him to leave the area, the helicopter leaves the trap site.

A pair of Parada or Judas horses; are often supplied by the contractor to encourage bands of wild horses not to balk in the trap wings, and to run smoothly into the trap corrals. The Judas horses are best friends and do not like being separated from one another. One Judas horse is lightly tied in the trap corral. The second Judas horse is led into the mid-section of the trap wing and held along the edge of one side of the trap wing. As wild horses are moved by helicopter into the trap the Judas horse being held in the trap wing is released. The Judas horse picks up his tail and runs towards the trap corral to be with his buddy. The wild horses see a horse running free ahead of them. Their instinct tells them this horse is running to freedom; they follow the Judas horse into the trap corral. The Judas horses are familiar with being in close proximity to freshly-captured wild horses. The Parada horses, once trapped in the corral, hold their own but are not overly aggressive with the wild horses.

2. Helicopter Assisted Roping

Helicopter assisted roping is used when mares and foals become separated, when every horse must be captured from an area, and when specific animals are targeted for capture. In the upcoming gather helicopter assisted roping may be used if a mare and foal become separated, and to capture horses that have relocated outside HMA boundaries. Helicopter roping will only be used when determined by the COR or PI as the most efficient manner to capture specific horses and when the roping can be done in a safe and humane manner.

In helicopter assisted rope capture individual horses are herded by helicopter towards ropers who rope the horse(s). Once roped, another rider rides alongside the roped horse and roper, helping to haze, or herd, the roped horse either towards the trap or towards a stock trailer. Once at the trap the rope is flipped away from the roped horse's neck and it joins the rest of the trapped horses. When hazed to a stock trailer the horse is hobbled, laid on its side and then either pulled or slid into the trailer. If the horse is slid into the trailer a fabric or wood surface is placed under the horse to protect the horses' hide as it is pulled into the trailer. Once in the trailer the horse is freed of ropes and allowed to quiet down before being transported to the trap site.

3. Water Trapping

Water trapping will be used when horses are not able to be helicopter drive trapped or roped, when every horse must be captured from an area, and when specific horses are targeted for capture. In the upcoming gather water trapping may be used for both horses within the HMA and to capture horses that have relocated outside HMA boundaries. Water trapping will be used when determined by the COR or PI as the most efficient manner to capture specific horses and when the helicopter drive trapping and assisted helicopter roping proves to be inadequate means of gathering or can not be done in a safe and humane manner.

In water trapping individual horses are allowed to use water sources before, during and after trap construction. The trap is constructed of portable, round-pipe steel panels. Funnel-shaped traps are built which allows horses to get deep into the trap so that when the gate release mechanism is activated time is allowed for the gate to close which traps the horses inside. Once trapped the captured horses will be loaded into an appropriate stock trailer and delivered to the holding facility. The horses are not herded towards the water they simply make use of the water that they frequent naturally or human enhanced water sources.

4. Hay Trapping

Hay trapping will be used when horses are not able to be helicopter drive trapped or roped, when every horse must be captured from an area, and when specific horses are targeted for capture. In the upcoming gather hay trapping may be used for both horses within the HMA and to capture horses that have relocated outside HMA boundaries. Hay trapping will only be used when determined by the COR or PI as the most efficient manner to capture specific horses and when the helicopter drive trapping, assisted helicopter roping, and water trapping prove to be inadequate means of gathering or can not be done in a safe and humane manner.

In hay trapping individual horses are allowed to use water sources during and after trap construction. The trap is constructed of portable, round-pipe steel panels. Funnel-shaped traps are built which allows horses to get deep into the trap so that the gate release mechanism allows time for the gate to close. Once trapped the captured horses will be loaded into an appropriate stock trailer and delivered to the holding facility. The horses are not herded towards the hay but simply make use of the hay as necessary supplemental feed source. All hay used will be certified weed free hay.

B. Trap Site Selection

The Authorized Officer will make a careful determination of a boundary line to serve as an outer limit where the horses will be herded to each trap. The Authorized Officer will insure that the pilot is fully aware of all natural and man made barriers, which might restrict free movement of horses. Topography, distance, and current condition of the horses are factors that will be considered to set limits to minimize stress on horses.

Gather operations will be monitored to assure the body condition of the horses is compatible with the distances and the terrain over which they must travel. Pregnant mares, mares with small colts, and other horses will be allowed to drop out of bands that are being gathered if required to protect the safety and health of the animals.

All trap and holding facility locations will be approved by the Authorized Officer prior to construction. The situation may require moving of the trap. All traps and holding facilities not located on public land must have prior written approval of the landowner.

Trap sites will be located to cause as little injury and stress to the animals, and as little damage to the natural resources of the area, as possible. Sites will be located on or near existing roads. Additional trap sites may be required, as determined by the Authorized Officer, to relieve stress

to the animals caused by specific conditions at the time of the gather (i.e. dust, rocky terrain, temperatures, etc.).

C. Stipulations for Portable Corral Traps/Exclosures

1. Capture traps will be constructed in a fashion to minimize the potential for injury to wild horses and BLM personnel. Trapped horses held in traps longer than 10 hours will be fed and watered.

2. The Colorado Division of Wildlife will be notified as soon as possible if any wildlife are injured during capture operations. Wildlife caught inside traps will be released immediately.

3. All traps, wings, and holding facilities shall be constructed, maintained and operated to handle the animals in a safe and humane manner and 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 the bottom rail of which shall not be more than 12 inches from ground level. All traps and temporary holding facilities shall be without corners; oval or round in design.

b. All loading chute sides shall be fully covered with plywood (without holes) or like material. The loading chute shall also be a minimum of 6 feet high.

c. All runways shall be of sufficient length and height to ensure animal and wrangler safety and may be covered with plywood, burlap, plastic snow fence or like material a minimum of 1 foot to 6 feet for horses.

d. If a government furnished portable chute is used to restrain, age, or to provide additional care for animals, it shall be placed in the runway in a manner as instructed by or in concurrence with the Authorized Officer.

e. All crowding pens including the gates leading to the runways will, if necessary to prevent injuries from escape attempts, be covered with a material which prevents the animals from seeing out (plywood, burlap, snow fence etc.) and should be covered a minimum of 2 feet to 6 feet for horses.

f. Alternate pens will be constructed at the temporary holding facility to hold mares with newborn foals, animals that will be released, sick or injured animals, and domestic estrays from the other horses. Horses may also be separated according to age, number, size, temperament, and sex. They pens will be constructed to minimize injury resulting from fighting and trampling.

g. In some cases, the Government will require that animals be restrained for determining an animal's age or for other purposes. In these instances, a portable restraining chute will be provided by the Government. Segregation or temporary marking and later segregation will be at the discretion of the Contracting Officers Representative (COR).

4. If animals are held in the traps and/or holding facilities, a continuous supply of fresh clean water at a minimum rate of 10 gallons per animal per day will be supplied. 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.

5. Water troughs shall be provided at each pen where animals are being held. Water troughs shall be constructed of such material (e.g. rubber, rubber over metal) so as to avoid injury to animals.

6. When dust conditions occur within or adjacent to the trap or holding facility, the contractor/BLM shall be required to wet down the ground with water.

D. Capture Stipulations

1. The contractor/BLM shall attempt to keep bands intact except where animal or human health and safety become considerations that prevent such procedures

2. At least one saddle-horse will be immediately available at the trap site to perform roping if necessary. Roping shall be done as determined by the Contracting Officer's Representative or Project Inspector (COR/PI). Roping will be performed in such a manner that bands will remain together.
Under no circumstances shall animals be tied down for more than one hour.

3. Domestic saddle horses may be used to assist the helicopter pilot on the ground during the gather operation, by having the domestic horse act as a pilot (or "Judas") horse leading the wild horses into the trap site. Individual ground hazer's and individuals on horseback will be used to assist in the gather.

4. Foals will not be left behind. If a situation arises where a foal becomes separated from its mare ropers with the help of the pilot will make every attempt to capture either the mare, or the foal and reunite the mare/foal pair keeping the safety of the horses and gather crew in mind.

E. Contract Helicopter, Pilot and Communications

1. 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, and applicable regulations of the State in which the gather is located.

2. When refueling, the helicopter shall remain a distance of at least 1,000 feet or more from animals, vehicles (other than fuel truck), and personnel not involved in refueling.

3. The COR/PI shall have the means to communicate with the contractor's pilot at all times. If communications cannot be established, the Government will take steps as necessary to protect the welfare of the animals. The frequency (ies) used for this contract will be assigned by the

COR/PI when the radio is used. The contractor shall obtain the necessary Federal Communication Commission (FCC) licenses for the radio system.

4. The COR or PI will notify dispatch each morning prior to the helicopter leaving the ground to capture horses; and at the end of each day's project. Dispatch will be kept informed of the trap locations and location inside the HMA where the pilot is herding/capturing horses. The gather pilot and COR will maintain open communications with dispatch to assure both parties are aware of aircraft other than the gather contractor who may be in the capture vicinity, or who request permission to travel through, or work in the capture vicinity.

5. The proper operation, service and maintenance of all contractor furnished helicopters is the responsibility of the contractor. The BLM reserves the right to remove from service pilots and helicopters which, in the opinion of the Contracting Officer or COR/PI, violate contract and FAA rules, are unsafe or otherwise unsatisfactory. In this event, the contractor will be notified in writing to furnish replacement pilots or helicopters within 48 hours of notification. All such replacements must be approved in advance of operation by the Contracting Officer or his/her representative.

6. All incidents/accidents occurring during the performance of any delivery order shall be immediately reported to the COR.

F. <u>Animal Handling and Care</u>

1. Prior to capturing horses, the COR/PI will conduct a pre-capture evaluation of existing conditions in the gather areas. The evaluation will determine whether the proposed activities will require the presence of a veterinarian during the project or if the veterinarian can remain on-call during the gather operation. Animal health, temperature extremes; topography, distance to the traps, and other factors will be considered when deciding between an on-call vet contract and an on-site contract.

2. The contractor will be apprised of the all conditions and will be given instructions regarding the capture and handling of animals to ensure their health and welfare is protected.

3. The Authorize Officer and pilot will identify and discuss natural hazards and man-made hazards on the ground by looking at a topographic map so the helicopter flight crew, ground personnel, and wild horse safety will be maximized. Aerial hazards will be recorded on the project map.

4. No fence modifications will be made without authorization from the Authorized Officer. The contractor/BLM shall be responsible for restoration of any fence modification.

5. If the route the contractor/BLM proposes to herd animals passes through a fence, opening should be large enough to allow free and safe passage. Fence material shall be rolled up and fence posts will be removed or sufficiently marked to ensure safety of the animals. The standing fence on each side of the gap will be well flagged and covered with jute or like material.

6. Wings shall not be constructed from materials injurious to animals and must be approved by the Authorized Officer.

7. It is the responsibility of the contractor/BLM to provide security to prevent loss, injury or death of captured animals until delivery to final destination.

8. 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 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.

9. Branded or privately owned animals captured during gather operations will be handled in accordance with state estray laws and existing BLM policy.

10. Capture methods will be identified prior to issuance of delivery orders. Regardless of which methods are selected, all capture activities shall incorporate the following:

G. Treatment of Injured or Sick; Disposition of Terminal Animals

1. The contractor/BLM shall restrain sick or injured animals if treatment is necessary. A veterinarian may be called to make a diagnosis and final determination. Destruction shall be done by the most humane method available. Authority for humane destruction of wild horses (or burros) is provided by the Wild Free-Roaming Horse and Burro Act of 1971, Section 3(b)(2)(A), 43 CFR 4730.1, BLM Manual 4730 - Destruction of Wild Horses and Burros and Disposal of Remains, and is in accordance with BLM policy.

2. Any captured horses that are found to have the following conditions may be humanely destroyed:

a. The animal shows a hopeless prognosis for life.
b. Suffers from a chronic disease.
c. Requires continuous care for acute pain and suffering.
d. Not capable of maintaining a body condition rating of one or two.
e. The animal is a danger to itself or others.

3. The Authorized Officer will determine if injured animals must be destroyed and provide for destruction of such animals. The contractor/BLM may be required to dispose of the carcasses as directed by the Authorized Officer.

4. The carcasses of the animals that die or must be destroyed as a result of any infectious, contagious, or parasitic disease will be disposed of by burial to a depth of at least 3 feet.

5. The carcasses of animals that must be destroyed as a result of age, injury, lameness, or non-contagious disease or illness will be disposed of by removing them from the capture site or holding corral and placing them in an inconspicuous location to minimize visual impacts. Carcasses will not be placed in drainages regardless of drainage size or downstream destination.

H. 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 Authorized Officer with a current safety inspection (less than one year old) of all tractor/stock trailers used to transport animals to final destination.

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

4. All vehicles used to transport animals to the final destination(s) shall be equipped with at least one (1) door at the rear end of the vehicle, which is capable of sliding either horizontally or vertically. The rear door must be capable of opening the full width of the trailer. All 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 the trailer must be strong enough, so that the animals cannot push their hooves through the sides. Final approval of vehicles to transport animals shall be held by the Authorized Officer.

5. Floors of vehicles, trailers, and the loading chute shall be covered and maintained with materials sufficient to prevent the animals from slipping.

6. Animals to be loaded and transported in any vehicle or trailer shall be as directed by the Authorized Officer and may include limitations on numbers according to age, size, sex, temperament, and animal condition. The minimum square footage per animal is as follows:

11 square feet/adult horse (1.4 linear feet in an 8 foot wide trailer)
8 square feet/adult burro (1.0 linear foot in an 8 foot wide trailer)
6 square feet/horse foal (0.75 linear feet in an 8 foot trailer)
4 square feet/burro foal (0.50 linear feet in a 8 foot wide trailer)

7. The Authorized Officer shall consider the condition of the animals, weather conditions, type of vehicles, distance to be transported, or other factors when planning for the movement of

captured animals. The Authorized Officer shall provide for any brand and/or inspection services required for the captured animals.

8. Communication lines will be established with personnel involved in off-loading the animals to receive feedback on how the animals arrive (condition/injury etc.). Should problems arise, gathering methods, shipping methods and/or separation of the animals will be changed in an attempt to alleviate the problems.

9. If the Authorized Officer determines that dust conditions are such that animals could be endangered during transportation, the contractor/BLM will be instructed to adjust speed and/or use alternate routes.

10. Periodic checks by the Authorized Officer may be made as animals are transported along dirt roads. If speed restrictions are in effect the Authorized Officer will at times follow and/or time trips to ensure compliance.

I. Special Stipulations.

1. Private landowners or the proper administering agency(s) would be contacted and authorization obtained prior to setting up traps on any lands that are not administered by BLM. Wherever possible, traps would be constructed in such a manner as to not block vehicular access on existing roads.

2. Gathering would be conducted when soils are dry or frozen and conditions are optimal for safety and protection of the wild horses and wranglers. Whenever possible, gathering activities will be scheduled to minimize impacts with big game hunting seasons.

3. Gathers would not be conducted 6 weeks on either side of peak foaling season recognized between March 1 and June 30 to reduce the risk of injury or stress to pregnant mares and mares with young foals.

4. The helicopter would avoid eagles and other raptors, and would not be flown repeatedly over any identified active raptor nests. Unnecessary flying would not occur over big game on their winter ranges or active fawning/calving grounds during the period of use.

J. Safety

Safety of BLM employees, contractors, members of the public, and the wild horses will receive primary consideration. The following safety measures will be used by the Authorized Officer and all others involved in the operation as the basis for evaluating safety performance and for safety discussions during the daily briefings:

1. A briefing between all parties involved in the gather will be conducted each morning.

2. All BLM personnel, contractors and volunteers will wear protective clothing suitable for work of this nature. BLM will alert observers of the requirement to dress properly. BLM will assure that members of the public are in safe observation areas.

3. The handling of hazardous or potentially hazardous materials such as liquid nitrogen and vaccination needles will be accomplished in a safe and conscientious manner by BLM personnel or the contract veterinarian. (Refer to page 11, Wastes, Hazardous or Solid).

K. Responsibility and Lines of Communication

1. The Contracting Officer's Representative and Project Inspectors have the direct responsibility to ensure the contractor's compliance with the contract stipulations.

2. The Associate Field Manager and the Field Manager will take an active role to ensure the appropriate lines of communication are established between the Field Office, State Office, and Royal Gorge Field Office.

3. All employees involved in the gathering operations will keep the best interests of the animals and their own safety at the forefront at all times.

4. The COR will maintain open communications with dispatch to assure both parties are aware of project status; capture locations; and daily aviation activity.

Appendix B

Fertility Control Treatment: The following management and monitoring requirements are part of the Proposed Action:

1. PZP vaccine would be administered by trained BLM personnel.

2. The fertility control drug is administered with two separate injections: (1) a liquid dose of PZP is administered using an 18 gauge needle primarily by hand injection; (2) the pellets are preloaded into a 14 gauge needle. These are 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.

3. 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.

4. 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.

5. At a minimum, monitoring of reproductive rates using helicopter flyovers will be conducted in years 2 through 4 by checking for presence/absence of foals. The flight scheduled for year 4 will also assist in determining the percentage of mares that have returned to fertility. In addition, field monitoring will be routinely conducted as part of other regular ground-based monitoring activities.

6. A field data sheet will be used by the field applicators to record all the 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 original form with the data sheets will be forwarded to the authorized officer at National Program Office (NPO) (Reno, Nevada). A copy of the form and data sheets and any photos taken will be maintained at the field office.

7. 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.

8. The field office will assure that treated mares do not enter the adoption market for three years following treatment. In the rare instance, due to unforeseen circumstance, treated mare(s) are removed from an HMA before three years has lapsed, they will 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 is necessary to remove treated mares, their removal and disposition will be coordinated through NPO. After expiration of the three year holding period, the animal may be placed in the adoption program or sent to a long-term holding facility.

Appendix C

Results of Population Modeling for Piceance-East Douglas HMA

Population Model Overview

Population modeling is a tool designed to help Wild Horse and Burro Specialists evaluate various management alternatives and possible outcomes for management of wild horses. The population model is not applicable for burros.

The WinEquus program, developed by Dr. Steven Jenkins at the University of Nevada at Reno was designed to assist wild horse and burro specialists evaluate various management alternatives that might be considered for a particular area.

The model uses data on average survival probabilities and foaling rates of horses to simulate 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 horse populations cannot be known 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 control treatment as management strategies. A simulation may include no management, selective removal, fertility control treatment, or both removal and fertility control 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 control 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 control treatment.

Modeling was complete for this HMA. Population modeling was completed for all alternatives including the No Action Alternative. Initial population age structures were developed for the HMA based on the gather/release history data. All simulations used the survival probabilities and foaling rates supplied with the WinEquus population model for the Garfield Flat HMA. Survival data was collected by M. Ashley and S. Jenkins at Garfield Flat, Nevada between 1993 and 1999. Marked individuals were followed for a total of 708 animal-years to generate these survival probabilities.

Foaling rate data was collected by M. Ashley and S. Jenkins at Garfield Flat, Nevada between 1993 and 1999. Marked females were followed for a total of 351 animal-years to generate these data on foaling rates.

These initial populations for the Piceance-East Douglas HMA were entered into the model and put though simulations that included Fertility Control with Gather, Gather Only (No Fertility

Control) or No Management (No Gather). The simulations were run for 100 trials for the eleven years. For each simulation, a series of graphs and tables were provided which included the "most typical" trial, population sizes, growth rates, and gather numbers.

Results of Population Modeling

Out of the 100 trials in each simulation run, the model tabulated minimum, average, and maximum population sizes. The model was run for a period of eleven years from 2006 to 2016, and gives output through 2016. These numbers are useful to make relative comparisons of the different alternatives, and potential outcomes under different management options. The lowest, median and highest trials are displayed for each simulation completed. This output, together with the time series and most typical trial graphs are useful representations of the results of the program in terms of assessing the effects of the management alternatives because it shows not only expected average results but also extreme results that might be possible. The minimum population size in general reflects the numbers that would remain following management or random environmental impacts. The maximum population size generally reflects the population that existed prior to the gather, and in many cases that figure would not be exceeded during the ten years of the simulations. Half of the trials were greater than the median and half of them less than the median.

Table 1. Population Size – Proposed Action Alternative

Estimated Population Sizes in 11 Years			
Trial	**Minimum**	**Average**	**Maximum**
Lowest	95	232	365
Median	196	318	466
Highest	290	413	630

Table 2. Population Size – No Fertility Control Alternative

Estimated Population Sizes in 11 Years			
Trial	**Minimum**	**Average**	**Maximum**
Lowest	326	480	503
Median	384	630	971
Highest	532	931	1508

Table 3. Population Size – No Action Alternative

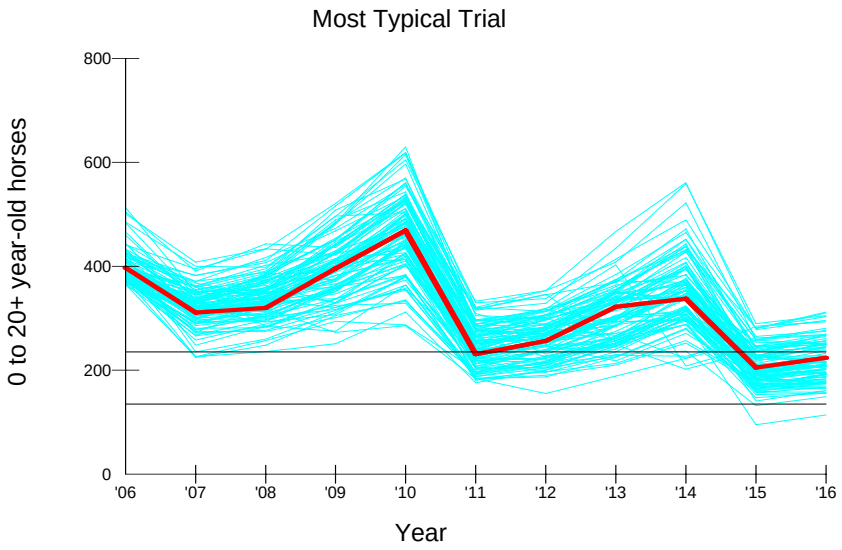
***Estimated Population Sizes in 10 Years versus 11 Years**			
Trial	**Minimum**	**Average**	**Maximum**
Lowest	351	709	1204
Median	394	1468	3028
Highest	523	1954	4520

Time Series Graph of Most Typical Trial

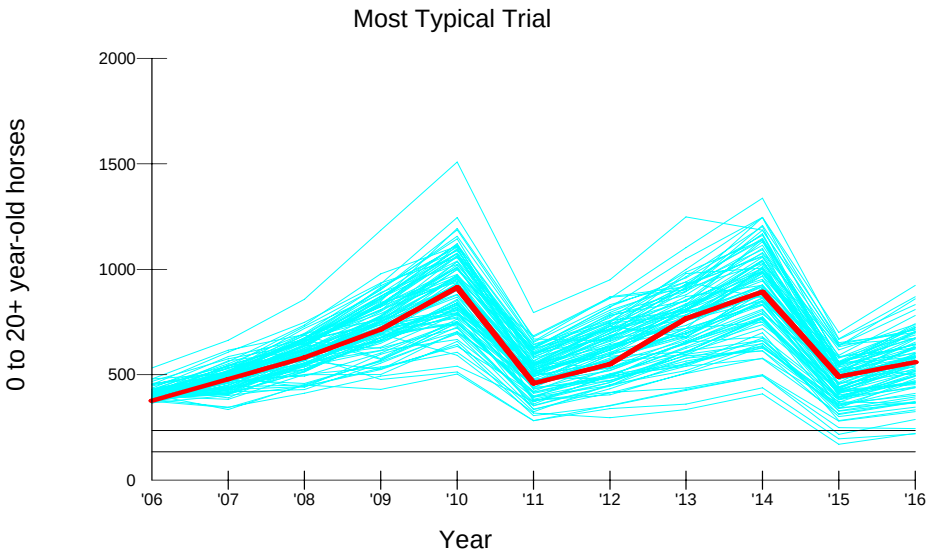
Based on the results from the model, spaghetti graphs (see below) were generated for each simulation. These graphs show how population size changes over time. The Y-axis scale remains constant for each graph; however the X-axis was determined based on results and was unable to be changed. At first glance, there appears to be not much difference between the trials, but if the reader takes a closer look one finds the scales to be different.

Each line represents one of the 100 trials for the simulations completed for each alternative. The two horizontal lines located in the graphs represent the threshold for gather (upper range of AML) and the target population size (low range of AML). The Most Typical Trial graph includes a dark heavy line (red) which represents what the model has chosen as the trial with the most typical results. This trial closely matches the average of all 100 trials. The most typical trial is useful for making comparisons between alternatives, and for predicting what would be the probable results of the action.

Population Size Graph of Most Typical Trial
Proposed Action Alternative



Population Size Graph of Most Typical Trial
No Fertility Control Alternative



The results of the modeling indicate that when 135 wild horses remain in the HMA following the gather, that the average population would not reach the upper end of the AML until the fourth

year. Which could potentially make for adjustments in future gathers to be further out from the current four year gather cycle. The model indicated that without fertility control, the AML could possibly be exceeded by as early as 2009. The maximum population reflects the population that existed before the gather. This is one demonstration of why the fertility control option was selected as the Proposed Action for this HMA.

Growth Rates

Through the model, average population growth rates were obtained for the Proposed Action and the Alternative to Reduce Herd to Lower AML Range but not to implement Fertility Control on Select Mares out of 100 trials. Growth rates are displayed for the lowest, median and highest trial.

Piceance/East Douglas HMA - Percent Average Growth Rates in 11 years, Fall 2006 Gather

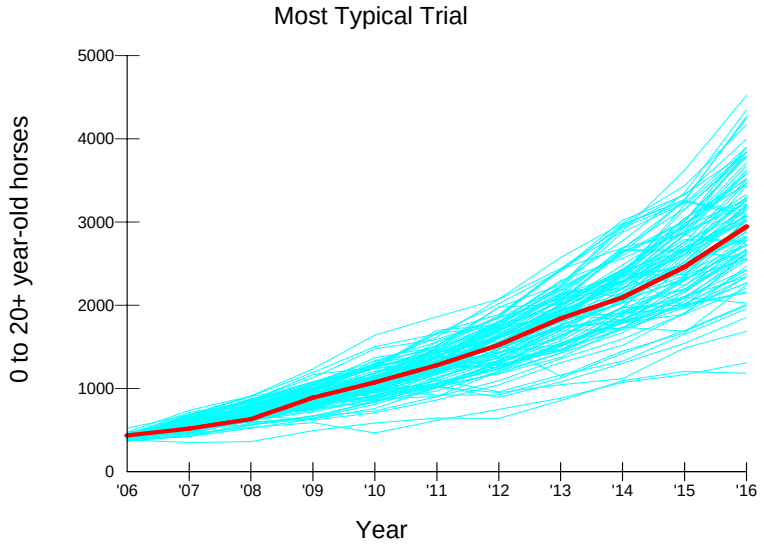
Trial	Proposed Action: Gather + Fertility Control	Alternative: Gather + No Fertility Control
Lowest	10.2	15.7
Median	19.0	26.3
Highest	24.2	32.8

Population modeling data reflects that the implementation of fertility control would result in reduced growth rates of the wild horse population in the Piceance-East Douglas HMA. Growth rate analyzed for the fertility control alternative were 29-51% lower than when fertility control was not implemented. The model also indicates that growth rates would not be so low as to cause risk to the population should fertility control be implemented.

No Action Alternative (No Wild Horse Gather)

Population modeling was completed for the No Action Alternative. The most typical trial was utilized to demonstrate the projected population over time if a gather does not take place. The spaghetti graph of most typical trial for the gather area is displayed below for the No Action Alternative as a comparison only. The graphs clearly show the continued increase in population size if a gather was not completed.

Population Size Graph of Most Typical Trial
No Action Alternative



Population Modeling Summary

To summarize the results obtained by simulating the range of alternatives for the Piceance-East Douglas HMA wild horse gather, the following questions can be addressed.

- *Do any of the Alternatives "crash" the population?*
  None of the alternatives indicate that a crash is likely to occur to the population. Minimum population levels and growth rates are all within reasonable levels, and adverse impacts to the population are not likely.
- *What effect does fertility control have on population growth rate?*
  As expected, the alternative implementing fertility control (Proposed Action) reflects the lowest overall growth rates. The growth rates for the Piceance-East Douglas HMA proposed for fertility controls are 10-24% lower than the non-fertility control growth rates.
- *What effect do the different alternatives have on the average population size?*
  The population sizes obtained through the model indicate that fertility control implementation could result in average population sizes lower than if fertility control is not implemented for the Piceance-East Douglas HMA. Growth rate analyzed for the fertility control alternative were 29-51% lower than when fertility control was not implemented.

The No Action Alternative is clearly unacceptable, however, was analyzed for comparison with the other alternatives. Without a wild horse gather, populations could potentially triple within a five year period.

Appendix D

PUBLIC COMMENTS ON PICEANCE/EAST DOUGLAS WILD HORSE GATHER PLAN OF 2006 AND BLM'S RESPONSES TO THE COMMENTS

INTRODUCTION

The public comment period for this Environmental Assessment was from June 5th through July 10th, 2006. Every comment letter was read and comments identified. The appropriate Team Member was then assigned the comments relating to their specialty in order to develop a response. When the responses were complete, an effort was made to combine comments that contained the same or similar subject matter. Table A-1 contains a list of respondents and affiliation, the number of comments contained in each letter, and the number assigned to their specific comment(s). Individual respondents should be able to track their comments from the following table by finding their name and noting the comment numbers assigned to their comment.

Table A-1: List of Respondents

Name/Affiliation	Number of Comments	Comment Numbers
Valerie Stanley	4	1,2,3,4
Toni Moore	5	1,5,6,7,8

Comment/Responses to the Piceance-East Douglas Gather Plan:

1.) BLM has already committed resources to engage in these roundups in violation of the National Environmental Policy Act.

Response: The gather date is determined through advanced scheduling that is required to process wild horses through the national system of adoptions and care. The Piceance-East Douglas Herd Management Area was identified for gather in 2006 through the national budget process, contingent upon the completion of NEPA. This EA provides information to the public and the decision maker on the number of horses counted in the 2006 census, rangeland conditions, and the method(s) of capture.

2.) BLM has drastically reduced the amount of acreage available to wild horses and burros by eliminating herd areas or artificially decreasing herd areas to create herd management areas.

Response: The process for determining the size of herd management areas and allowable management level (AML) is outside the scope of this particular EA, as that occurs through land use planning and is monitored through periodic activity level environmental assessments. Herd Areas are not eliminated, they remain available for horse management through review and preparation of land use plans. In the White River Field Office the Piceance/East Douglas HMA was increased in size by 31,200 acres with the Greasewood allotment.

3.) BLM should complete an EIS that analyzes on the State level, its segmented actions toward wild horses within the state of Colorado.

Response: These gathers would implement existing decisions documented in the 1997 RMP Record of Decision and analyzed in the 1996 FEIS for the proposed RMP. Existing analyses adequately address impacts, mitigation measures, and appropriate management practices.

4.) The current EA fails to analyze whether the area is eligible under the National Historic Preservation Act and its Implementing Regulations.

Response: The BLM will conduct all gather operations in accordance with Section 106 of the National Historic Preservation Act, as amended. Any further evaluation is beyond the scope of this Environmental Assessment.

5.) The WRFO has not completed any monitoring and inventory of the Piceance-East Douglas wild horse herd post round-up or after the erection of fences to record impacts to herd health, change in migratory patterns or range use.

Response: During each census conducted by WRFO, including the recent census in February of 2006, specialists make note of the numbers of animals, seasonal distribution, and assess the condition of the animals. No problems related to fences have been noted.

6.) We contest the legality of WRFO BLM's assertion of discretionary management with regard to herd boundaries.

Response: The establishment of the Herd Management Area boundary occurred through the land use planning process and is beyond the scope of this Environmental Assessment.

7.) The EA intends to restore a thriving, natural, ecological balance, yet there is no monitoring of the herd status as well as vegetation post removal to confirm achievement of this goal. The Herd Management Plan states the need to "conduct utilization studies within the Herd management Area before and after livestock use to differentiate between wild horse and livestock use."

Response: Please refer to the discussion of vegetation monitoring is the EA beginning on page 18, as well as the discussion of wild horses beginning on page 40.

8.) The respondent had concerns about the use of fertility control.

Response: Utilizing a tool with nearly 20 years of research in place expands the management options available to the BLM to effectively manage wild horses according to the *Wild Free-Roaming Horse and Burro Act of 1971*. It will help us manage the number of wild horses in the

HMA to be consistent with management objectives outlined in the RMP for wild horses and other natural resources.

According to Drs. Jay F Kirkpatrick Patricia M Fazio products developed with public monies are in the domain of the public, and therefore have no intention of commercialization. Therefore, it will always be called "experimental," despite the fact that PZP has been studied and field-tested extensively, for safety and efficiency, and is currently being used with more frequency on federal wild horse mares.

See Reference section of the EA for a list of literature pertaining to the fertility control.

Every mare that is treated with contraception rather than removed is a mare that will be delaying her reproduction rather than being eliminated permanently from the range. This preserves herd genetics, while gathers and adoptions do not.

This EA makes no commitment to long term use of fertility control. Prior to any subsequent gather operations, data collected from post 2006 gather monitoring would be incorporated into any proposed management actions.

9.) Numbers of horses removed does not correlate with other published BLM post roundup documents.

Response: Our current gather plan is based on numbers derived from the February, 2006 census. Please refer to the tables in the Wild Horse section beginning on page 42.