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Jicarilla Wild Horse Management EA

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1. PURPOSE AND NEED FOR ACTION

This Environmental Assessment (EA) was prepared to analyze the Bureau of Land Management (BLM) Farmington Field Office (FFO) proposal to gather and remove excess wild horses and manage the long-term population growth of the Jicarilla Wild Horse Herd from within and outside the BLM Carracas Mesa Wild Horse Herd Area (HA; Figure 1).

The Carracas Mesa HA borders the United States Forest Service (USFS) Jicarilla Wild Horse Territory (WHT). These areas are often referred to as a Joint Management Area (JMA) because the Jicarilla Wild Horse Herd utilizes both areas. It is impossible to discuss or manage the herd in terms of "BLM-managed horses" and "USFS-managed horses." The USFS and BLM currently manage the herd under and Interagency Agreement. However, each agency is responsible for determining the specific management that applies to their respective areas and to conduct appropriate analysis of that management. The USFS Jicarilla WHT completed analysis of management for the Jicarilla WHT in the Environmental Assessment for the Management of the Jicarilla Wild Horse Territory (USFS, 2004a) prepared by the Jicarilla Ranger District of the Carson National Forest, located in Bloomfield, NM. This BLM is currently analyzing management for the BLM Carracas Mesa HA. Thus, while the analysis may cross jurisdictional boundaries in order to adequate describe the affected environment and analyze environmental consequences, the alternatives and decisions to be made only apply to the BLM.

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

This document is tiered to the *Farmington Resource Management Plan with Record of Decision* (RMP) and the 1988 Farmington RMP through inference with the decision to bring forward land use planning decisions without change. Appendix D of the RMP states the FFO will "Provide forage for 23 wild and free roaming horses on the Rosa Community Allotment" (BLM, 2003, D-2). The FFO will consult, cooperate, and coordinate with the USFS Jicarilla Ranger District to address any changes to the existing Interagency Agreement in order to proceed with management activities on the USFS-managed lands.

1.1. Background

The JMA is located approximately 16 miles northeast of Navajo Dam, New Mexico within Rio Arriba County. The BLM HA consists of both the Carracas Mesa Specially Designated Area (SDA) for wildlife and recreation and the Rosa Community Allotment (Figure 1). The SDA was formally the north pasture of the Rosa Community Allotment at the time of herd designation. The entire HA consists of approximately 32,000 acres.

The Jicarilla WHT is located on the Carson National Forest and covers over 76,000 acres. The JMA encompasses a total of approximately 108,000 acres (Figure 2). BLM, USFS, tribal, and private lands are also affected by the Jicarilla horses when they travel outside of these designated areas. Therefore, the proposed Project Area encompasses the JMA and a portion of adjacent BLM lands (Figure 2).

Figure 1. Carracas Mesa HA

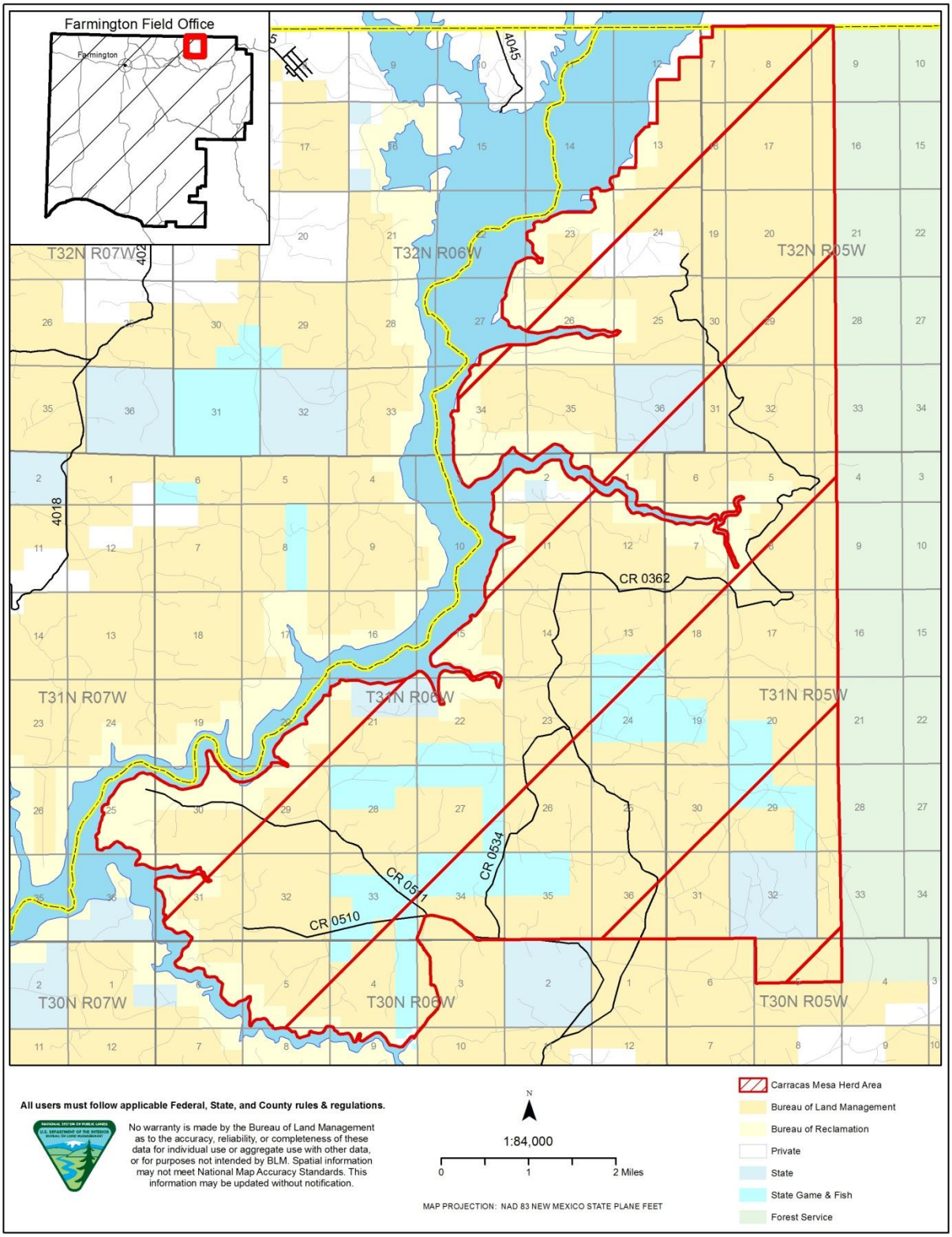
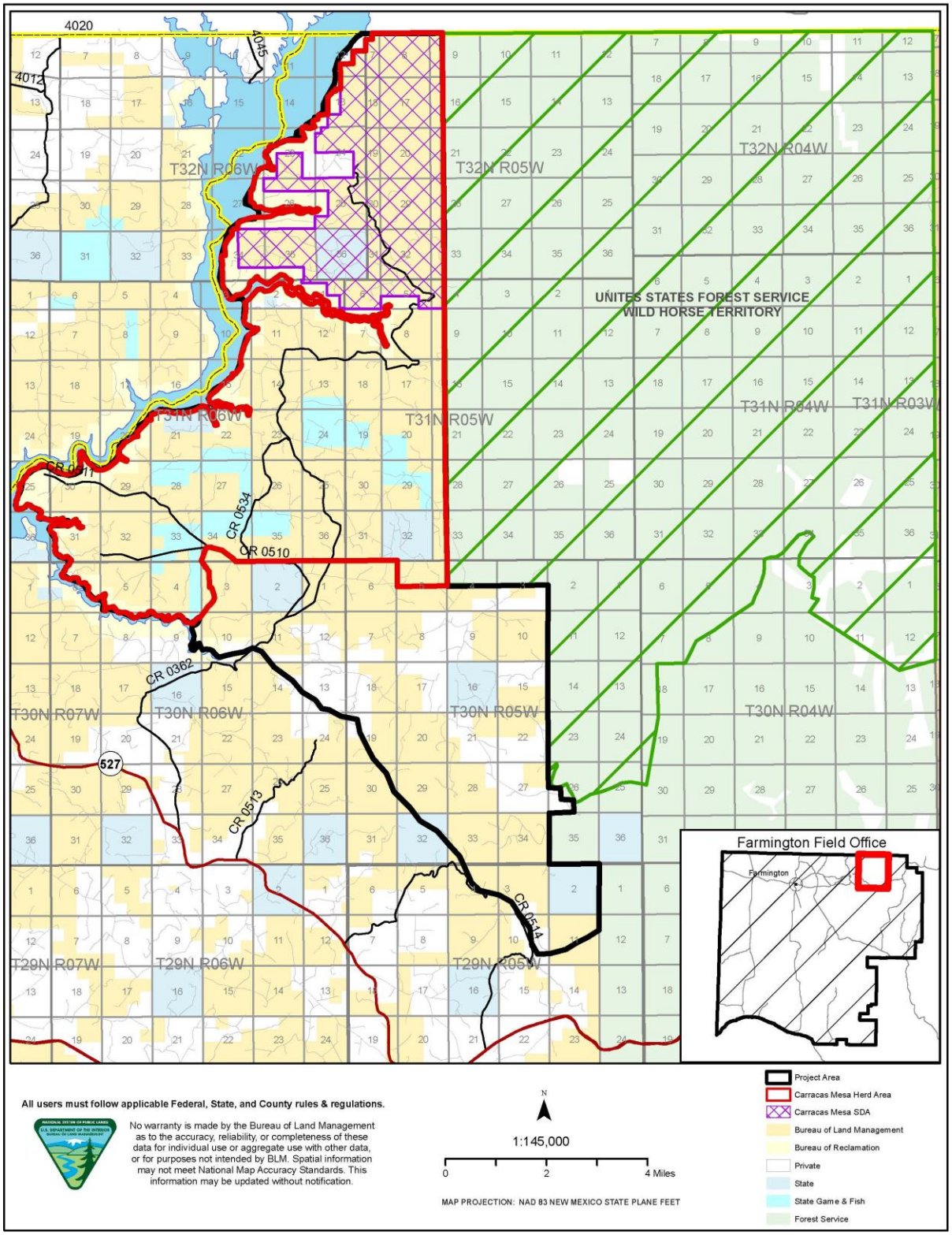


Figure 2. Jicarilla Wild Horse Management Project Area



An appropriate management level (AML) is defined as the number of wild horses that can be sustained within a designated HA, Herd Management Area (HA), or WHT to achieve and maintain a thriving natural ecological balance[1] consist with the multiple-use management concept for the area. The AMLs for the HA and WHT only include adult horses. Both the BLM and USFS established separate AMLs under their respective jurisdictional areas The HA AML was carried forward through the 2003 Farmington Resource Management Plan (RMP). The WHT AML range was established in the USFS Environmental Assessment for Management of the Jicarilla Wild Horse Territory (2004) and Decision Record. The HA AML is 23 horses. The WHT AML range is 50-105 horses. Both of these AMLs represent the numbers of wild horses that each respective horse area (HA and WHT) can support for an entire year while maintaining multiple use management, healthy rangelands, and thriving natural ecological balance. Though the horses may not reside solely on one area or the other, a yearlong use is used to account for the maximum time the horses can be sustained at AML, as specific seasonal movement is not known. However, because the wild horses themselves do not recognize the jurisdictional boundaries and are capable of traveling far, it would be both extremely difficult and impractical to completely separate and contain horses only to the HA and WHT. Therefore, the horses are recognized as one major herd (Jicarilla Wild Horse Herd) within these two designated areas and are managed as such. Therefore, both AMLs are combined into the total JMA AML range of 73-128 wild horses. The interchange of horses across jurisdictional boundaries between the HA and WHT is shown in a map in Appendix A. More information regarding support for the HA AML and the JMA range is found in Estimated Forage Analysis for the Carracas Mesa Herd Area, Jicarilla Wild Horse Territory, and the Jicarilla Joint Management Area (BLM, 2012). The population range was established at a level that will maintain both healthy wild horses and rangelands over the long-term.

Currently, the horse population is in excess of the established total AML. A 2011 direct count aerial survey counted the combined JMA population at 331 horses in February. This count was prior to foaling season, which generally occurs in March through June. Therefore, observed horses including those foaled in 2010 would have been approximately 1 year old and are considered adults. Based on an average 20% foal crop gain in the subsequent 2011 foaling season, the population is estimated to have then increased by approximately 66 horses to an overall population of approximately 397 horses (331 horses x 120%).The USFS then implemented bait trapping after foaling season and removed 60 horses, leaving an estimated population of 337 adult horses (397 horses - 60 horses).With the spring 2012 estimated foaling crop at 20%, the wild horse estimated population across the JMA is now at least 405 horses (397 horses x 120%).These estimated 405 horses will be considered adults by spring 2013 prior to 2013 foaling. Even without 2011 and 2012 foal crop estimates, the 2011 direct count indicates that the wild horse population has well exceeded the established AML range. Current estimates place the current population at least 3 times higher than the total JMA AML. Furthermore, because these numbers are based on a direct count or census in which only observed horses were counted in contrast to sampling methods with statistical modeling that estimates for the unseen horses, this current estimate of 405 is likely an underestimation and the excess horse numbers are likely greater. Therefore, according to the Wild Free-Roaming Horses and Burros Act of 1971 (WFRHBA), excess animals are those that must undergo removal in order to preserve and maintain a thriving natural ecological balance, rangeland protection, and the area's multiple use relationship (WFRHBA 1333.b.2.iv).

Approximately 277 to 332 horses need to be removed from the project area to reach the JMA AML range. Bait trapping has been performed by the USFS in recent years and has removed some horses at an average of 60 horses per year since 2005. However, these trapping efforts at this rate are only removing

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

the estimated foaling crop or recruitment for the year, and have not been successful enough to reduce the population to the AML. For clarification, 60 horses removed is less than the estimated 2012 foal crop of 66 horses and would leave the large excess remaining herd at an estimated 337 horses. Because the excess population is so large, bait trapping has not been able to significantly reduce it as the sole management method. Bait trapping is based on the current year's funding allocation and is comparative to the pricing per horses in helicopter gather methods. However, bait trapping captures and removes horses at a much slower rate than helicopter operations, which can potentially gather the entire excess population within 3 weeks. At the current rate of capture at 60 per trapper, efforts would require 4 to 5 more additional trappers to remove the excess population to AML in one trapping season for approximately 8 months. This would directly increase the cost of removal per horse. Therefore, BLM and USFS are considering alternatives to reach AML.

Since the passage of the WFRHBA, management knowledge regarding wild horse population levels has increased. A major outcome has been the determination that wild horses are capable of increasing their numbers by 18% to 25% annually (USGS 2012). This rapid and significant growth results in the doubling of wild horse populations about every 4 years. The significant population growth has led to the BLM shifting program emphasis beyond just establishing AMLs and conducting wild horse gathers to include a variety of management actions that further facilitate the achievement and maintenance of viable and stable wild horse populations and a thriving natural ecological balance. These management actions include increasing fertility control, adjusting herd sex ratio, and collecting genetic baseline data to support genetic health assessments.

The FFO and USFS Jicarilla Ranger District will coordinate on implementation of the selected management action. This interagency collaboration is due to historic and seasonal movements and continuing interchange of wild horses between the two management areas and the joint recognition of the horses as the Jicarilla wild horse herd.

Based upon all information available at this time, the BLM has determined that between approximately 277 and 332 excess wild horses within the JMA need to be removed in order to achieve the established AML, restore a thriving natural ecological balance, and prevent degradation of rangeland resources. This assessment is based on factors including, but not limited to:

- JMA estimated populations exceed the established AML range for the project area (Table 1).
- Excess wild horses are establishing populations outside of identified WHT and HA boundaries. (Appendix A).
- Current population estimates at 405 or more horses indicates that wild horses are exceeding the forage allocated to their use by over 5 times more than the low end of AML (73 horses) and 3 times over the high end of the AML (128 horses).
- Moderate to heavy utilization is evident on key grass forage species within the WHT and HA. Heavy to severe utilization has been observed on key browse species. Use at levels of heavy to severe exceeds the proper utilization levels that the BLM manages for and will result in loss of rangeland plants' abilities to maintain health and avoid major long-term damage (Holecheck 2011).
- Excess wild horses have been noted to be contributing to downward trend ratings of range condition in the HA. Horses were also noted to be negatively impacting the Cabresto Canyon riparian area Proper Functioning Condition (PFC) assessment and contributing to its Functional at Risk rating.
- Range Condition and Trend assessments done in the HA rate the area in fair condition with declining trend. (Rating scale is based on four classes: excellent, good, fair and poor)
- Overpopulation and subsequent forage overgrazing combined with drought and harsh winters can negatively impact horse health and can lead to large die-offs.
- Wild horse overpopulation has led to competition with livestock and wildlife for forage. This has caused a current decrease in grazing use by permitted livestock operators and poses competition to wintering deer populations. This was especially noted in March 1972 on the BLM Rosa allotment when 63 horses were counted in the north end of the Jicarilla Ranger District. Winter browse studies indicated that the habitat could not withstand any additional browsing pressure. The combination of elk, deer, horse, and permitted livestock use led to all available forage being used, and it was noted that any additional horses in the area would result in the need for increased wildlife hunting and/or forced livestock reductions.

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

Agency	Area	Total Acres Private/Public Land[1]	AML	Estimated Summer Population[2]	Estimated Winter Population[2]	Estimated Removal
BLM	HA	32,000	23	30-50	100	
USFS	WHT	76,000	50-105	355-375	305	
Total	**JMA**	**108,000**	**73-128**	**405[2]**	**405[2]**	**277-332**

[1] Acres are rounded to the nearest hundred.
[2] Estimated populations are based on the February 2011 Direct Count, bait trapping removal, and 2011 and 2012 foal crops at 20% growth. Due to summer and winter seasonal movement, wild horse numbers will fluctuate between the Carracas Mesa Wild Horse HA and Jicarilla WHT.

1.2. Purpose and Need for Action

The purpose of the Proposed Action is to remove and manage excess Jicarilla JMA wild horses to reach and maintain AML

The need for the Proposed Action is to respond to the BLM's obligations under FLPMA to prevent unnecessary or undue degradation of the public lands (P.L. 94-579, Sec. 302(f)) through the protection of rangeland resources and riparian habitat. The need for the Proposed Action is also to maintain a healthy wild horse population and restore a thriving natural ecological balance and multiple-use relationship on the public lands consistent with the Wild Free-Roaming Horses and Burros Act of 1971 (P.L. 92-195, Sec. 1333(a)). Excess wild horses need to be removed before an overpopulation compounded with other escalating problems such as drought severely degrade resources, induce suffering in wild horses and wildlife, and lead to an emergency situation. In additional, the action is needed to be in conformance with the 2003 Farmington Resource Management Plan (RMP).

1.3. Decision to be Made

The authorized officer would decide whether to authorize the management outlined in the action alternatives in order to achieve and maintain population size within the AML and prevent rangeland and riparian area degradation associated with current excess wild horses.

1.4. Conformance with Applicable Land Use Plan(s)

The Proposed Action is in conformance with the 2003 Farmington RMP. Specifically, the Proposed Action is in conformance with the following goals and objectives:

- Restore and maintain the health of the land
- Meet the New Mexico Standards for Public Land Health that were accepted by the Secretary of the Interior as part of the Record of Decision for the Statewide RMP Amendment/EIS for Standards for Public Land health and Guidelines for Livestock Grazing Management (BLM 2003, 2-1)

In addition, Appendix D-Land Use Plan Decisions Carried Forward, states, "Provide forage for 23 wild and free roaming horses on the Rosa Allotment" (BLM 2003, D-2).

1.5. Relationship to Statutes, Regulations or Other Plans

This EA is prepared under the authority of the National Environmental Policy Act (NEPA) of 1969 (PL 91-852) and its regulations (40 CFR Parts 1500-1508) for implementation.

The action alternatives conform with the following laws, regulations, and BLM policies:

- **The Wild Free-Roaming Horses and Burros Act of 1971 (WFRHBA) (Public Law 92-195 as amended) and Title 43 Code of Federal Regulations (CFR) Part 4700:** WFRHBA mandates the Bureau to "prevent the range from deterioration associated with overpopulation" and "remove excess horses in order to preserve and maintain a thriving natural ecological balance and multiple use

relationships in that area". Additionally, Promulgated Federal Regulations at Title 43 CFR 4700.0-6 (a) state "Wild horses shall be managed as self-sustaining populations of healthy animals in balance with other uses and the *productive capacity of their habitat* (emphasis added)." The Interior Board of Land Appeals (IBLA) in Animal Protection Institute et al, (118 IBLA 75 (1991)) found that under the WFRHBA "excess animals" must be removed from an area in order to preserve and maintain a thriving natural ecological balance and multiple-use relationship in that area. Regulations at Title 43 CFR 4700.0-6(a) also direct that wild horses be managed in balance with other uses and the productive capacity of their habitat. The following are excerpts from the 43 CFR:

  - 4700.0-6 (a): "Wild horses shall be managed as self-sustaining populations of healthy animals and in balance with other uses and the productive capacity of their habitat."
  - 4720.1 – "Upon examination of current information and a determination by the authorized officer that an excess of wild horses or burros exists, the authorized officer shall remove the excess animals immediately."
  - 4180.2(b) – "Standards and guidelines must provide for conformance with the fundamentals of 4180.1."

  FLPMA amended the WFRHBA with the following:

  - In administering this Act, the Secretary may use or contract for the use of helicopters or, for the purpose of transporting captured animals, motor vehicles. Such use shall be undertaken only after a public hearing and under the direct supervision of the Secretary or of a duly authorized official or employee of the Department (P.L. 94-579, Sec. 404).

- **Federal Land Policy and Management Act (FLPMA) (43 U.S.C. 1701, 1976; FLPMA):** FLPMA defines "multiple use" as "harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output." FLPMA also mandates that the Secretary, "[i]n managing the public lands . . . shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands."
- **Public Rangelands Improvement Act (43 U.S.C. 1901, 1978):** PRIA mandates the agencies to "manage, maintain and improve the condition of the public rangelands so that they become as productive as feasible for all rangeland values in accordance with management objectives and the land use planning process established pursuant to section 1712 of this title" and "continue the policy of protecting wild free-roaming horses and burros from capture, branding, harassment, or death, while at the same time facilitating the removal and disposal of excess wild free-roaming horses and burros which pose a threat to themselves and their habitat and to other rangeland values."
- **Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration (43 CFR 4180.1):** The fundamentals of rangeland health (FoRLH) are basic components of healthy rangelands. The four fundamentals of rangeland health, as identified in 43 CFR 4180.1, are:
  - Watersheds are in, or are making significant progress toward, properly functioning physical condition.
  - Ecological processes are maintained, or there is significant progress toward their attainment.
  - Water quality complies with, or is making significant progress toward achieving, state standards.
  - Habitats of protected species are maintained or are making significant progress toward being restored.
- **BLM Policy:** BLM Instructional Memorandum 2012-140 states, "During gather or herd management area planning, the authorized officer will consider a range of alternatives to reduce (slow) population growth rates and extend gather cycles for all wild horse herds with annual growth rates greater than or equal to 5%. These alternatives may include (but are not limited to): fertility control, adjustments in the sex ratio in favor of males, a combination of fertility control and sex ratio adjustment, and management of selected HA for non-reproducing wild horses." Similar direction is also located at Section 4.5.3 of the Wild Horses and Burros Management Handbook H 4700-1.
- **New Mexico Standards for Rangeland Health (2001):** Standards for public land health are expressions of levels of physical and biological condition or degree of function required for healthy and sustainable lands, and defines minimum resource conditions that must be achieved. The New Mexico standards are:

- *Upland Sites Standard*: Upland ecological sites are in a productive and sustainable condition within the capability of the site. Upland soils are stabilized and exhibit infiltration and permeability rates that are appropriate for the soil type, climate and landform. The kind, amount, and/or pattern of vegetation provide protection on a given site to minimize erosion and assist in meeting State and Tribal water quality standards.
- *Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard*: Ecological processes such as hydrologic cycle, nutrient cycle, and energy flow support productive and diverse native biotic communities, including special status, threatened, and endangered species appropriate to the site and species. Desired plant community goals maintain and conserve productive and diverse populations of plants and animals, which sustain ecological functions and processes.
- *Riparian Sites Standard:* Riparian areas are in a productive, properly functioning, and sustainable condition, within the capability of that site. Adequate vegetation of diverse age and composition is present that will withstand high stream flow, capture sediment, provide for groundwater recharge, provide habitat and assist in meeting State and Tribal water quality standards.

- **Endangered Species Act (1973):** Section 7 of the Endangered Species Act of 1973 (ESA) outlines the procedures for Federal agencies to conserve Federally-listed species and their designated habitats. Section 7(a)(2) of the ESA states that each Federal agency shall ensure that actions they authorize, fund, or permit are not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of their habitats.

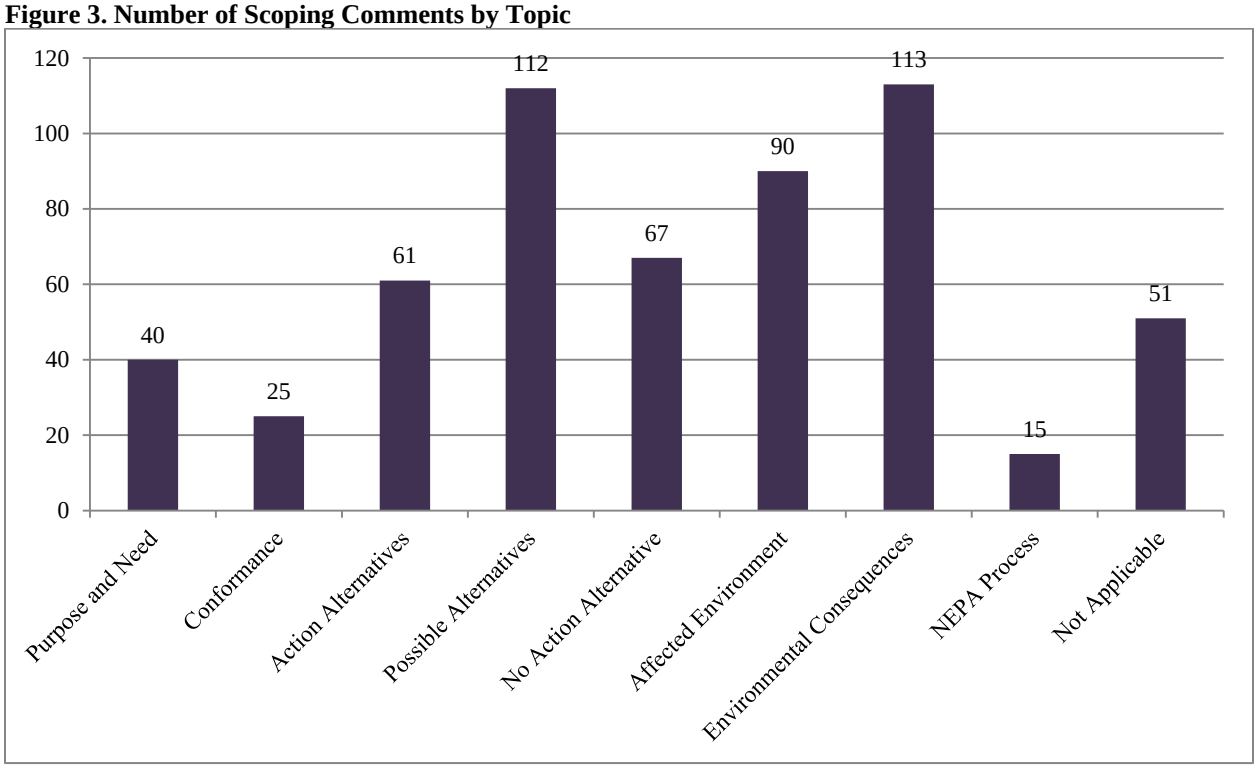
1.6. Scoping, Public Involvement, and Issues

The FFO Interdisciplinary (ID) Team began discussing the proposed action in February 2012. In addition, FFO staff discussed the proposed action with BLM Washington Office and State Office Program Leads and with specialists from other BLM offices throughout the preparation of the EA.

A scoping package was sent to 168 interested parties on August 17, 2012, initiating a 45-day public scoping period. Between August 28 and October 12, 2012, 2,574 letters were received electronically or by hard copy. Of these, 60 were unique letters, 9 supported previously submitted letters, and 2,505 were forms letters. One hundred and forty-three form letters had been modified in some way. Letters were received from the Southern Indian Ute Tribe, New Mexico Department of Game and Fish, New Mexico Environment Department, American Wild Horse Preservation Campaign, The Cloud Foundation, and Wild Horse Observers Association.

A total of 574 unique comments were identified from the scoping letters. Figure 3 identifies the number of scoping comments by topic. Comments identified as not applicable to the EA include comments on actions not being considered (e.g., slaughter, sterilization), comments on actions outside the jurisdiction of the FFO (e.g., managing wildlife populations, closing all BLM-managed land to livestock grazing), and comments on items outside the scope of the EA (e.g., staff training, management of feral horses).

Figure 3. Number of Scoping Comments by Topic



The proposed action was discussed with the Farmington District Resource Advisory Council (RAC) on February 8 and October 17, 2012. The RAC discussed the practicality of conducting a gather using alternative capture techniques, impacts to wild horses from helicopter gather operations and fertility control, feasibility of long-term holding facility capacity, availability of wild horses for local adoption, , impacts of the proposed action of social and economic features, and the stability of the BLM's Wild Horse and Burro Program.

The following issues were identified through both internal and external scoping:

- How will the alternatives impact soils, vegetation, and riparian areas?
- How will the alternatives impact habitat for wildlife and endangered species?
- How will the alternatives impact the health, social structure, and genetic diversity of wild horses?
- How will the gather operations impact cultural resources?
- How will the alternatives impact livestock grazing?
- How will the alternatives impact recreation?
- How will the gather operations impact public safety?

The following issues were identified during external scoping but are not being carried forward in the analysis for the reasons identified below:

- How will helicopter use impact air resources?
  - Although jet fuel exhaust emitted a large number of compounds, most of these pollutants are emitted in trace amounts that would not be discernible by monitoring. These contaminants are similar to those emitted from any mobile source of air pollution, including cars, trains, and buses. Lead is a pollutant of concern; however, a day of helicopter flight will not produce lead emissions that are of concern. Significant aviation fuel lead deposits have occurred at small airports in the US that serve mainly single engine aircraft on a frequent basis.
  - Fugitive dust is not considered an issue because cars traveling on dirt roads produce much more dust than helicopters flying low over terrain.
  - Because ozone occurs in the Farmington area in the summer; winter emissions of ozone precursors are not a concern. Helicopter operations would likely occur during the winter. While

Farmington occasionally sees 70 to 80 parts per billion (ppb) of ozone on an 8-hour average in the summer, winter averages are generally 40 to 50 ppb. In order to increase ozone formation by 1 ppb, thousands of tons of nitrogen oxide (NOx) and volatile organic compound (VOCs) are required. A helicopter or two will not produce the amount of emissions required to significantly affect ozone concentrations in the region.
  - In comparison with the 124 flights per day average at the Farmington airport, greenhouse gas emissions from the roundup will be negligible.
- How will the action alternatives impact social and economic features?
  - Several comments identified ecotourism related to wild horse viewing as an economic impact of the action alternatives. There are no businesses dedicated to providing ecotourism related to wild horse viewing in the JMA.
  - One comment letter identified a photography workshop that uses the JMA. The contribution of this workshop to the local economy is not large enough to lend itself to meaningful analysis. Further, none of the alternatives would completely eliminate the opportunity for viewing wild horses. While it seems logical that the odds of viewing a wild horse may decrease with a smaller herd size, wild horses tend to use the same areas regardless of herd size.
  - No impacts are expected that would result in disproportionately high and adverse human health or environmental impacts to minority or low-income populations.

2. PROPOSED ACTION AND ALTERNATIVES

2.1. No Action

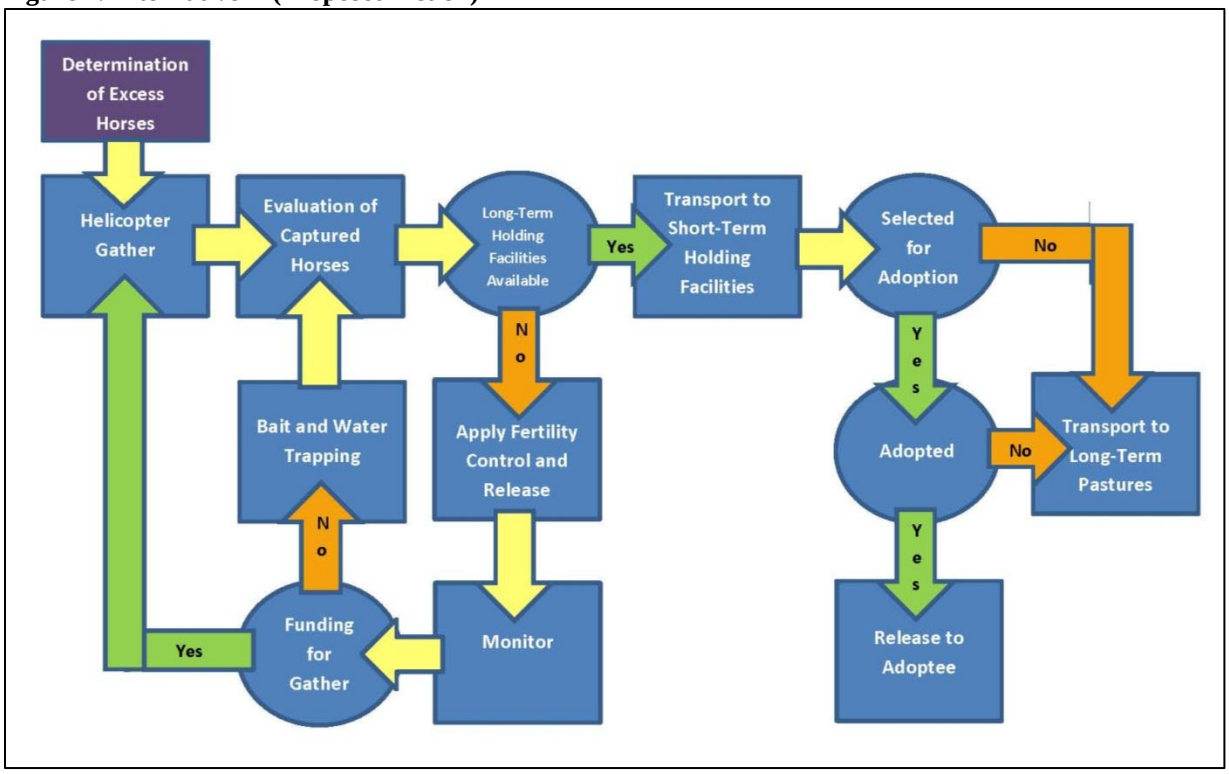
Under the No Action Alternative, no operations to remove excess wild horses would start in 2013. There would be no active management to control the size of the wild horse population or to bring the wild horse population on and off the HA to AML at this time. Wild horses residing outside the JMA boundaries would remain in areas not designated for management of wild horses and their numbers would continue to increase.

2.2. Alternative A: Helicopter Gather, Fertility Control, Bait and Water Trapping, Sex Ratios (Proposed Action)

The Proposed Action utilizes an adaptive-management approach including helicopter gathering, bait and water trapping, fertility control using 1 year and/or 22 month porcine zona pellucida (PZP) fertility control or the most current and approved formulation, and sex ratio maintenance. Under this alternative, the principal management goal for the JMA would be to retain a core population of 73 wild horses, the low end of the AML range. The low AML was selected as the target because it represents the number of animals that should remain after a gather based on an approximate four-year periodic gather cycle and to prevent the population from exceeding the established AML between gathers. The upper levels of the AMLs established for the JMA represent the maximum population for which a thriving natural ecological balance should be maintained. Starting with the low AML and without any management, the high AML would be reached in approximately four years at a 20% growth rate (Year 1 – 73 horses, Year 2 – 88 horses, Year 3 – 105 horses, and Year 4 – 126 horses). With the multi-faceted approach of the Proposed Action, goals include removing excess numbers and reaching AML through helicopter gather(s) and bait and/or water trapping and then maintaining AML by increasing population control and reducing foal crop numbers through fertility control, sex ratio maintenance, and continued bait and water trapping and helicopter removals as required. By initially reducing the wild population excess through helicopter removals and implementing the other adaptive-management strategies, the timeframe between helicopter gathers may eventually be increased to potentially result in less-frequent helicopter gathers than the typical periodic four-year gather cycle.

Under the Proposed Action, wild horses would be gathered from the JMA, with focused gathering occurring in areas where there are higher numbers of horses. The areas where horses appear to congregate the most within the JMA include Caracas Mesa, Bancos Canyon, Cabresto Canyon and Eul Canyon (Appendix A). Wild horses residing in areas outside of established boundaries of the JMA would be targeted for removal from these areas. Within the Proposed Action, two scenarios may occur depending on the availability of long-term holding facilities or adoption interest. Figure 4 displays the steps in the Proposed Action.

Figure 4. Alternative A (Proposed Action)



Emergency actions, such as emergency gathering, may be required if an emergency situation occurs. According to the BLM Manual MS-4720, "Emergency situations are defined as an unexpected event that threatens the health and welfare of a wild horse or burro population, its habitat, wildlife habitat or rangeland resources and health. Examples of emergencies include disease or fire, insect infestation, or other events of a catastrophic and unanticipated nature that affect forage and water availability for wild horses or burros. The key is that emergencies occur suddenly and require immediate action."

Public observation sites would be established. Rules for these sites are outlined in Appendix B.

The following sections describe the components of the Proposed Action.

2.2.1. Helicopter Gather Operations

The BLM Contracting Officer's Representative (COR) and Project Inspector (PI) assigned to the gather would be responsible for ensuring contract personnel abide by contract specifications and the SOPs Pre-Gather Operations (Appendix C).

Pre-Gather Operations

Prior to conducting gather operations, potential trapping sites will be evaluated and established. Accessibility to and from sites must be suitable so that all vehicles associated with gather operations can enter and leave the site. Trap site selection will be based on accessibility, presence of horses, and all required resource clearances. Selected trap sites would not be located close to fences and dangerous terrain such as narrow arroyos and steep drop-offs to minimize potential horse injury. Trap sites would be moved throughout the gather operation to facilitate trapping success and to minimize the distance horses have to be moved. If a new trap site is required, a cultural inventory would be completed prior to site use, unless impacts can be mitigated through environmental situations such as snow cover. Vehicles and

equipment with the potential for carrying dirt mud, or plant debris would be thoroughly washed prior to moving onto the project site.

Once trap sites are established, gather pens would be set up. Pens include catchment pens with wing panels (panels or fencing that extends from the pen in an extended V-shape to funnel horses into the pens), and sorting corrals are set up. Every effort would be made to place gather sites in previously disturbed areas in order to minimize impact to the range. Gather sites would not be set up near known populations of sensitive species, cultural resources, or paleontological resources. All gather sites, holding facilities, and camping areas on BLM-managed lands would be recorded with Global Positioning System equipment; given to the BLM Farmington District Invasive, Non-native Weed Specialist; and then assigned for monitoring during the next several years for invasive, non-native weeds. All gather and handling activities, including gather site selections, would be conducted in accordance with Standard Operating Procedures (SOPs) in (Appendix C).

The BLM will provide opportunity for public observation during helicopter gathers. These observation areas will be selected when trap sites are selected. Because of the extensive oil and gas development activities in the area, heightened caution will be applied to selecting public viewing sites.

Helicopter Operations

Once the pens are set up, the helicopter pilot would fly around the site looking for wild horses. The helicopter would fly at elevations high enough to allow the pilot visibility for locating horses or bands of horses. Once located, the pilot will use the helicopter to herd the horses toward the trap sites. The helicopters can be maneuvered to allow the pilot to steer the horses toward the best and safest routes to reach the trap pens. Wild horses are herded in small manageable groups, generally bands of horses that live together. This maintains family units so younger horses and foals are not separated from their band.

The helicopter generally flies approximately 30 feet off the ground and is behind or to the side of the horses. The pilot has the ability to slow down when horses are crossing rough country or crossing obstacles. The pilot can also maneuver to guide the horses away from hazards like fences, arroyos, or rough terrain. Horses would not be touched with the helicopter. Once the horses near the wings of the pen, they are allowed to slow down. The helicopter would back out once the horses enter the pen funnel and ground crews would herd the horses the rest of the way into the pens.

Appendix C contains information on methods utilized to reduce injury or stress to wild horses and burros during gathers. BLM policy prohibits the gathering of wild horses with a helicopter (unless under emergency conditions) during the period of March 1 to June 30 which includes and covers the six weeks that precede and follow the peak of the foaling period (mid-April to mid-May). Efforts would be made to schedule helicopter gathers outside of big game hunting seasons, which occur between September 1 and November 30 and between January 1 and January 15. The first helicopter gather is tentively scheduled to occur in winter 2013.

Euthanization

Through the capture and sorting process, wild horses are examined for health, injury, and other defects. Decisions to humanely euthanize animals in field situations would be made in conformance with BLM policy. BLM Euthanasia Policy IM-2009-041 is used as a guide to determine if animals meet the criteria and should be euthanized (Appendix D). Horses that may be euthanized for non-gather related reasons include the following: those with old injuries (e.g., broken hip, broken leg) that causes pain and suffering and prevents travel or body condition maintenance, old animals that have few teeth remaining, horses in poor body condition, horses weak from old age, and those with congenital (genetic) or serious physical defects such as club foot, limb and dental deformities, or sway back that should not be returned to the range. These animals would be humanely euthanized using methods acceptable to the American Veterinary Medical Association (AVMA).

2.2.2. Evaluation of Captured Horses

Temporary Holding Facilities (Corrals)

Gathered wild horses would be transported from the gather sites to a temporary holding corral in goose-neck trailers. At the temporary holding corral, wild horses will be sorted into different pens based on sex. The horses will be aged and provided good quality hay and water. Mares and their un-weaned foals will be kept in pens together. A veterinarian may provide recommendations to the BLM regarding care, treatment, and, if necessary, euthanasia of any seriously injured wild horses. The BLM Instruction Memorandum No. 2010-135 directs that seriously injured wild horses that would likely not survive handling and transport either be euthanized or be left on the range (Appendix E).

The primary objective of the initial gather is to remove as many horses as possible to reach AML and to not release animals back to the range. Horses may be released if it is necessary to maintain sex ratios at 60% male and 40% female. Released horses would need to meet the selective criteria in Appendix E. Horses may also be released if they have qualifying unique characteristics including color, size, and conformation. Any mares that qualify for release would be vaccinated with the approved birth control formulation, currently PZP.

If more wild horses are gathered than required to meet the low AML, horses would be released to meet the low AML or to maintain sex ratios. Specific horses selected for release would be chosen using the selective criteria in Appendix E. Horses may also be released if they have qualifying unique characteristics including color, size, and conformation. Any mares that qualify for release would be vaccinated with the approved birth control formulation, currently PZP.

2.2.3. Scenario 1: Long-Term Holding Facilities Available

Long-term holding facilities are nearing full capacity from the overpopulation of wild horses across the western United States. It is currently unknown whether holding room will be available for gathered Jicarilla wild horses in 2013 or in following years. If holding room is available, the following steps will occur.

Transport to Short Term Holding

Wild horses removed from the range would be transported to the receiving short-term holding facility in a goose-neck stock trailer or straight-deck semi-tractor trailers. Trucks and trailers used to haul the wild horses will be inspected prior to use to ensure wild horses can be safely transported. Wild horses will be segregated by age and sex when possible and loaded into separate compartments. Mares and their un-weaned foals will be shipped together. Transportation of recently captured wild horses is limited to a maximum of 12 hours. Trailers used for transport may be screened or covered to minimize the amount of outside movement seen by the horses in order to reduce stress.

Upon arrival, recently captured wild horses are off-loaded by compartment and placed in holding pens where they are provided good quality hay and water. Only certified weed free hay will be used to feed captured horses. At the short-term holding facility, a veterinarian will provide recommendations to the BLM regarding care, treatment, and, if necessary, euthanasia of the recently captured wild horses. Any animals affected by a chronic or incurable disease, injury, lameness or serious physical defect (such as severe tooth loss or wear, club foot, and other severe congenital abnormalities) would be humanely euthanized using methods acceptable to the AVMA. Wild horses in very thin condition or animals with injuries are sorted and placed in hospital pens, fed separately and treated for their injuries.

Selection for Adoption

After recently captured wild horses have transitioned to their new environment, they are prepared for adoption, sale, or transport to long-term grassland pastures. Preparation involves freeze-marking the animals with a unique identification number, vaccination against common diseases, castration, and de-worming.

At short-term corral facilities, a minimum of 700 square feet is provided per animal. Over 12,000 excess wild horses are being maintained within BLM's short-term holding facilities as of June 2012.

If adoption interest exists, some horses would be removed from the range. Horses with characteristics that will make them more adoptable (color, size, age, health, temperament, etc.) may be selected for the Wild Horse and Burro Adoption Program. Horses selected for adoption would be sorted between the short term and long term holding stages of the process. Adoptable horses could then be placed in any of a few adoption programs.

Wild horses not selected for adoption are transported to long-term pastures (see Transport to Long-Term Pastures).

Adoption

Horses could stay in the local region and could be adopted through the USFS program. Adoptable horses could be transported to prison facilities in Colorado where they can be gentled and made available for adoption. Other wild horses could enter into the Mustang Heritage Foundation program, where they would be gentled, trained and adopted. If adopted locally, horses would be transported to a holding/viewing facility. Horses will be made available for viewing by potential adopters. People wishing to adopt a wild horse must file an application with the BLM or USFS. The adopters have to demonstrate that they have adequate facilities (to the government's standards) and be willing to enter into a care agreement for a period of one year. Adoption applicants are required to have at least a 400 square foot corral with panels that are at least 6 feet tall. Applicants are required to provide adequate shelter, feed, and water.

The BLM retains title to the horse for one year and the horse and facilities are periodically inspected. After one year, the applicant may take title to the horse at which point the horse becomes the property of the applicant. Adoptions are conducted in accordance with 43 CFR § 5750.

Buyers must fill out an application and be pre-approved before they may buy a wild horse. A sale-eligible wild horse is any animal that is more than 10 years old or has been offered unsuccessfully for adoption at least three times. A sale-eligible wild horse may not be subject to the one year care agreement and title is given at time of purchase. Though the WFRHBA authorizes sale without limitation, the application also specifies that all buyers are not to sell to slaughter buyers or anyone who would sell the animals to a commercial processing plant. Sales of wild horses are conducted in accordance with the 1971 WFRHBA and congressional limitations.

Transport to Long-Term Pastures

Wild horses not selected for adoption or not adopted would be transported to long-term pastures. Immediately prior to transportation, and after every 24 hours of transportation, animals are offloaded and provided a minimum of 8 hours on-the-ground rest. During the rest period, each animal is provided access to unlimited amounts of clean water and two pounds of good quality hay per 100 pounds of body weight with adequate bunk space to allow all animals to eat at one time. The rest period may be waived in situations where the anticipated travel time exceeds the 24-hour limit but the stress of offloading and reloading is likely to be greater than the stress involved in the additional period of uninterrupted travel.

Horses in excess of the current adoption or sale demand because of age or other factors such as economic recession are placed on private land pastures currently located in Oklahoma, Kansas, and South Dakota. Wild horses are maintained in grassland pastures large enough to allow free-roaming behavior and with the forage, water, and shelter necessary to sustain them in good condition. Long-term pastures are designed to provide excess wild horses with humane, and in some cases, life-long care in a natural setting off the public rangelands. Due to their location in mid- or tall grass-prairie regions of the United States, these long-term pastures are highly productive grasslands compared to more arid western rangelands.

Wild horses remain available for adoption or sale to qualified individuals. Foals born to pregnant mares are gathered and weaned when they reach about 8 to 12 months of age and are made available for

adoption. The long-term pasture contracts specify the care that wild horses must receive to ensure they remain healthy. Handling by humans is minimized to the highest extent possible. However, regular on-the-ground observation by the contractor and periodic counts of the wild horses to ascertain their well-being and safety is conducted by BLM personnel and/or veterinarians. A small percentage of the animals may be humanely euthanized if they are in very poor condition due to age or other factors.

As of June 2012, the number of captured wild horses in long-term holding is well over 33,000 horses. Most of the animals that are not immediately adopted or sold have been transported to long-term grassland pastures in the Midwest.

2.2.4. Scenario 2: Long-Term Holding Facilities Unavailable

Because long-term holding facilities are nearing full capacity from the overpopulation of wild horses across the western United States, holding room may not be available for gathered Jicarilla wild horses in 2013 or in following years. In this case, population growth would be slowed until long-term holding facilities become available and Scenario 1 can be implemented or increased adoption opportunities allow for permanent removal or care.

The actions in this scenario would continue until holding facility capacity allows wild horses to permanently be removed from the range. Once holding facility room is available, horses would be removed from the range and Scenario 1 operations would be implemented. Mares that had not been previously treated with PZP and released would be prioritized for permanent removal.

Application of Fertility Control and Release

In Scenario 2, all captured mares selected for release would be treated with a one or two-year PZP or the most current approved and effective fertility control formulation. Immuno-contraceptive (i.e., fertility control) treatments would be conducted in accordance with the approved standard operating and post-treatment monitoring procedures (Appendix F). Furthermore, mares that are not captured would be potentially darted in the field with the vaccine.

The one-year vaccine requires two injections in the first year and one injection each following year, whereas the two-year (22-month) PZP pellet vaccine requires administration once in the first year and subsequent administration every two years. PZP can be delivered either through hand injection or through remote field darting. When injected, PZP (antigen) causes the mare's immune system to produce antibodies; these antibodies bind to the mare's eggs and effectively block sperm binding and fertilization (Zoo Montana, 2000). The treatment would be controlled, handled, and administered by a trained BLM employee (Appendix F). Newly captured mares that do not have markings associated with previous fertility control treatments would be marked with new freeze-mark letters for tracking purposes. This information would also be used to determine the number of mares captured that were not previously treated and provide additional insight to fertility control efficiency.

As fertility methods improve or change the BLM will adjust to follow the latest accepted and credited methods of fertility control. Ransom et al. (2011) found that field darting contributed to greatly reduced foaling rates in treated mares. Potential remote field darting of PZP is likely feasible due to the relatively decreased sensitivity of the Jicarilla wild horses from oil and gas industry traffic. Furthermore, the road infrastructure for the petroleum industry allows accessibility to the herd for trained personnel to administer the vaccine. Once AML is attained, mares may be selectively treated with fertility control as determined necessary to maintain AML or genetic transfer (i.e., breeding).

2.2.5. Post-Gather Activities

Monitoring

In accordance with CFR 4710.2, at least every 4 years BLM personnel would inventory herd population size, animal distribution, herd health and condition, and habitat characteristics. The BLM would also conduct monitoring of forage condition, utilization, and trend. BLM personnel also would monitor water

availability. Areas impacted by the gather operations, such as corrals or parking areas, may require seeding or other restoration activities.

Fertility control monitoring would be conducted in accordance with the SOPs (Appendix F). Yearly fertility vaccinations of selected mares would usually be conducted between January and March of each year by BLM personnel and qualified volunteers.

In order to monitor the genetic health of the Jicarilla herd, hair samples on at least 25% of the herd (Coates-Markel 1999) would be collected during the initial gather or trapping of the wild horses in order to record the current genetic baseline of the herd. If AML is attained, the herd size would be less than 200 total census size. Genetic testing is therefore recommended every 5 years (Coates-Markel 1999). Though no standard minimum genetic population size (the number of mares and stallions that successfully breed to continue their genetics to the next generation) exists and is very complex, domestic horse breeding guidelines recommend a genetic effective population size of 50 breeding horses (Coates-Markel 1999). If this is not maintained in the Jicarilla herd and if results indicate that genetic diversity is not being adequately maintained, a minimum of 2 to 3 breeding animals (preferably young mares) may be added every 10 years to avoid inbreeding depression and maintain acceptable genetic diversity (Coates-Markel 1999).

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

2.2.6. Future Gathering Efforts

Following the initial helicopter gather and pending the effectiveness of operations in removing excess horses, the BLM will set gathering and trapping numbers based on the annual survey data in comparison to the AML. The initial may not have total success in gathering all excess horses due to factors including weather, ability to find horses, and effectiveness in moving horses to trap corrals. Gathering /trapping efforts will be performed indefinitely and as often as necessary to maintain the AML. Any potential follow-up gathering or trapping operations would be proposed to take place in late winter/spring or the late summer/early fall, in order to avoid foaling season.

Bait and Water Trapping

Trapping involves setting up portable panels around an existing water source, in an active wild horse area, or around a pre-set water or bait source. The portable panels would be set up to allow wild horses to go freely in and out of the corral until they have adjusted to it. When the wild horses fully adapt to the corral, it is fitted with a gate system.

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

Gathering of the excess horses utilizing bait or water trapping targeting stallions or bachelor groups could occur at any time of the year. Operations involving mares would only occur outside the foaling period. Generally, bait or water trapping is most effective when a specific resource is limited, such as water during the summer months. However, BLM will never restrict water resources to wild horses. Bait or water trapping generally requires a long window of time for success. Although the trap would be set in a high probability area for capturing the excess wild horses residing within the area and at the most effective time periods, time is required for the horses to acclimate to the trap and/or decide to access the water/bait.

Bait or water trapping would continue to be implemented by the USFS and would be utilized by the BLM as needed indefinitely into the future. Trapping efforts would be implemented to compliment helicopter gathers. Trapped horses would be subject to the same goals and release criteria as the helicopter

gathers. Additionally, trapped horses would be subject to the same short term holding, adoption, and long term holding options as described above.

Helicopter Gather Operations

If the initial 2013 gather does not reach AML, a second helicopter gather may be necessary. If the population is near the AML range, bait or water trapping may be the preferred method to obtain AML. The second helicopter gather could occur as early as 2014 with a goal to remove any excess horses that were not captured in the first gather to reach low AML of 73 horses. Adjustments to the number of horses targeted for removal would have to be made to account for the removal success of the winter 2013 gather and the annual foal crop, which is expected to range from 15% to 20%. The timing of the second gather would be needed to remove horses before foal crop greatly increases the removal number necessary to attain AML. The same criteria and procedures used in the initial gather will apply to the second gather and any future helicopter gathers. Funding limitations and competing priorities might require delaying the follow-up gather or trapping and population control component until a later fiscal year.

Because the number of horses removed is dependent on the success of operations and available holding space at long term holding pastures, it is anticipated that future helicopter gathers will be needed to achieve and maintain the low end of AML for the JMA. Future helicopter gathers would be based on current population estimates, projected rates of increase, and projected scheduling and availability of funds and helicopters. Population inventories and routine resource and habitat monitoring would be completed between gather cycles to document current population levels, growth rates, and areas of continued resource concern (e.g., horse concentrations, riparian impacts, over-utilization) prior to any follow-up gather. Any follow-up gather activities would be conducted in a manner consistent with those described for the initial 2013 gather.

If the selected PZP form is administered to captured mares that are selected for release, the future gathers and trapping would be scheduled to occur between November and February. This time frame is identified for maximum effectiveness of the fertility control when implemented on any released mares at future gathers. Funding limitations and competing priorities may require delaying the follow-up gather and population control component. Subsequent gathering and trapping timelines would be determined based on progress and success of initial efforts and results of the previous year.

Application of Fertility Control

The fertility control program will be implemented indefinitely into the long-term future to increase the time interval between gathers. This birth control may be delivered to mares caught and released at helicopter gathers or through bait/water trapping, and/or through field delivery on free-roaming horses, such as remote darting. The procedures to be followed for implementation of fertility control are detailed in Appendix F.

Though the initial removals will be non-selective and leave a post-removal age class that is randomly determined by the operations, later gathers and trapping after AML has been reached will involve selective removal criteria. It is not possible to exactly quantify the desired number of horses in each age class, but the preferred post-removal herd would contain horses of all age classes. Within the herd, the desired majority would be 5 to 10 years and slightly less 11 to 19 years old, with much smaller numbers of the very young (4 years and younger) and very old (20 years and older).

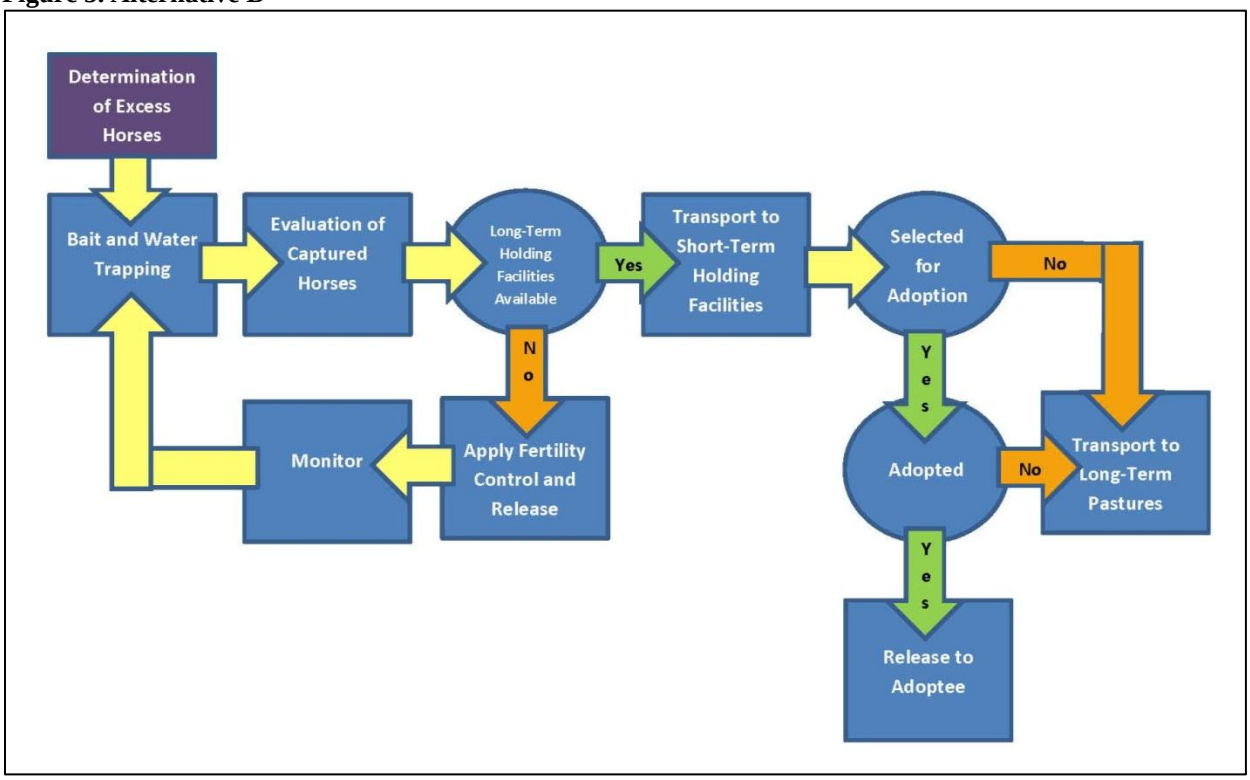
Fertility control may be applied to all released mares to slow future population growth rate. The PZP program will be implemented indefinitely into the long-term future to increase the time interval between gathers.

2.3. Alternative B: Bait and Water Trapping, Fertility Control, Sex Ratios (No Helicopter)

The adaptive-management approach in Alternative B would rely on bait and water trapping activities to managed wild horse numbers in the JMA. All components of the Alternative A, excluding helicopter

gathering, would be implemented as a result of selection of Alternative B. Long-term holding facility shortages would require the two scenarios as described in Alternative A. Figure 5 displays the steps in Alternative B.

Figure 5. Alternative B



2.4. Alternatives Considered but Eliminated from Detailed Study

2.4.1. Bait and Water Trapping Only

The use of bait and water trapping alone to manage the wild horse population to AML has been proposed as an alternative to other population control methods. This method has been used by the USFS on the WHT since 2005 and has only removed an average of approximately 60 horses per year. Bait trapping therefore has been effective in gathering small numbers of horses. However, at this rate on the large excess population of the Jicarilla herd, bait trapping combined with the average 20% foal crop would not reach AML unless unforeseen circumstances such as a significant die-off occurred. Bait and/or water trapping use alone on the Jicarilla herd would not be timely, cost-effective, or practical as the primary management method for this JMA. This alternative was dismissed from detailed study as the only management action for the following reasons: (1) the project area and herd size is too large to effectively use this gather method alone; (2) the presence of scattered water sources on both private and public lands inside and outside the JMA would make it almost impossible to restrict wild horse access to the extent necessary to effectively gather and remove the excess animals through bait or water trapping alone to achieve management goals, and (3) while bait and water trapping has been the method of management for the past several years, it is expensive and has only been sufficient to the degree that it has slightly reduced the population. It has not been effective at reaching the AML. This alternative does not meet the purpose and need for the action.

Bait and water trapping may be used as a component of the Proposed Action and Alternative B. If gather efficiencies are too low using a helicopter or a helicopter gather cannot be scheduled as part of the activities of the Proposed Action, bait and water trapping could continue in order to help remove some excess horses that were not caught or to continue removing excess horses until a helicopter gather could be implemented.

2.4.2. Gathering to AML Upper Range

Gathering to the upper range of the JMA AML of 128 horses was considered but eliminated from detailed analysis as it would result in AML being exceeded following the next foaling season (spring 2014). This would be problematic for several reasons.

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

Gathering to the upper range of AMLs would result in the need to follow up with more frequent helicopter gathers or bait or water trapping than if the target were at the low end of the range. For example, if 128 horses underwent 20% recruitment with foaling, the result would be 154 horses and the population would be above the AML within a year. This is in contrast to gathering to the low end of the AML at 73, which would take 3 or more years to exceed the AML with 20% recruitment. This higher population at the upper AML could result in overutilization of vegetation resources, damage to the rangeland, and increased stress to wild horse which does not meet the purpose and need for the action.

2.4.3. Population Control by Predators

Managing for predators to control the wild horse population is an alternative that has been proposed in scoping and eliminated from further analysis because the BLM does not have jurisdiction to implement such an alternative and because it would not meet the purpose and need of reducing the population of the wild horse herd to AML. Reliance on natural predation is not a feasible method of controlling the population and reducing excess horses. Wild horse populations within the JMA are not substantially regulated by predators, as evidenced by the estimated 15-20% annual increase within these areas. The only predatory mammals that reside in the area are coyotes, bears, and mountain lions. Coyotes prey primarily on small mammals such as rabbits. Bears are omnivores and primarily prey on small mammals. Mountain lions evolved with their primary prey species as deer. Though these predators may kill young foals, horses are not their natural primary prey. It is highly unlikely that these predators would choose horses when plenty of their natural prey sources are available. For example, wolves naturally predate on elk. Where wolves are allowed to prey on elk at Yellowstone National Park, the elk population has been managed. At Rocky Mountain National Park, no wolves are present to prey on elk and elk are overpopulated; mountain lions have not changed from their natural deer prey source of deer to predate on elk even though elk are plentiful (NMDGF 2012). Therefore, expecting mountain lions, bears, and coyotes to change from their abundant natural prey sources and predate on horses adequately enough to control the horse growth rate is not realistic. The wildlife would have to undergo heavy predation and number loss before horses become primary prey species. Predator populations are managed by the New Mexico Department of Fish and Game (NMDFG) and increasing predator numbers is not within the scope of this analysis nor does the BLM have jurisdiction over predator hunting licenses.

2.4.4. Raising the Appropriate Management Levels

An alternative to raise the AML for the Jicarilla wild horse herd was not brought forward for detailed analysis because it is outside the scope of the analysis and is inconsistent with both the 2003 Farmington District ROD and Approved RMP (December 2003). These documents state that the FFO will manage the population and provide for 23 wild horses. Furthermore, the combination of multiple uses in the project area would not benefit from a wild horse AML increase, but would rather shift negative impacts and stresses to the habitat and wildlife. Currently, USFS grazing permittees on the Jicarilla WHT portion of the JMA have grazed less livestock than they are permitted either voluntarily or through consultation with the

Jicarilla Ranger District. Within the BLM HA portion, BLM grazing permittees have adjusted their livestock numbers annually either voluntarily or through BLM consultation in response to annual conditions. Furthermore, the Carracas Mesa/Rosa Area is critical deer winter range. Despite the livestock reductions by BLM and USFS grazing permittees, annual deer numbers seldom change. Increased wild horses will only add to the competition for forage resources with wintering deer and increase the risk of range depletion during drought or severe winter events.

2.4.5. Individualized Wild Horse Determination Prior to Removal

This alternative would involve a tiered gather approach where BLM would identify and remove old, sick, or lame animals in order to euthanize those animals on the range prior to gathering. BLM would then utilize qualified individuals to identify and remove horses for which there is adoption demand, such as younger horses. Finally, BLM would remove any additional excess horses in order to bring the horse population back to AML. This alternative was proposed under the view that a tiered or phased removal of wild horses from the range is mandated by the WFRHBA.

This alternative would only be viable in situations where the following project area characteristics exist:

- The project area is contained within natural or man-made barriers
- Animal movements are prohibited outside the project area
- Accessibility exists
- Wild horses are clearly visible
- The number of horses to be removed is small

Under the conditions present within the JMA, this proposed alternative is impractical, if not impossible. It could also be more disruptive and less humane for a variety of reasons.

First, BLM does euthanize old, sick or lame wild horses on the range when such animals have been identified. This occurs on a continual basis and is not limited to wild horse gathers. However, if an old, sick or lame horse is gathered and its condition requires euthanasia, that horse is then separated from the rest of the group that is being herded so that it can be euthanized on the range. Horses that meet the criteria for humane destruction because they are old, sick or lame typically cannot be identified as such until they have been gathered and examined up close. Old, sick and lame horses meeting the criteria for humane euthanasia are also only a very small percentage of the total number of horses to be gathered, comprising on average about 0.5% of gathered horses. This estimation equates to about 1 horse per 100 gathered. With this estimate, only about 3-4 horses would match the euthanasia criteria for the Jicarilla herd. Due to the size of the project area, access limitations associated with topographic and terrain features, and the challenges of approaching horses close enough to make an individualized determination of whether a horse is old, sick or lame, it would be virtually impossible to conduct individualized removal without a gather.

Similarly, rounding up and removing wild horses for which an adoption demand exists prior to any other gather operations would be both impractical and disruptive. The size of the project area, terrain challenges, and difficulties approaching the horses close enough to determine age and evaluate characteristics (such as color or markings) that increase adoptability limit the feasibility of this alternative. Furthermore, the impracticalities inherent in attempting to separate the small number of adoptable horses from the rest of the herd and the impacts to the horses increased close contact make such phased removal an undesirable method for gathering excess wild horses. This approach would both create a significantly higher level of disruption for the horses on the range and would increase difficulties in gathering the remaining excess wild horses.

Making a determination of excess for a specific horse under this alternative and then gathering that horse would be impractical to implement (if not impossible). It would also be very disruptive to the wild horses due to repeated culling and gather activities over a short period of time, would be cost-prohibitive, and not likely lead to the successful removal of excess horses. This alternative was therefore eliminated from any further consideration.

2.4.6. Alternative Capture Techniques

Alternative capture techniques including chemical immobilization, net gunning, wrangler/horseback drive trapping, off-road vehicle drive trapping, and walking roundups as potential methods for gathering horses. Net gunning techniques that are normally used to capture big game also rely on helicopters. Chemical immobilization is a very specialized technique and strictly regulated. Currently the BLM does not have sufficient expertise to implement either of these methods. Furthermore, they would be impractical to use given the size of the project area, access limitations and approachability of the horses in woodlands.

Use of wranglers and horseback drive-trapping to remove excess wild horses can be fairly effective on a small scale. However, the high number of excess horses to be removed, large size of the project area, and ground access limitations render this technique both ineffective and impractical for the Jicarilla herd. Horseback drive-trapping is also very labor intensive and can be very harmful to the working wranglers, their horses, and wild horses. The same is true for off-road vehicle drive trapping. Furthermore, both methods rely on running and chasing horses instead of controlled driving. In these types of gathers, the level of stress on wild horses would be much greater than helicopter gathering as an individual herd is continually pushed from initial contact to the trap. This is in contrast to a helicopter's ability to use a pressure and release technique to allow horses to move in a controlled manner at their own speed. Gather time for a band of horses would be longer and overall human disturbance would be greater. For these reasons, this alternative was eliminated from further consideration. A walking roundup conducted on the USFS El Rito Ranger District of the Carson National Forest did not successfully capture any horses. This alternative would not meet the purpose and need or reducing the wild horse herd population to AML.

2.4.7. Remove or Reduce BLM Permitted Livestock Within and Outside the HA

Public comments for other HAs and HAs frequently propose removal of livestock. This alternative to remove livestock from BLM lands both within and outside the HA where horse conflict occurs was not brought forward for detailed analysis because it is outside of the scope of the analysis, and is inconsistent with the 2003 Farmington Approved RMP and ROD (December 2003), and is inconsistent with multiple use management, the Federal Land Policy and Management Act (FLPMA) and the Taylor Grazing Act. Livestock grazing is reduced or eliminated following the process outlined in the regulations found at 43 CFR Part 4100. Such an alternative would require a resource management plan amendment, which is not being considered.

2.4.8. Expansion of the HA Boundaries

Expansion of HA and subsequent increased allocation of forage to wild horses was not brought forward for detailed analysis because it is outside of the scope of the analysis, and is inconsistent with the 2003 Farmington Approved RMP and ROD (December 2003). These documents state that the FFO would manage the population and provide for 23 wild horses within the designated HA boundaries. Such an alternative would require a resource management plan amendment, which is not being considered.

2.4.9. Complete Removal of Horses within the BLM HA

Another proposed alternative is the complete removal of horses within the JMA. This was eliminated from detailed analysis for because it would not be in conformance with the current 2003 Farmington District ROD and Approved RMP (December 2003) and would be contrary to the regulations of the WFRHBA. These documents state that the FFO would manage the population and provide forage for 23 wild horses. Elimination of wild horses and closure of the BLM HA can only be conducted during the land use planning process or within an RMP revision or amendment. The Proposed Action is not a land use plan allocation. Therefore, elimination of the wild horses on the BLM HA portion of the JMA is outside the scope of this analysis. Such an alternative would require a resource management plan amendment, which is not being considered.

2.4.10. Euthanasia or Sale Without Limitation to Reach AML

The WFRHBA authorizes humane destruction or euthanasia of healthy (not old, sick and/or lame) excess wild horses for which an adoption demand by qualified individuals does not exist to be destroyed in the most humane and cost efficient manner possible. In addition to this, the Fiscal Year 2005 Omnibus Appropriations Act (Public Law 108-447) or December 2004 "Burns Amendment" authorized sale without limitation of excess animals that are more than 10 years old or have been offered unsuccessfully for adoption at least 3 times. Currently, neither option is available for wild horses under the Department of the Interior's fiscal year 2012 budgetary appropriations. Although the appropriations restrictions could be lifted in future appropriations bills, it would be contrary to Departmental policy to euthanize or sell without limitation healthy excess wild horses. Therefore, using these options alone as an alternative to reach AML is eliminated from analysis.

2.4.11. Range Improvement

An alternative identified during the scoping process was to increase range improvements in the HA to increase forage and water to increase the carrying capacity of the land. The HA is only capable of supporting a certain amount of foraging/grazing animals based on the acreage and forage productivity of those areas. Currently, available water is only a concern during drought years as many water sources are considered ephemeral. There are numerous areas that produce or have water on a yearlong basis (e.g., riparian areas, sump, livestock water wells, wildlife guzzlers) that allow for good distribution of all grazing animals (Appendix G). An inventory of water resources in the HA from 2005 indicated there were at least 31 functioning water retention dams/ponds and 5 that were breached or non-functioning. Since that inventory numerous ponds and reservoirs have been constructed by BLM, oil and gas companies and grazing permittees. At least a minimum of 19 additional ponds were built in 2006. There are at least seven water wells, springs or sumps that have been inventoried in the HA. The springs and sumps can be ephemeral, but can also be more reliable than ponds in providing water. Furthermore, wild horses are known to move seasonally between the WHT and HA. For example in the summer of 2012 no horses or sign of horses were observed in Eul Canyon (northern part of HA) in June. Range condition was rated and drought conditions were noted. No watering ponds held water and forage was very limited and dry. However, in September after some rainfall had occurred, horses had moved into Eul Canyon. While more water sources could be developed, timing and amount of precipitation is more of a limiting factor in water availability.

Since 1953, the FFO has implemented 7,950 acres of brush treatments, pinyon-juniper thinnings, prescribed fire, range seeding, water developments, and pasture fencing. These projects are done to improve range condition, watershed health, and improve livestock management. While some projects are done to provide water and forage specifically for one land use or resource there are usually indirect benefits for other competing resources (livestock, wild horses and wildlife). The FFO has often considered implementing more vegetation or rangeland improvement projects; however, the FFO believes excess animals and current grazing pressure will not afford any return on investments. Livestock grazing can be deferred through pasture management or by simply removing cattle from project areas. However, unless vegetation improvement projects are high fenced, heavy winter and spring grazing by wintering deer and yearlong grazing by excess horses cannot be curtailed or controlled.

Implementing range improvements to accommodate a growing population of excess wild horses does not meet the purpose and need of the action to bring with wild horse herd to AML.

2.4.12. Relocation of Excess Horses to Other Public Land

An alternative offered in scoping involved relocating excess horses to other public lands. This alternative was eliminated from analysis because it is not in conformance with language in the WFRHBA § 1339. Limitation of authority states "Nothing in this Act shall be construed to authorize the Secretary to relocate wild free-roaming horses or burros to areas of the public lands where they do not presently exist."

2.4.13. No Management Actions until Further Genetic Testing

An alternative eliminated from detailed analysis addressed no management of wild horses until further genetic testing is performed. The WFRHBA does not require agencies to address genetic concerns when removing and/or managing excess wild horses. Further, such action would not meet the purpose and need of the action to bring the wild horse herd to AML.

2.4.14. Fertility Control Only, No Removal Option and Sex Ratio Maintenance

An alternative involving only fertility control alone with no removals and/or sex ratio maintenance as an option was eliminated from further analysis since the use of fertility control alone does not address the current wild horse population excess population exceeding the AML and the need to remove this excess to AML. While the average population growth would be reduced, AML would not be achieved and the damage to the range associated with wild horse overpopulation would continue. Fertility control may be used as a component of the Proposed Action and Alternative B.

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3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1. Wild Horses

3.1.1. Affected Environment

It is widely accepted that the modern species of horse (*Equus caballus*) first evolved on the North American continent and then migrated across the Bering land bridge into Eurasia before becoming extinct in North America approximately 10,000 years ago (American Museum of Natural History). Over time, these horses were domesticated and bred for specific traits, resulting in the present-day multitude of varying domestic horse breeds; this has left only the takhi or Przewalski's horse of Mongolia (*Equus przewalskii*) as the world's only truly wild horse, as they have never been domesticated and differ in genetic chromosome number from the domestic horse (American Museum of Natural History).

Domestic horses escaped from Spanish explorers in the 1500s, and were thus the first horses reintroduced to the North American continent (American Museum of Natural History). Over time, other breeds of horses were brought into this country and many were released over time onto the range, resulting in the thousands of on western rangelands today. Regardless of origin, horses residing on federal lands at the time of the WFRHBA of 1971 were declared "wild" by Congress and management of these herds was entrusted to the federal government.

The USFS Jicarilla Ranger District was formed on August 24, 1910, and records indicate horses have been present in the area within and around the JMA since at least that time. The ancestry of the herd is also questioned. According to the USFS, an October 27, 1973 Farmington Daily Times on October 27, 1973, interview with a local rancher named indicated that he remembered Spanish mustangs roaming the area near the Jicarilla District (up to 500 horses) and that they were being killed off for their long hair for use as ropes and couch stuffing. Finally in the winter of 1931-32, there was a four-foot snowfall that killed the remaining "mustangs." Another story mentioned by the USFS says that man living in the La Fragua Canyon area of the JMA raised remount horses beginning with 200 broodmares for the Calvary from 1900 to 1942. At the same time, the Jicarilla Apaches brought in Morgan and thoroughbred stallions to breed their own mares, which also escaped and bred to the Calvary broodmares. When the gentleman raising the Calvary horses left for war in 1942, he had let all of his horses go onto the range. A BLM report from 1968 mentions that the Jicarilla Apaches conducted a large roundup right after World War II and moved all roaming livestock and horses off of the reservation. A large number of these horses were pushed onto USFS lands. Discussions with local ranchers have also revealed that many past ranchers conducted horse roundups in the early 1900s and would trade riding stock out of the herd and release horses into the herd to improve genetics.

Genetic testing has been done to a small degree, but no discernible evidence has demonstrated a substantial genetic link to Spanish horses . Furthermore, Colonial Spanish horse expert Dr. D.P. Sponenberg, DMV, PhD, evaluated Jicarilla horses in 2005 and concluded that due to their conformation and characteristics, they have very little Spanish blood and that they do not qualify as a genetic resource. According to the WFRHBA regulations, the Jicarilla horses do not qualify to be managed as a specific type, breed, or descendant from specific ancestry.

The Jicarilla horses are fairly large and predominantly bay. However, other colors such as black, chestnut, and buckskin have been observed in certain bands, as well as limited dilutions on these colors such as cremello. The Jicarilla horses are considered relatively accustomed to people and very accustomed to oil field traffic and vehicles. They are routinely seen on well pads as evidenced by Figure 6, and by compressor stations. Different accounts have described the Jicarilla horses approaching and touching domesticated horses with riders. BLM staff has reported being able to walk within 50 feet of the horses without them becoming startled. There is strong evidence that the Jicarilla horses interact and breed with feral and domesticated horses on the Jicarilla Apache Nation (USFS 2004). Jicarilla horses are shown in the following pictures.

Figure 6. Jicarilla Wild Horses

Within the Jicarilla herd, band size typically ranges from 3 to 11 horses (USFS 2004), though variation can exist. Bands consist of groups of females or harems with a dominant stud and lead mare. This stud sires the juveniles in his harem. There can be a subordinate non-breeding stud attached to this band. Bachelor bands of studs without harems are also common. Horses can change social groups multiple times (Waran 2000). Like other herds, the Jicarilla herd has shown evidence of harem instability (Stevens 1990). This pertains to females leaving their bands to other harems prior to breeding season in the winter and spring. In the Jicarilla herd, K.J. Nelson found that 61% of the females in the Jicarilla WHT left their bands for other ones (Stevens 1990). Stevens (1990) also found that females left their harems regardless of their respective dominant stud's age and experience; furthermore, Nelson did not find evidence of harem size on a females' likelihood of changing bands. Nelson also found in her study that harem instability was stronger with only one dominant male versus a band in which there is a subordinate male; furthermore, dominant studs lost more females to other bands during difficult winters (Nelson 1990). BLM and USFS staff have also witnessed outside studs easily removing a female from the harem of a dominant stud driving her away with him. This is documented in Figure 7.

Figure 7. Stud Driving Female

The JMA is found on two governmental jurisdictions, the BLM Farmington Field Office and the USFS Jicarilla Ranger District. The USFS administers a designated Wild Horse Territory (WHT) with an AML of 50 to 105 horses. The BLM administers an HA with an AML of 23 horses. Neither the WHT nor HA have been designated as ranges under 43 CFR 4710.3-2

Fences exist within the HA and total JMA but do not restrict wild horse movement. The lack of restriction is due to the cattle guards filled with soil or snow and easily crossed old dilapidated fences. Currently, the USFS and Jicarilla Apache Tribe have a fence/boundary agreement and are actively maintaining the boundary fence between the Jicarilla Apache Reservation and the Jicarilla Ranger District. Despite the suitability of the fence, constant maintenance is required. Both local elk and falling dead trees are constantly damaging the fence. Wild horses find these areas in addition to fence washouts and thus easily migrate between areas. Furthermore, it is estimated that there may be as many 750 to 1,000 horses on the Jicarilla Apache Reservation, which contribute to the fence damage.

Locked gates on public land roads in the JMA do exist. These are primarily to restrict vehicular access to oil and gas structures and for big game winter range closures. However, these gates only block vehicles and are attached to short fences that end after a certain distances. Animals, including wild horses, as well as people on foot are not restricted by these fences.

Jicarilla horses seasonally move between the HA and WHT. It is generally estimated that approximately 20% of the herd resides on BLM land. Area water and seasonal weather patterns are likely the most influential factors determining wild horse locations. In times of drought, the wild horses often concentrate in areas where water can be found. Wild horses use established man-made livestock waters and springs. Jicarilla wild horses are occasionally seen as far west as Navajo Lake. During the winter and spring months, the horses typically move onto the HA and use the larger canyon bottoms (La Jara, Bancos, Caracas, Eul and Laguna Seca Canyons). In the summer and fall months, horses appear to spend more time on the benches and mesas at higher altitudes and in larger timber and more horses move onto the WHT. This likely occurs because temperatures are lower in these areas. On BLMA lands both within and outside of the HA, current 2012 estimates are at least 100 horses in the winter months and approximately 50 horses in the warmer summer months. Not only have horses been observed on the HA during winter helicopter aerial surveys, they have been seen by ground surveys. These surveys were performed simply by driving vehicles on existing roads and observing horses. Therefore, there were likely many more horses not seen. Table 2 displays the numbers observed from 2007 to 2009 on the Carracas Mesa HA.

Table 2. Carracas Mesa HA Wild Horse Observations

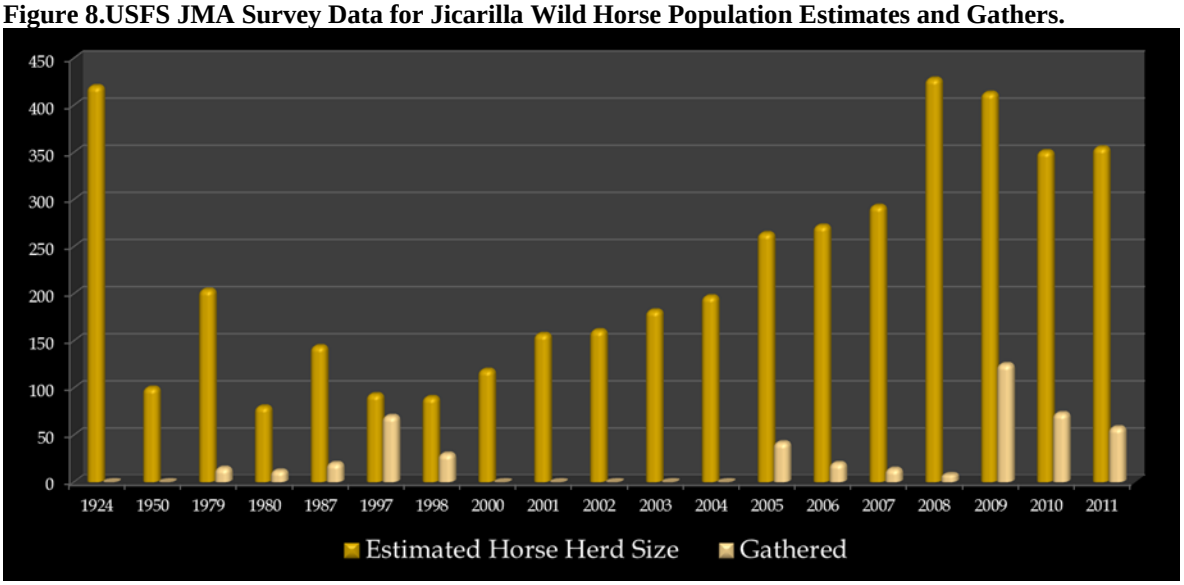
Location	**Horse Numbers Observed**			
Dates	**12/5/2007**	**1/24/2008**	**12/31/2008**	**1/10/2009**
Eul Canyon	17	18	27	44[1]
Anselmo Bench	3	0	0	7
Anselmo Bench/Bancos Canyon	16	10	9	19 (10 in Bancos Canyon)
Cabresto Canyon	6	7	3	3
Laguna Seca	11	13	0	3
La Fragua Canyon (BLM)	12	10	0	20
Total	**65**	**58**	**39**	**97**

[1] 1 horse had a halter and was confirmed to have been lost by a hunter 2 years prior in 2007

BLM documents have also noted that horses had been residing all year in the Carracas Mesa and Quintana Mesa area since at least 1968. Horses were not observed in the more southern portion of the HA in the Laguna Seca area of the present day Rosa Allotment until 1975. They were noted to be seasonal residents at first, but since became yearlong residents.

In 1912, the first year of written records on numbers, the horse population was deemed to be 1,000; however, this may have been an overestimation. Prior to and after the passage of the WFRHBA in 1971, the USFS conducted population estimates of the herd. At the time of the WFRHBA, the population estimate was 63 horses. Surveys have been done most years since the act's passage, with only a few years lacking data. The most accurate population estimates were performed after 1974, as the population trend appears to be more realistic. This trend occurrence was likely due to more accurate survey methods. By 1978, the population was counted at approximately 200 horses. It should be noted that Newspaper clippings from March of 1979 show that over 500 and up to 2,000 horses were taken into livestock sales by the Jicarilla Apache Indians. Results of multiple year survey data are shown in Figure 8 and include the number of horses removed through gathers. Historically, there have been horses above the JMA AML range of 73 to 128 in the majority of years, with only about 6 years showing the herd at AML. The present estimate with the 2012 foal recruitment is 405 or more horses.

Figure 8.USFS JMA Survey Data for Jicarilla Wild Horse Population Estimates and Gathers.



The USFS has gathered horses through either helicopter gathers or bait trapping. Bait trapping has been used since 2005 and has captured an average of 60 horses per year. The Jicarilla wild horses have demonstrated a high adoption rate for excess horses removed from the range. Though age and sex distribution of the herd could not be estimated through aerial surveys, USFS adoption records from 2010 and 2011 allow a general estimation. This also allows an estimate of the herd sex ratio, which indicates a ratio in favor of males. This was also documented in the Environmental Assessment for the Management of the Jicarilla Wild Horse Territory (USFS 2004).Record results can be applied to the current 2012 herd on the range at 405 horses through the WinEquus Program, which is discussed in further detail in Appendix H and displayed in Table 3 and Table 4.

Table 3. USFS Jicarilla Wild Horse Adoption Records, 2010 and 2011.

Age Class	Number of Females	Number of Males
0	0	0
1	3	7
2	5	11
3	6	4[a]
4	1	5
5	5	2
6	0	3
7	1	4
8	0	0
9	1	0
10-14	1	1
15-19	0	0
20+	0	0
Total	**23**	**37**
Sex Ratio	**38%**	**62%**

[a]Two of these horses were aged at 2 ½ years

Table 4. WinEquus USFS Jicarilla Wild Horse Adoption Results Applied to 2012 Herd, 405 Horses.

Age Class	Number of Females	Number of Males
0	2	5
1	20	45
2	33	66
3	36	33
4	13	31
5	27	16
6	4	21
7	5	24
8	1	3
9	6	1
10-14	6	6
15-19	0	1
20+	0	0
Total	**153**	**252**
Sex Ratio	**38%**	**62%**

Adoption records also included 8 males that were targeted for removal. These results are not included in age and sex distribution estimates because these horses were in a bachelor band that was specifically captured. Age results for these horses are included in Table 5.

Table 5. USFS Jicarilla Wild Horse Adoption Records Specific to Targeted Males, 2011.

Age Class	Number
0	0
1	1
2	2
3	0
4	1
5	0
6	1
7	2
8	0
9	0
10-14	1
15-19	0
20+	0

One of the greatest concerns to the health of the horse herd is its ability maintain itself during drought periods or prolonged stress and the consequences of poor habitat particularly with an overpopulation. This concern has been documented by the USFS in the past. Like other horses, the Jicarilla horses are able to maintain body condition much longer than ruminant wildlife and cattle when rangeland forage conditions are poor. Appendix B (Holecheck 2011). However, they do eventually succumb to poor conditions. In 1978, the USFS counted 242 horses, but by 1979 the count was 204 horses. The 1980 count yielded only 80 horses. Precipitation records linked this significant die-off of approximately 130 horses between 1979 and 1980 to drought (USFS, 2004b). USFS records noted that horses' poor condition, compounded with a severe winter in 1978 and 1979, resulted in deaths. Considering that 36 horses were adopted during that period, the die-off equates to an approximate loss of 61% of the herd in a 2 year period.

Additional supporting evidence that demonstrates the herd's susceptibility to environmental conditions was evident in the period between 2001 and 2004. The northwest area of New Mexico experienced severe drought conditions at this time. From 2001 to 2004, the horse herd increased approximately 26% in the four year period without any trapping or removal, in contrast to the normal population growth

around 20% each year. Despite drought conservation efforts of reducing and removing permitted livestock on both USFS- and BLM-managed lands for approximately 2.5 years, range conditions still deteriorated between 2001 and 2004.

According to the 1994 Rosa Community Grazing Allotment Management Plan, 276 Animal Unit Months (AUMs) are allocated to wild horses. The BLM defines an AUM as the amount of forage needed to sustain one cow and her calf, one horse, or five sheep or goats for a month. The 276 AUMs allotted to the 23 wild horses assumes 12-month grazing at approximately 913 pounds of forage per month for a 1,000 lb. horse. Further details on how these numbers were calculated are shown in the Estimated Forage Analysis for the Carracas Mesa Herd Area, Jicarilla Wild Horse Territory, and the Jicarilla Joint Management Area (BLM, 2012).

3.1.2. Impacts from Alternative A (Proposed Action)

Direct and Indirect Impacts

Impacts from Helicopter Gather Operations

The BLM has been gathering excess wild horses from public lands since 1975, and has been using helicopters for such gathers since the late 1970s. Since 2004, BLM Nevada has gathered over 26,000 excess animals. In Fiscal Year 2011, the number of deaths occurring during gathers was 0.91 percent (99 horses died out of the 10,892 horses and burros gathered) -- that is, less than one percent of the total number captured. About one-quarter of one percent of the animals gathered (0.22 percent or 24 of the 10,892 gathered in 2011) died or were euthanized because of injuries or accidents that occurred during capture. Most of the gathered animals that need to be euthanized, however, are put down as an act of mercy because of preexisting conditions, such as limb deformities or old injuries that happened on the range. Some deaths also occur soon after horses are brought into captivity, usually associated with older horses or those that are very thin or in poor condition when gathered (http://www.blm.gov/wo/st/en/prog/whbprogram/history_and_facts/myths_and_facts.html). This data affirms that the use of helicopters and motorized vehicles are a safe, humane, effective and practical means for gathering and removing excess wild horses from the range and is appropriate for the Jicarilla wild horse herd.

Impacts to individual animals may occur as a result of handling stress associated with the helicopter gathering, processing, and transportation of animals. The intensity of these impacts varies by individual animal and is indicated by behaviors ranging from nervous agitation to physical distress. As the horses are being driven to corrals, injuries on the range may occur and often include bruises, scrapes, or cuts from rocks and brush. Though rare, wild horses may run into barbed wire fences and receive wire cuts. Once horses have been gathered, other injuries due to kicking, biting, and/or collisions with panels or gates may occur within the trap-site corral, the temporary holding corral, during transport between facilities, or during sorting and handling. These types of injuries are treated onsite until a veterinarian can examine the animal and determine if there is a need for further treatment. Bait and water trapping could induce similar injuries with the exception of stress from being driven into the trap.

There is potential for a serious injury such as a fractured limb or spinal injury that would require euthanasia during a helicopter gather. Mortality to individual animals from these impacts is infrequent but does occur in 1.2% of wild horses gathered in a given gather (GAO, 2008). Other impacts to individual wild horses include separation from bands. Similar injury could occur to a wild horse after it has been bait or water trapped and it is within the containment area.

Impacts can occur after the initial stress event, and may include increased social displacement or increased conflict between stallions. These impacts are known to occur intermittently during wild horse gather operations. For example, brief skirmishes may occur among older stallions following sorting and release into the stud pen; this typically lasts less than a few minutes and ends when one stud retreats. These injuries typically involve a bite and/or kicking with bruises that do not break the skin. Traumatic injuries usually do not result from these conflicts. Traumatic injuries may occur, and typically involve bruises from biting or kicking. In order to lessen injury potential from fighting in confined spaces, horses

are first transported from the trap site to the short-term holding facility so that they can be sorted as quickly and safely as possible. After this they are moved into large holding pens where they are provided with hay and water.

Other individual impacts may include effects such as spontaneous abortions in mares and increased social displacement. These impacts are known to occur intermittently during wild horse gather operations. Spontaneous abortion events among pregnant mares following capture is rare, but poor body condition can increase the incidence of such spontaneous abortions. Given the timing of this gather in the spring when pregnant mares are in their last trimester, spontaneous abortions are not considered to be an issue for the proposed helicopter gather.

Foals orphaned on the range due to mother rejection or death are often gathered. These foals are usually in poor condition. Orphans encountered during gathers are cared for promptly and rarely die or require euthanasia. Due to the timing of the proposed gather, it is unlikely that orphan foals will be encountered as the majority of the 2012 foals will likely already be weaned from their mothers. In private industry, domestic horses are normally weaned between four and six months of age and most 2012 foals should be past that age by the time of the proposed helicopter gather in the winter of 2013.

Because, gathering wild horses during the summer months can potentially cause heat stress, the proposed 2013 helicopter gather is targeted to occur in the winter/spring to reduce the risk of heat stress. Heat stress can still occur, especially in older or weaker animals, and may result in death. Adherence to the SOPs and techniques used by the gather contractor help minimize the risks of heat stress. Most temperature-related issues during a gather can be mitigated by adjusting daily gather times to avoid any extreme hot or cold periods.

The acclimatization of the horses to bait and water traps creates a low stress trap. During this acclimation period, the horses would experience some stress due to the visible panels and perceived access restriction to the bait or water source.

Impacts from Scenario 1

During transport, potential impacts to individual horses can include stress, as well as slipping, falling, kicking, biting, or being stepped on by another horse. Unless wild horses are in extremely poor condition, it is rare for an animal to die during transport. Upon arrival, most wild horses will begin to eat and drink immediately and adjust rapidly to their new situation. Recently captured wild horses, generally mares, in very thin condition may have difficulty transitioning to feed. A small percentage of animals can die during this transition.

During the adoption preparation process, potential impacts to wild horses are similar to those that can occur during transport. Injury or mortality during the preparation process is low, but can occur. Mortality at short-term holding facilities averages approximately 5% (GAO-09-77, page 51). This number includes horses euthanized due to a pre-existing condition, extremely poor condition, non-recoverable injury, and inability to transition to feed and horses which die accidentally during sorting, handling, or preparation.

Potential impacts to wild horses from transport to adoption, sale, or long-term pastures are similar to those previously described. One difference is that when shipping wild horses for adoption, sale, or long-term pasture, animals may be transported for up to a maximum of 24 hours. Horses residing on long-term pastures live longer, on the average, than wild horses residing on public rangelands. The natural mortality of wild horses in long-term pastures averages approximately 8% per year, but can be higher or lower depending on the average age of the horses pastured there (GAO-09-77, page 52). No scientific data currently exists regarding differences in gentling helicopter gathered horses for adoption in comparison to other methods such as bait-trapping. Most information regarding this comes from individual opinions. Furthermore, much of the difficulty in gentling horses is not only due to its past experience, but also to the horse’s disposition. For example, horses bait-trapped from the USFS El Rito Ranger District have been known to be difficult to gentle.

The wild horses that remain in the JMA following the gather are expected to maintain their social structure and herd demographics. Estimates from the USFS Jicarilla wild horse adoption records indicate that the herd may already exhibit the sex ratio favoring males ratio; therefore sex ratio adjustment may not be needed nor would it have much effect on the present horse social structure if implemented. The wild horses that are not captured may be temporarily disturbed and may move into another area during the gather operations. Changes in post-gather herd demographics have proven to be temporary in nature over the past 20 years. Most, if not all, impacts to horses released back to the range disappear within hours to several days. Also, no observable effects associated with these impacts would be expected within one month of release, except for a heightened awareness of human presence.

The primary effects to the wild horse population as a direct result of the proposed helicopter gather, bait and/or water trapping, PZP use, and sex ratio maintenance would be to alter herd population dynamics and subsequently reduce the growth rates and population size over time. Under Scenario 1, the desired post-helicopter gather population of the Jicarilla herd would be 73 horses, a significant population reduction from current 2012 Jicarilla wild horse estimates of more than 405 horses. Reducing population size would also ensure that the remaining wild horses remain healthy and vigorous, and that the wild horses in the JMA are not at risk of death or suffering as a result of starvation from drought-induced insufficient forage and/or water. This is targeted to be proactive and ensure that potential issues do not escalate enough to eventually require an emergency gather of the herd.

Under Scenario 1**,** fast removal of the excess wild horse population to AML would potentially greatly improve herd health, particularly during times of environmental stress. Decreased competition for forage and water resources would reduce stress and promote healthier animals. This removal of excess animals coupled with slowed population growth rates from fertility control and sex ratios preferring males would improve the health and condition of mares and foals. This should occur as the actual population comes into line with the AML. This would allow for both healthier range conditions and horses over the long-term. Furthermore, the range would be better suited to handle drought conditions and sustain a healthier wild horse herd, particularly during harsher times. Additionally, reduced population growth rates would be expected to extend the time interval between gathers and reduce disturbance and stress to individual animals as well as to the herd social structure over the foreseeable future.

Impacts from Scenario 2

PZP is relatively inexpensive, meets BLM requirements for safety to mares and the environment, and can easily be administered in the field. In addition, PZP contraception appears to be completely reversible among mares. One-time application at the capture site would not affect hormone health, existing pregnancies, or the health of offspring (Kirkpatrick et al, 1995; Turner et. al, 1997). Powell (1999) and Ransom et al. (2010) found no differences in how PZP-treated and control mares allocated their time between feeding, resting, travel, maintenance, and social behaviors. Likewise, body condition of PZP-treated and control mares did not differ between treatment groups in the Ransom et al. study. Turner and Kirkpatrick (2002) found that PZP-treated mares had higher body condition than control mares in another population; this is presumed to occur because energy expenditure was reduced by the absence of pregnancy and lactation. Naturally breeding wild horses may foal as early as February or as late as November, although rare. No data or research has been found to suggest that PZP would change foaling periods (Hatle 2012).

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

frequently than control mares. Long-term implications of these changes in social behavior are currently unknown.

Vaccinated mares would experience slightly increased stress levels associated with handling while being vaccinated and freeze-marked. Serious injection site reactions associated with fertility control treatments are rare. Most reactions associated with fertility control, such as swelling or local reactions at the injection site, would be minor in nature and of short duration. Most mares would recover quickly once released back to the JMA and none are expected to have long term impact from the fertility control injections.

It is expected that additional stallions released to maintain the targeted sex ratio of 60% males, would result in smaller band sizes, larger bachelor groups, and some increased competition for mares. Because having more females than males in a population limits the number of breeding males due to the harem structure with one breeding stallion, maintaining sex ratios in favor of males reduces the number of large harems and will aid in increasing genetic diversity (Coates-Markel 1999). With more stallions involved in breeding, increased genetic exchange and subsequent genetic health improvements within the herd should occur. At this population level and based on known seasonal movements of the horses between the HA and WHT and the documentation of Jicarilla females changing harems (Nelson 1999), sufficient genetic exchange should occur to maintain the genetic health of the population. Additionally, the intermingling of the Jicarilla herd with horses from the Jicarilla Apache Reservation as well as the many individuals available for breeding from large horse population on the reservation should contribute to further genetic exchange.

Inbreeding concerns are minimal for the Jicarilla herd and can be successful mitigated if necessary. Furthermore, the technical definition of inbreeding is simply the mating of 2 individuals who are more closely related than the average population for which they are members of (Vogt et. al 1993). Inbreeding increases the chances of offspring having similar or homozygous pairs of genes; inbreeding does not create an undesirable trait but allows problematic recessives alleles from both parents the chance to manifest themselves in the offspring through homozygosity. Simply put, inbreeding increases the chance of exhibiting similar genes from parents, either positive or negative (Vogt et al. 1993). Inbreeding can result in desirable traits as shown in linebred purebred horses and other animals, but it also often results in loss of fertility, slowed growth rates, increased mortality rates, and an increased incidence of hereditary abnormalities. However, concerns of negative effects from inbreeding on the Jicarilla herd are minimal.

Most, if not all, impacts to horses released back to the range disappear within hours to several days. Also, no observable effects associated with these impacts would be expected within one month of release, except for a heightened awareness of human presence.

Herd health would take longer to improve as fertility control and bait and water trapping would slowly decrease population growth to reduce the excess population to AML. Over the short-term, individuals in the herd would still be subject to increased stress and possible death as a result of continued competition for water and forage until the excess population can be reduced to the AML range. The areas experiencing heavy and severe utilization levels by wild horses would remain the same and impacts to rangeland resources (e.g., concentrated trailing, riparian trampling, increased bare ground) throughout the JMA would be expected to continue until population reduction to AML.

Post-Gather Impacts

WinEquus population modeling was completed for the Proposed Action Scenarios 1 and 2 to analyze their effects on the wild horse population. The primary objective of the modeling was to identify if any of the alternatives “crash” the population or cause extremely low population numbers or growth rates. Though the program did not show low AML of 73 horses being reached under Scenario 1, it did place the population near or within the AML range. Results showed the minimum population levels and growth rates would be within reasonable levels and adverse impacts to the population would not likely occur. If the management continued under Scenario 2, results show that the population would not come close to AML and would stay around the current estimated population of 405 horses. Graphic and tabular results are displayed in detail in Appendix H.

Bringing the wild horse population back to low range AML by implementing the Proposed Action would reduce damage to the range from the current overpopulation of wild horses and allow vegetation resources to start recovering. With a slowed population growth rate from a lower number of horses, fertility control, and 60% male sex ratios, the need for large-scale helicopter gathers should become more infrequent. Fewer helicopter gathers would also lead to fewer disturbances to both individual horses and the entire herd and would enable a more stable wild horse social structure. A healthier remaining herd at AML may potentially have somewhat increased foal survival rates and subsequently increased foaling rates over an unhealthy and overpopulated herd. However, a significantly increased rate over 20% is highly unlikely as sex ratios and fertility control would be implemented. Even without adjustment of sex ratios and fertility control, pregnant mares require an 11-month gestation, equating to 1 foal each year.

As a result of lower density of wild horses across the JMA following the removal of excess horses, competition for resources would be reduced and wild horses would be allowed to utilize preferred, quality habitat. Adverse impacts to the rangeland as a result of the current overpopulation of wild horses would be reduced and wild horse forage would improve. Fighting among stud horses would decrease since they would need to protect their position at limited water sources less frequently. Also, injuries and death to all age classes of wild horses on the range would also be expected to be reduced as competition for limited forage and water resources decreases.

Sufficient genetic exchange should occur to maintain the genetic health of the population because of the large number of horses in the AML and known seasonal movements of the horses between the HA and WHT. The sex ratio of the herd would be maintained in favor of males. Additionally, the influx of horses from the Jicarilla Apache Reservation should contribute to further genetic exchange.

Wild horse herd health should improve with increased forage and resources quality and quantity. Though the number of breeding individuals in the Jicarilla herd would be reduced, the inflow of horses from the Jicarilla Apache Reservation and any mitigation efforts would maintain genetic viability. This could potentially change certain characteristics of the herd over the long term. Potential disease among horses outside the herd could be introduced to the Jicarilla herd through contact and result in health problems.

Cumulative Impacts

Under the Proposed Action, wild horse overpopulation reduction would improve rangeland vegetation, soils, wildlife habitat, livestock grazing, and riparian areas over the long-term. Surface disturbances would still occur from oil and gas development, road and infrastructure development, traffic, and recreation. In regards to oil and gas development, there are no current applications for permits to drill (APDs) additional wells in the area. These disturbances could decrease wild horse forage both directly and through the introduction of noxious weeds. Physical and chemical treatments may be implemented to treat noxious weeds and increase forage. Reseeding and reclamation in disturbed areas may also increase forage. Competition for certain forage species may occur with wildlife and livestock outside of the HA boundaries. Even with overpopulation reduction to AML, wild horses would still see negative impacts from environmental condition and events such as drought, severe winters, and wild fires. Range improvements in the area would still be implemented, including fences, water development, and wildlife guzzlers. Fences may or may not restrict horse movement depending on condition and maintenance. Water developments for wildlife and livestock would also be accessible to wild horses and improve their condition.

3.1.3. Impacts from Alternative B

Direct and Indirect Impacts

Under Alternative B, impacts would be the same as those in the Proposed Action with the exception of the helicopter gather related effects. Furthermore, the time to reach AML with removals from bait-trapping alone in Scenario 1 and after holding facility room is available in Scenario 2 would be much longer than that described in the Proposed Action. Over the past 8 years since 2005, bait trapping has only removed an average of 60 horses per year. Even if the annual foal crop was completely suppressed and the current trapping rate remained unchanged, it would take over 6 years for low AML to be reached. Though

highly unlikely, if the trapping rate was increased to 100 horses per year and population growth totally suppressed at 0%, it would take over 3 years to bait and/or water trapping to reach AML. Also, if an average of 60 horses per year were trapped and the population growth rate was reduced to 10%, over 8 years would be needed to reach AML. Therefore, excess horses would remain on the range for a longer period of time than in the Proposed Action.

Population modeling was completed for Alternative B Scenario 1 and 2 to analyze their population effects. Like the Proposed Action, all of the variables of Alternative B could not be put into the program. The population was much less under Scenario 1 than Scenario 2, but neither came close to AML. However, Alternative B Scenario 1 did show a potential smaller population than Proposed Action Scenario 2.Graphic and tabular results are displayed in detail in Appendix H.

While trapping is considered to be a useful tool in removal of excess wild horses, it is best suited when trying to remove smaller numbers of horses. Scenario 1 will likely not be successful in ever reaching AML as recruitment rates tend to balance or surpass trapping rates as has been demonstrated the last seven years. WinEquus population modeling for this scenario (removal and fertility control) predicted that only the upper end of AML could potentially be reached in approximately 8 years or greater. This scenario would never reach mid or low AML according to WinEquus modeling.

WinEquus population modeling for Scenario 2 yielded results that demonstrated this method would not be successful at attaining AML over the next ten years and actually predicted a near tripling of the population in a ten year period (Appendix H).

Cumulative Impacts

Effects would be the same as those for the Proposed Action with the exception of a longer period of time for any positive effects on resources from a lowered wild horse population to occur. Detrimental effects to soils, wildlife, vegetation, and livestock would take much longer to be diminished. Furthermore, time to reduction of the excess population may take so long that they may be the same as those cumulative effects to resources with the No Action Alternative.

3.1.4. Impacts from the No Action Alternative

Direct and Indirect Impacts

Under the No Action Alternative, excess wild horses would not be removed from within or outside the JMA. WinEquus modeling was performed for the No Action Alternative. Results showed the lowest population at over 10 times the AML. The current wild horse population would continue to increase at a rate of approximately 20% per year. Within two years, the wild horse population would likely exceed 500 horses. This alternative had the greatest population size in all categories out of all alternatives and their scenarios (Appendix H).

Wild horses are a long-lived species with documented survival rates exceeding 92% for all age classes. Predation and disease have not substantially regulated wild horse population levels within or outside the JMA. Throughout the JMA, few predators exist to control wild horse populations. It is expected that some mountain lion predation does and will occur, but does not appear to be substantial. Coyotes are not prone to prey on wild horses unless they are young or extremely weak. Other potential horse predators, such as wolves, do not inhabit the area. As a non-self-regulating species, there would be a steady increase in wild horse numbers for the foreseeable future, which would continue to exceed the carrying capacity of the range.

Competition for the available water and forage between wild horses, domestic livestock, and native wildlife would continue and increase and pose threats to the availability and quantity of wild horse forage. As preferred wild horse forage such as grasses decreases, horses may shift to utilize browse or less desirable forage species (BLM 2012). Over the short-term, individual horses in the herd would be subject to increased risk of stress and possible death as a result of increased competition for water and forage as the population continues to exceed habitat capacity to meet wild horse needs. Wild horses would

compete for the available water and forage resources. This social stress would affect mares and foals most severely. Fighting among stud horses could increase as they protect their position at water sources, resulting in injuries and death to horses of all age classes.

The No Action Alternative would not ensure healthy rangelands that would allow for the management of a healthy wild horse population, and would not promote a thriving natural ecological balance. Significant loss of the wild horses in the JMA due to starvation or lack of water would have consequences to the long-term viability of the herd. It is likely that the weaker animals, generally the older animals and the mares and foals, could die from starvation and dehydration during severe drought or winter conditions. The resultant population would be heavily skewed towards the stronger stallions which would lead to significant social disruption in the JMA.

Allowing horses to die of dehydration and starvation would be inhumane treatment and would be contrary to the WFRHBA and Public Rangelands Improvement Act, which mandates removal of excess wild horses. The damage to rangeland resources that results from excess numbers of wild horses is also contrary to the WFRHBA, which mandates the Bureau to “protect the range from the deterioration associated with overpopulation”, “remove excess animals from the range so as to achieve appropriate management levels”, and “to preserve and maintain a thriving natural ecological balance and multiple-use relationship in that area.”

Under the No Action Alternative, unmanaged wild horse overpopulation would significantly and negatively impact rangeland vegetation, soils, wildlife habitat, livestock grazing, and riparian areas over the long-term. The areas currently experiencing severe utilization by wild horses would increase over time and trampling and trailing damage by wild horses in/around riparian areas would also be expected to increase and result in larger, more extensive areas of bare ground.

Horses from the Jicarilla Apache Reservation would still have contact with the Jicarilla wild horse herd. This could potentially change certain characteristics of the herd over the long term. Potential disease among horses outside the herd could be introduced to the Jicarilla herd through contact and result in health problems.

Cumulative Impacts

Other surface disturbances occur from oil and gas development, road and infrastructure development, traffic, and recreation could continue to occur and noxious weed infestations could become more prominent. In regards to oil and gas development, there are no current applications for permits to drill (APDs) additional wells in the area. Environmental occurrences such as drought, severe winters, and wildfires could occur. All of these factors could result in depleted forage and resources for wild horses and subsequent health loss, suffering, and death of individuals.

Physical and chemical treatments may be implemented to treat noxious weeds and increase forage. Reseeding and reclamation in disturbed areas may also increase forage. Range improvements in the area would still be implemented, including fences, water development, and wildlife guzzlers. Fences may or may not restrict horse movement depending on condition and maintenance. Water developments for wildlife and livestock would also be accessible to wild horses. Though helpful, these improvements would not able to keep up with and sustain an ever-growing Jicarilla wild horse herd.

3.2. Soil Resources

3.2.1. Affected Environment

Soils in the project area are typical of the Colorado Plateau and vary with elevation. The soils are well-drained and derived from sandstones and shales. Rio Arriba county soil survey identifies four soil mapping units within the project area: Rock outcrop-Vessilla-Menefee complex (220), San Mateo sandy loam (30), Orlie fine sandy loam (103), and Vessilla-Menefee-Orlie complex (110).

The Rock outcrop-Vessilla-Menefee complex is found on uplands and breaks, with slopes ranging from 15 to 45 percent. This complex is composed of 40% rock outcrop, 30% Vessilla and similar soils, 20% Menefee and similar soils and 10% minor components. The Vessilla soil component is a shallow (10-20 inches to bedrock), well-drained sandy loam in the high runoff class. The Menefee soil component is a shallow (10-20 inches to bedrock), well-drained clay loam in the very high runoff class.

The San Mateo sandy loam complex is found in floodplains and valleys, with slopes of 0 to 3 percent. The primary component is San Mateo soils (85%) with 15% minor components. San Mateo soils are well-drained sandy loam to clay loam. This soil type is very deep, exhibiting depths up to 60 inches and is in the low runoff class.

The Orlie fine sandy loam complex is found on uplands, mesas and fan remnants, with slopes ranging from 1 to 8 percent. The primary component is Orlie soils (80%) with 20% minor components. Orlie soils are well-drained fine sandy loam to clay loam. This soil type is very deep (60 inches) and is in the medium runoff class.

The Vessilla-Menefee-Orlie complex is found on uplands and breaks, with slopes ranging from 1 to 30 percent. This complex is composed of 45% Vessilla and similar soils, 25% Menefee and similar soils, 20% Orlie soils and 10% minor components. These soils are described in the previous complex descriptions.

3.2.2. Impacts from Alternative A (Proposed Action)

Direct and Indirect Impacts

Under the Proposed Action, helicopter gather operations and bait or water trapping project implementation would occur on existing roads, canyon bottoms, washes, and horse trail areas. Other soil disturbances would be the relatively small areas used for gathering and holding operations. Horses may be concentrated for a limited period of time in traps. Potential for soil compaction would occur but would be minimal and temporary. It would not be expected to adversely impact soil or its hydrologic function. Soil blowing hazards would occur during helicopter operations and with the increased amount of traffic. Areas of bare ground, compaction, and trailing where wild horses are frequently present would remain.

Over the long-term, the reduction of the wild horse population to AML under the Proposed Action would improve soils overall throughout the JMA. Though high use areas would still exist, much of the pressure from overpopulation would be lessened and thus erosion and its negative effects would be reduced. The decrease in extensive areas of compaction would improve infiltration and hydrologic function of the JMA. Increased vegetative cover from less wild horse use and competition would protect soils and lessen soil loss and erosion.

Scenario 2 may not achieve AML quickly enough to offset negative impacts of the wild horse population, and, if this situation was prolonged, effects may become similar to those in the No Action Alternative.

Cumulative Impacts

Under the Proposed Action, wild horse overpopulation reduction would improve riparian areas and improve vegetation by lessening forage competition among wild horses, livestock, and wildlife. Surface disturbances and soil loss and compaction from them would still occur from oil and gas development, road and infrastructure development, traffic, and recreation. However, no oil and gas APDs are planned. Noxious weeds introduced by these disturbances would cause instability in soils due to poor stabilizing root systems.

Physical and chemical treatments may be implemented to treat noxious weeds or alter vegetation, which could result in short-term soil loss if no vegetation temporarily remains. Even horse use at AML in these areas could potentially damage soil, but if vegetation is allowed to grow with a horse population at AML, soils may become more stable. Reseeding and reclamation may also occur, helping stabilize soil.

3.2.3. Impacts from Alternative B

Direct and Indirect Impacts

Under Alternative B, bait and water trapping project implementation would occur on existing roads, canyon bottoms, washes, and horse trail areas in relatively small areas. Potential for soil compaction would occur but would be minimal and temporary. Trapping activities would not be expected to adversely impact soil or its hydrologic function. Areas of bare ground, compaction, and trailing where wild horses are frequently present would remain.

Long-term effects of Alternative B would be similar to those in the Proposed Action.

Cumulative Impacts

Under Alternative B Scenario 1, effects would be similar to those in the Proposed Action but would occur more slowly. If Scenario 2 were prolonged, any positive effects would occur more slowly than Scenario 1 and may eventually become similar to those in the No Action alternative.

3.2.4. Impacts from the No Action

Direct and Indirect Impacts

Under the No Action Alternative, no temporary or short-term effects would occur from helicopter gather and bait and water trapping activities. Soils would continue to undergo long-term horse use as the growing horse population would increase heavy trailing and trampling around areas such as water sources.

Over the long-term, the increased wild horse population would negatively impact soils throughout the JMA. An increased number of high use areas would exist and horse impact coupled with vegetation loss would increase soil loss with erosion, especially on slopes. Compaction from an excessive number of horses would decrease water infiltration and hydrologic function. As forage sources become depleted from the growing horse population, horses may leave the Project Area and cause similar impacts on adjacent BLM, USFS, private, and Jicarilla Apache and Southern Ute tribal land.

Cumulative Impacts

Unmanaged excessive wild horse overpopulation and growth along wildlife and livestock use would severely utilize vegetation that protects and stabilizes soil. Surface disturbances and soil loss and compaction from them would still occur from oil and gas development, road and infrastructure development, traffic, and recreation would further impact soils and to compaction and erosion. In regards to oil and gas development, there are no current applications for permits to drill (APDs) additional wells in the area. Increased noxious weeds establishment from depleted vegetation would cause soils instability and further loss due to poor stabilizing root systems.

Physical and chemical treatments may be implemented to treat noxious weeds or alter vegetation, which could result in short-term soil loss if no vegetation temporarily remains. Reseeding and reclamation may also occur, helping stabilize soil. However, if treatment areas are not allowed to rest and allow vegetation establishment because excessive wild horses are present, soil will continue to be lost.

3.3. Upland Vegetation

The vegetative plant communities within the BLM HA and project area developed on the different soil descriptions common to the Colorado Plateau sagebrush-grasslands, pinyon-juniper woodlands, and semiarid southwestern plateaus, mesas, and foothills. Vegetation consists of semiarid desert shrub/sagebrush/grass plant communities dominating the lower elevations. Sagebrush/mountain shrub/grass/pinyon-juniper/mountain mahogany plant communities cover most of the benches and higher elevation sites. Some past chemical and physical treatments have been implemented in the area to improve desirable vegetation. Areas such as gas well pads and road reclamation areas have been

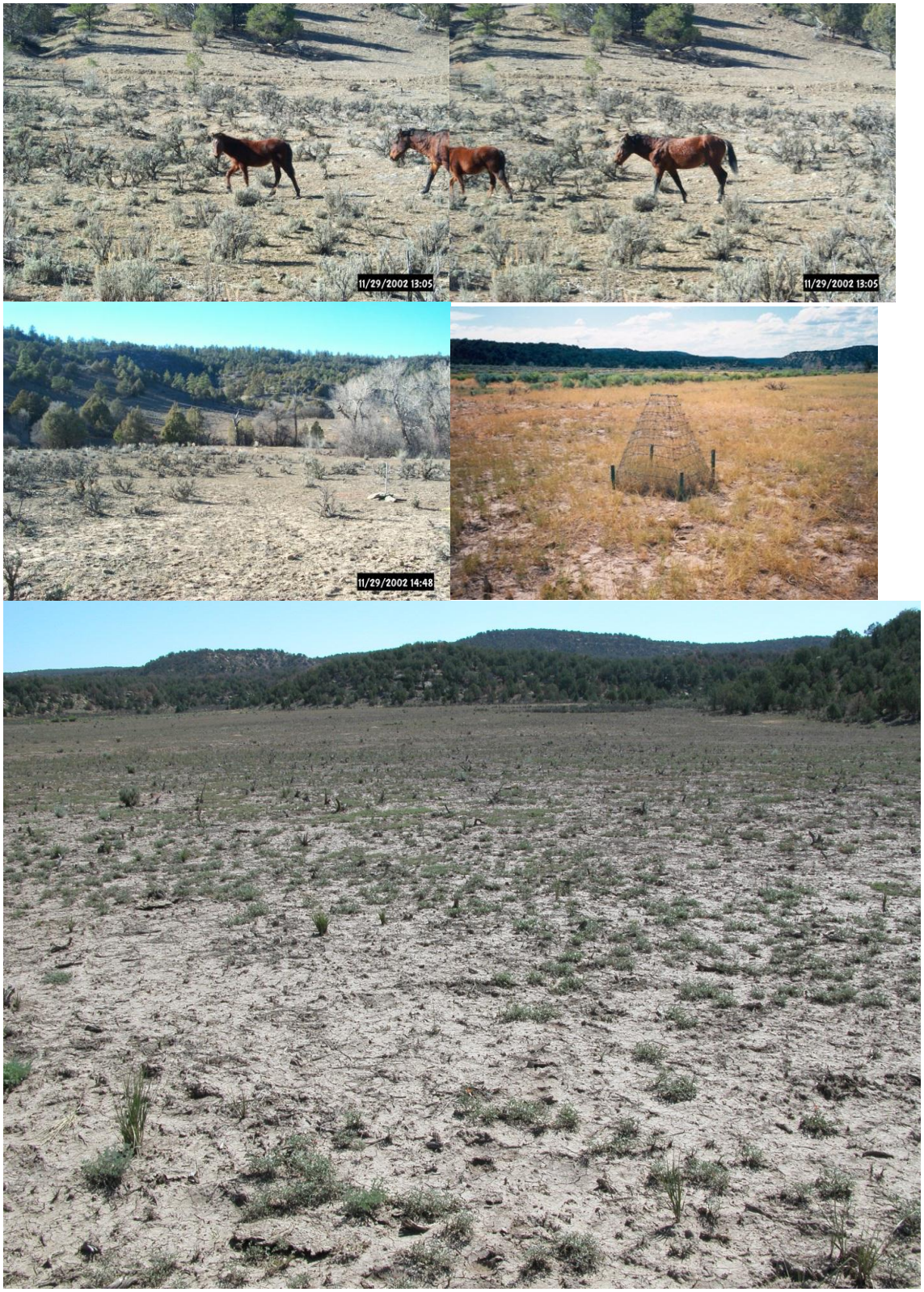
reseeded with both native and desirable non-native seed mixes. Vegetation information for the USFS WHT can be found in the *USFS Environmental Assessment for the Management of the Jicarilla Wild Horse Territory* (USFS, 2004a).

Many species are common throughout all elevations of the HA, while some species are more specific to certain areas. Relatively common grasses are galleta (*Pleuraphis jamesii*), sand dropseed (*Sporobolus cryptandrus*), bottlebrush squirreltail (*Elymus elymoides*), blue grama (*Bouteloua gracilis*), needleandthread (*Hesperostipa comata*), and Indian ricegrass (*Achnatherum hymenoides*). Alkali sacaton (*Sporobolus airoides*) is more specific to medium elevations with very fine sandy loam to sandy clay loam soils. Grasses found more often in the higher elevation pinyon-juniper areas are western wheatgrass (*Pascopyrum smithii*), junegrass (*Koeleria macrantha*) and sideoats grama (Bouteloua curtipendula). Crested wheatgrass (*Agropyron cristatum*) is present in some areas reseeded for reclamation purposes. Shrubs and woody species that can be found throughout most of the area are big sagebrush (*Artemisia tridentata*), broom snakeweed (*Gutierrezia sarothrae*), and rubber rabbitbrush (*Ericameria nauseosa*). Mormon-tea (*Ephedra viridis*), greasewood (*Sarcobatus vermiculatus*), shadscale (*Atriplex confertifolia*) and fourwing saltbush (*Atriplex canescens*) are common to lower and medium elevation communities. Vegetation more specific to the higher elevation pinyon-juniper areas are Utah juniper (*Juniperus osteosperma*), pinyon pine (*Pinus edulis*), antelope bitterbrush (*Purshia tridentata*), mountain mahogany (Cercocarpus montanus), skunkbush sumac (*Rhus trilobata*), Gambel oak (*Quercus gambelii*) and serviceberry (*Amelancher spp*.).

Further description of vegetation, its use as forage, estimated production, monitoring results, and condition ratings are found in Estimated Forage Analysis for the Carracas Mesa Herd Area, Jicarilla Wild Horse Territory, and the Jicarilla Joint Management Area (BLM, 2012)

The HA rangeland has been rated overall as in fair condition in a downward trend. Reasons for this rating are found in Estimated Forage Analysis for the Carracas Mesa Herd Area, Jicarilla Wild Horse Territory, and the Jicarilla Joint Management Area (BLM, 2012). If the project area continues in a downward trend with a major contributing factor being excess wild horse use, the range condition rating may deteriorate from fair to poor. This can lead to rangelands failing at meeting Rangeland Health Standards due to shrub dominance, lack of native vegetation cover, poor hydrologic function, the risk of invasive species spread, risk of erosion and loss of soil structure, and heavy or severe utilization. This change in vegetation leads to negative impacts on soils, such as loss of resiliency or capability to maintain or improve in use areas. This has already been observed on the WHT during the drought from 2001 to 2004. Impacts to WHT rangeland are shown in the following photographs. Excess wild horses were noted as the major contributors to the rangeland degradation, as cattle grazing had been placed into nonuse. This is evidenced in Figure 9.

Figure 9. Rangeland Condition on USFS Jicarilla WHT



Horses are also capable greater grazing impacts to vegetation than ruminants. This is because horses have both upper and lower incisor teeth, in contrast to ruminants such as cattle and wildlife that only have lower incisors (Holecheck 2011). This different mouth anatomy enables horses to graze and bite forage more closely to the ground, thereby increasing utilization impacts to vegetation. Because of the design of their lips, tongue, and jaw in addition to only having lower incisors, cattle have difficulty grazing forage closer than 2 inches from the ground surface (OSU/FIS 2000). Horses can graze all the way to the soil surface because of their upper and lower teeth, strong upper lip, and ability to move their heads nearer to the ground (OSU/FIS 2000).

3.3.1. Impacts from Alternative A (Proposed Action)

Direct and Indirect Impacts

The Proposed Action is expected to have short-term effects on vegetative resources primarily during helicopter gather operations. These include damage from wild horse trampling at gather sites and holding locations and crushing by vehicles, temporary corrals, and holding facilities. These disturbed areas would make up less than 3 acres. Gather corrals and holding facility locations are usually placed in areas easily accessible to livestock trailers and standard equipment utilizing roads, gravel pits, or other previously disturbed sites and would be accessible by existing roads. These impacts are temporary and vegetation is expected to recover within the next growing season. If snow cover exists during helicopter gather operations, impacts to vegetation will be lessened. However, if muddy conditions exist, disturbed sites may require seeding reclamation. Bait and water trapping would cause similar but less intense disturbances to vegetation at trap sites.

Under the Proposed Action, vegetation would remain at or near the current condition over the immediate short-term. However, long-term effects from achieving and maintaining the established AML would benefit the vegetation by reducing the wild horse grazing pressure on the forage resources. This is desirable because defoliation that occurs more than once in a growing season reduces plant ability to maintain health and reproduction (Herbel 2004). The wild horse population reduction to AML and subsequent lessened grazing and trampling impacts would allow the plants to maintain and continue photosynthetic processes to initiate regrowth for recovery and grow adequately for reproduction. This would help maintain or improve plant health, reproduction, diversity, and composition. Under Scenario 2, any improvements would take much longer to occur than in Scenario 1 as the excess horses would not immediately be removed and reduction to AML would occur slowly.

Cumulative Impacts

For both Proposed Action Scenarios, wild horse overpopulation reduction would improve soils, riparian areas, and lessen forage competition among wild horses, livestock, and wildlife. Surface disturbances would still occur from oil and gas development, road and infrastructure development, traffic, and recreation. These disturbances also introduce and increase noxious weeds. Though animals would still utilize vegetation and disturbances would still occur, vegetation would likely have an increased ability to recover and withstand pressures under the Proposed Action and out-compete noxious weeds.

Physical and chemical treatments may be implemented to treat noxious weeds. These treatments may also alter the state of native vegetation. Reseeding and reclamation may occur. Increased riparian function from lessened wild horse effects may help distribute water to plants. Climatic and environmental events such as drought in addition to grazing pressure even with AML reached and maintained under the Proposed Action may impact vegetation as wild horses are never deferred from grazing. However, a healthier native plant population would be more resistant to the negative effects of drought periods.

3.3.2. Impacts from Alternative B

Direct and Indirect Impacts

Under Alternative B, little direct short-term disturbance would occur with the exception of trampling and crushing at the trap sites from horses, vehicles, and the trap itself. Effects would be lessened under snowpack and heightened in muddy conditions.

Long-term effects would be similar to those in the Proposed Action, but would occur more slowly and over a much longer period of time, particularly in Scenario 2. If Scenario 2 is implemented for a very long period of time with little possibility of changing to Scenario 1, vegetation damage similar to that described in the No Action Alternative may occur.

Cumulative Impacts

Effects would be very similar to those described in the Proposed Action, with the exception that they would occur more slowly. If Scenario 2 is implemented for a very long period of time with little possibility of changing to Scenario 1, cumulative effects similar to that described in the No Action Alternative may occur.

3.3.3. Impacts from the No Action

Direct and Indirect Impacts

No short-term direct impacts from helicopter gather operations and bait and/or water trapping would occur. Wild horse populations would remain over AMLs. Over the long-term, impacts to vegetation by grazing or trampling would increase exponentially and would result in plant health, reproduction, diversity, and composition deterioration. As plants become damaged, they would undergo loss of their ability to reproduce or recover. By reducing opportunities for photosynthetic processes the plants, would be highly susceptible to overgrazing and other stressors, such as drought. This could result in die-off of entire plant communities. As forage sources become depleted from the growing horse population, horses may leave the Project Area and cause similar impacts on adjacent BLM, USFS, private, and Jicarilla Apache and Southern Ute tribal land.

As the potential plant community deteriorates, the proportion of less preferred plants increases. Among the plants that increase in number and cover are big sagebrush, rabbitbrush, broom snakeweed, and annual forbs. As the site deteriorates, the cool season grasses such as western wheatgrass decrease. Increaser species that take over declining loamy sites include warm-season grasses such as blue grama and galleta, big sagebrush, broom snakeweed, and annual forbs. Also, due to their decline native cool season grasses are being replaced by the non-native cool season cheatgrass (*Bromus tectorum*).

Cumulative Impacts

In regards to oil and gas development, there are no current applications for permits to drill (APDs) additional wells in the area. Increased wild horse forage demand coupled with demand from livestock and wildlife, soil damage, and loss of riparian function from the ever-increasing wild horse population would harm vegetation. Surface disturbances would still occur from oil and gas development, road and infrastructure development, traffic, and recreation, but their impacts would be enhanced as the vegetation would be depleted from excessive use. Noxious weeds would still be introduced and would likely outcompete depleted vegetation and potentially establish monocultures.

Physical and chemical treatments may be implemented to treat noxious weeds. These treatments may also alter the state of native vegetation. Reseeding and reclamation may occur. Events such as drought in addition to the excessive yearlong grazing pressure would potentially damage native vegetation past its threshold to recover and result in permanent vegetation changes to the entire JMA.

3.4. Riparian Areas

3.4.1. Affected Environment

Riparian systems are inherently valuable within any landscape, and are largely prized for the ecological functions they provide. Components within these systems allow for filtration of sediments, pollutants and nutrients. They provide for the production and cycling of organic matter and also facilitate the spatial and temporal heterogeneity necessary for regeneration of flora and fauna. Riparian areas occupy a small but unique position on the landscape of the BLM portion of the project area (20 acres, or 0.2%). Bancos and Cabresto Canyon are the designated riparian tract that are contained within the HA; however, BLM personnel have witnessed wild horses up to 8 miles outside of the HA. Within this range there are six additional designated riparian tracts including La Fragua (65 acres), La Jara #1 (20 acres), La Jara #2 (115 acres), La Jara #3 (120 acres), La Jara #4 (60 acres), La Jara #5 (50 acres). All tracts are part of the Ephemeral Wash SDA, designated in the 2003 FFO RMP.

BLM Technical Reference 1737-15 outlines the procedure for assessing the health of a riparian system. A Proper Functioning Condition (PFC) assessment is the qualitative method of assessing the physical function of riparian areas while taking into account the system's potential and capability. A system is considered to be properly functioning when adequate vegetation, landform and large woody debris is present to:

- dissipate stream energy associated with high water flow,
- filter sediment, capture bed load and aid floodplain development,
- improve floodwater retention and groundwater recharge,
- develop root masses that stabilize stream banks against cutting action,
- support greater biodiversity,
- develop diverse ponding and channel characteristics to provide the habitat and water depth, duration and temperature necessary for various uses by wildlife.

PFC assessments have been completed on all of the reaches since 1998 (Appendix I).

Bancos Canyon is a narrow channel confined by steep valley walls. The active channel ranges from 10 to 40 feet in width. Surface flows are generally restricted to runoff from storm events or snow melt and a high water table supports the riparian vegetation throughout the year. Riparian vegetation consists of sedges, coyote willow, and cottonwood trees, as well as nonnative Russian olive and tamarisk (saltcedar) scattered throughout the reach. A well-traveled road that services local oil and gas infrastructure bisects the tract. Upstream from the road the channel and floodplain are dense with willow; below the road the riparian vegetation grows in strips of various widths outside of the channel.

Cabresto Canyon is characterized by channel widths ranging from 20 to 60 feet within a wide valley bottom (up to several hundred feet wide). Islands and point bars exist within the active channel, and strips of riparian vegetation of various widths grow along the banks. Surface flows are generally restricted to runoff from storm events or snow melt, though a high water table supports the riparian vegetation throughout the year.

The La Fragua reach is about 2 miles south of the HA and the La Jara reaches are 2 to 7 miles south of the HA. Both of these systems can be characterized by active channels ranging from 20 to 100 feet in width. They are drier systems with surface flow only in response to precipitation events and just enough subsurface water to support widely scattered populations of sedges, willows, reed grass, cottonwood trees, Russian olive and tamarisk.

A proposed decision was issued on October 29, 1998, requiring livestock grazing deferment of all designated riparian areas in the FFO administrative area from May 1 through September 30 annually. The removal of livestock grazing in riparian areas during the summer growing season promotes the establishment and improvement of riparian vegetation. However, at the present time there is apparent overuse by wild horses in Cabresto Canyon. Cabresto Canyon was rated Functioning-At Risk during the 2011 PFC assessment and included comments regarding the negative impacts of wild horses within the riparian area. Horses and wildlife have access to these areas for grazing all year. All riparian tracts within the project area are at risk of becoming more severely degraded if the current level of use from wild horses is not curtailed.

3.4.2. Impacts from Alternative A (Proposed Action)

Direct and Indirect Impacts

Direct impacts potentially associated with the gather operation would be avoided by locating temporary gather sites and holding facilities outside riparian areas.

Under Scenario 1, the removal of excess horses from the range would facilitate improvements to riparian habitat. This would be primarily due to the reduction of trampling and trailing. There should be increased vigor and production of individual plant species, increased soil stability, and additional amounts of plant cover and litter native plant health. Utilization of the available forage within the riparian areas would also be expected to reduce to within allowable levels. Reaching and maintaining PFC for all the reaches would not be hindered by wild horses.

Scenario 2 would take an extended period of time for these benefits to be realized. While horse numbers may not increase, there would still be an excessive number of horses adversely impacting riparian areas through overuse of riparian plants and physical damage caused by loitering. The likelihood of the riparian reaches obtaining or maintaining a PFC status would be low until the number of horses is reduced.

Over the longer-term, continued management of wild horses within the established AML would be expected to result in healthier, more vigorous vegetative communities. Hoof action on the soil around unimproved springs and stream banks would be lessened which should lead to increased stream bank stability and decreased compaction and erosion. Improved vegetation around riparian areas would dissipate stream energy associated with high flows and filter sediment that would result in some associated improvements in water quality. Reaching and maintaining PFC for all the reaches would not be hindered by wild horses.

Cumulative Impacts

Oil and gas development and livestock grazing are the other primary uses in the proposed project area that have the potential to cumulatively impact riparian zones. The cumulative impacts of these activities would be limited through previous management decisions: a) the 2003 RMP limits oil and gas development in active floodplains (No Surface Occupancy) and in the 100-year floodplains (Controlled Surface Use); and b) the required growing season deferment for livestock grazing. In regards to oil and gas development, there are no current applications for permits to drill (APDs) additional wells in the area.

3.4.3. Impacts from Alternative B

Direct and Indirect Impacts

Initial impacts would be similar to the Proposed Action, however they would transpire over a longer period of time since the removal of horses would be a slower process. Reaching and maintaining PFC for all the reaches may be challenging, and possibly unlikely under Scenario 2 of this alternative.

Cumulative Impacts

Cumulative effects from Alternative B would be similar to the cumulative effects from the proposed action.

3.4.4. Impacts from the No Action

Direct and Indirect Impacts

Under the No Action Alternative, wild horse populations would continue to increase within the HA and further expand beyond the designated HA boundary. Increased horse use within and outside the JMA would continue to adversely impact additional riparian resources and their associated surface waters due to overuse of riparian plants and physical damage caused by loitering. Specific impacts on riparian areas from wild horse use may include declining water quality from increased sedimentation, declining plant vigor, and decreased stream channel stability. The likelihood of the riparian reaches obtaining or

maintaining a PFC status would be slight. Upland degradation from excessive grazing pressure on native vegetation would also negatively affect PFC status.

Over the longer-term, as native plant health continues to deteriorate and plants are lost, soil erosion would increase. Maintaining riparian areas in PFC would be difficult as ever increasing numbers of wild horses continue to trample and degrade the riparian zone. As forage sources become depleted from the growing horse population, horses may leave the Project Area and cause similar impacts on adjacent BLM, USFS, private, and Jicarilla Apache and Southern Ute tribal land.

Cumulative Impacts

Oil and gas development and livestock grazing are the other primary uses in the proposed project area that have the potential to cumulatively impact riparian zones. The cumulative impacts of these activities would be limited through previous management decisions: a) the 2003 RMP limits oil and gas development in active floodplains (No Surface Occupancy) and in the 100-year floodplains (Controlled Surface Use); and b) the required growing season deferment for livestock grazing. In regards to oil and gas development, there are no current applications for permits to drill (APDs) additional wells in the area.

3.5. Non-Native Invasive and Noxious Species

3.5.1. Affected Environment

Noxious and invasive non-native species introduction and proliferation are a growing concern among local and regional interests. Noxious weeds exist on BLM-managed lands in the FFO. Noxious weeds are aggressive, typically non-native, ecologically damaging, and undesirable plants. They severely threaten biodiversity, habitat quality, and ecosystems. Because of their aggressive nature, noxious weeds can spread into established plant communities mainly through ground disturbing activities. They will also invade areas as the native plant community declines. In addition, new weed species and sites can become established when their seeds “hitchhike” in on equipment or vehicles. The following noxious or invasive weed species are known to exist within and outside the JMA or along drainages and roads leading to the project area. Table 6 identifies the non-native invasive and noxious species occurring in the JMA. These weeds occur in a variety of habitats including road side areas, rights-of-way, and wetland meadows, as well as undisturbed upland rangelands.

Table 6. Non-Native Invasive and Noxious Species in the JMA

Scientific Name	Common Name
Acroptilon repens	Russian knapweed
Carduus nutans	Musk thistle
Cirsium vulgare	Bull thistle
Cirsium Arvese	Canada thistle
Onopordum acanthium	Scotch thistle
Bromus tectorum	Cheatgrass

3.5.2. Impacts from Alternative A (Proposed Action)

Direct and Indirect Impacts

The proposed helicopter gathers and trapping has the potential for spreading existing noxious or invasive weed species. The primary means of spread would be through vehicle traffic both in and around existing noxious weed populations. Vehicles driven through existing infestations could spread bring seed into previously weed-free areas. The contractor along with the Contracting Officer's Representative or Project Inspector (COR/PI) would examine proposed gather and trap sites and holding corrals for noxious weeds prior to construction. Noxious weeds found in the vicinity of the gather site would be inventoried, treated at the proper season for effective control, and monitored for effectiveness of treatment. Treatment prior to surface disturbing activities may be implemented if it is the proper season for effective control.

Vehicles and equipment with the potential for carrying dirt mud, or plant debris would be thoroughly washed prior to moving onto the project site. Only certified weed free hay to feed captured horses would be used in conjunction with this project. This will reduce the risk of introduction of non-native invasive and noxious weeds into the project area.

Wild horse population reduction would improve riparian areas, soils, and rangeland plant vigor and overall herbaceous plant cover through reduced wild horse grazing use and lessened forage competition with wildlife and livestock in the project area. These factors would reduce the potential for noxious weed spread and new infestations. The impact of weed reduction and increased containment would occur more quickly in Scenario 1 than Scenario 2.

Cumulative Impacts

Surface disturbances and their effect of soil loss, instability, and compaction would still occur from oil and gas development, road and infrastructure development, traffic, and recreation. Though oil and gas development is likely to occur, there are no current applications for permits to drill (APDs) additional wells in the area. These disturbances would still introduce and spread weeds. Furthermore, wild horse use even at AML would still potentially increase and spread weeds, particularly at heavily used areas such as water sources.

Physical and chemical treatments may be implemented to reduce weeds or alter vegetation. Reseeding and reclamation may also occur, helping stabilize soil and vegetation and therefore causing competition with weeds. This, in addition to improved rangeland health due to the reduction in the wild horse population, would reduce the potential for invasion or spread of non-native invasive and noxious species.

3.5.3. Impacts from Alternative B

Direct and Indirect Impacts

Impacts would be similar to the Proposed Action with potential spreading and increases in weeds in trap areas from vehicles and operations. Overall, the potential for spread would decrease with the long-term reductions in wild horse numbers. However, weed control improvements would take a much longer period of time and may be less positive than those effects from the Proposed Action. This is because the number of horses removed from the range would likely be less and would occur over a longer period of time with bait and water trapping, particularly in Scenario 2.

Cumulative Impacts

Effects would be similar to those described in the Proposed Action, with the exception that they would occur more slowly. If Scenario 2 is implemented for a very long period of time with little possibility of changing to Scenario 1, cumulative effects similar to that described in the No Action Alternative may occur.

3.5.4. Impacts from the No Action

Direct and Indirect Impacts

No impacts from the gather would occur. Wild horse populations would remain in excess of AMLs. The impacts to native vegetation by wild horse grazing would continue to increase. Impacts to the present plant communities from wild horse related grazing use could lead to an expansion of noxious and invasive non-native species. As forage sources become depleted from the growing horse population, horses may leave the Project Area and cause similar impacts on adjacent BLM, USFS, private, and Jicarilla Apache and Southern Ute tribal land.

Cumulative Impacts

Negative impacts to native forage, soils, and riparian areas from increasing excess wild horses in conjunction with livestock and wildlife usage would increase weed infestation. Though oil and gas

development is likely to occur, there are no current applications for permits to drill (APDs) additional wells in the area. Along with potential well pad development, there will likely be road and infrastructure development, traffic, and recreation. The impacts of these disturbances would be enhanced as the native vegetation would be depleted from excessive use. Thus noxious and invasive weeds would continue to be introduced, out-compete depleted native vegetation, and potentially establish large monocultures.

Physical and chemical treatments may be implemented to treat weeds and alter the state of native vegetation. Reseeding and reclamation may occur that would potentially reduce weeds. Events such as drought in addition to the excessive yearlong wild horse grazing pressure would potentially damage native vegetation past its threshold to recover and result in permanent vegetation changes. This would also lead to conditions suitable for weed infestations.

3.6. Wildlife

3.6.1. Affected Environment

The BLM portion of the JMA is encompassed by the Rosa – Carracas Wildlife Specially Designated Areas (SDAs). The intent of these designations is to provide protection for wintering deer and, to a lesser degree, elk. Depending upon winter conditions, approximately 1,500 deer migrate into the Rosa-Carracas area each year. Traditional browse species in this area such as alder leaf mountain mahogany and antelope bitterbrush are being used excessively. In addition, secondary browse species such as Wyoming sagebrush and fourwing saltbush are also receiving heavy use. Starvation foods such as pinyon pine and Utah juniper are being “high-lined” or totally defoliated by deer in some areas. Hunting of deer and elk primarily occurs between September 1 and November 25 annually with a late archery deer hunt occurring from January 1 to January 15.

3.6.2. Impacts from Alternative A

Direct and Indirect Impacts

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

Because winter capture is proposed in an area where wintering deer are concentrated, there could be some immediate stress to mule deer and possibly elk. The ramifications of this stress as a result of short-term exertion is difficult to quantify and will depend upon the duration, snow depth, temperature, terrain and condition of the animals. It is assumed that once the deer or elk realize that they are not the object of the herding or gathering efforts of the helicopter, they will cease their avoidance behavior and wait for the helicopter to pass. Given this situation, the impacts to wintering big game during an average winter should be very minimal.

Completion of the gather and achievement of the established AML would provide the best opportunity for conservation, protection and preservation of identified species and their habitats. Under Scenario 1, competition between wildlife and wild horses for forage and water resources would decrease shortly after horses are removed. Following gathering activities, wildlife should see immediate benefit in the reduced amount of competition for forage, water and space. Wildlife habitat would likely improve as the wild horse population would be gathered to AML and growth rates would be suppressed. Managing wild horses within the range of AML would result in improved habitat conditions for all species of wildlife by increasing diverse native herbaceous vegetative cover in the uplands and improving riparian vegetation and water quality at springs and seeps. There would be fewer disturbances associated with wild horses along stream and riparian habitats and adjacent upland habitats.

Under Scenario 2, competition for forage water and space resources will continue and possibly increase. There will be a greater risk of loss of habitat should the current population of horses continue even though

fertility control is practiced. While wild horse population growth may be suppressed, the horses present will still consume the same amount of resources as they do now. If environmental conditions such as drought or harsh winters place added stress on the habitat wildlife habitat could quickly deteriorate.

Cumulative Impacts

More surface disturbance, human activity and increased wild horse competition will likely impact migratory and resident wildlife. Currently there are no applications for new wells proposed in the area.

Livestock utilize forage within the project area. In addition to increasing utilization of forage by wild horses, wildlife would also compete with livestock for forage.

3.6.3. Impacts from Alternative B

Direct and Indirect Impacts

Impacts from this alternative would be similar to the Proposed Action; however, benefits from the removal of wild horses would take a longer period of time to be realized. Under this Alternative wildlife habitat would likely see more improvement after a longer time frame since the wild horse population would be trapped to AML and growth rates would be suppressed over a longer period of time.

Under Scenario 2, competition for forage water and space resources will continue and possibly increase. There will be a greater risk of loss of habitat should the current population of horses continue even though fertility control is practiced. While wild horse population growth may be suppressed, the horses present will still consume the same amount of resources as they do now. If environmental conditions such as drought or harsh winters place added stress on the habitat; wild horses, wildlife and the habitat that supports them could quickly deteriorate.

If horses are removed under Scenario 1, improvement to wildlife resources will be noticed sooner. If trapping efforts continue as they have in the past and Scenario 2 is realized, impacts to wild life resources are likely to be more similar to the No Action Alternative. Competition between wildlife and wild horses for forage and water resources would be similar to current conditions, but would decrease slightly due to fertility control until holding facilities become available and horses are removed.

Cumulative Impacts

Under Scenario 1, more surface disturbance, human activity and increased wild horse competition will likely impact migratory and resident wildlife during trapping activities. Currently there are no applications for new wells proposed in the area.

The competition for forage between wildlife, livestock, and wild horses would be similar to that occurring under the Proposed Action.

3.6.4. Impacts from the No Action Alternative

Direct and Indirect Impacts

The No Action Alternative would not cause immediate direct impacts to wildlife as a result of human activity and trapping activities. In the future however, competition with wildlife for limited forage resources as the wild horse population grows, would increase and in less than normal precipitation years could prove disastrous for wildlife, wild horses and the habitat that sustains them. Individual animals would not be disturbed or displaced under the No Action Alternative. Competition between wildlife and wild horses for forage and water resources would continue, and may even get worse as wild horse numbers continue to increase above AML. Wild horses are aggressive around water sources (Holecheck 2011), and some wildlife may not be able to compete, which could lead to the death of individual animals. Wildlife habitat conditions would further deteriorate as the increased population of wild horses reduces herbaceous vegetative cover. As forage sources become depleted from the growing horse population, horses may

leave the Project Area and cause similar impacts on adjacent BLM, USFS, private, and Jicarilla Apache and Southern Ute tribal land.

Cumulative Impacts

Natural gas exploration will continue in the area and it is likely to increase in the future. More surface disturbance, human activity and increased wild horse competition will likely impact migratory and resident wildlife. Currently there are no applications for new wells proposed in the area.

Heavy grazing of available forage by wild horses above the BLM allocation causes competition with wildlife. Though diets are typically different, there may be some competition between livestock and wildlife for certain vegetative species, especially during the winter when browse is the predominant forage available. Increased removal of vegetation resources could result in lower nesting success for migratory and non-migratory birds. As forage sources become depleted from the growing horse population, horses may leave the Project Area and cause similar impacts on adjacent BLM, USFS, private, and Jicarilla Apache and Southern Ute tribal land.

3.7. Special Status Species

3.7.1. Affected Environment

Under Section 7 of the Endangered Species Act (ESA) of 1973, as amended, the BLM is required to consult with the U.S. Fish and Wildlife Service (USFWS) on any proposed action decision which may affect federally listed threatened or endangered species or species proposed for listing. No federally or state listed threatened or endangered species habitat, exists on or near the project area.

The BLM manages certain sensitive species not federally listed as threatened or endangered in order to prevent or reduce the need to list them as threatened or endangered in the future. In accordance with BLM Manual 6840, the FFO prepared a list of species to focus species management efforts toward maintaining habitats under a multiple use mandate. These are called FFO Special Management Species (SMS). The authority for this policy and guidance is established by the Endangered Species Act of 1973, as amended; Title II of the Sikes Act, as amended; the Federal Land Policy and Management Act (FLPMA) of 1976; and Department of Interior Manual 235.1.1A.

Of the 10 SMS with potential to occur in Rio Arriba, New Mexico, the bald eagle has the potential to be impacted by the Proposed Action. According to the most recent FFO raptor nest geographic information system (GIS) data, no active SMS raptor nests are located within 1/3 of a mile of the project area. Bald eagles winter in the FFO from November to March. The FFO has monitored the bald eagle population around Navajo Lake during the winter months since 1992. These data indicate a stable population of bald eagles at Navajo Lake. These data also show that the number of bald eagles at Navajo Lake has not changed in recent years, despite increases in the wild horse population. Deceased horses are likely a supplemental feeding source. Bald eagles are scavengers and likely feed on deceased horses within action area during the winter months. Bald eagles do not breed within the FFO. Other SMS raptors may use the area for foraging.

Appendix J lists the threatened and endangered species and SMS in the FFO.

3.7.2. Impacts from Alternative A

Direct and Indirect Impacts

The proposed action would not result in direct effects on any SMS or their nests, burrows, or roosts. Indirect effects of the proposed action would include a temporary increase of human intrusion into the area with associated increases in noise, dust, and air and vehicle traffic. Affected raptors could include bald eagles during the winter months.

Any SMS raptors that may occur in the proposed project area may be disturbed during gather operations when the helicopter flies over looking for horses. Once the helicopter is gone these birds should return to

normal activities. Because gather sites and holding corrals would not be located where sensitive animal and plant species are known to occur nor within crucial intact habitat, there would be no impact from the placement of or activities at these facilities.

Under the Proposed Action habitat conditions for some raptor species would likely see more improvement over time since wild horse population would be gathered in increments and growth rates would be less under this alternative. Bald eagles are scavengers and likely feed on deceased horses within action area during the winter months. Deceased wild horses are believed to be a supplemental feeding source. The proposed action not expected to impact wintering bald eagles.

The removal of wild horses would remove a supplemental feeding source for bald eagles during the winter months.

Cumulative Impacts

The project area has experienced oil and gas development. Impacts of this development to SMS raptors include increased human presence due to vehicle traffic, noise from activities on the well pads, and road maintenance activities. These impacts are negligible because the habitat is primarily used for foraging and not nesting, when raptors are more sensitive to these types of disturbances. The proposed action will add little to no cumulative impact on the SMS raptors because it has temporary and short-term impacts.

3.7.3. Impacts from Alternative B

Direct and Indirect Impacts

Impacts would be similar to those under the Proposed Action.

Cumulative Impacts

Cumulative impacts would be similar to those under the Proposed Action.

3.7.4. Impacts from the No Action Alternative

Direct and Indirect Impacts

The Under the No Action Alternative, horse herd health could decrease, resulting in more dead horses and more foraging for bald eagles. The No Action Alternative could also result in decrease in prey species for SMS raptors due to reduced vegetation and cover for those species. These impacts would be negligible because project area represents a small portion of the foraging habitat for bald eagles and SMS raptors.

Cumulative Impacts

Due to the negligible nature of impacts under the No Action Alternative, there would be no cumulative impacts to bald eagles or SMS raptors.

3.8. Cultural Resources and Native American Concerns

3.8.1. Affected Environment

The project is located within the archaeologically rich San Juan Basin of northwestern New Mexico. In general, the prehistory of the San Juan Basin can be divided into five major periods: PaleoIndian (ca. 10000 B.C. to 5500 B.C.), Archaic (ca. 5500 B.C. to A.D. 400), Basketmaker II-III and Pueblo I-IV periods (A.D. 1-1540), and the historic (A.D. 1540 to present), which includes Native American as well as later Hispanic and Euro-American settlers. Detailed description of these various periods and select phases within each period is provided in the *Farmington Proposed Resource Management Plan and Final Environmental Impact Statement* (2003) and will not be reiterated here. Additional information is also included in an associated documented, *Cultural Resources Technical Report* (CRTR; SAIC 2002).

Most of the proposed action area is within the Navajo Reservoir Watershed. Based on June 2010 data from the New Mexico Cultural Resources Information System (NMCRIS), there are 4,700 cultural resource sites within the watershed. The most frequently occurring cultural affiliations are pre-historic Pueblo (i.e., Anasazi) and proto-historic Navajo components. Features common to these sites include hearths, pithouses, kivas, pueblos, hogans, sweat lodges, artifact scatters, and rock art. Any new cultural resource surveys completed as part of this action are expected to identify similar kinds of cultural resources.

Traditional Cultural Properties (TCPs) is a term that has emerged in historic preservation management and the consideration of Native American religious concerns. TCPs are places that have cultural values that transcend, for instance, the values of scientific importance that are normally ascribed to cultural resources such as archaeological sites.

Native American cultural associations are the communities most likely to identify TCPs, although TCPs are not restricted to this group. Some TCPs are well known, while others may only be known to a small group of traditional practitioners, or otherwise only vaguely known.

For the Proposed Action, identification of TCPs were limited to reviewing existing published and unpublished literature (e.g. Van Valkenburgh 1941, 1974; Brugge 1993; Kelly et al 2006). A review of existing information compiled during previous land use planning efforts, existing studies, or via direct consultation indicates the Proposed Action is not within a known TCP. This conclusion is subject of ongoing consultation efforts in the area.

3.8.2. Impacts from Alternative A (Proposed Action)

Direct and Indirect Impacts

All temporary corrals, affiliated facilities, and parking areas will be placed within previously disturbed areas. This will decrease the potential for impacts to cultural resources. If a facility needs to be placed within an undisturbed area, a Class III inventory will be conducted to determine facility placement that will avoid impacts to cultural resources. All cultural resources will be avoided to prevent adverse effects to any properties potentially eligible to the National Register of Historic Places.

Under Scenario 1, the wild horse population will be reduced. This will decrease the potential for soil erosion due to impacts to soil and vegetation resources. This decrease in erosion reduces the potential for the exposure of cultural resources and the loss and movement of those artifacts.

Under Scenario 2, the wild horse population will be reduced over a longer period of time. In the short-term, the current horse population level will continue to result in impacts to soil and vegetation resources, resulting in potential impacts to cultural resources. These impacts would lessen as the population declines due to the application of fertility control measures and future gathers.

The Proposed Action is not known to physically threaten any TCPs, prevent access to sacred sites, prevent the possession of sacred objects, or interfere or otherwise hinder the performance of traditional ceremonies and rituals pursuant to AIRFA or EO 13007. There are currently no known remains that fall within the purview of NAGPRA or ARPA.

Cumulative Impacts

Reasonably foreseeable future actions that could contribute to cumulative impacts to cultural resources include livestock grazing and oil and gas development. The area is extensively developed for natural gas extraction, which will likely continue; however, there are no current applications for permits to drill (APDs) additional wells in the area.

Under Scenario 1, cumulative impacts to cultural resources will be lessened due to the reduction of the wild horse population.

Under Scenario 2, cumulative the wild horse population will put additional stress on the landscape, specifically soil and vegetative resources, in the short term. This poses risk to cultural sites through soil erosion. Cattle will continue to use areas, which could result in increased soil erosion from cumulative impacts to soil and vegetative resources. This increased erosion could, in turn, result in cumulative impacts to cultural resources. In the long-term, cumulative impacts to cultural resources will be lessened due to the reduction of the wild horse population.

3.8.3. Impacts from Alternative B

Direct and Indirect Impacts

Impacts associated with Alternative B are similar to the impacts of the Alternative A, Scenario 2; however, it would take longer to reach AML as helicopter gathers would not be an option. The impacts to soil and vegetation resources, and subsequently cultural resources, would extend for a longer period of time than under Alternative A, Scenario 2.

Cumulative Impacts

Reasonably foreseeable future actions that could contribute to cumulative impacts to cultural resources include livestock grazing and oil and gas development. The area is extensively developed for natural gas extraction, which will likely continue; however, there are no current applications for permits to drill (APDs) additional wells in the area.

Cumulative impacts from Alternative B would be similar to the cumulative impacts of the Alternative A, Scenario 2; however, it would take longer to reach AML as helicopter gathers would not be an option. The impacts to soil and vegetation resources, and subsequently cultural resources, would extend for a longer period of time than under Alternative A, Scenario 2.

3.8.4. Impacts from the No Action Alternative

Direct and Indirect Impacts

Wild horses will continue to increase in numbers and impacts may occur, especially due to congregation at water areas and the creation of additional trailing patterns in areas where cultural resources may be located. As wild horses populations and grazing pressure increases, vegetation would be reduced and soils would be subjected to increased risk of erosion. Increased erosion can lead to exposure of cultural resources and the loss and movement of those artifacts. As forage sources become depleted from the growing horse population, horses may leave the Project Area and cause similar impacts on adjacent BLM, USFS, private, and Jicarilla Apache and Southern Ute tribal land.

Cumulative Impacts

Reasonably foreseeable future actions that could contribute to cumulative impacts to cultural resources include livestock grazing and oil and gas development. The area is extensively developed for natural gas extraction, which will likely continue; however, there are no current applications for permits to drill (APDs) additional wells in the area.

Under the No Action Alternative, the wild horse population will continue to increase and put additional stress on the landscape, specifically soil and vegetative resources. This poses risk to cultural sites through soil erosion. Cattle will continue to use areas, which could result in increased soil erosion from cumulative impacts to soil and vegetative resources. This increased erosion could, in turn, result in cumulative impacts to cultural resources.

3.9. Livestock Grazing

3.9.1. Affected Environment

The HA encompasses one BLM grazing allotment called the #5058 Rosa Community Allotment. Approximately, 23,000 acres of the HA overlap the Rosa Community Allotment. The current grazing permit authorizes 259 cattle to remove forage from public lands from May 1st to October 31st, annually. The permit authorizes the removal of 1567 AUMs (Animal Unit Months) of forage from the public lands. An Animal Unit Month is the amount of forage required by a cow or cow/calf pair for a month. It is based on an average weight of a cow being 1,000lbs consuming 20% of its body weight a day (BLM, 2012). The grazing permit is issued to one individual. Before this year there were two grazing authorizations, however, one grazing permittee purchased the second authorization and the two were combined into one permit. Grazing use of the Rosa Allotment has resulted in an average of 1,108 AUMs (71% of allowed) of forage being utilized annually over the past 5 years. Annual grazing utilization differs from year to year based on the BLM's and permittees adjustment of cattle numbers to accommodate range conditions.

The Proposed Project Area encompasses a larger area than the HA because wild horses have been documented outside the HA. The project area overlaps two additional BLM grazing allotments called the Manuel Canon and Manuel Mesa Allotments. Grazing permittees and land owners have expressed their desire to have wild horses removed from their private lands as well as their grazing allotments. The allotments are grazed by cattle on average from October 1 through June 15th. Some allotments have later start dates while others might have earlier end dates. Consultation will be done with all grazing permittees and landowners prior to any wild horse gathering or trapping efforts. It is a standard term and condition on all BLM grazing permits that pastures receive deferment at least one out every three years during the growing season and that all riparian areas be deferred from grazing during the growing season of April 1st through September 30th.

The Eul Pasture in the Rosa Community Allotment within the HA was grazed in the past during July in a grazing rotation schedule from May 1 to October 30. It was retired in the late 1990s to benefit wildlife and recreation. In 2003, the area became the Carracas Mesa Recreation/Wildlife Area, a Specially Designated Area (SDA) for wildlife and recreation.

Wild horses frequently leave the HA and are seasonally present in the Manuel Canyon (#05060) and Manuel Mesa (#05062) Allotments. Because these allotments are outside the HA, forage in these allotments is not allocated to wild horse use and forage competition occurs with permitted cattle and wildlife in these areas when horses are present. These allotments are meeting Rangeland Health Standards due to the current cattle stocking rates and range improvements recently implemented.

Permitted livestock grazing use has generally been reduced from historical grazing levels over the past decades in a majority of the allotments. Allotments continue to be evaluated for achievement of the Rangeland Health Standards, and adjustments to livestock grazing are implemented as appropriate. This occurs as grazing term permits are renewed or through annual coordination between BLM and grazing permit holders.

The USFS WHT portion of the JMA consists of three livestock grazing allotments: Cabresto, Bancos, and Carracas. Livestock grazing is present in the three allotments and further detail can be found in the USFS *Environmental Assessment for the Management of the Jicarilla Wild Horse Territory* (USFS, 2004a). The USFS has been authorizing approximately 18% of permitted cattle AUMs over the last 7 years. The primary reason for reductions has been decreased forage due to wild horse overpopulation and frequent persistent drought periods. The USFS has documented poor range conditions in some areas and heavy horse utilization, particularly in areas around water. Reductions in permitted livestock use have been implemented by the USFS or in consultation and through voluntary agreement by the grazing permittees. Livestock grazing is seasonal and controlled.

3.9.2. Impacts from Alternative A (Proposed Action)

Direct and Indirect Impacts

Past gather and trapping operations in the WHT have resulted in few direct impacts to livestock or livestock grazing operations. Livestock located near gather activities would be temporarily disturbed or displaced by the helicopter and the increased vehicle traffic. Coordination with livestock operators would ensure no livestock are present in helicopter gather areas. Once gather operations cease, livestock would return to the areas. Bait and water trapping, PZP administration, and release of horses to maintain sex ratios would not have an effect on area livestock nor require them to be temporarily moved.

While forage competition would continue on BLM allotments adjacent to the HA, this competition would be significantly less with the wild horse population at AML. Forage competition would remain higher under Scenario 2 until the excess horses are permanently removed from the range with Scenario 1. Effects are dependent on fertility control and maintenance of sex ratios to slow population growth. Along with excess horse population removal, PZP and sex ratio maintenance would slow population growth over time and decrease competition for forage. With both Proposed Action scenarios, rangeland health, forage availability, and quality for livestock would improve over time, with improvement occurring much more rapidly in Scenario 1.

Under Scenario 1, additional effort to maintain range improvements, such as water troughs and fences, and vegetation treatments damaged by wild horses would be reduced. Under Scenario 2, existing range improvements could still be damaged by wild horses. New range improvements and vegetation treatments would not be likely to occur as the benefits would be short lived before suffering damage from wild horses. Under Scenario 2, increased competition for forage resources would occur with livestock grazing and it is likely that grazing by livestock would have to be further reduced either annually or during the ten year grazing permit renewal.

Cumulative Impacts

On BLM land outside of HA boundaries but within the Project Area, livestock grazing and rangeland health would see improvement with wild horse population decreases. Improved soil and vegetation condition would also contribute to forage improvements, decreased weeds, and rangeland health. Potential drought effects would limit livestock grazing during dry times, but removal of excess wild horse population would help conserve forage and enable its recovery while livestock are deferred from grazing as a healthy native plant community would be more resilient to tough environmental conditions. Oil and gas development along with OHV recreation in the area may bring in weeds and disturb the surface, thereby reducing forage. There are no current applications for permits to drill (APDs) additional wells in the area. Treatments such as herbicide and fire may improve available livestock and wild horse forage if wild horses are brought to AML.

3.9.3. Impacts from Alternative B

Direct and Indirect Impacts

Impacts would be similar to the Proposed Action with improvement in livestock grazing and rangeland health from reductions in competition and use from the excess wild horse population. However, improvements would take a much longer period of time and may be less positive than those effects from the Proposed Action. This is because the number of horses removed from the range would likely be less and would occur over a longer period of time with bait and/or water trapping, particularly in Alternative B Scenario 2. Under Alternative B, under either Scenario 1 or Scenario 2, increased competition for forage resources would occur with livestock grazing and it is likely that grazing by livestock would have to be further reduced either annually or during the ten year grazing permit renewal.

Cumulative Impacts

Effects would be similar to the Proposed Action, but would likely occur over a much greater period of time. In years of severe drought, no improvement may be seen in Scenario 2 if no horses are removed from the range and population control is dependent solely on fertility control and sex ratio maintenance.

3.9.4. Impacts from the No Action Alternative

Direct and Indirect Impacts

Excess wild horses would continue to compete with livestock grazing for forage. As the wild horse population continues to grow, more horses may travel outside of JMA boundaries onto BLM lands allotted for livestock grazing. This uncontrolled wild horse grazing would negatively impact livestock grazing and rangeland health due to increased grazing pressure. Wild horses would continue to use areas that are deferred from cattle use during specific times of the year for resource protection, such as riparian areas. These impacts could result in low ratings or non-attainment for Rangeland Health Standards. Forage competition from uncontrolled wild horse population numbers and growth could eventually lead to livestock grazing reduction or eventual removal of livestock grazing in areas outside the HA. As forage sources become depleted from the growing horse population, horses may leave the Project Area and cause similar impacts on adjacent BLM, USFS, private, and Jicarilla Apache and Southern Ute tribal land.

Cumulative Impacts

Reasonably foreseeable future actions that could contribute to cumulative impacts to livestock grazing include oil and gas development. The area is extensively developed for natural gas extraction, which will likely continue; however, there are no current applications for permits to drill (APDs) additional wells in the area. Oil and gas development can contribute to the introduction and spread of non-native invasive and noxious species. Decreased native vegetation and increased weeds would decrease forage available for livestock grazing. This would have a cumulative impact with the amount of forage consumed by wild horses.

Drought effects would limit livestock grazing and severely impact the range with uncontrolled wild horse population. Treatments such as herbicide and fire may improve livestock forage, but these improvements would be counteracted and may be lost by excess wild horses using the treated areas.

3.10. Recreation

3.10.1. Affected Environment

The BLM HA and a portion of the project area overlap with the Carracas Mesa Recreation/Wildlife SDA. The intent of these designations is to provide protection for wintering deer and elk and promote semi-primitive motorized and non-motorized recreation opportunities. Day hunting is the most common activity known to occur with regularity. Other activities include backpacking, motorized touring on roads, wildlife viewing, and antler hunting.

3.10.2. Impacts from Alternative A

Direct and Indirect Impacts

Recreationists would be temporarily denied access to areas in proximity to gather, trapping, and fertility control delivery operations. Though the intention would be for gather operation scheduling to be avoided during hunting season, hunters in particular may be temporarily inconvenienced by the disturbance or displacement of wildlife species during helicopter gather operations. Once operations end, both recreationists and game animals near disturbed areas should return to normal activities. There would be no long-term negative impact to game animal populations and thus no long-term negative effects on hunters as a result of gather operations. There would be no long-term negative impacts to other types of recreationists.

Wildlife benefits, such as increased health and numbers, from lessened competition with excess wild horses should benefit hunters and wildlife observers into the future. Improved rangeland conditions and vegetation from decreased horse pressure should also improve recreational enjoyment. Wild horse enthusiasts may have a more difficult time locating the animals as the population reaches AML. However, the wild horses are likely to be healthier and better able to withstand though environmental periods.

Cumulative Impacts

Oil and gas development can cause the disturbance and displacement of wildlife species, inconveniencing hunter. However, no new oil and gas development is proposed for this area at this time.

3.10.3. Impacts from Alternative B

Direct and Indirect Impacts

There would no gather related effects on recreation, particularly hunting and viewing. Bait trapping and fertility control treatments may disrupt recreation in the immediate proximity to operations, but this would be minimal and short-term. Hunters would be minimally impacted by wildlife disturbance.

Wildlife benefits, such as increased health and numbers, from lessened competition with excess wild horses should benefit hunters and wildlife observers into the future; however, this would occur over a slower period of time than under the Proposed Action. Improved rangeland conditions and vegetation from decreased horse pressure should also improve recreational enjoyment. Wild horse enthusiasts may have a more difficult time locating the animals as the population reaches AML. However, the wild horses are likely to be healthier and better able to withstand though environmental periods.

Cumulative Impacts

Oil and gas development can cause the disturbance and displacement of wildlife species, inconveniencing hunter. However, no new oil and gas development is proposed for this area at this time.

3.10.4. Impacts from the No Action

Direct and Indirect Impacts

Recreationists and game animals would not be disturbed or displaced under the No Action Alternative. For hunters, if competition between wildlife and an ever-growing wild horse population continues, the quality and quantity of game animals for hunters would likely suffer. Recreationists that prefer viewing wildlife would experience less wildlife viewing opportunities if wildlife numbers are reduced as a result of decreased suitable habitat from excess wild horses.

Both hunting and other types of recreation would have limited enjoyment as rangeland conditions and habitat deteriorate from a growing excess wild horse population. Wild horse enthusiasts would have very little difficulty in locating animals for viewing. However, if the habitat diminishes with an excess population, wild horse enthusiasts may observe more horses in poor condition.

Cumulative Impacts

There would be no cumulative impacts under the No Action Alternative because there are no reasonably foreseeable future actions that would contribute to deteriorating habitat.

3.11. Health and Human Safety

3.11.1. Affected Environment

Members of the public may travel to the area to observe helicopter gather operations. Public observers will be restricted to designated areas in accordance with public observation ground rules to be established and Instruction Memorandum No. 2010-164 (Appendix K).

Both trained BLM and contract personnel will be handling the gathered wild horses from helicopter gathering and bait and/or water trapping, which would involve work hazards such as kicking, biting, and tramping from the horses when in contact. PZP administration by hand injection would involve direct contact with horses and the potential of injury from the horse and/or syringe. During PZP field darting, potential human injury from the dart could occur in the event of an accident at close range. PZP itself is non-toxic to humans.

During a gather, the helicopter work is done at various heights above the ground, from as little as 10 to 15 feet (when herding the animals the last short distance to the gather corral) to several hundred feet (when doing a recon of the area). While helicopters are highly maneuverable and the pilots are very skilled in their operation, unknown and unexpected obstacles in their path can impact their ability to react in time to avoid members of the public in their path.

The JMA is traversed by numerous rugged and narrow oil and gas industry roads. Multiple well pads are present in the area.

3.11.2. Impacts from Alternative A (Proposed Action)

Direct and Indirect Impacts

The BLM is committed to allowing access by interested members of the public to the fullest possible degree without compromising safety or the success of operations. To minimize risks to the public from helicopter operations, the gather Contractor is required to conduct all helicopter operations in a safe manner, and to comply with FAA regulations (FAR) 91.119 (Appendix L) and BLM IM No. 2010-164 (Appendix K). Public observations sites will be established in locations that reduce safety risks to the public, such as those that avoid helicopter-related debris, crash landing areas, or the path of the horses. These observation areas must limit risks to the wild horses, which will be helped by ensuring observers will not be in the line of vision of horses being moved to the gather site, as well as reduce risks to contractors and BLM employees by allowing them to remain focused on the gather operations and the health and well-being of the wild horses. Visitor protocol and ground rules for public observation will be established to provide the public with the opportunity to safely observe the gather operations. Every attempt will be made to identify observation site(s) at the gather location that offers good viewing opportunities. However, there may be circumstances such as flat terrain, vegetative cover, private lands, and/or other factors that require viewing locations to be at greater distances from the gather site in order to ensure safe gather operations. Furthermore, the public may not be able to see all activities commencing during operations. For example, solid panels and coverings are typically required on gather and trap sites in order to decrease visual stress on the wild horses.

For the Proposed Action, all helicopter operations must be in compliance with FAR 91.119. Public safety as well as that of the BLM and contractor staff is always a concern during the gather operations will be implemented through visitor and ground rules once they are established in order to ensure that the public remains at a safe distance and does not impede the safety of gather operations. Appropriate BLM staffing (public affair specialists and law enforcement officers) will be present to assure compliance with visitation protocols at the site. These measures minimize the risks to the health and safety of the public, BLM staff and contractors, and to the wild horses themselves during the gather operations

The following impacts could occur if individuals leave the public observation sites:

- Individuals may put themselves in the path of wild horses herded or handled during the gather operations, equipment, or debris. This not only creates the potential for injury to members of the public but also to the wild horses, BLM employees, and contractors conducting the gather and/or handling horses. Because these horses are wild animals, potential for injury always exists when individuals get too close or inadvertently get in the way of gather activities.
- The helicopter pilot may not be able to avoid people that enter the flight path. When the helicopter is working close to the ground, the rotor wash of the helicopter is a safety concern as it can potentially cause loose vegetation, dirt, and other objects to fly through the air. This debris can easily strike or land on anyone in close proximity, as well as cause decreased vision. Flying debris caused by a helicopter incident poses a safety concern to BLM and contractor staff, visitors, and the wild horses

though rare, helicopter crashes and hard landings can and have occurred while conducting wild horse and burro gathers. This necessitates the need to follow gather operations and visitor protocols at every wild horse and burro gather, in order to assure the safety of all people and animals involved..

- During the herding process, wild horses will try to flee if they perceive something or someone suddenly blocking or crossing their path. Fleeing horses can go through wire fences, traverse unstable terrain, and go through areas that they normally do not travel in order to flee. All of these factors can lead them to injure people by striking or trampling if they are in a horse's path.
- Disturbances in and around the gather and holding corral have the potential to injure the federal and contractor staff working to sort, move, and care for the horses. Workers may be kicked, struck, and possibly trampled by the horses trying to flee when further startled. Such disturbances also have the potential for similar harm to the public observers if they position themselves too close to operations.

Cumulative Impacts

There are increased risks to human safety as a result of gathering and trapping operations because the Project Area is located in an active natural gas recovery field and there are increased risks associated with production activities. To minimize risks, public observers will not be allowed to park, stage on, and/or occupy well pads.

Risks to the public, BLM employees, and contractors include traffic problems, accidents, road conditions, and well pad hazards, such as gases and equipment. The public will be prohibited from parking on well pads as this poses serious safety issues. Traffic-related injuries could occur to member of the public, BLM employees, and/or contractors when traveling to the helicopter gather. Furthermore, hazards at well sites such as poisonous gases and equipment could cause injury and/or death.

3.11.3. Impacts from Alternative B

Direct and Indirect Impacts

There impacts to health and human safety under Alternative B would be less than under Alternative A due to the absence of helicopter gathering and the herding of horses. Public observation sites will be established if interest is expressed in viewing these activates.

Cumulative Impacts

There are increased risks to human safety as a result of trapping operations because the Project Area is located in an active natural gas recovery field and there are increased risks associated with production activities. To minimize risks, public observers will not be allowed to park, stage on, and/or occupy well pads.

Risks to the public, BLM employees, and contractors include traffic problems, accidents, road conditions, and well pad hazards, such as gases and equipment. The public will be prohibited from parking on well pads as this poses serious safety issues. Traffic-related injuries could occur to member of the public, BLM employees, and/or contractors when traveling to the helicopter gather. Furthermore, hazards at well sites such as poisonous gases and equipment could cause injury and/or death.

3.11.4. Impacts from the No Action Alternative

Direct and Indirect Impacts

There would be no helicopter gather, bait and/or water trapping, or PZP administration related safety concerns for BLM employees, contractors, or the general public as no activities would occur in the No Action alternative.

Cumulative Impacts

There would be no cumulative effects on health and human safety from the No Action Alternative.

4. SUPPORTING INFORMATION

4.1. Tribes, Individuals, Organizations, or Agencies Consulted

Consultation with the Jicarilla Apache Tribe and Southern Ute Tribe was initiated on April 19, 2012 in Dulce, NM. The FFO and JRD met with the Jicarilla Apache Tribe and Southern Ute Tribe to discuss fencing agreements between the USFS and Jicarilla Apache Reservation and the USFS and the Southern Ute Reservation primarily to discourage horse movement across boundaries. Both tribes expressed concern over increasing wild horse numbers and supported the USFS and BLM's efforts to manage the population.

In addition to written correspondence the FFO has consulted with the NMDGF about wildlife population survey data and predator management. On October 4, 2012, a phone conversation with the New Mexico North West Area Game Manager, Bill Taylor and Big Game Supervisor, Darrel Weybright was made to inquire about big game populations in the project area. NMG&F conducts aerial surveys in the project area and shares that data with the FFO. The last comprehensive survey that counted both mule deer and elk at the same time was in 2003. NMDGF has done subsequent surveys, however not at the same time. When surveys are done, according to NMDGF, trends are analyzed to determine if populations are changing significantly or not. NMDGF felt the numbers from the 2003 survey were still valid as no trends had been significant. NMDGF acknowledged that they do not survey in the summer. Another phone conversation took place with Mr. Weybright on October 22, 2012 to inquire about mountain lion population data for the project area (see Alternative 2.4.4).

4.2. List of Preparers

Table 7 list the BLM staff who assisted in the preparation of this document.

Table 7. List of Preparers

Name	Title
Janelle Alleman	Outdoor Recreation Planner
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Sherrie Landon	Paleontologist
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Sarah Scott	Natural Resource Specialist
Jeff Tafoya	Project Lead/ Range Management Specialist
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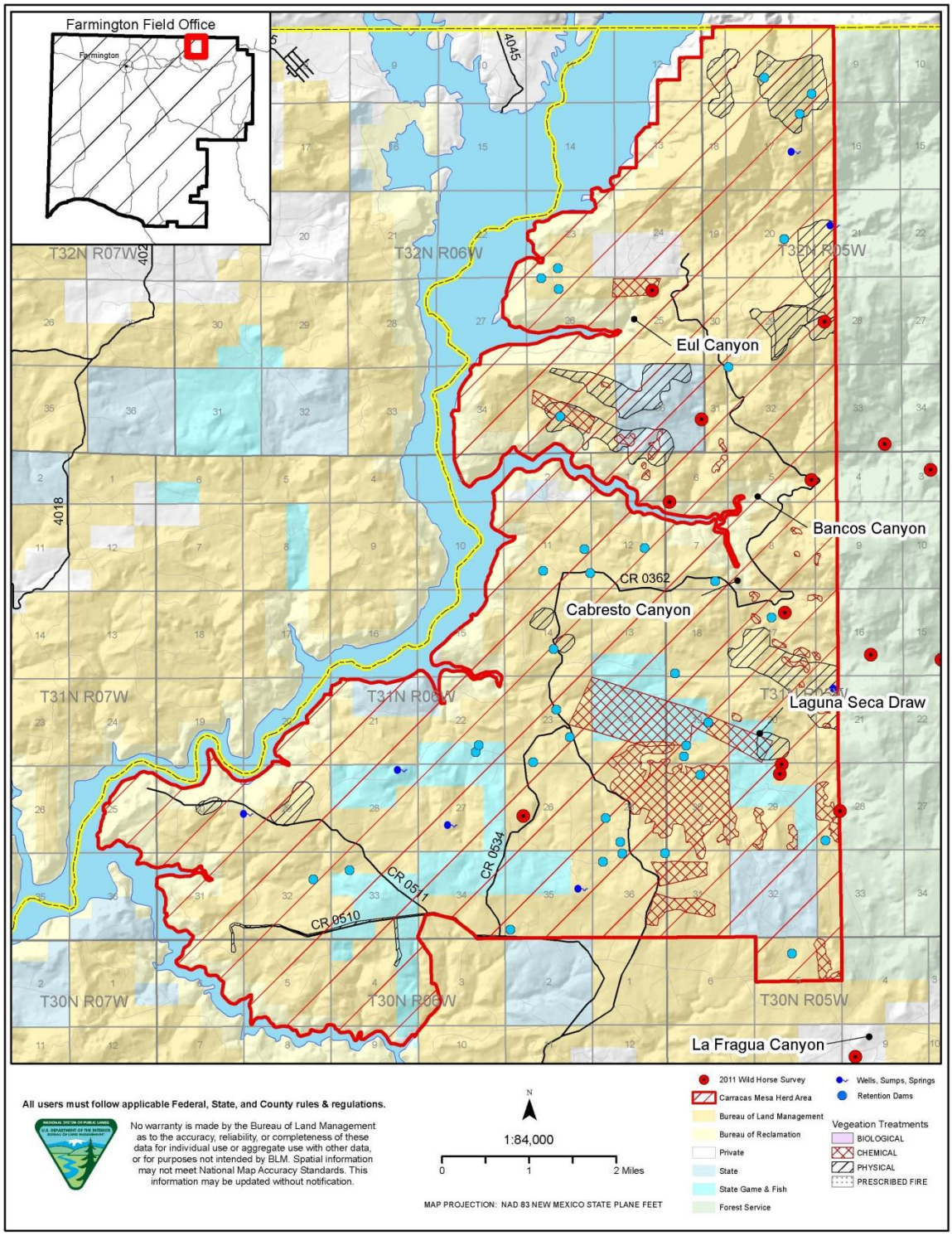
4.4. Acronyms

AML	Appropriate Management Level
AUM	Animal Unit Month
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
DR	Decision Record
EA	Environmental Assessment
EIS	Environmental Impact Statement
FFO	Farmington Field Office
FLPMA	Federal Land Policy and Management Act
FONSI	Finding of No Significant Impact
FoRLH	Fundamentals of Rangeland Health
HA	Herd Area
HA	Herd Management Area
ID	Interdisciplinary
IM	Instructional Memorandum
JMA	Joint Management Area
NEPA	National Environmental Policy Act
PFC	Proper Functioning Condition

PRIA	Public Rangelands Improvement Act
RFS	Reasonably Foreseeable Future Action
RMP	Resource Management Plan
USFS	United States Forest Service
WHT	Wild Horse Territory
WFRHBA	Wild Free-Roaming Horses and Burros Act of 1971

APPENDIX A. CARRACAS MESA HA PROJECT INVENTORY MAP



APPENDIX B. JICARILLA JMA GATHER PUBLIC OBSERVATION RULES

Daily Visitation Protocol and Ground Rules for the Jicarilla Joint Management Area Wild Horse Gather

BLM recognizes and respects the right of interested members of the public and the press to observe the Jicarilla Joint Management Area wild horse gather. At the same time, BLM must ensure the health and safety of the public, BLM's employees and contractors, and America's wild horses. Accordingly, BLM developed these rules to maximize the opportunity for reasonable public access to the gather while ensuring that BLM's health and safety responsibilities are fulfilled. Failure to maintain safe distances from operations at the gather and temporary holding sites could result in members of the public inadvertently getting in the path of the wild horses or gather personnel, thereby placing themselves and others at risk, or causing stress and potential injury to the wild horses and burros.

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

General Daily Protocol

- A Wild Horse Gather Info Phone Line will be set up prior to the gather so the public can call for daily updates on gather information and statistics. Visitors are strongly encouraged to check the phone line the evening before they plan to attend the gather to confirm the gather and their tour of it is indeed taking place the next day as scheduled (weather, mechanical issues or other things may affect this) and to confirm the meeting location.
- Visitors must direct their questions/comments to either their designated BLM representative or the BLM spokesperson on site, and not engage other BLM/contractor staff and disrupt their gather duties/responsibilities - professional and respectful behavior is expected of all. BLM may make the BLM staff available during down times for a Q&A session on guided pubic-observation days. However, the contractor and its staff will not be available to answer questions or interact with visitors.
- Observers must provide their own 4-wheel drive high clearance vehicle, appropriate shoes, winter clothing, food and water. Observers are prohibited from riding in government and contractor vehicles and equipment.
- Gather operations may be suspended if bad weather conditions create unsafe flying conditions.
- BLM will establish one or more observation areas, in the immediate area of the gather and holding sites, to which individuals will be directed. These areas will be placed so as to maximize the opportunity for public observation while providing for a safe and effective horse gather. The utilization of such observation areas is necessary due to the use and presence of heavy equipment and aircraft in the gather operation and the critical need to allow BLM personnel and contractors to fully focus on attending to the needs of the wild horses while maintaining a safe environment for all involved. In addition, observation areas will be sited so as to protect the wild horses from being spooked, startled or impacted in a manner that results in increased stress.
- BLM will delineate observation areas with yellow caution tape (or a similar type of tape or ribbon).
- Visitors will be assigned to a specific BLM representative on guided-observation days and must stay with that person at all times.

- Visitors are NOT permitted to walk around the gather site or temporary holding facility unaccompanied by their BLM representative.
- Observers are prohibited from climbing/trespassing onto or in the trucks, equipment or corrals, which is the private property of the contractor.
- When BLM is using a helicopter or other heavy equipment in close proximity to a designated observation area, members of the public may be asked to stay by their vehicle for some time before being directed to an observation area once the use of the helicopter or the heavy machinery is complete.
- When given the signal that the helicopter is close to the gather site bringing horses in, visitors must sit down in areas specified by BLM representatives and must not move or talk as the horses are guided into the corral.
- Individuals attempting to move outside a designated observation area will be requested to move back to the designated area or to leave the site. Failure to do so may result in citation or arrest. It is important to stay within the designated observation area to safely observe the wild horse gather.
- Observers will be polite, professional and respectful to BLM managers and staff and the contractor/employees. Visitors who do not cooperate and follow the rules will be escorted off the gather site by BLM law enforcement personnel, and will be prohibited from participating in any subsequent observation days.
- BLM reserves the right to alter these rules based on changes in circumstances that may pose a risk to health, public safety or the safety of wild horses (such as weather, lightening, wildfire, etc.).
- A public outreach and education day provides a more structured mechanism for interested members of the public to see the wild horse gather activities at a given site. On this day, BLM attempts to allow the public to get an overall sense of the gather process and has available staff who can answer questions that the public may have. The public rendezvous at a designated place and are escorted by BLM representatives to and from the gather site.

APPENDIX C. SOP FOR GATHER OPERATIONS

GATHER OPERATIONS STANDARD OPERATING PROCEDURES

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

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

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

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

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

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

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

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

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

3. The rate of movement and distance the animals travel shall not exceed limitations set by the COR who will consider terrain, physical barriers, access limitations, weather, extreme temperature (high and low), condition of the animals, urgency of the operation (animals facing drought, starvation, fire rehabilitation, etc.) and other factors. In consultation with the contractor the distance the animals travel will account for the different factors listed above and concerns with each HA.

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

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

b. All loading chute sides shall be a minimum of 6 feet high and shall be fully covered, plywood, metal without holes larger than 2”x4”.

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

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

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

5. No modification of existing fences will be made without authorization from the COR/PI. The Contractor shall be responsible for restoration of any fence modification which he has made.

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

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

8. The Contractor shall provide animals held in the traps and/or holding facilities with a continuous supply of fresh clean water at a minimum rate of 10 gallons per animal per day. Animals held for 10 hours or more in the traps or holding facilities shall be provided good quality hay at the rate of not less than two pounds of hay per 100 pounds of estimated body weight per day. The contractor will supply certified weed free hay if required by State, County, and Federal regulation.

9. An animal that is held at a temporary holding facility through the night is defined as a horse/burro feed day. An animal that is held for only a portion of a day and is shipped or released does not constitute a feed day.

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

11. The Contractor shall restrain sick or injured animals if treatment is necessary. The COR/PI will determine if animals must be euthanized and provide for the destruction of such animals. The Contractor

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

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

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

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

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

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

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

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

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

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

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

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

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

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

C. Use of Motorized Equipment

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

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

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

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

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

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

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

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

7. If the COR/PI determines that dust conditions are such that the animals could be endangered during transportation, the Contractor will be instructed to adjust speed.

D. Safety and Communications

1. The Contractor shall have the means to communicate with the COR/PI and all contractor personnel engaged in the gather of wild horses utilizing a VHF/FM Transceiver or VHF/FM portable Two-Way radio. If communications are ineffective the government will take steps necessary to protect the welfare of the animals.

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

b. The Contractor shall obtain the necessary FCC licenses for the radio system

c. All accidents occurring during the performance of any task order shall be immediately reported to the COR/PI.

2. Should the contractor choose to utilize a helicopter the following will apply:

a. The Contractor must operate in compliance with Federal Aviation Regulations, Part 91. Pilots provided by the Contractor shall comply with the Contractor's Federal Aviation Certificates, applicable regulations of the State in which the gather is located.

b. Fueling operations shall not take place within 1,000 feet of animals.

G. Site Clearances

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

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

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

H. Animal Characteristics and Behavior

1. Releases of wild horses would be near available water when possible. If the area is new to them, a short-term adjustment period may be required while the wild horses become familiar with the new area.

I. Public Participation

1. Opportunities for public viewing (i.e. media, interested public) of gather operations will be made available to the extent possible; however, the primary considerations will be to protect the health, safety and welfare of the animals being gathered and the personnel involved. The public must adhere to guidance from the on-site BLM representative. It is BLM policy that the public will not be allowed to come into direct contact with wild horses or burros being held in BLM facilities. Only authorized BLM personnel or contractors may enter the corrals or directly handle the animals. The general public may not enter the corrals or directly handle the animals at any time or for any reason during BLM operations.

J. Responsibility and Lines of Communication

Contracting Officer's Representative/Project Inspector

Jeff Tafoya, Supervisory Range Management Specialist, will be the Contracting Officer’s Representative/Project Inspector for the project if the National Program Office does not provide one.

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

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

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

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

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

APPENDIX D. BLM EUTHANASIA POLICY IM NO. 2009-041

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

December 18, 2008

In Reply Refer To:
4730/4700 (260) P

EMS TRANSMISSION 12/19/2008
Instruction Memorandum No. 2009-041
Expires: 09/30/2010

To: All Field Officials (except Alaska)

From: Assistant Director, Renewable Resources and Planning

Subject: Euthanasia of Wild Horses and Burros for Reasons Related to Health, Handling and Acts of Mercy

Program Area: Wild Horses and Burros

Purpose: This policy identifies requirements for euthanasia of wild horses and burros for reasons related to health, handling and acts of mercy.

Policy/Action: Final decisions regarding euthanasia of a wild horse or burro rest solely with the authorized officer (43 CFR 4730). It is understood that there will be cases where this decision must be made in the field and cannot always be anticipated. Appropriate wild horse and burro personnel at facilities and in the field should be delegated as the authorized officer regarding euthanasia of wild horses and burros. Euthanasia will be carried out following the procedures described in the 4730 Manual. The death record should specify that euthanasia was performed and the reason that it was performed in the appropriate Wild Horse and Burro automated data system. These systems are the Wild Horse and Burro Information System (WHBIS) or the Wild Horse and Burro Program System (WHBPS).

A Bureau of Land Management (BLM) authorized officer will euthanize or authorize the euthanasia of a wild horse or burro when any of the following conditions exist:

(1) Displays a hopeless prognosis for life;

(2) Is affected by a chronic or incurable disease, injury, lameness or serious physical defect (includes severe tooth loss or wear, club foot, and other severe acquired or congenital abnormalities);

(3) Would require continuous treatment for the relief of pain and suffering in a domestic setting;

(4) Is incapable of maintaining a Henneke body condition score (see Attachment 1) greater than or equal to 3, in its present environment;

(5) Has an acute or chronic illness, injury, physical condition or lameness that would not allow the animal to live and interact with other horses, keep up with its peers or maintain an acceptable quality of life constantly or for the foreseeable future;

(6) Where a State or Federal animal health official orders the humane destruction of the animal(s) as a disease control measure;

(7) Exhibits dangerous characteristics beyond those inherently associated with the wild characteristics of wild horses and burros.

When euthanasia will be performed and how decisions will be made and recorded in a variety of circumstances is described below.

Euthanasia in field situations (includes on-the-range and during gathers):

(A) If an animal is affected by a condition as described in 1-7 above that causes acute pain or suffering and immediate euthanasia would be an act of mercy, the authorized officer must promptly euthanize the animal.

(B) The authorized officer will report actions taken during gather operations in the comment section of the daily gather report (Attachment 2). Documentation will include a brief description of the animal's condition and reference the applicable criteria (including 1-7 above or other provisions of this policy). The authorized officer will release or euthanize wild horses and burros that will not tolerate the handling stress associated with transportation, adoption preparation or holding. However, the authorized officer should, as an act of mercy, euthanize, not release, any animal which exhibits significant tooth loss or wear to the extent their quality of life would suffer.

(C) If euthanasia is performed during routine monitoring, the Field Manager will be notified of the incident as soon as practical after returning from the field.

Euthanasia at short-term holding facilities:

Ideally, no horse or burro would arrive at preparation or other facilities with conditions that require euthanasia. However, problems can develop during or be exacerbated by handling,

transportation or captivity. In these situations the authority for euthanasia will be applied as follows:

(A) If an animal is affected by a condition as described in 1-7 above that causes acute pain or suffering and immediate euthanasia would be an act of mercy, the authorized officer must promptly euthanize the animal.

(B) If an animal is affected by a condition as described in 1-7 above, but is not in acute pain, the authorized officer has the authority to euthanize the animal, but should first consult a veterinarian. As an example, if the animal has a physical defect or deformity that would adversely impact its quality of life if it were placed in the adoption program or on long-term holding, but acute suffering is not apparent, a veterinarian should be consulted prior to euthanasia.

(C) If the authorized officer concludes, after consulting with a veterinarian, that a wild horse or burro in a short-term holding facility cannot tolerate the stress of transportation, adoption preparation, or long-term holding then the animal should be euthanized.

Euthanasia at long-term holding facilities:

This section sets euthanasia policy for the BLM at long-term holding (LTH) facilities including those that may be added in the future.

The BLM Wild Horse and Burro (WH&B) Specialist responsible for oversight of the LTH facility (the Project Inspector) and the LTH contractor will evaluate all horses and their body condition throughout the year. During the year if any animal is affected by any of the conditions listed in 1-7 above, the contractor or other person authorized by the Project Inspector must euthanize that animal. Once a year a formal body condition evaluation as well as a formal count of all horses at long-term holding facilities will be conducted. The action plan for the formal evaluation is as follows:

1. All animals will be inspected by field observation to evaluate body condition and identify animals that may need to be euthanized to prevent a slow death due to deterioration of condition. This evaluation will be based on the Henneke body condition scoring system. The evaluation team will consist of a BLM WH&B Specialist and a veterinarian acceptable to BLM.

The evaluations should be conducted in the fall (September through November) to identify horses with body condition scores of 3 or less.

2. Animals with a body condition score less than 3 will be euthanized in the field soon after the evaluation by the authorized officer or a designated representative such as the contractor. Horses with a score of 3 will remain in the field and will be re-evaluated by the contractor and the Project Inspector for that contract in 60 days to see if their condition is improving, staying the same or declining. Those that are declining in condition will be euthanized as soon as possible after the second evaluation.

3. Euthanasia will be carried out with a firearm by the authorized officer or a designated representative. Field euthanasia does not require that the animals are gathered which would result in increased stress and could cause injury to the horse being euthanized or other horses on the facility.

4. Documentation for each animal euthanized will include sex, color, and freeze/hip brand (if readable). Copies of all documentation will be given to the contractor and retained by the BLM.

5. Arrangements for carcass disposal for euthanized animals will be in accordance with applicable state and county regulations.

Euthanasia of Unusually Dangerous Animals:

Unusually aggressive wild horses or burros can pose an unacceptable risk of injury when maintained in enclosed spaces where some level of handling is required. When a horse or burro is unusually dangerous, it is reasonable to conclude that an average adopter could not humanely care for the animal as required by the regulations (e.g., provide proper transportation, feeding, medical care, and handling 43 CFR 4750.1). The BLM cannot solve the problem by removing unusually dangerous animals from the adoption system and placing them in a LTH facility because this resolution also poses significant risk of injury, both to animals in transport, and to BLM personnel and LTH operators.

When deciding to euthanize an animal because it is unusually dangerous, the authorized officer, in consultation with a veterinarian, extension agent, humane official, or other individual acceptable to the authorized officer, must determine that the animal poses a significant and unusual danger to people or other animals beyond that normally associated with wild horses and burros. The authorized officer must document the aspects of the animal's behavior that make it unusually dangerous.

Euthanasia of a Large Number of Animals for Reasons Related to Health, Handling and Acts of Mercy

When the need for euthanasia of an unusually large number of animals is anticipated, the likely course of action should be identified and outlined in advance whenever possible. When field monitoring and pre-gather planning identify an increased likelihood that animals may need to be euthanized during a gather, this should be addressed in the gather plan. In an on-the-range or facility situation where a gather is not involved, advanced planning should also be done whenever possible. Arrangements should be made for a USDA Animal and Plant Health Inspection Service (APHIS) or other veterinarian to visit the site and consult with the authorized officer on the euthanasia decisions. This consultation should be based on an examination of the animals by the veterinarian. It should include a detailed, written evaluation of the conditions, circumstances or history of the situation and the number of animals involved.

Where appropriate, this information should be specific for each animal affected. During this planning stage, it is critical that the Authorized Officer include the State Office WH&B Program

Lead; appropriate State Office, District Office, and Field Office Managers; the WH&B National Program Office (NPO); and any contractors that may be involved.

A euthanasia plan of action will include practical considerations including: (1) who will destroy the affected animals, (2) what method of euthanasia will be used, and (3) how carcasses will be disposed of. A communications plan for internal and external contacts (including early alerts to State, National Program and Washington Offices) should be developed in advance or concurrently while addressing the situation at hand. The communications plan should address the need for the action, as well as the appropriate messages to the public and the media. This will include why animals are being euthanized and how the action is consistent with BLM's responsibilities and policy.

Timeframe: This policy is effective upon issuance.

Budget Impact: Implementation of these actions would not result in additional expenditures over present policies.

Manual/Handbook Sections Affected: No manual or handbook sections are affected.

Background: The authority for euthanasia of wild horses or burros is provided by the Wild Free-Roaming Horses and Burros Act of 1971, Section3(b)(2)(A) 43 CFR4730.l and BLM Manual 4730, *Destruction of Wild Horses and Burros and Disposal of their Remains*.

Decisions to euthanize require that BLM evaluate individual horses or burros affected by injury, physical defect, chronic or incurable disease, severe tooth loss, poor condition or old age. BLM should consider the animal's ability to survive the stress of removal and/or its probability of surviving on the range if released or transported to a BLM facility, adoption or long-term holding. Humane, long-term care of these animals requires periodic evaluation of their condition to provide for their well-being. These evaluations will, at times, result in decisions that will require euthanasia.

Coordination: This document was coordinated with the Wild Horse and Burro Specialists in each affected state and the National Program Office.

Contact: Questions regarding this memorandum should be directed to Lili Thomas, Wild Horse and Burro Specialist, Wild Horse and Burro National Program Office, at (775) 861-6457.

Signed by: Authenticated by:
Edwin L. Roberson Robert M. Williams
Assistant Director Division of IRM Governance,WO-560
Renewable Resources and Planning

APPENDIX E. IM NO. 2010-135 GATHER POLICY, SELECTIVE REMOVAL CRITERIA, AND MANAGEMENT CONSIDERATIONS FOR REDUCING POPULATION GROWTH RATES

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

June 2, 2010

-------In Reply Refer To:
4710 (WO 260) P

EMS TRANSMISSION 06/03/2010
Instruction Memorandum No. 2010-135
Expires: 09/30/2011

To: All Field Officials (except Alaska)

From: Assistant Director, Renewable Resources and Planning

Subject: Gather Policy, Selective Removal Criteria, and Management Considerations for Reducing Population Growth Rates

Program Area: Wild Horse and Burro Program.

Purpose: This Instruction Memorandum (IM) establishes gather policy and selective removal criteria for wild horses and burros (WH&B).

Policy/Action:

A. Gather Requirements
Achieve Appropriate Management Level (AML)
Periodic removals will be planned and conducted to achieve and maintain WH&B population size within the established AML range. Removals below the AML lower limit may be warranted in emergency situations, based on the available forage and water. Rationale to justify a reduction below the AML lower limit must be included with the gather request consistent with guidance provided in IM 2009-085 (Managing Gathers Resulting from Escalating Problems and Emergency Situations).

2. National Environmental Policy Act (NEPA) Analysis and Decision

An appropriate site-specific analysis of the potential impacts that could result from implementation of a proposed gather is required, unless an emergency situation exists. NEPA documentation will include the Standard Operating Procedures (SOPs) for Wild Horse & Burro (WH&B) Gathers (Attachment 1).

A key element of the NEPA analysis is to examine current information and determine whether excess WH&B are present and require immediate removal. In making this determination, the authorized officer will analyze: grazing utilization and distribution, trend in range ecological condition, actual use, climate (weather) data, current population inventory, WH&B located outside the Herd Management Area (HA), or in Herd Areas (HA) not designated for their long-term maintenance, and other factors such as the results of land health assessments which demonstrate removal is needed to restore or maintain the range (refer to The Wild Free-Roaming Horses and Burros Act (WFRHBA), 43 USC 133, and Animal Protection Institute of America, 109 IBLA 112 (1989)).

Excess animals are defined as those which must be removed to preserve and maintain a thriving natural ecological balance and multiple use relationship in that area.

Among other things, the NEPA analysis will also contain the following:

a. Results of Win Equus population modeling that forecasts the potential impacts to the wild horse population that could result from the proposed removal and other management actions such as fertility control treatments or sex ratio adjustments. (The model is not designed for use on burros).

b. A desired post-gather on-the-range population number, age structure, and sex ratio for the managed population.

c. Detailed analysis of a range of appropriate management alternatives to reduce population growth rates and extend the gather cycle. See E. below.
d. Hair samples will be collected to establish genetic baseline data, as outlined in IM 2009-062 (Wild Horse and Burro Genetic Baseline Sampling). Genetic material will be collected for all HAs that do not yet have an established genetic baseline during the next gather. Once a baseline is established, additional samples should be collected to reassess genetic diversity every other gather (e.g., every 6-10 years). If initial testing indicates diversity is less than desired, the herd should be reassessed more frequently (e.g., every gather).

3. Gathers that have been approved by the Washington Office (WO) through the annual work plan process and that are listed on the National Gather Schedule may proceed without further approval from WO-260. Changes to the gather schedule involving increased removal numbers for listed gathers, adding new gathers, or substituting gathers require approval by WO-260. Requests for such gathers will be submitted to WO-260 and National Program Office (NPO) for consideration and approval by the WO-260 Division Chief.

WO-260 approval is not required for the removal of 15 or fewer nuisance WH&B at one time unless one of the national contractors conducts the removal. An animal may be considered a

nuisance if it, for example, poses a safety hazard or strays onto private property and the landowner requests removal.

4. A Gather, Removal, and Treatment Summary Report (Attachment 2 – Table 1) is required for each WH&B gather. The Daily Gather Activity Log (Attachment 2 - Table 2) must be completed daily for each HA and submitted to WO-260, NPO, State Office, and Field Office representatives every 1-2 days in order to communicate gather progress during large, lengthy gathers. Final Gather, Removal, and Treatment Summary Reports are required and must be submitted to the State WH&B Lead and NPO (WO-260) within 10 days of gather completion.

B. Selective Removal Criteria

The selective removal criteria described below apply to all excess wild horses removed from the range. These criteria are not applicable to wild burros. When gathers are conducted, emphasis will be placed on the removal of younger, more adoptable animals. Occasionally, budgetary limitations may require the consideration of "gate cut" removals and exceptions to the selective removal criteria to achieve population objectives.

In accordance with IM 2009-041 (Euthanasia of Wild Horses and Burros for Reasons Related to Health, Handling and Acts of Mercy), animals with conditions that compromise animal well-being, result in chronic lameness, have a genetic defect, or otherwise meet the criteria for euthanasia should be euthanized instead of being removed or retained in the herd.
Age Criteria: Wild horses will be removed in the following order:

a) Age Class - Four Years and Younger

Wild horses 4 years of age and younger should be the first priority for removal and placement into the national adoption program.

b) Age Class - Eleven to Nineteen Years

Wild horses aged 11 to 19 years of age should be removed from the HA only if management goals and objectives for the herd cannot be achieved by removing horses 4 years and younger or if specific exceptions prevent them from being turned back and left on the range.

c) Age Class - Five to Ten Years Old

Wild horses 5 to 10 years of age are the lowest priority for removal and should be removed only if management goals and objectives for the herd cannot be achieved through the removal of animals identified in a) and b) above.

d) Age Class - Twenty Years and Older

Wild horses aged 20 years and older should not be removed from the HA unless specific exceptions prevent them from being turned back and left on the range. In general, this age group can survive on the HA but can have greater difficulty adapting to captivity and the stress of handling and shipping if removed.

C. Animal Health and Welfare

Some emergency gather situations caused by such things as extreme drought conditions or wildfire have potential to result in animal health and welfare issues at temporary holding facilities or trap site locations. If animal health or welfare is a potential concern, the authorized officer will ensure a veterinarian is on call or is onsite (as needed) to provide recommendations to the BLM authorized officer regarding animal care, treatment, and if necessary, euthanasia.

Animals encountered during gather operations that must be removed but, in the opinion of the authorized officer, may not tolerate the stress of transportation, preparation, and holding, should be euthanized onsite using methods acceptable to the American Veterinary Medical Association (AVMA). Some situations, such as removals from private land, may require exceptions to this practice. Any animals affected by a chronic or incurable disease, injury, lameness, or serious physical defect (including severe tooth loss or wear, club feet, and other severe acquired or congenital abnormalities), should also be euthanized in the field according to direction in IM 2009-041.

D. Potential Exceptions to Selective Removal Criteria

Animals should be removed irrespective of their age class when they fall into one of the following categories or when one of the following conditions applies.

1. Nuisance animals.

2. Animals residing outside an HA or in a HA not designated for their long-term maintenance.

3. All captured animals in an HA have to be removed to attain AML when capture efficiency does not allow enough animals to be captured to practice selective removal. One exception is that animals 20 years and older should not be removed.

4. Animals that fall outside of any selective management prescriptions in a land use plan (LUP) or activity plan. For example, some LUPs or activity plans might identify certain unique characteristics (examples: Spanish characteristics, Bashkir Curly, or other traits), sex ratios, or age classes for which a particular HA is to be selectively managed.

5. Total removals required by law or land use plan decisions.

6. Court-ordered gathers.

7. Emergency gathers (see IM 2009-085 on escalating problems and emergency gathers).

E. Management Considerations in Addition to Selective Removal

During gather or herd management area planning, the authorized officer will consider a range of alternatives to reduce (slow) population growth rates and extend gather cycles for all wild horse herds with annual growth rates greater than or equal to 5%. These alternatives may include (but

are not limited to): fertility control, adjustments in the sex ratio in favor of males, a combination of fertility control and sex ratio adjustment, and management of selected HAs for non-reproducing wild horses.

1. Sex Ratio Management

Consider managing herds for a sex ratio with a female component less than or equal to 50 percent, as this reduces the population growth rate and extends the gather cycle.

Adjusting sex ratios to favor males may be appropriate when the suppression of herd growth rates is desired. This management option should especially be considered in HAs and complexes where the low end of AML is greater than 150 animals. This is most feasible and applicable during maintenance gathers that normally occur 3 to 4 years after AML has been achieved. Sex ratio adjustments may be accomplished by shifting the overall sex ratio to favor males by releasing greater numbers of stallions or geldings to adjust/shift the overall sex ratio so that males comprise 60 to 70 percent of the adult herd.

Initial management efforts involving sex ratio adjustments that favor stallions or a gelding component should be monitored closely. This monitoring information will be used to determine if sex ratio adjustment is an effective population management technique that should be continued.

2. Fertility Control

Additional guidance and policy on the use of fertility control as a population management tool is contained in IM 2009-090 (Population-Level Fertility Control Field Trials: Herd Management Area (HA) Selection, Vaccine Application, Monitoring and Reporting Requirements). Follow the guidance in IM 2009-090 to prepare Gather Plan/NEPA documents that propose the use of fertility control. Explain the reasons for applying or not applying fertility control in the decision document.

The authorized officer should apply the 22-month PZP vaccine to all release mares, when the NEPA analysis supports its use. In herds where sex ratio adjustments are made, fertility control may be implemented in combination with sex ratio adjustments to further reduce herd growth rates.

3. Non-Reproducing Wild Horses

Under the WFRHBA (16 U.S.C. § 1333(b)(1)), the authorized officer may determine whether AML should be achieved by removal of excess animals, or if options such as sterilization or natural population controls should be implemented. Consistent with this authority, some selected HAs may be managed in whole or in part for non-reproducing wild horses to aid in controlling on-the-range population numbers.

Land use plans should identify the HAs to be managed for non-reproducing wild horses and identify the criteria for their selection. Completion of additional site-specific environmental analysis, issuance of a decision, and providing opportunity for administrative review under 43 CFR Part 4.21 may also be necessary for implementation of non-reproducing wild horses.

Actual on-the-ground implementation would be influenced by gather efficiency and it may take several gathers to work toward an HA with non-reproducing wild horses. Animals would be gathered to the extent possible and sterilized for return to the range, or removed. A safe,

effective, and humane means to sterilize males is castration, but a safe, effective and humane means to sterilize females has not yet been perfected. Therefore, initial efforts should focus on returning sterilized males to the HA. Sterilized males from HAs with similar environments may be added as long as population size remains within AML. Care should be taken to ensure the animals are introduced and located near other animals in areas with good water and forage.

Timeframe: This IM is effective immediately.

Budget Impact: Implementation of this policy will achieve cost savings by reducing the number of excess animals removed from the range and minimizing the numbers of less adoptable animals removed. Budgetary savings for each foal not born due to fertility control and sex ratio adjustments are about $600 for capture, $1,100 for adoption prep and short-term holding, $500-1,000 for adoption costs, and approximately $475 per year for long-term holding of animals removed but not adopted. For each animal that would have been maintained at long-term holding for the remainder of its life after capture, the total cost savings is about $13,000.

Background: The 1992 Strategic Plan for the WH&B program defined criteria for limiting the age classes of animals removed so that only the most adoptable animals were removed. The selective removal criteria from Fiscal Years 1992 through 1995 allowed the removal of animals 5 years of age and younger. In 1996, because of drought conditions in many western states, the selective removal policy was changed to allow for the removal of animals 9 years of age and younger. In 2002, the removal policy was modified to allow for prioritized age specific removals: first priority - remove 5 years of age and younger animals, second priority - 10 years and older and last priority - remove animals aged 6 to 9 years if AML could not be achieved.

The new selective removal policy provides for the long-term welfare of on-the-range populations, emphasizes the removal of the most adoptable younger animals to maintain and achieve AML, and directs that older horses that must be removed but are unadoptable or less able to stand the rigors of capture, preparation, and transportation stay on the range or be euthanized.

Manual/Handbook Sections Affected: None**.**

Coordination: Varying policies on selective removal have been in place and coordinated with field staffs since the early 1990s. The revised policy was developed by the WO, circulated to field offices for review and comment, and presented to the National Wild Horse and Burro Advisory Board. In addition, the concept of selective removal was part of the FY 2001 Strategy to Achieve Healthy Lands and Viable Herds; The Restoration of Threatened Watersheds Initiative that was widely communicated to Congress and the general public.

Contact: Questions concerning this policy should be directed to Susie Stokke at 775-861-6623.

Signed by:	**Authenticated by:**
Bud Cribley	**Robert M. Williams**
Acting, Assistant Director	**Division of IRM Governance,WO-560**

Renewable Resources and Planning

APPENDIX F. STANDARD OPERATING PROCEDURE FOR PZP FERTILITY CONTROL

Implementation and Monitoring Requirements

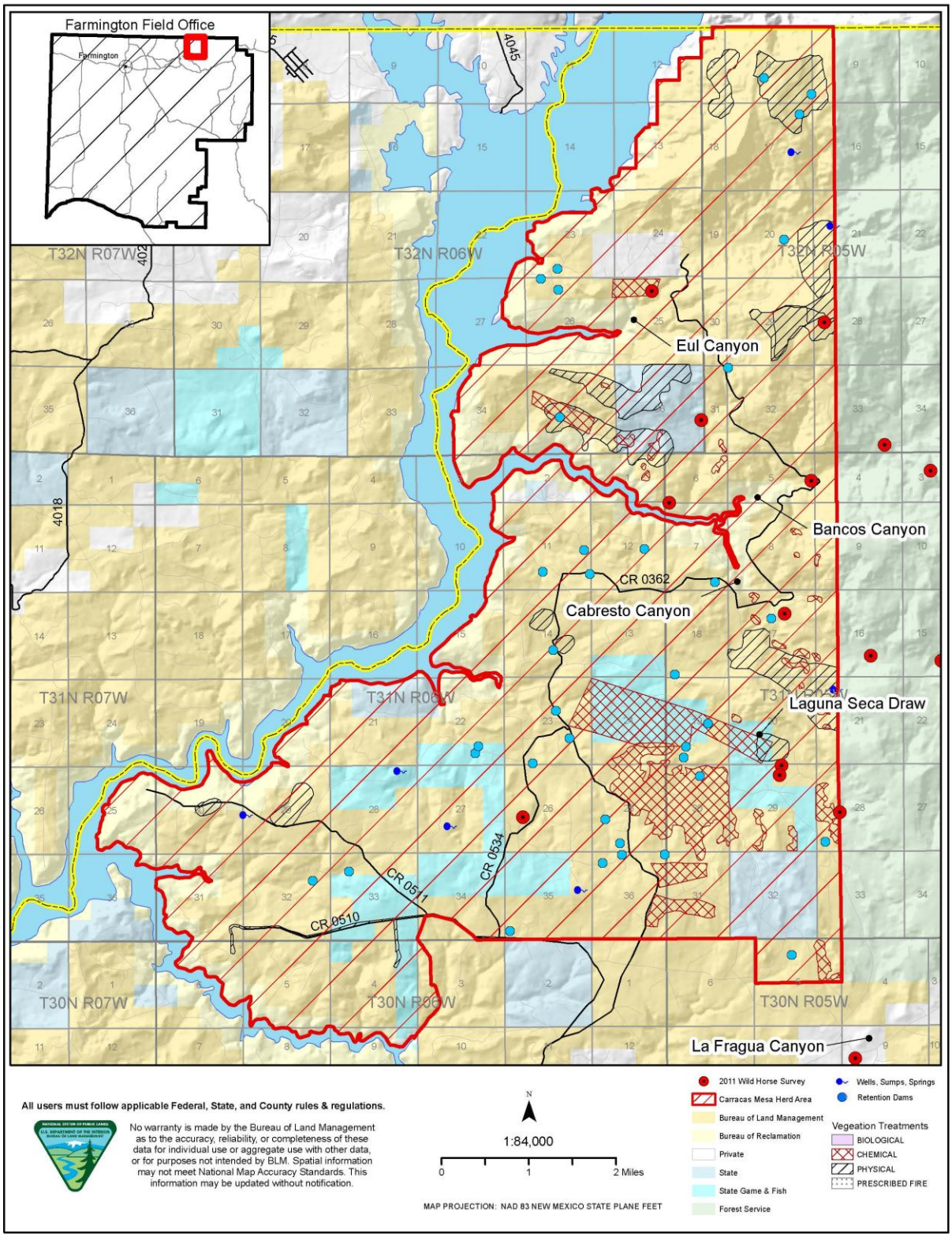
The following implementation and monitoring requirements are part of the Proposed Action:

- PZP vaccine (22-month time-released pelleted vaccine) would be administered only by trained BLM personnel or collaborating research partners.
- Mares that have never been treated would receive 0.5 cc of PZP vaccine emulsified with 0.5 cc of Freund's Modified Adjuvant (FMA). Mares identified for re-treatment receive 0.5 cc of the PZP vaccine emulsified with 0.5 cc of Freund's Incomplete Adjuvant (FIA).
- The fertility control drug is administered with two separate injections: (1) a liquid dose of PZP is administered using an 18-gauge needle primarily by hand injection; (2) the pellets are preloaded into a 14-gauge needle. These are delivered using a modified syringe and jabstick to inject the pellets into the gluteal muscles of the mares being returned to the range. The pellets are designed to release PZP over time similar to a time-release cold capsule.
- Delivery of the vaccine would be by intramuscular injection into the gluteal muscles while the mare is restrained in a working chute. The primer would consist of 0.5 cc of liquid PZP emulsified with 0.5 cc of Freunds Modified Adjuvant (FMA). The pellets would be loaded into the jabstick for the second injection. With each injection, the liquid or pellets would be injected into the left hind quarters of the mare, above the imaginary line that connects the point of the hip (hook bone) and the point of the buttocks (pin bone).
- In the future, the vaccine may be administered remotely using an approved long range darting protocol and delivery system if or when that technology is developed.
- All treated mares will be freeze-marked on the hip or neck HA managers to positively identify the animals during the research project and at the time of removal during subsequent gathers.

Monitoring and Tracking of Treatments

- At a minimum, estimation of population growth rates using helicopter or fixed-wing surveys will be conducted before any subsequent gather. During these surveys it is not necessary to identify which foals were born to which mares; only an estimate of population growth is needed (i.e. # of foals to # of adults).
- Population growth rates of herds selected for intensive monitoring will be estimated every year post-treatment using helicopter or fixed-wing surveys. During these surveys it is not necessary to identify which foals were born to which mares, only an estimate of population growth is needed (i.e. # of foals to # of adults). If, during routine HA field monitoring (on-the-ground), data describing mare to foal ratios can be collected, these data should also be shared with the NPO for possible analysis by the USGS.
- A PZP Application Data sheet will be used by field applicators to record all pertinent data relating to identification of the mare (including photographs if mares are not freeze-marked) and date of treatment. Each applicator will submit a PZP Application Report and accompanying narrative and data sheets will be forwarded to the NPO (Reno, Nevada). A copy of the form and data sheets and any photos taken will be maintained at the field office.
- 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 HA, field office, and State along with the freeze-mark(s) applied by HA and date.

APPENDIX G. RANGE IMPROVEMENT MAP



APPENDIX H. WINEQUUS (STEPHEN JENKINS) POPULATION MODELING FOR THE JICARILLA WILD HORSE HERD

Population Model Overview

Population modeling is a tool designed to help evaluate various management alternatives and possible outcomes for management different species. The WinEquus modeling program was developed by Dr. Stephen H. Jenkins at the University of Nevada at Reno to assist wild horse and burro specialists in evaluating 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 over a period of 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 Farmington Field Office of the BLM used the model to simulate the actions of the Proposed Action Scenarios1 and 2, Alternative B Scenarios 1 and 2, and the No Action alternative. All of the alternatives with the exception of the No Action alternative used the 22-month PZP fertility control treatment and gate cut removal. Initial age-sex ratios were created using Jicarilla wild horse adoption records. All simulations used the survival probabilities and foaling rates supplied with the WinEquus population model for the Garfield Flat HA. 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.

The initial population for the Jicarilla wild horse herd was entered into the model and put though simulations for the alternatives. The simulations were run for 100 trials over the next eleven years. For each simulation, a series of graphs and tables were provided which included a time-series graph of population growth and a summary graph showing the maximum, average, and minimum population of horses with each alternative. The fertility control in the model was factored for 22 month PZP delivered in the winter. Predicting the success rate of follow-up treatments outside of a 100% treatment at the gather involves too many variables for use in the model. Furthermore, gate cut removal was used for Proposed Action Scenario 1 and Alternative B Scenario 1 as application of selective removal criteria after AML is achieved through gate cut removal cannot be applied to the scenario in the program. The WinEquus model is not designed to be use in reverse fashion, for example to predict a specific herd size as a result of certain management decisions. The model is thought to be less useful when applied to small herd sizes. Futhermore, this model did not allow consideration of field darting in addition to hand injection PZP at gathers.

To complete the population modeling for the Jicarilla Joint Management Area, version 3.2 of the WinEquus program, created April 2, 2002, was utilized.

Population Modeling Objectives

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

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

Population Data, Criteria, and Parameters Utilized for Population Modeling

All simulations used the sex ratio at birth estimated from the Jicarilla wild horse adoption records:

Sex Ratio at Birth:

- 38% Female
- 62% Male

All simulations used the survival probabilities and foaling rates for the Garfield HA 1997.

The following percent effectiveness of fertility control for the 22-month PZP pellet was utilized in the population modeling for the Proposed Action and Alternative B:

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

Table I- 1. displays the contraception parameters utilized in the population model for Alternative A.

Table I- 1. Contraception Criteria for Alternative A

Age	Percentages for Fertility Treatment
0	0%
1	0%
2	100%
3	100%
4	100%
5	100%
6	100%
7	100%
8	100%
9	100%
10-14	100%
15-19	100%
20+	100%
Modeling used “gate cut” removal criteria, with all age classes at 100%.	

Population Modeling Criteria

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

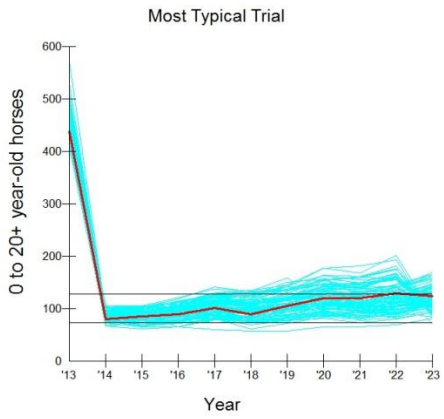
- Starting Year: 2013
- Initial Gather Year: 2013
- Minimum age for long term holding facility horses: Not Applicable
- Foals are not included in the AML
- Simulations were run for 10 years with 100 trials each
- Gather to 73 AML when population exceeds 128 AML

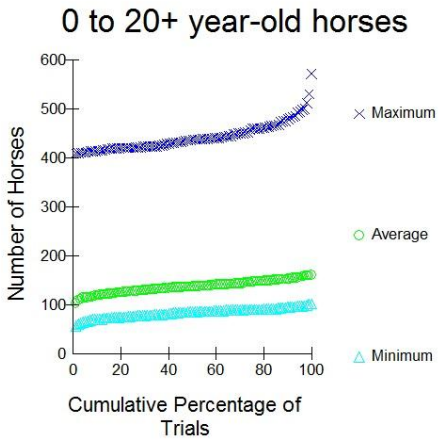
WinEquus Results

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 2013 to 2023, and gives output through 2023. 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 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.

4.4.1. Alternative A (Proposed Action), Scenario 1

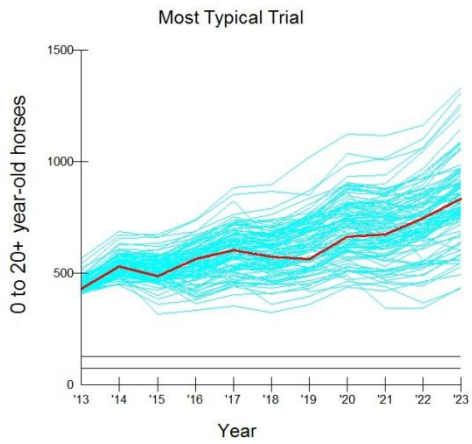
- Both removal and fertility control
- Gather interval: minimum interval of 3 years
- Gather for fertility treatment regardless of population size: Yes
- Percent of the population that can be gathered: 100%

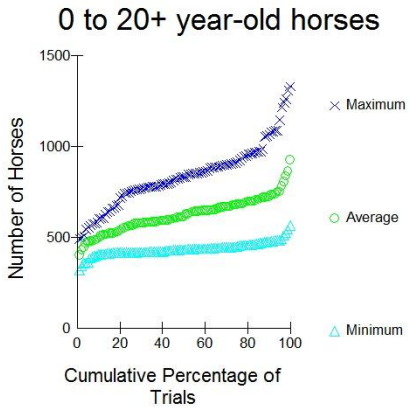




4.4.2. Alternative A (Proposed Action), Scenario 2

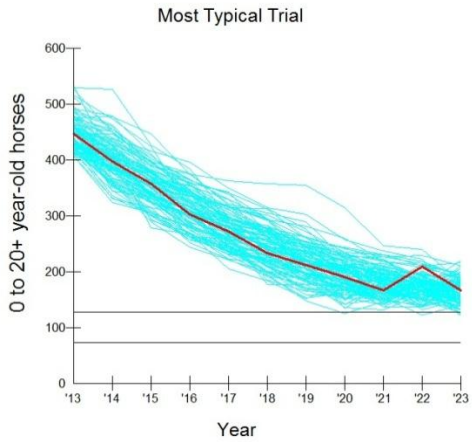
- Fertility treatment only
- Gather interval: minimum interval of 3 years
- Gather for fertility treatment regardless of population size: Yes
- Percent of the population that can be gathered: 100%

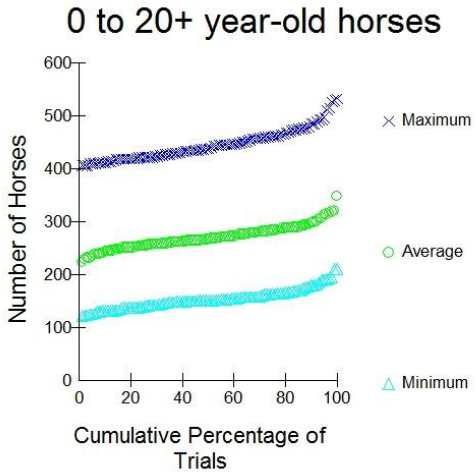




4.4.3. Alternative B, Scenario 1

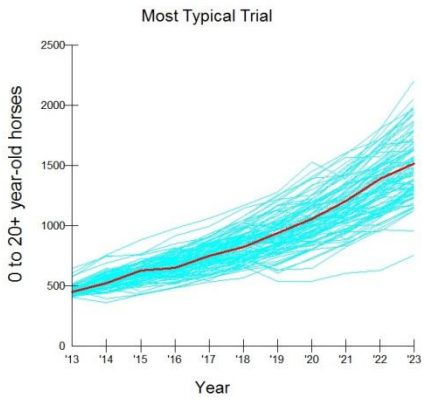
- Both removal and fertility control
- Gather interval: minimum interval of 0 years
- Gather for fertility treatment regardless of population size: Yes
- Percent of the population that can be gathered: 25%

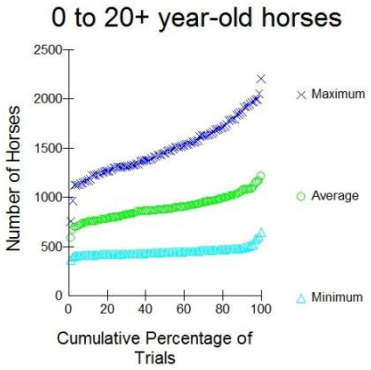




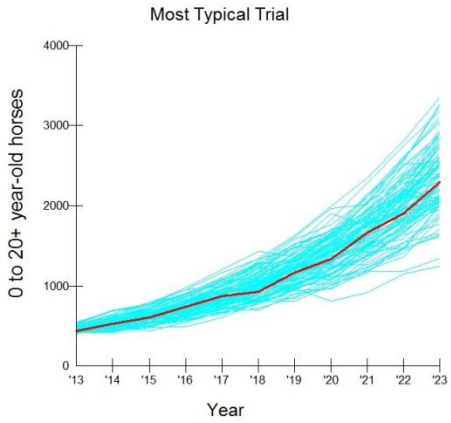
4.4.4. Alternative B – Scenario 2

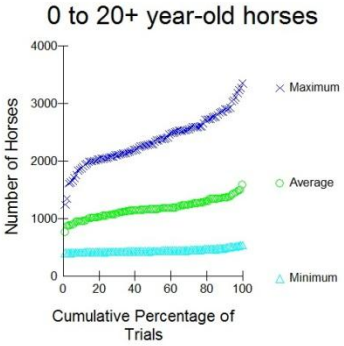
- Fertility treatment only
- Gather interval: minimum interval of 0 years
- Gather for fertility treatment regardless of population size: Yes
- Percent of the population that can be gathered: 25%





4.4.5. No Action Alternative





To summarize the results obtained by simulating the range of alternatives for the Jicarilla JMA wild horse gather, the initial 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?

The alternatives implementing fertility control reflects lower population growth rates for all alternatives in comparison to the No Action alternative.

- What effect do the different alternatives have on the average population size?

Proposed Action Scenario 1 resulted in the smallest average population size, followed by Alternative B Scenario 1, Proposed Action Scenario 2, and Alternative B Scenario 2. The No Action Alternative had the largest population size.

The No Action Alternative is clearly unacceptable, but it was analyzed for comparison with the other alternatives. Without a wild horse gather, the population would quickly exceed the carrying capacity of the HA, with attendant long term habitat damage, substantially reducing the ability of the HA to support horses.

- What effects do the different alternatives have on the genetic health of the herd?

None of the alternatives result in the population becoming too small to have genetic viability.

APPENDIX I. PFC ASSESSMENT RESULTS

NAME	YEAR	RATING	ASSESSMENT NOTES
La Jara #1	1994	NONFUNCTIONING	LACK OF RIPARIAN VEG
20ac	2000	FAR, TREND NOT APPARENT	LACK OF RIPARIAN VEG
	2005	PFC	STILL LACKING RIPARIAN VEG, HOWEVER OBSERVER FELT THE SYSTEM WAS FUNCTIOING AT ITS CAPABILITY
	2008	PFC	
	2011	FAR	LACK OF RIPARIAN VEG
La Jara #2	1994	NONFUNCTIONING	LACK OF RIPARIAN VEG
115ac	2005	PFC	STILL LACKING RIPARIAN VEG, HOWEVER OBSERVER FELT THE SYSTEM WAS FUNCTIOING AT ITS CAPABILITY
	2008	PFC	
	2011	FAR, UPWARD TREND	LOW WATER TABLE
La Jara #3	1994	NONFUNCTIONING	LACK OF RIPARIAN VEG
120ac	1999	NONFUNCTIONING	LACK OF RIPARIAN VEG
	2005	PFC	STILL LACKING RIPARIAN VEG, HOWEVER OBSERVER FELT THE SYSTEM WAS FUNCTIOING AT ITS CAPABILITY
	2008	PFC	
	2011	FAR, TREND NOT APPARENT	RIPARIAN VEG MAY BE REDUCING
La Jara #4	1994	NONFUNCTIONING	LACK OF RIPARIAN VEG
60ac	1999	FAR, UPWARD TREND	LACK OF RIPARIAN VEG
	2005	FAR,DOWNWARD TREND	UNAUTHORIZED LIVESTOCK GRAZING COMBINED WITH DROUGHT
	2008	PFC	STILL LACKING RIPARIAN VEG, HOWEVER OBSERVER FELT THE SYSTEM WAS FUNCTIOING AT ITS CAPABILITY
	2011	FAR, TREND NOT APPARENT	NEGATIVE VEG INDICATORS
La Jara #5	1999	PFC	
50ac	2005	PFC	
	2008	PFC	
	2011	FAR, UPWARD TREND	MAY NOT HAVE ACTUALLY REACHED ITS POTENTIAL YET
La Fragua	1999	PFC	
65ac	2005	FAR,DOWNWARD TREND	DECLINE IN RIPARIAN VEG
	2008	FAR, TREND NOT APPARENT	
	2011	FAR, TREND NOT APPARENT	RIPARIAN VEG STABILIZING BUT RECENT HIGH FLOW EVENT CAUSED ACTIVE CUTTING
Cabresto Canyon	2000	FAR, UPWARD TREND	GRAZING IMPACTS
40ac	2005	FAR, UPWARD TREND	EXCESSIVE GRAZING BY ELK AND WILD HORSES
	2008	PFC	SYSTEM WAS FUNCTIONING AT ITS CAPABILITY
	2011	FAR, TREND NOT APPARENT	EXCESSIVE TRAMPLING AND GRAZING BY WILD HORSES
Bancos Canyon	2000	FAR,DOWNWARD TREND	LACKING RIPARIAN VEGETATION
20ac	2005	FAR, UPWARD TREND	RIPARIAN VEGETATION NOT FULLY ADEQUATE
	2008	PFC	
	2011	PFC	

FAR = Functioning, At Risk
PFC = Properly Functioning Condition

APPENDIX J. SPECIAL STATUS SPECIES WITH POTENTIAL TO OCCUR IN RIO ARRIBA COUNTY, NEW MEXICO

Table K- 1 provides an evaluation of the potential for Federally Listed Threatened and Endangered Species to occur in the project area. None of these species are expected to occur in the project area, and their potential presence determination is based on evaluation of the project area habitat and the known habitat requirements of the species.

Table K- 1. Federally Listed Threatened and Endangered Species of the BLM/FFO and their Potential to Occur in the Proposed Action Area

Species Name	Conservation Status[1]	Habitat Associations	Potential to Occur in the Project or Action Area
Mammals			
Black footed ferret (*Mustela nigripes*)	FE	Grassland plains where it occurs in association with prairie dogs. At a minimum, the black-footed ferret requires prairie dog towns of at least 80 acres for suitable habitat.	No known prairie dog colonies are located within the proposed action area.
New Mexico Jumping Mouse	FC	Moist and Damp Meadows Within wooded habitat	No moist and damp woodland habitat within the PAA
Birds			
Southwestern willow flycatcher (*Empidonax traillii extimus*)	FE	Riparian habitats along rivers, streams, or other wetlands with dense growths of willows or other shrubs and medium sized trees.	There are no riparian habitats suitable for willow flycatchers in the project or action area.
Mexican spotted owl (*Strix occidentalis lucida*)	FE	Mature montane forest and in shaded, woody, and steep canyons.	No habitat features are located within the project or analysis area. USFWS designated habitat lies approx. 8 miles SE of PPA.
Yellow-billed cuckoo *(Coccyzus americanus*)	FC	Low to mid-elevation riparian woodlands, deciduous woodlands, and abandoned farms and orchards.	There are no large cottonwood galleries in, or near the project or analysis area.
Least Tern (Sierna antillarum)	FE	Riparian habitats along rivers, streams, or other wetlands with	There are no riparian habitats in the project or action area.
Fish			
Rio Grande Cutthroat Trout (Oncorhynchus clarki virginaalis)	FC	Small streams and Lakes at High Elevations 7500-10750 feet in elevation	There are no high elevation streams or lakes within the PAA
Rio Grande Silvery Minnow (Hybognathus amarus)	FE	Rivers with silty substrates in eddies, and backwaters of the Rio Grande River and its tributaries.	There are no rivers with eddies and backwaters located in the project or action area.

[1] FE = Federally Endangered; FC = Federal Candidate

Table K- 2 provides an evaluation of the potential for Special Management Species (SMS) to occur in the project area. None of these species are expected to occur in the project area, and their potential presence determination is based on evaluation of the project area habitat and the known habitat requirements of the species.

Table K- 2: Special Management Species of the BLM/FFO and their Potential to Occur in the Proposed Action Area

Species Name	Conservation Status		Habitat Associations	Potential to Occur in the Project or Action Area
	BLM FFO[1]	New Mexico[2]		
Birds				
Golden Eagle (*Aquila chrysaetos*)	SMS	NM-T	In the West, mostly open habitats in mountainous, canyon terrain. Nests primarily on cliffs and trees.	**Unlikely:** Project action area contains suitable habitat for foraging however proposed action not expected to have any impacts.
Ferruginous hawk *(Buteo regalis)*	SMS		Open, arid country or grasslands with piñon-juniper plant associations. Nests on ledges or cliff sites, may use the ground.	**Unlikely**: Project and action areas does not contain suitable habitat for foraging or nesting.
Prairie falcon *(Falco mexicanus)*	SMS	NM-T	Arid, open country, grasslands or desert scrub, rangeland; nests on cliff ledges, trees, power structures.	**Unlikely**: Project and action areas contain suitable habitat for foraging and nesting.
Mountain plover *(Charadrius montanus)*	SMS		Semi desert, grasslands, open arid areas, bare fields, breeds in open plains or prairie.	**Unlikely**: Project and action areas do not contain flat, open grasslands for suitable habitat.
Yellow-billed cuckoo *(Coccyzus americanus*)	SMS		Low to mid-elevation riparian woodlands, deciduous woodlands, and abandoned farms and orchards. Rare in the San Juan River valley.	**Unlikely**: Project and action areas do not contain riparian areas for suitable habitat.
American peregrine falcon (*Falco peregrinus anatum*)	SMS		Open country near lakes or rivers with rocky cliffs and canyons. Tall city bridges and buildings also inhabited.	Unlikely: Project action area contains suitable habitat for foraging however proposed action not expected to have any impacts.
Bald eagle (*Haliaeetus leucocephalus)*	SMS		Near lakes, rivers and cottonwood galleries. Nests near surface water in large trees. May forage terrestrially in winter	**Unlikely**:. Helicopter activity may temporarily eliminate foraging in action area from Nov. to March.
Burrowing owl *(Athene cunicularia)*	SMS		Associated with prairie dog towns. In dry, open, short-grass, treeless plains	**Unlikely**: Project and action areas does not contain suitable habitat for foraging/nesting.
Brack's hardwall cactus (*Sclerocactus cloveriae* ssp. *brackii*)	SMS	NM-E	Sandy clay of the Nacimiento Formation in sparse shadscale scrub (5,000-6,000 ft).	**Unlikely**:Nacimiento formation does not occur in the proposed action area.
Aztec gilia (*Aliciella formosa*)	SMS	NM-E	Salt desert scrub communities in soils of the Nacimiento Formation.	**Unlikely**: Nacimiento formation does not occur in the proposed action area.

[1] SMS = Special Management Species
[2] NM-T = New Mexico Threatened Species; NM-E = New Mexico Endangered Species

APPENDIX K. IM NO. 2010-164 PUBLIC OBSERVATION OF WILD HORSE AND BURRO GATHERS

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

WASHINGTON, D.C. 20240

http://www.blm.gov

July 22, 2010

In Reply Refer To:
4710 (260) P

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

To: All Field Officials (except Alaska)

From: Assistant Director, Renewable Resources and Planning

Subject: Public Observation of Wild Horse and Burro Gathers

Program Area: Wild Horse and Burro Program

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

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

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

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

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

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

A. Safety Requirements

During WH&B gathers, the safety of the animals, the BLM and contractor personnel, and the public is of paramount importance. Because of the inherent risk involved in working with WH&B, the public will not be allowed inside corrals or pens or be in direct contact with the animals. Viewing opportunities during the gather operation must always be maintained at a safe distance (e.g., when animals are being herded into or worked at the trap or temporary holding facility, including sorting, loading) to assure the safety of the animals, the BLM and contractor personnel, and the public.

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

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

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

B. Planning for Public Observation at WH&B Gathers

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

C. Law Enforcement Plan

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

D. Temporary Closure to Public Access

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

E. Gather Contract Pre-Work Conference

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

F. Radio Communication

· Assure there is effective radio communication between law enforcement personnel, gather COR or project inspectors (PIs), and other BLM staff.
· Identify the radio frequencies to be used.
· Communication with the gather contractor is through the BLM COR or PI, and from the gather contractor to the helicopter pilot. Direct communication between BLM personnel (other than the COR) and the helicopter pilot is not permitted, unless agreed upon by the BLM authorized officer and the contractor in advance, or the pilot is requesting information from the COR.

G. Pre- and Post-Action Gather Briefings

· Pre-briefings conducted by knowledgeable and experienced BLM staff can be helpful to the public.
· The pre-gather briefing is an opportunity to explain what individuals will see, why the BLM is conducting the gather, how the animals will be handled, etc.

· Post-action briefings may also be helpful in interpreting and explaining what individuals saw, what happened, why certain actions were taken, etc.

H. Summary of Individual Roles and Responsibilities

1. District and/or Field Office Managers

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

2. Public Affairs Staff

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

3. Law Enforcement

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

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

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

Timeframe: This instruction memorandum is effective immediately.

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

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

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

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

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

Signed by:	**Authenticated by:**
Bud C. Cribley	Robert M. Williams
Acting, Assistant Director	Division of IRM Governance,WO-560
Renewable Resources and Planning	

APPENDIX L. GENERAL OPERATING AND FLIGHT RULES

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

Minimum safe altitudes: General.

Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:
(a) Anywhere. An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface.
(b) Over congested areas. Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.
(c) Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.
[(d) Helicopters, powered parachutes, and weight-shift-control aircraft. If the operation is conducted without hazard to persons or property on the surface--
(1) A helicopter may be operated at less than the minimums prescribed in paragraph (b) or (c) of this section, provided each person operating the helicopter complies with any routes or altitudes specifically prescribed for helicopters by the FAA; and
(2) A powered parachute or weight-shift-control aircraft may be operated at less than the minimums prescribed in paragraph (c) of this section.]

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