BLM

Stillwater Field Office, Nevada

FINAL ENVIRONMENTAL ASSESSMENT

Garfield Flat and Marietta Herd Management Area Gather Plan

DOI-BLM-NV-C010-2011-0529-EA

U.S. Department of the Interior
Bureau of Land Management
Carson City District
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NATIONAL SYSTEM OF PUBLIC LANDS

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1.0 Purpose of and Need for the Proposed Action

1.1 Introduction

The proposed wild horse gather for the Garfield Flat Herd Management Area (HMA) to remove excess animals and apply population control measures is scheduled to begin in January, 2012. It is anticipated that the horses in the Garfield Flat HMA would be re-gathered every two to three years over the next 10 years to re-vaccinate the mares and remove excess animals. The proposed gather for the Marietta Burro Range is currently unfunded; if funding becomes available the burro gather could begin as early as 2012. Both HMAs are located within the administrative jurisdiction of the BLM Carson City District (CCDO). HMA location maps are available in Appendix D. The Marietta Burro Range was publicly dedicated as the Marietta Wild Burro Range in 1991, and is managed principally for wild burros. The Garfield Flat HMA is managed for wild horses.

The Bureau of Land Management (BLM) proposes to gather approximately124 wild horses from the Garfield Flat HMA (based on a gather efficiency of 80%) to remove excess wild horses and apply population control measures. Should the gather efficiency approach 100% approximately155 wild horses would be gathered. A total of approximately 72 excess wild horses would be removed from the HMA. All non-excess mares released back to the HMA (approximately 26-33 mares depending on capture efficiency of the approximately 52 total wild horses to be released back into the Garfield Flat HMA) would be vaccinated or revaccinated with Porcine Zona Pellucida (PZP-22), a two year fertility control vaccine that will help reduce population growth and assist in maintaining a population size within the Appropriate Management Level (AML). At the anticipated gather efficiency of 80%, 40 male and 26 female horses would be released back into the HMA. A post gather population of 83 wild horses in the Garfield Flat HMA (the low end of AML) would be made up of approximately 50 male horses and 33 female horses at the conclusion of the gather operations.

Approximately 85 excess wild horses have become established in the Marietta Wild Burro Range HMA and all of these excess wild horses would be gathered and removed. BLM would also gather and remove approximately 66 excess wild burros from the Marietta Wild Burro Range HMA. No horses would be released back into the Marietta Wild Burro Range HMA as it is managed solely for burros and horses did not occupy it in 1971. Only excess wild burros would be captured, leaving approximately 78 burros inside the Marietta Burro Range (at low end of AML). Burros which have established home ranges outside of the Marietta Burro Range would be removed first. Upon completion of the gathers the HMAs will be within the established AML range.

Table 1: Current Population Estimates, AML Ranges, Proposed Number Of Animals To Be Removed And Proposed Number To Be Treated And Released Back Into The HMAs.

HMA	Current Estimate*	AML Range	Proposed Gather	Animals Removed	Mares Treated	Animals Released	Animals Remaining
Garfield Flat	155	83 - 125	124**	72	26-33	52***	83
Marietta horses	85	Outside of HMA	85	85	0	0	0

Marietta Burros	144	78 - 104	66	66	0	0	78
Total	384		275	223	26-33	52	161

*Population estimates are based on population inventory completed in June 2011.
** If gather efficiency of 80% is achieved.
*** A total of 83 horses will remain upon gather completion; the number of horses released will depend on gather efficiency. Female foals (fillies) would not be treated.

This Environmental Assessment (EA) is a site-specific analysis of potential impacts that could result from the implementation of the Proposed Action and No Action Alternatives. The EA will assist the BLM's Stillwater (SFO) Field Office during project planning and ensures compliance with the National Environmental Policy Act (NEPA). Preparation of an EA enables the authorizing officer to determine if significant impacts could result from implementing the Proposed Action and No Action Alternatives.

Should the determination be made that implementation of the Proposed Action would not result in "significant environmental impacts" or "significant environmental impacts beyond those already addressed in the Resource Management Plan/Environmental Impact Statement (RMP/EIS) and Management Framework Plan (MFP)", a Finding of No Significant Impact (FONSI) will be prepared to document that determination, and a Decision Record (DR) will be issued providing the rationale for approving the selected alternative.

1.2 Background

In passing the Wild Free-Roaming Horses and Burros Act of 1971 (WFRHBA) (Public Law 92-195), Congress found that: "Wild free-roaming horses and burros are living symbols of the historic and pioneer spirit of the West." The Act states that wild free-roaming wild horses (and burros) are to be considered in the area where presently found, as an integral part of the natural ecosystem of the public lands. The Secretary is directed to "manage wild free-roaming wild horses and burros in a manner that is designed to achieve and maintain a thriving natural ecological balance on the public lands." To achieve this balance, the BLM has established appropriate management levels and manages and controls wild horse population size within HMAs that have been designated for their long-term management. The terms "horse" and "wild horse" (*Equus caballus*) are used synonymously as are the terms "burro" and "wild burro (*Equus africanus asinus*) throughout this document.

Table 2: County in which the HMA is located.

HMA Name	County	Acres	Multiple Use Decision Date	AML Range	Distance from Nearest Town
Garfield Flat	Mineral	135,974	1996	83 - 125 wild horses	12 miles SE of Hawthorne.
Marietta	Mineral	66,500	1998	78 – 104 wild burros	25 miles SE of Hawthorne.

The AMLs were established through Final Multiple Use Decisions following completion of an in-depth analysis of habitat suitability, resource monitoring and population inventory data, and public input into the decision-making process. The upper limit of the AML range is the maximum number of wild horses or burros that can be maintained within a HMA while maintaining a thriving natural ecological balance

and multiple use relationship on the public lands. Establishing the AMLs within a population range allows for the periodic removal of excess animals (to the AML low end) and subsequent population growth (to the AML high end) between removals. Development of the Herd Management Area Plans (HMAP) for both HMAs included public involvement.

The BLM CCDO has previously prepared gather EAs for both HMAs as follows: The Garfield Flat Herd Management Area Plan/Capture Plan and Environmental Assessment EA No. NV-030-04-014, Marietta Wild Burro Herd Management Area Plan 1987, and the Marietta Wild Burro and Pilot Mountain Wild Horse Removal Plan 1987 EA No. NV-030-7-51. These NEPA analyses are incorporated by reference. The population inventory counts and gather history since 2000 for each HMA are listed in tables 3 and 4. The above referenced EAs are available at BLM's web site at: http://www.blm.gov/nv/st/en/fo/carson_city_field/blm_information/nepa/nepa_archives.html

Table 3: Garfield Flat HMA Population inventory and Gather History since 2000, (AML 83 - 125).

Year	Action	Number of Horses	Number of Mares Treated and released into HMA
2000	Population Inventory Count	141	
2002	Population Inventory Count	214	
2004	Removal	127	
2004	Population Inventory Count	85	
2008	Population Inventory Count	200	
2009	Removal	135	21
2009	Population Inventory Count	89	
2011	Population Inventory Count	155 85	Horses inside HMA. Horses outside of the HMA in the Marietta burro HMA.

In October, 2009, 21 mares were treated with fertility control PZP-22 vaccine and freeze-marked for future identification.

Table 4: Marietta Burro Range Population inventory and Gather History since 2000, (AML 78 - 104).

Year	Action	Number of Burros
2002	Population Inventory Count	54
2005	Population Inventory Count	92
2007	Population Inventory Count	102
2009	Removal	NV Highway Patrol (NHP) reported 6 burros killed by vehicle collisions outside of HMA boundaries during August and September. Three additional burros were reported killed along the highway by a resident.
2009	Removal	Captured 6 burros along highway 95.
2011	Population Inventory Count	144

As the burro population increases, the frequency of burros along highways U.S. 95 and Nevada State Route 360 increases. The occurrence of burro related vehicle collisions also increases.

1.3 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to ensure healthy rangelands by removing excess wild horses and burros from the HMAs so as to bring the wild horse and burro populations to the levels determined to be necessary for a thriving natural ecological balance. The proposed action would manage wild horse and burro populations within established AMLs, allowing the BLM to make significant progress in attaining the management objectives identified in the Carson City Consolidated Resource Management Plan (CRMP), and the Standards for Rangeland Health & Guidelines for Grazing Management (S&Gs) in the Sierra Front Northwestern Great Basin Area.

The proposed action is needed to comply with the WFRHBA, achieve compliance with the CRMP, reduce population growth rates, provide for public safety, improve rangeland health, and enhance the health and safety of the wild horses and burros. Management of wild horses and burros at the AMLs protects rangeland resources from deterioration that could result from wild horse and burro overpopulation and from animals moving to areas outside the HMAs due to excess numbers in the HMAs. The proposed action would also result in fewer wild horses being placed in short or long-term holding facilities over time.

1.4 Land Use Plan Conformance

The 2001 CRMP is incorporated by reference. The Proposed Action and No Action alternatives described are in conformance with pages WHB –1-5. This EA is a project specific refinement of the Lahontan EIS

(1983) and the Walker RMP (1985) focusing on the management of wild horses and burros in the Garfield Flat and Marietta Burro Ranges. The AMLs for the HMAs were established through the allotment evaluation and Final Multiple Use Decision (FMUD) process. The HMAs are located within the administrative jurisdiction of the Carson City District Office (CCDO).
The following decisions from the CRMP affect both HMAs:

1. WHB-2, decision 2 – "Maintain sound thriving populations of wild horses within HMAs."

2. WDL-3, decision 4 – "Maintain and improve wildlife habitat, and reduce habitat conflicts while providing for other appropriate resource uses."

3. WDL-2, decision 6 – "Maintain or improve the condition of the public rangelands so as to enhance productivity for all rangeland values (including wildlife)."

1.5 Relationship to Statutes, Regulations, and Other Plans

The Proposed Action is in conformance with the WFRHBA (as amended), applicable regulations at 43 CFR § 4700, Public Rangelands Improvement Act of 1978 and BLM policies. Applicable regulations and BLM policies include:

- **43 CFR 4700.0-6**: (a) "Wild horses shall be managed as self-sustaining populations of healthy animals in balance with other uses and productive capacity of their habitat".

- **43 CFR 4710.3-1: Herd management areas. "**Herd management areas shall be established for the maintenance of wild horse and burro herds. In delineating each herd management area, the authorized officer shall consider the appropriate management level for the herd, the habitat requirements of the animals, the relationships with other uses of the public and adjacent private lands, and the constraints contained in 4710.4. The authorized officer shall prepare a herd management area plan, which may cover one or more herd management areas".

- **43 CFR 4710.4: Constraints on management. "**Management of wild horses and burros shall be undertaken with limiting the animals' distribution to herd areas. Management shall be at the minimum feasible level necessary to attain the objectives identified in approved land use plans and herd management area plans".

- **43 CFR 4740.1: Use of motor vehicles or aircraft.** (a) "Motor vehicles and aircraft may be used by the authorized officer in all phases of the administration of the Act, except that no motor vehicle or aircraft, other than helicopters, shall be used for the purpose of herding or chasing wild horses or burros for capture or destruction. All such use shall be conducted in a humane manner. (b) Before using helicopters or motor vehicles in the management of wild horses or burros, the authorized officer shall conduct a public hearing in the area where such use is to be made".

- **43 USC Sec. 1901:** (4) "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".

Other Plans

- Garfield Flat Herd Management Area Plan/Capture Plan and Environmental Assessment EA No. NV-030-04-014, 2004.
- Marietta Wild Burro Herd Management Area Plan 1987.
- Marietta Wild Burro and Pilot Mountain Wild Horse Removal Plan 1987 EA No. NV-030-7-51.

1.6 Conformance with Rangeland Health Standards and Guidelines by Livestock Grazing Allotment

Maintaining wild horse and burro populations within AML sustains a healthy horse and burro population, ensures a thriving natural ecological balance, and prevents degradation of rangeland conditions by deterring negative impacts to rangeland resources that can result from wild horse and burro over population. This has been demonstrated by the evaluation of key areas and ecological sites under rangeland health assessment protocols, which indicate that damage results from over utilization of resources when populations exceed the carrying capacity of the rangeland.

The Garfield Flat Livestock Grazing Allotment/Garfield Flat HMA:

A Garfield Flat Allotment rangeland health protocol assessment evaluation of key areas and ecological sites is underway and is expected to be completed in 2013. Although the final Standards and Guidelines Assessment and Determination have not been completed, as of this date, it was noted at some of the ecological sites that excess wild horses were a contributing factor for reduced amounts of perennial grasses and forbs (http://www.blm.gov/nv/st/en/res/resource_advisory/sierra_front-northwestern/standards_and_guideline.html). During the rangeland health evaluations, wild horse sign was commonly evident and abundant, while signs of use by cattle were negligible. Excess wild horses can damage spring developments such as corrals, troughs, spring boxes and the spring source. Spring development damage is a major contributing factor to reductions in the available water supply. Maintaining wild horse numbers within the AML could reduce the occurrence of damage to springs and spring developments, thereby enhancing the availability of water for wildlife, livestock and riparian vegetation.

BLM's goal of managing vegetation utilization within the moderate or less use categories is important to establishing and maintaining sustainable rangeland plant communities. Portions of the Garfield Flat HMA are receiving heavy use in areas grazed solely by wild horses. When plants are not over utilized there is an adequate amount of photosynthetic material remaining for the production of carbohydrates to meet the vegetation's growth and respiration demands. The plants enter dormancy with more root reserves for next year's growth and reproduction.

The Belleville Livestock Grazing Allotment/Marietta Burro Range:

A Belleville Allotment rangeland health protocol assessment evaluation of key areas and ecological sites was conducted 2006 and all standards were met. (www.blm.gov/nv/st/en/res/resource_advisory/sierra_front-northwestern/standards_and_guideline.html). The Belleville Grazing Allotment comprises 19% of the Marietta Burro Range. The grazing permit for the Belleville Allotment authorizes 55 cattle with a period of use of November 1 through April 15 each year for a total of 303 AUMs. It does not appear that any domestic livestock have used the HMA portion of this allotment for at least the past several years and likely at least the past five to seven years.

Excess horses and burros have resulted in over use (heavy use in some areas) of vegetative resources. In contrast, when wild horse and burro numbers are managed within the AML, there is less competition between cattle, wildlife and horses/burros. Horses and burros also cause damage to spring developments, such as corrals, troughs, and spring boxes, and this allows damage to the springs themselves. The availability of water then becomes reduced over time.

BLM's goal of managing vegetation utilization within the moderate or less use categories is important to establishing and maintaining sustainable rangeland plant communities. Portions of the Garfield Flat HMA are receiving heavy use in areas grazed solely by wild horses. When plants are not over utilized there is an adequate amount of photosynthetic material remaining for the production of carbohydrates to meet the vegetation's growth and respiration demands. The plants enter dormancy with more root reserves for next year's growth and reproduction. By bringing wild horse and burro numbers back to AML, BLM can prevent or reduce damage to springs and spring developments, which in turn will ensure greater availability of water for all of users, including wildlife and livestock.

1.7 Decision to be Made

The BLM authorizing officer will determine whether to implement the proposed capture of wild horses and burros, removal of excess animals, and proposed vaccination of all released mares with a fertility control vaccine so as to maintain population size within the established AMLs and avoid the deterioration of the range that can result from wild horse overpopulation. The authorizing officer's decision would not set or adjust AMLs, nor would it adjust livestock use, as these were set through prior public decision-making processes. Approximately 223 excess wild horses and burros, including all wild horses and burros residing outside the HMA boundaries, would be removed from the range to achieve low range AML and to maintain a population size within the AMLs between gathers. Fertility control would not be applied to female burros (jennies).

1.8 Scoping and Identification of Issues

All individuals identified on the CCDO mailing list will be mailed a letter furnishing information on how to access the BLM website where the Garfield Flat and Marietta Gather Plan/EA will be made available for public review and comment. Consultation with the Walker River Paiute Tribe was initiated with a letter sent to Melanie McFalls, WRPT Tribal Chairperson, on Sept. 7, 2011, and included a description of the proposed project, a map of the project location, and an invitation for comments or feedback regarding the project. No formal response detailing any concerns has been brought forward by the WRPT, but consultation is ongoing.

BLM internal, external, public, State and federal agency coordination and Native American Tribes consultations were also completed during the development of the previously prepared Herd Management Area Plans (HMAP), gather plans and EAs: Garfield Flat Herd Management Area Plan/Capture Plan and Environmental Assessment EA No. NV-030-04-014, 2004. Marietta Wild Burro Herd Management Area Plan 1987 and the Marietta Wild Burro and Pilot Mountain Wild Horse Removal Plan 1987 EA No. NV-030-7-51.

The issues listed below were identified as a result of BLM's internal scoping relative to the proposed gather and removal of excess wild horses and burros and contraceptive control treatment of mares that would be identified for release back to the Garfield Flat HMA.

1. Impacts to individual wild horses and the herd. Measurement indicators for this issue include:
- Projected population size and annual growth rate (WinEquus population modeling).
- Expected impacts to individual wild horses from handling stress.
- Expected impacts to herd social structure.
- Expected effectiveness of proposed fertility control application.
- Potential effects to genetic diversity.
- Potential impacts to animal health and condition.

2. Impacts to vegetation/soils, riparian/wetland, and cultural resources. Measurement indicators for these issues include:
- Expected forage utilization.
- Potential impacts to vegetation/soils and riparian/wetland resources.

3. Impacts to wildlife, including migratory birds and BLM special status species, and their habitat. Measurement indicators for these issues include:
- Potential for temporary displacement, trampling or disturbance.
- Short and long term for potential competition over forage and water.

2.0 Proposed Action and Alternatives

2.1 Introduction

The EA describes the Proposed Action and alternatives, including those that were considered but eliminated from detailed analysis.

2.2 Description of Proposed and No Action Alternative Considered in Detail

2.2.1 Proposed Action Alternative:

The Proposed Action would involve initially gathering an estimated 240 wild horses, 66 wild burros, removing approximately 157 excess wild horses, 66 excess wild burros, and releasing 52 – 60 (dependent on capture efficiency) wild horses back into the Garfield Flat HMA after treating/retreating an estimated 26-33 mares with the fertility control vaccine (PZP-22) and adjusting the sex ratio to favor

males. The estimated 157 excess wild horses to be removed include 85 excess wild horses which are established on lands within the Marietta Wild Burro Range HMA. The use of the PZP-22 should maintain AML range by reducing the population growth rate and reduce the number of excess wild horses that would need to be removed in the future. Should the gather efficiency exceed 80% of the current wild horse populations, additional mares (up to 33 in total) would be treated and released back to the Garfield Flat HMA.

The BLM intends to continue with this treatment protocol over the next 10 years by returning to the Garfield Flat HMA every 2-3 years to continue the population growth control protocols of treating and/or re-treating the mares with fertility control and maintain AML using limited removals. If gather efficiencies utilizing a helicopter does not achieve the desired goals of the Proposed Action, water/bait trapping may be utilized to capture sufficient numbers of horses to achieve these targets.

The management actions contained within the proposed action are also supported by a recent report received from the Humane Society of the United States (HSUS) which recommends that the BLM increase the level of use of fertility control and other population control methods (sex ratio adjustments, geldings, etc.). http://www.blm.gov/wo/st/en/info/newsroom/2011/july/hsusstatement.html

The Proposed Action would allow BLM to achieve significant progress toward attainment of rangeland health standards requirements and resource objectives. Managing wild horse and burro populations within the HMAs at AML reduces movement of horses and burros outside of the HMAs in their search for forage and water. The Proposed Action would also reduce the number of excess wild horses that need to be removed from the HMAs over the long term, resulting in fewer wild horses being placed in short or long-term holding facilities with associated cost savings for the United States.

All of the mares identified for release would be treated with a two-year PZP-22 or similar vaccine and then released back to the open range. Fertility control treatment would be conducted in accordance with the approved Standard Operating and post-treatment monitoring Procedures (SOPs, Appendix A). Post-gather, every effort would be made to return the released horses to the same general area from which they were gathered.

The Garfield Flat gather would begin on or around January 2012. The start date for the Marietta burro gather will be determined based on funding (when funding becomes available). Several factors such as allocated funding, animal physical condition, herd health, weather conditions, or other considerations could result in schedule adjustments. Gather operations would be conducted in accordance with the Standard Operating Procedures (SOPs) described in the National Wild Horse and Burro Gather Contract (Appendix B). The primary gather (capture) method would be the helicopter drive method with occasional helicopter assisted roping (from horseback). Trap sites and temporary holding facilities will be located at previously used sites or other heavily surface disturbed areas (Maps 1-2) whenever possible. New undisturbed areas selected as potential trap sites or holding facilities would be inventoried for cultural resources by qualified BLM personnel. If cultural resources are encountered, the locations would be avoided, unless they could be mitigated to eliminate any impacts.

An Animal and Plant Inspection Service (APHIS) or other veterinarian may be on-site during the gathers, as needed, to examine animals and make recommendations to the BLM for care and treatment. All wild horses or burros identified as excess including any weaned foals, yearlings or orphaned foals and any wild horses residing outside the HMA boundaries would be removed and made available for adoption to qualified individuals. Old, sick or lame horses unable to maintain an acceptable body condition greater than or equal to a Henneke Body Condition Score (BCS) of 3 or with serious physical defects such as club feet, severe limb deformities, or sway back would be humanely euthanized as an act of mercy. Decisions to humanely euthanize animals in field situations would be made in conformance with BLM policy (Washington Office Instruction Memorandum 2009-041). Refer to: http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2009/IM_2009-041.html

Wild horse data including sex and age distribution, condition class information (using the Henneke rating system), color, size and other information may also be recorded. Hair samples may be collected on about 25-100 animals to assess the genetic diversity of the herds.

2.2.2 No Action Alternative:

The BLM would not conduct a capture/gather at this time. Direct management of the wild horse and burro populations in the Garfield Flat HMA and Marietta Burro Range would be deferred to a later date. No wild horses or burros would be removed from areas outside the HMA boundaries. The horse and burro populations would not be maintained at the AMLs, which represent the wild horse and burro populations compatible with ensuring a thriving natural ecological balance. The fertility control vaccine would not be administered to mares within the HMA

2.3 Summary Comparison of the Proposed Action Alternative and the No Action Alternative

Table 5: Summary Comparison of the Alternatives.

Item	Proposed Action	No Action
Impacts to Wild Horses • Wild Horse Gather and Removal Numbers. • Fertility Control - # Mares Treated. • Public Safety Concerns.	275 wild horses and burros gathered, 223 removed, 26 - 33 mares treated.	0 wild horses gathered, 0 removed, 0 treated.
Impacts to Vegetation/Soils and Riparian/Wetland Resources.	Fewer wild horses would be present so less impacts would occur to vegetation/soils and riparian/wetland resources.	Adverse impacts would continue and escalate as populations continue to grow further in excess of AMLs, further damaging vegetation/soils and riparian/wetland resources.
Impacts to Wildlife, including migratory birds and BLM special status species.	Same as above. Improvements to vegetative and riparian resources would benefit wildlife, including migratory birds	Same as above. The vegetation and riparian resources would continue to deteriorate and adverse impacts to wildlife,

	and BLM special status species.	including migratory birds and BLM special status species would be anticipated.

2.4 Additional Alternatives Considered but Dismissed from Detailed Analysis

2.4.1 Use of Bait and/or Water Trapping

The use of bait and water trapping, though effective in specific areas and circumstances, would not be timely, cost-effective or practical as the sole or primary gather method for this HMA due to the timing of the gather. However, water or bait trapping may be used on a limited or supplementary basis in order to achieve the desired goals of the Proposed Action if gather efficiencies are too low using a helicopter. The number or horses needed to be gathered and access problems to water sources on both private and seasonally on public lands within and outside the HMAs would make it difficult to restrict wild horse access to selected water trap sites to the extent necessary to capture the majority of the excess wild horses and burros. As a result, this alternative was dismissed from detailed analysis.

2.4.2 Remove or Reduce Livestock within the HMA

For Garfield Flat HMA this action would not be in conformance with the existing land use plan and is contrary to the BLM's multiple-use mission as outlined in the 1976 Federal Land Policy and Management Act (FLPMA). It would also be inconsistent with the WFRHBA, which directs the Secretary to immediately remove excess wild horses. Also livestock grazing cannot be reduced without complying with applicable statutes and regulations, including amendment of land-use plan under 43 CFR Part 1600 and public decision-making process prior to any reductions in livestock grazing as required under 43 CFR Part 4100.

Additionally this would only be effective for the very short term as the horse population would continue to increase and as wild horses are a year-round presence on the public lands, in contrast to livestock for which grazing use can be constrained and controlled in response to forage and water availability and resource concerns. Eventually the HMA and adjacent lands would no longer be capable of supporting the horse population. Removing approximately 223 excess wild horses and burros now and treating released mares with a fertility control vaccine would delay the need for future removal of excess horses. Horse populations can double every four to five years without fertility control. Livestock are only grazed on 19% of the Marietta Burro Range which is only 8% of the Belleville allotment. The amount of forage that livestock consume equates to approximately the amount used by four burros annually. Removing livestock would have a negligible effect on the number of burros that the Marietta Burro Range can support.

2.4.3 Designate the Garfield Flat HMA as a "Wild Horse and Burro Range

Designate the Garfield Flat HMA as a "Wild Horse and Burro Ranges". This action under 43 CFR 4710.3-2 would require the amendment of the CRMP, which is outside the scope of this EA. Only the BLM Director or Assistant Director (as per BLM Manual 1203: Delegation of Authority), may establish a Wild Horse and Burro Range after a full assessment of the impact on other resources through the land-use planning process. As this is not an "exclusive" designation, it potentially would not change the level

of livestock grazing permitted to occur in the area. There are currently four designated Wild Horse and Burro Ranges in the western United States that are managed principally for wild horses and burros consistent with 43 CFR 4170.3-2. These are the Pryor Mountain Wild Horse Range in Montana; the Little Book Cliffs Wild Horse Range in Colorado; the Nevada Wild Horse Range and the Marietta Wild Burro Range in Nevada.

2.4.4 Revert HMA to HA Status

"Revert the HMA to Herd Area (HA) status because all permanent natural water is located on private land". This alternative was considered but dismissed because of an existing agreement between the BLM and the land owner. The land owner has agreed to provide water to wild horses as long as the wild horse population is maintained within the established AML range.

2.4.5 Gathering the HMAs to the upper AML Range

A post-gather population size at the upper level of the AML would result in AML being exceeded with the next foaling season (spring 2012). This would be problematic for several reasons. The upper levels of the AMLs established for the HMAs represent the maximum population for which a thriving natural ecological balance can be maintained. The lower level represents the number of animals that should remain in the HMAs following a wild horse gather in order to allow for a periodic gather cycle of approximately every 4 years and to prevent the population from exceeding the established AML between gathers. The need to gather below the upper range of the 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 range land. Thus, the optimum number of horses is somewhere below the number that would cause resource damage" (118 IBLA 75).

Additionally, gathering to the upper range of AMLs would result in the need to follow up with another gather within one year, and could result in overutilization of vegetation resources, damage to the rangeland, and increased stress to wild horses. For these reasons, this alternative did not receive further consideration in this document.

2.4.6 Control of Wild Horse Numbers by Natural Means

This alternative would use natural means, such as natural predation, to control the wild horse population. This alternative was eliminated from further consideration because it is contrary to the WFRHBA which requires the BLM to protect the range from deterioration associated with an overpopulation of wild horses. It is also inconsistent with the CRMP which directs the BLM to "Remove excess wild horses and burros from public lands to preserve and maintain a thriving (natural) ecological balance and multiple-use relationship". The alternative of using natural controls to achieve a desirable AML has not been shown to be feasible in the past. Wild horse and burro populations in the Garfield Flat HMA and Marietta Burro Range are not substantially regulated by predators, as evidenced by the 20% annual increase in the wild horse populations. This alternative would result in a steady increase in the wild horse numbers which would continue to exceed the carrying capacity of the range until all of the usable forage is exhausted, after which a substantial mortality event would be expected. However, prior to a substantial mortality event occurring, the majority of native grasses would have been displaced by

invasive weeds substantially reducing the carrying capacity of the HMA for the foreseeable future. In addition many wild life species would be lost from the HMA as they rely on the native vegetation or on species which rely on native vegetation. For these reasons, this alternative was eliminated from further consideration.

2.4.7 Raising the Appropriate Management Levels for Wild Horses

This alternative was not brought forward for detailed analysis because it is outside of the scope of the analysis, and is inconsistent with the CRMP. Furthermore, in order to raise the AML for wild horses or burros, monitoring data indicating that sufficient forage, water and space are available for numbers above AML. The movement of wild horses and burros to areas outside the HMAs and available monitoring data and observations, however, indicate that the current population of wild horses and burros is negatively impacting rangeland health and that excess animals need to be removed to achieve a thriving natural ecological balance.

3.0 Affected Environment

In accordance with the BLM's NEPA Handbook (H-1790) (BLM, 2008) internal scoping was conducted by an interdisciplinary team to identify potential resources that may be impacted by the Proposed and No Action Alternatives. Relevant components of the human environment which would be either affected or potentially affected by the Proposed Action or No Action alternatives are discussed below.

3.1 General Description of the Affected Environment

Refer to the following prior EAs: Garfield Flat Herd Management Area Plan/Capture Plan and Environmental Assessment EA No. NV-030-04-014, 2004. Marietta Wild Burro Herd Management Area Plan 1987 and the Marietta Wild Burro and Pilot Mountain Wild Horse Removal Plan 1987 EA No. NV-030-7-51.
(http://www.blm.gov/nv/st/en/fo/carson_city_field/blm_information/nepa/nepa_archives.html).

3.2 Description of Affected Resources/Issues

In preparing this environmental analysis, the elements of the human environment subject to requirements in statute, regulation, or executive order which were considered in preparing the: Garfield Flat Herd Management Area Plan/Capture Plan and Environmental Assessment EA No. NV-030-04-014, Marietta Wild Burro Herd Management Area Plan 1987, and the Marietta Wild Burro and Pilot Mountain Wild Horse Removal Plan 1987 EA No. NV-030-7-51 were reviewed. The only updates to the Supplemental Authorities of the human environment are to the wildlife and migratory bird sections. Supplemental Authorities present and potentially affected by the Proposed Action and/or the No Action Alternative are discussed below.

3.3 Supplemental Authorities

Appendix 1 of BLM's NEPA Handbook (H-1790-1) identifies Supplemental Authorities that are subject to requirements specified by statute or executive order and must be considered in all BLM environmental documents. The table below lists the Supplemental Authorities and their status in the project area. Supplemental Authorities that may be affected by the Proposed Action are analyzed further in this EA.

Table 6: Supplemental Authorities Considered for Analysis.

Supplemental Authority*	Not Present	Present/Not Affected	Present/ May Be Affected	Rationale and/ or Reference Section
Air Quality	X			The affected area is not within an area of non-attainment or area where total suspended particulates or other criteria pollutants exceed Nevada air quality standards. Particulate matter (dust) from the wild horse gather is expected to be similar to that occurring from normal herd movements, and any increase in particulate matter that might occur from herding the horses to the trap sites would be of short term duration (temporary) and minimal in nature.
Areas of Critical Environmental Concern	X			Not Present
Cultural Resources		X		A review of previous cultural inventories was conducted for the holding and trap sites as identified for the current gather. The locations are within previously inventoried locations or areas of existing disturbance. In the event that any location is shifted, a cultural inventory will be conducted to ensure that cultural resources are not present or are avoided.
Environmental Justice	X			No environmental justice issues are present at or near the project.
Farm Lands (prime or unique)		X		Present, but would not be affected by the proposed action as they are fenced.
Forests and rangelands (HFRA Projects Only)	X			Not Present
Floodplains	X			No floodplains have been identified by HUD or FEMA within the project area. Floodplains as defined in Executive Order 11988 may exist in the area, but would not be affected by the proposed action.
Human Health and Safety			X	Analysis in EA.
Invasive, Nonnative and Noxious Species			X	Analysis in EA
Migratory Birds			X	Proposed action would be planned to occur outside of Migratory Bird nesting season. However, habitat may be affected. Analysis in EA.

Native American Religious Concerns	X			The following Native American Tribe (s) were notified of the proposed gather(s) Fallon Paiute-Shoshone Tribe, Walker River Paiute Tribe, Washoe Tribe of Nevada and California and the Yerington Paiute Tribe. No concerns have been identified for the horse gather (s).
Threatened and/or Endangered Species (plant and animal)	X			BLM wildlife biologists reviewed the USFWS website for Nevada's Protected Species (http://www.fws.gov/nevada/protected_species/species_by_county.html) and determined that there are no federally-listed species in the project area (Appendix X).
Wastes, Hazardous or Solid	X			No hazardous or solid wastes exist on the permit renewal area, nor would any be introduced.
Water Quality (Surface/Ground)	X			No effects to water quality are expected.
Wetlands/Riparian Zones			X	Reduced numbers of horses will lessen impacts to wetlands and riparian zones. All trap sites and disturbances will be located away from wetlands and riparian zones.
Wild and Scenic Rivers	X			Not Present
Wilderness		X		There is no designated wilderness within the gather area and All trap sites, holding facilities and disturbances will be located outside of Wilderness Study Areas. Motorized vehicles are restricted to authorized designated (cherry stemmed) roads within the WSAs.

3.4 Resources or uses other than Supplemental Authorities

The following resources or uses, which are not Supplemental Authorities as defined by BLM's Handbook H-1790-1, are also present in the area. BLM specialists have evaluated the potential impact of the Proposed Action on these resources and documented their findings in the table below.

Table 7: Resources other than supplemental authorities.

Resource or Issue	Present/Not Affected	Present/May Be Affected	Rationale
BLM Designated Sensitive Species		X	Analysis in EA
General Wildlife		X	Analysis in EA
Vegetative Resources		X	Analysis in EA
Wild Horses		X	Analysis in EA
Livestock Grazing		X	Analysis in EA
Soils/Watershed		X	Analysis in EA

3.5 Description of the Affected Environment

3.5.1 Wild Horses

Detailed information about the history of the HMAs and the wild horse and burro herds are provided in the following EAs: Garfield Flat Herd Management Area Plan/Capture Plan and Environmental

Assessment EA No. NV-030-04-014, Marietta Wild Burro Herd Management Area Plan 1987, and the Marietta Wild Burro and Pilot Mountain Wild Horse Removal Plan 1987 EA No. NV-030-7-51. Table 1 summarizes the AML, current population, and estimated excess wild horse and burros that would be removed from the affected HMAs under the Proposed Action. Reference Table 1: Current Population Estimates, AML Ranges, Proposed Number Of Animals To Be Removed And Proposed Numbers To Be Treated And Released Back Into The HMAs included in this EA section 1.1 Introduction.

The Garfield Flat HMA was last gathered to remove excess wild horses in 2009. A total of 205 horses were gathered and 135 removed. Of the horses returned to the HMA, twenty-one (21) mares were treated with Porcine Zona Pellucida (PZP-22) prior to release. The non-gathered population was estimated at 20 animals, 15 adults and 5 foals. The sex ratio of the gathered adults was 52% females and 48% males. A total of 24 mares and 45 stallions (69 animals) were released back into the Garfield Flat HMA, resulting in an estimated post-gather population of 89 horses within the HMA in 2009.

The Marietta Burro Range has not had a HMA wide gather for over 10 years, however in 2009 a total of 9 burros are known to have been killed in collisions with vehicle and 6 burros were captured near the highway in order to prevent further collisions.

Table 8: Removals, releases and treatment

HMA	Gather Date	Wild Horses Gathered	Wild Horses or Burros Removed	Males Released	Females Released	Not Captured	Total Released	Treated with PZP	Total Remaining Post-Gather Population
Garfield	2004	189	127	28	32	25	60	32	85
Garfield	2009	205	135	45	24	20	69	21	89
Marietta	2009		9						
Marietta	2009		6**						

*Killed by vehicle collisions.

**Captured along highway.

A population inventory was completed for the Garfield Flat HMA in June 2011. A total of 155 horses (145 adults and 10 foals) were counted during the aerial inventory.

A population inventory of burros in the Marietta Burro Range was also completed in June 2011, which found 144 burros and 85 wild horses. The 85 wild horses have moved from the Garfield Flat HMA and have now established home ranges within the Marietta Wild Burro HMA. These horses need to be removed, as they are consuming forage that was allocated to wild burros and the Marietta Burro Range is not managed for wild horses. These excess wild horses are contributing to over utilization of the vegetation as evidenced by heavy use in some areas solely attributed to wild horse and burro use. The population inventory shows that there are 66 excess wild burros within the Marietta Burro Range and this over-population is also contributing to over use of the vegetation.

The population count in 2011 is higher than anticipated based on the 2009 post-gather count and population growth rates. This may be because horses temporarily moved into the forested areas outside of the Garfield Flat HMA during the 2009 gather, leading to a lower post-gather count, since gather

activities can cause horses to temporarily relocate outside of the area being gathered. Those horses may have subsequently returned to the HMA which could account for the increased inventory numbers observed in 2011. Garfield Flat HMA also has a relatively high rate of wild horse population increase, at over 20 percent annually. The current population estimate for the HMA is 155 wild horses.

Results of Win Equus Population Modeling

The Win Equus Population Model was designed to project how wild horse populations may react to different management techniques. The Alternatives (1-2) were modeled using Version 3.2 of the Win Equus population model results (Jenkins, 2000) see (Appendix C). The results from the model indicate that over the next ten years the population rate of increase can be reduced from approximately 18% to 4% for the Garfield Flat HMA with PZP-22 contraception if boosters are given every three years. This equates to 178 fewer excess wild horses that would need to be gathered and placed into the adoption program or sanctuaries over an 11-year period. Table 9 below indicates through the "Total Number Removed" column for the "No Action" alternative that 307 excess horses would need to be removed in 11 years-time if excess wild horses are not removed and no population control measures are implemented under the Proposed Action.

Table 9: Summary of Population Modeling Results Garfield Flat HMA.

Population Model	Avg. Pop. Size (11 years)*	Avg. Growth Rate Next 10 Years (%)*	Total Number Gathered*	Total Number Removed*	Total Number Treated*
Proposed Action	121	4	375	111	92
Removal Only***	148	17	482	289	0
No Action	428	18		307**	0

* Median Trial

** Median number of horses needed to be removed to equal the estimated population size under the proposed action after 11 years.

Female foals (fillies) would not be treated.

***The "Removal only" scenario would be removal of excess wild horses only with no fertility control treatments applied to animals that remain in the Garfield Flat HMA.

The Win Equus population model was designed for horses, therefore, burros were not modeled and jennies will not be treated with PZP-22.

3.5.2 Vegetation

A mosaic of plant communities is present within the HMAs. Plant communities within the HMAs include the following: Small areas of riparian vegetation associated with springs, and drainages such as willow (*Salix* species), sedges (*Carex* species), saltgrass (*Distichlis* spicata), and rushes (*Juncus* species), watercress (*Nasturtium* species), rose (*Rosa species*); salt desert shrub communities, and areas of sagebrush.

The major perennial grass species found in the HMAs are Indian ricegrass (*Achnatherum hymenoides*), bottlebrush squirreltail (*Elymus elymoides*), galleta grass (*Hilaria jamesii*), needle and thread grass (*Hesperostipa comata*), desert needlegrass (*Achnatherum speciosum*), and Sandberg bluegrass (*Poa secunda*).

The major forbs species found on the HMAs are *Eriogonum* species, evening primrose (*Oenotheris biennis*), *Astragalus* species, Prince's plume (*Stanleya* species), and globemallow (*Sphaeralcea* species).

The major shrub species are Bailey greasewood (*Sarcobatus vermiculatus* var. *baileyi*), shadscale saltbush (*Atriplex confertifolia*), fourwing saltbush (*Atriplex canescens*), winterfat (*Krascheninnikovia lanata*), low sagebrush (*Artemisia arbuscula*), Wyoming big sagebrush (*Artemisia tridentata* var. *wyomingensis*), bud sagebrush or budsage (*Artemisia spinescens*), green rabbitbrush (*Chrysothamnus viscidiflorus*), littleleaf horsebrush (*Tetradymia glabrata*), and spiny hopsage (*Grayia spinosa*),

The two tree species include Utah juniper (*Juniperus osteosperma*) and singleleaf pinyon pine (*Pinus monophylla*).

Most years, including 2010 and 2011, the permittee has run less than half of the allowable numbers of cattle in the Garfield Flat grazing allotment. Use pattern transects were conducted in areas that were not grazed by livestock so all of the use in these areas is attributed to wild horses. Heavy use is occurring in the Garfield Flat HMA that is attributed solely to wild horses.

It does not appear that any livestock use has taken place inside the Marietta Burro Range for at least the past several years. Heavy use is occurring in areas grazed solely by burros and horses.

3.5.3 Invasive, Non-native, and Noxious Species

Invasive species are defined by Executive Order 13112 as "an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health". Alien refers to a species that did not evolve in the environment in which it is found or is in other words, non-native. This includes plants, animals, and microorganisms. The definition makes a clear distinction between invasive and non-native species because many non-natives are not harmful (i.e. most U.S. crops). However, many invasive species have caused great harm, according to the National Invasive Species Council.

Noxious weeds in Nevada are classified by the Nevada Department of Agriculture and the Plant Protection Act (2000) and are administered by the United States Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS). Table 7 gives examples and definitions of noxious weeds in Nevada.

Table 10: Noxious Weed Categories, Definitions, and Examples (Nevada Department of Agriculture 2010)

Type	Definition	Examples
Category A	Weeds not found or limited in distribution throughout the state; actively excluded from the state and actively eradicated wherever found; actively eradicated from nursery stock dealer premises; control required by the state in all infestations	Dyer's woad *(Isatis tinctoria)* Spotted Knapweed *(Centaurea masculosa)*
Category B	Weeds established in scattered populations in some counties of the state; actively excluded where possible, actively eradicated from nursery stock dealer premises; control required by the state in areas where populations are not well established or previously not known to occur	Russian Knapweed *(Acroptilon repens)* Scotch Thistle *(Onopordum acanthium)*

Category C	Weeds currently established and generally widespread in many counties of the state; actively eradicated from nursery stock dealer premises; abatement at the discretion of the state quarantine officer	Hoary cress *(Cardaria draba* Saltcedar (tamarisk) *(Tamarix spp)*

*For more information on noxious weeds visit: http://agri.nv.gov/nwac/PLANT_NoxWeedList.htm

The noxious weed that occurs in the HMAs is saltcedar (*Tamarix* sp.). Saltcedar is classified in Nevada as a Category C noxious weed. There were a few trees observed at two springs on private land during the June 2011 horse inventory.

Saltcedar, native to North Africa, Asia, and Europe, was brought to the United States as an ornamental. The name "saltcedar" probably refers to the salty residue that collects on the small scale- like leaves that resemble cedar foliage (Bowser 1957). The weed tolerates extreme conditions, including drought, heat, cold, salinity, fire and flooding. Each plant can produce up to 500,000 wind-blown seeds in a growing season, which generally begins in April and lasts into October. Saltcedar tends to grow in riparian areas or where water is near the surface, which disrupts native aquatic systems with its long tap roots. These tap roots are capable of intercepting deep water tables and of increasing salinity of the surrounding soil after leaves drop. In turn, native species such as willow and cottonwood are displaced leaving poor habitat and forage for wildlife. The leaves and flowers contain few nutrients for wildlife. After burning or cutting, saltcedar can easily resprout making it difficult to eliminate. A combination of chemical, mechanical, and biological control is probably the most effective management (Muzika and Swearingen 2006).

3.5.4 Livestock

Livestock grazing occurs within the HMAs as authorized through grazing permits as summarized below.

Table 11: Authorized livestock use occurs within the HMAs as shown below.

Allotment	% in HMA	HMA	Active Preference	Actual use AUMs 2010-11	Season of use
Garfield Flat.	58	Garfield Flat	694 cattle; 3,513 AUMs	1,793	11/01 - 4/15
Belleville	8	Marietta	55 cattle; 303 AUMs	303	11/01 – 4/15
Marietta	100		No Livestock		

AUMs and livestock numbers are for the entire allotments, thus the use authorized within the HMA's is substantially less. Only 19% of the Marietta Burro Range is within the Belleville allotment which comprises 8% of the Belleville allotment or the equivalent of two cows graze the Marietta Burro Range if they were permitted on a year round basis. Pasture fencing is present within the Garfield Flat Allotment, however, it is not complete and the wild horses are able to move around the end of the fences.

3.5.5 General Wildlife

Based on the Southwest Regional GAP Analysis Project, the Nevada Department of Wildlife's (NDOW) Wildlife Action Plan (2006) characterizes Nevada's vegetative land cover as falling into 8 broad ecological system groups and links those with Key Habitat types, which are further refined into Ecological Systems characterized by plant communities or associations (United States Geological

Service (USGS) 2005). The key habitats that exist within these HMAs are Intermountain Cold Desert Scrub, Desert Playas and Ephemeral Pools, Sagebrush, and Lower Montane Woodlands. Key Habitats can be used to infer likely occurrences of wildlife species assemblages when survey data are lacking, as is the case within these HMAs. Some of the known or potential wildlife species that could be supported by the plant communities in the HMAs are displayed in Appendix H. Because intensive animal surveys have not been completed, this table may not contain all species that currently inhabit the HMAs. There are several permanent water sources flowing into playas that may support various invertebrates and shorebird species in any given year within the Marietta Burro Range.

Natural water sources are limited in the Garfield Flat HMA and Marietta Burro Range and wildlife, livestock, burros, and wild horses all rely on the same limited sources. There are only two perennial water sources within the Garfield Flat HMA, both located on private property. BLM has a Use Agreement with the private landowner/water right holder for wild horse and burro use of these water sources so long as BLM maintains the populations at AML. The private landowner/water right holder has said that they would fence the water if the horses are not maintained at AML. Available data shows that water sources in the Garfield Flat HMA have been degraded from use by livestock and wild horses.

There are five areas within the Marietta Burro Range that provide perennial water. Within the Marietta Burro Range, livestock do not use any of the natural water sources therefore the degradation of water sources observed within the Marietta Burro Range is the result of use by wild burros and horses.

Mountain lions (*Felis concolor*) inhabit the HMAs and may predate foals and possibly weaker adult horses. Golden eagles (*Aquila chrysaetos*) and various other raptors inhabit and forage in the HMAs.

3.5.6 Game Species

Mule Deer ─ Mule deer (*Odocoileus hemionus*) have experienced a 50% decline in Nevada since the 1980s (Wildlife Action Plan Team 2006). Mule deer generally feed on forbs, grasses, and shrubs depending on the time of year. Forbs and grasses are most important in spring and summer while shrubs are most utilized during winter and dry summer months. These HMAs support some winter and year round mule deer habitat and distribution is limited in part by water availability (NDOW 2010).

Desert Bighorn Sheep ─ Bighorn sheep prefer areas near rough, rocky, and steep terrain; require freestanding water in the summer months or during drought; and eat grasses, shrubs, and forbs. The Excelsior Mountains support a population of bighorn sheep with water and excessive burro use identified as a limiting factor to distribution and abundance (NDOW 2010).

Pronghorn ─ Pronghorn have an evolutionary history of 20 million years in North America. They were almost wiped out in the 1800s but have rebounded due to changes in wildlife and rangeland management techniques. Pronghorn primarily eat forbs and shrubs with grasses being the least preferred forage. Both HMAs contain delineated year round habitat with wild horses, burros, and water being limiting factors to distribution and abundance (NDOW 2010).

Chukar ─ This species from the pheasant family was originally introduced from Pakistan as an upland game bird. It can be found on rocky hillsides or open and flat desert with sparse grassy vegetation.

Chukars primarily eat seeds but will forage on some insects.

3.5.7 BLM Designated Sensitive Species

Species designated as Bureau sensitive species must be native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management, and either:

1. There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range; or

2. The species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk.

A list of sensitive animal and plant species associated with BLM lands in Nevada was signed in June of 2011 (BLM 2011). Many of these animal species depend on key habitats within the HMAs. Appendix H displays sensitive species that may be present. There are no known BLM sensitive plant species that exist within the HMAs.

3.5.8 Migratory Birds

On January 11, 2001, President Clinton signed Executive Order 13186 (Land Bird Strategic Project) placing emphasis on conservation and management of migratory birds. Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 and the EO addresses the responsibilities of federal agencies to protect them by taking actions to implement the MBTA. BLM management for these species is based on Instruction Memorandum No. IM 2008-050 dated December 18, 2007 (BLM 2007). See the Affected Environment, General Wildlife section (Section 3.5.5 for a discussion on existing habitat. The migratory bird species of concern that occur or are likely to occur in the project area are displayed in Appendix H.

3.5.9 Human Health and Safety

Proposed Action Alternative

Members of the public can inadvertently wander into areas that put them in the path of wild horses that are being herded or handled during the gather operations, creating the potential for injury to the wild horses or burros and to the BLM employees and contractors conducting the gather and/or handling the horses as well as to the public themselves. Because these horses are wild animals, there is always the potential for injury when individuals get too close or inadvertently get in the way of gather activities.

Helicopter work is done at various heights above the ground, from as little as 10-15 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. These same unknown and unexpected obstacles can impact the wild horses or burros being herded by the helicopter in that they may not be able to react and can be

potentially harmed or caused to flee which can lead to injury and additional stress. When the helicopter is working close to the ground, the rotor wash of the helicopter is a safety concern by potentially causing loose vegetation, dirt, and other objects to fly through the air which can strike or land on anyone in close proximity as well as cause decreased vision. Though rare, helicopter crashes and hard landings can and have occurred (approximately 10) over the last 30+ years while conducting wild horse and burro gathers which necessitates the need to follow gather operations and visitor protocols at every wild horse and burro gather to assure safety of all people and animals involved. Flying debris caused by a helicopter incident poses a safety concern to BLM and contractor staff, visitors, and the wild horses and burros.

During the herding process, wild horses or burros will try to flee if they perceive that something or someone suddenly blocks or crosses their path. Fleeing horses can go through wire fences, traverse unstable terrain, and go through areas that they normally don't travel in order to get away, all of which can lead them to injure people by striking or trampling them if they are in the animal's path.

Disturbances in and around the gather and holding corral have the potential to injure the government and contractor staff who are trying to sort, move and care for the horses and burros by causing them to be kicked, struck, and possibly trampled by the animals trying to flee. Such disturbances also have the potential for similar harm to the public themselves.

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 (http://rgl.faa.gov/regulatory_and_guidance_library/rgfar.nsf/bf94f3f079de2117852566c70067018c/91693c93525de33e862576c100763e31) and BLM IM No. 2010-164 (http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2010/IM_2010-164.html). At recent gathers, public observers have ranged in number from only a handful of individuals to a maximum of between 15-25 members of the public. At these numbers, BLM has determined that the current level of public visitation to gather operations falls below the threshold of an "open air assembly" under the FAR regulations. 14 CFR § 91.119

Public observations sites will also be established in locations that reduce safety risks to the public (e.g., from helicopter-related debris or from the rare helicopter crash landing, or from the potential path of gathered horses), to the wild horses (e.g., by ensuring observers will not be in the line of vision of horses being moved to the gather site) and to contractors and BLM employees who must remain focused on the gather operations and the health and well-being of the wild horses. The Visitor Protocol and Ground Rules for public observation found in Appendix G provide the public with the opportunity to safely observe the gather operations. Every attempt will be made to identify observation site(s) at the gather location that offers good viewing opportunities, although there may be circumstances (flat terrain, limited vegetative cover, private lands, etc.) that require viewing locations to be at greater distances from the gather site to ensure safe gather operations.

4.0 Environmental Consequences

Environmental consequences are potential direct/indirect/residual/cumulative impacts to resources that

may result from the Proposed Action or No Action Alternative, as well as identifies the potential mitigation measures and monitoring needs associated with the specific resources.

4.1 Introduction

This section addresses the direct impacts (those that result from the management actions) and indirect impacts (those that exist once the management action has occurred).

4.2 Predicted Effects of Alternatives

The direct and indirect impacts that would be expected to result with implementation of the Proposed Action or No Action alternatives are discussed in detail below.

4.2.1 Wild Horses

Under the Proposed Action, approximately 275 wild horses and burros would be captured, of which approximately 223 excess wild horses and burros would be removed, including 85 wild horses within the Marietta Burro Range. Approximately 52 wild horses would be released back to the range after treatment of 26 - 33 mares (dependent on capture efficiency) with PZP-22. Female foals (fillies) would not be treated. Excess horses to be removed would primarily consist of the wild horses residing outside the HMAs and younger more adoptable animals gathered from within the HMA's. These animals would be transported to a BLM short-term corral facility where they would receive appropriate care and be prepared for adoption, sale (with limitations) or for shipment to a grassland pasture facility (GPF). Any old, sick or lame horses and any animals that are covered by BLM's Euthanasia Policy (e.g., that would be unable to maintain an acceptable body condition (greater than or equal to a Henneke BC of 3)) would be humanely euthanized as an act of mercy. The resulting sex ratio would be approximately 60% stallions and 40% mares. It is expected that releasing additional stallions to reach the targeted sex ratio of 60% males would result in smaller band sizes, larger bachelor groups, and some increased competition for mares. More stallions involved in breeding should result in increased genetic exchange improving the genetic health within the herd.

Fertility control would be applied to the mares selected for release, decreasing fertility and future annual wild horse population growth within the HMAs. The detailed procedures to be followed for the implementation of fertility control are described in Appendix A. Each released mare would receive a single dose of the two-year PZP contraceptive vaccine prior to release. It is anticipated that the horses in the Garfield Flat HMA would be re-gathered every two to three years over the next 10 years to re-vaccinate the mares and remove excess animals. When injected, PZP (antigen) causes the mare's immune system to produce antibodies. These antibodies bind to the mare's eggs, which effectively blocks sperm binding and fertilization (Zoo, Montana, 2000). PZP is relatively inexpensive, meets BLM requirements for safety to mares, to the environment, and can be easily administered in the field. Based on behavioral studies, PZP-22 does not cause significant changes in behavior at individual or herd levels (USGS). Additionally, PZP contraception appears to be completely reversible.

The highest success for fertility control has been obtained when applied during the timeframe of November through February. The application efficacy of the two-year PZP vaccine (representing the percent of vaccinated mares that do not foal) based on winter applications follows below:

Year 1	Year 2	Year 3	Year 4
Normal	94%	82%	094%

One-time application at the capture site would not affect normal development of a fetus, hormone health of the mare or behavioral responses to stallions, should the mare already be pregnant when vaccinated (Kirkpatrick, 1995). The vaccine has also proven to have no apparent effect on pregnancies in progress, the health of offspring, or the behavior of treated mares (Turner, 1997). Mares would foal normally in 2012 (Year 1).

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 in 3 populations of wild horses, which is consistent with Powell's (1999) findings in another population. Body condition of PZP-treated and control mares did not differ between treatment groups in Ransom et al.'s (2010) study. Turner and Kirkpatrick (2002) found that PZP-treated mares had higher body condition than control mares in another population, presumably because energy expenditure was reduced by the absence of pregnancy and lactation.

In two studies involving a total of 4 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, which 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 that 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.

The first-time application of PZP-22 at the capture site would not affect normal development of a fetus, hormone health of the mare or behavioral responses to stallions, should the mare already be pregnant when vaccinated (Kirkpatrick, 1995). The vaccine has also proven to have no apparent effect on pregnancies in progress, the health of offspring, or the behavior of treated mares (Turner, 1997). Mares would foal normally in 2012 (Year 1). There are always some portion of the wild horse population, including mares, that manage to evade capture and some mares produce a foal even when treated with PZP-22 assuring the populations will continue to have reproduction occurring. The majority of mares vaccinated with PZP under the Proposed Action would not produce a foal for the following 22 months, which would help maintain the horse populations within the AML range. It is estimated that over the next 11 years gathering and re-vaccinating mares every 2 or 3 years will result in at least178 fewer excess horses recruited into the population. PZP-22 can safely be repeated in 2 years or as necessary to control the population growth rate. The probability of long-term infertility using PZP-22 is very low, and many mares retreated even after 3 years will return to normal fertility after the second treatment wears off (Turner, pers. comm.). After the contraceptive wears off, the population will increase at or slightly above the normal growth rate for the HMAs.

The fertility control treatment would be controlled, handled, and administered by a trained BLM employee. Mares receiving the vaccine 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 in treated mares. Any direct impacts 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 recover quickly once released back to the HMA, and none are expected to have long term consequences from the fertility control injections. Released stallions may also be freeze marked to aid in determining the accuracy of future inventory flights and efficiency of the current gather.

Direct and Indirect Gather Impacts

The BLM has been conducting wild horse and burro gathers since the mid-1970s. During this time, methods and procedures have been identified and refined to minimize stress and impacts to wild horses and burros during gather implementation. The SOPs in Appendix B would be implemented to ensure a safe and humane gather occurs and to minimize potential stress and injury to wild horses and burros. Various impacts to wild horses and burros as a result of gather activities have been observed. Under the Proposed Action, impacts to wild horses and burros would be both direct and indirect, occurring to both individual animals and the population as a whole.

In any given gather, gather-related mortality averages about one half of one percent (0.5%), which is very low when handling wild animals. Approximately, another six-tenths of one percent (0.6%) of the captured animals could be humanely euthanized due to pre-existing conditions and in accordance with BLM policy, according to the Government Accountability Office (GAO-09-77). The data affirms that the use of helicopters and motorized vehicles has proven to be a safe, humane, effective, and practical means for the gather and removal of excess wild horses and burros from the public lands. The BLM also avoids gathering wild horses by helicopter during the six weeks prior to and six weeks following the peak of foaling (mid-April to mid-May), therefore the BLM does not use a helicopter to gather wild horses between March 1 through June 30. In many areas including the Marietta Burro Range the burros do not exhibit a peak foaling period and the helicopter use period restrictions applicable to wild horses does not apply.

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

Other injuries may occur after a horse or burro has been captured and is either within the trap site corral, the temporary holding corral, during transport between facilities, or during sorting and handling. Occasionally, horses and to a lesser extent burros may sustain a spinal injury or a fractured limb, but based on prior gather statistics serious injuries requiring humane euthanasia are rare. Similar injuries

could be sustained if wild horses or burros were captured through bait and/or water trapping, as the animals still need to be sorted, aged, transported, and otherwise handled following their capture. These injuries result from kicks and bites, or from collisions with corral panels or gates.

To minimize the potential for injuries from fighting, the animals are transported from the trap site to the temporary (or short-term) holding facility where they are sorted as quickly and safely as possible, then moved into large holding pens where they are provided with hay and water. On many gathers, no wild horses or burros are injured or die. On some gathers, due to the temperament of the horses, they are not as calm and injures are more frequent. Indirect individual impacts are those which occur to individual wild horses or burros after the initial event. These may include miscarriages in females, increased social displacement, and conflict between males. These impacts, like direct individual impacts, are known to occur intermittently during wild horse and burro gather operations. An example of an indirect individual impact would be the brief 1-2 minute skirmish between older males which ends when one male retreats. Injuries typically involve a bite or kick with bruises which do not break the skin. Like direct individual impacts, the frequency of these impacts varies with the population and the individual. Observations following capture indicate that the potential for miscarriages varies, but is more likely if the mares are in very thin body condition or in poor health.

A few foals may be orphaned during a gather. This can occur if the mare or jennie rejects the foal, the foal becomes separated from its mother and cannot be matched up following sorting, the mare or jennie dies or must be humanely euthanized during the gather, the foal is ill or weak and needs immediate care that requires removal from the mother, or the mother does not produce enough milk to support the foal. Due to the timing of the proposed gather, it is unlikely that orphan foals will be encountered as the majority of the current year's (2011) foals will be already weaned from their mothers and will be 6-10 months old. In private industry, domestic horses are normally weaned between four and six months of age. On occasion, foals are gathered that were previously orphaned on the range (prior to the gather) because the mother rejected it or died. These foals are usually in poor, unthrifty condition. Every effort is made to provide appropriate care to orphan foals. Veterinarians may administer electrolyte solutions or orphan foals may be fed milk replacer as needed to support their nutritional needs. Orphan foals may be placed in a foster home in order to receive additional care. Despite these efforts, some orphan foals may die or be humanely euthanized as an act of mercy if the prognosis for survival is very poor.

In some areas, gathering wild horses and burros during the winter may avoid the stress that could be associated with a summer gather. By fall and winter, foals are of good body size and sufficient age to be easily weaned. Winter gathers are often preferred when terrain and higher elevations make it difficult to gather wild horses or burros during the summer months. Under winter conditions, horses and burros are often located in lower elevations due to snow cover at higher elevations. This typically means the horses and burros will be closer to the potential trap sites and reduces the potential for fatigue and stress. While deep snow can tire horses and burros as they are moved to the trap site, the helicopter pilots allow the horses and burros to travel slowly at their own pace. Trails in the snow are often followed to make it easier for horses and burros to travel to the trap site. On occasion, trails can be plowed in the snow to facilitate the safe and humane movement of horses to a trap.

In some areas, a winter gather may result in less stress as the cold and snow does not affect wild horses and burros to the degree that heat and dust might during a summer gather. Wild horses and burros may be able to travel farther and over terrain that is more difficult during the winter, even if snow does not cover the ground. Water requirements are lower during the winter months, making distress from heat exhaustion extremely rare. By comparison, during summer gathers, wild horses and burros may travel long distances between water and forage and become more easily dehydrated. Most summer related concerns can be mitigated by conducting gather activities during the early morning hours when it is cooler. Temperature related concerns in the winter can be avoided by limiting activities when temperatures are below zero.

Through the capture and sorting process, wild horses and burros are examined for health, injury and other potential physical 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 (refer to SOPs, Appendix B). Animals that are euthanized for non-gather related reasons include those with old injuries (broken or deformed limbs) that cause lameness or prevent the animal from being able to maintain an acceptable body condition (greater than or equal to BCS 3); old animals that have serious dental abnormalities or severely worn teeth and are not expected to maintain an acceptable body condition, and wild horses or burros that have serious physical defects such as club feet, severe limb deformities, limb and dental deformities, or sway back. Some of these conditions have a causal genetic component and the animals should not be returned to the range in order to prevent suffering, as well as to avoid amplifying the incidence of the problem in the population.

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

It is not expected that genetic health would be impacted by the Proposed Action as the AML ranges should provide for acceptable genetic diversity.

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

Over the next 11 years, implementation of the Proposed Action could result in as many as 178 fewer excess wild horses and burros which would require removal from the range. For every excess horse not adopted or sold, a cost to the American taxpayer of up to $12,000 per animal over 20 years would accrue.

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

Approximately 223 excess horses and burros would be removed. Animals would be transported from the capture/temporary holding corrals to the designated BLM short-term holding corral facility(s). From there, they would be made available for adoption or sale to qualified individuals or sent to grassland pasture facilities (GPFs).

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

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

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

At short-term corral facilities, a minimum of 700 square feet is provided per animal. Mortality at short-term holding facilities averages approximately 5% per year (GAO-09-77, Page 51), and includes animals euthanized due to a pre-existing condition; animals in extremely poor condition; animals that are injured and would not recover; animals which are unable to transition to feed; and animals which are seriously injured or accidentally die during sorting, handling, or preparation. Approximately 12,000 excess wild horses are being maintained within BLM's short-term holding facilities.

Adoption or Sale with Limitations, and Grassland Pasture Facilities

Adoption applicants are required to have at least a 400 square foot corral with panels that are at least six feet tall for horses over 18 months of age and at least four and a half feet tall for burros. Applicants are required to provide adequate shelter, feed, and water. The BLM retains title to the horse or burro for one year and the animal and the facilities are inspected to assure the adopter is complying with the BLM's requirements. After one year, the adopter may take title to the horse or burro after an inspection from a humane official, veterinarian, or other individual approved by the authorized officer, at which point the horse becomes the property of the adopter. Adoptions are conducted in accordance with 43 CFR 4750.

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

Since fiscal year 2008, the BLM has removed over 31,680 excess wild horses or burros from the Western States. Most animals not immediately adopted or sold have been transported to long-term grassland pastures facilities in the Midwest. Unadopted animals 5 years of age and older are transported to GPFs. Each GPF is subject to a separate environmental analysis and decision making process. Animals in GPFs remain available for adoption or sale to individuals interested in acquiring a larger number of animals who can provide the animals with a good home. The BLM has maintained GPFs in the Midwest for over 20 years.

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

GPFs are designed to provide excess wild horses with humane, life-long care in a natural setting off the public rangelands. The 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. Approximately 28,600 wild horses, that are in excess of the existing adoption or sale demand (because

of age or other factors), are currently located on private grassland pasture facilities in Iowa, Kansas, Oklahoma, and South Dakota. Located in mid or tall grass prairie regions of the United States, these GPFs are highly productive grasslands as compared to more arid western rangelands. These pastures comprise approximately 256,000 acres (an average of about 8-10 acres per animal). The majority of these animals are older in age. The adoption demand for burros exceeds the number of excess burros, therefore, burros are not placed into GPF.

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

Euthanasia and Sale without Limitation

While humane euthanasia and sale without limitation of healthy horses for which there is no adoption demand is authorized under the WFRHBA, Congress prohibited the use of appropriated funds between 1987 and 2004 and again in 2010 for this purpose. It is unknown if a similar limitation will be placed on the use of FY2011 appropriated funds. Sale with limitations has been used by the BLM since 2005 when the Act was amended.

No Action Alternative

Under the No Action Alternative, there would be no active management to maintain the population sizes within the established AMLs at this time. In the absence of a gather, wild horse populations would continue to grow at an average rate of approximately 20% per year and the wild burro population would also continue to increase at approximately 10% per year.

If No Action is taken, excess wild horses and burros would not be removed from within or outside the Garfield Flat HMA and Marietta Burro Range and the wild horse and burro populations would not be brought to AML at this time. The animals would not be subject to the individual direct or indirect impacts as a result of a gather operation in winter, 2012. Over the short-term, individual animals in the herd would be subject to increased stress and possible death as a result of increased competition for water and forage as the population continues to grow even further in excess of the land's capacity to meet the wild horses' habitat needs. The areas currently experiencing heavy utilization by wild horses would increase over time. This would be expected to result in increasing damage to rangeland resources throughout the HMAs. Trampling and trailing damage by wild horses in/around riparian areas would also be expected to increase, resulting in larger, more extensive areas of bare ground. Competition for

the available water and forage between wild horses, domestic livestock, and native wildlife would continue and further increase.

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 project area. Throughout the HMAs few predators exist to control wild horse populations. Some mountain lion predation likely occurs, but does not appear to be substantial. Coyotes are not prone to prey on wild horses unless young, or extremely weak. Other predators such as wolf or bear do not inhabit the area. Being 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. Individual horses would be at risk of death by starvation and lack of water as the population continues to grow. The wild horses would compete for the available water and forage resources, affecting mares and foals most severely. Social stress would increase. Fighting among male horses would increase as they protect their position at scarce water sources, as well as injuries and death to all age classes of animals. Significant loss of the wild horses in the HMAs due to starvation or lack of water would have obvious consequences to the long-term viability of the herd. Allowing horses to die of dehydration and starvation would be inhumane treatment and would be contrary to the WFRHBA, 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".* Once the vegetative and water resources are at these critically low levels due to excessive utilization by an over population of wild horses, the weaker animals, generally the older animals and the mares and foals, are the first to be impacted. It is likely that a majority of these animals would die from starvation and dehydration. The resultant population would be heavily skewed towards the stronger stallions which would lead to significant social disruption in the HMAs. By managing the public lands in this way, the vegetative and water resources will be impacted first and to the point that they have no potential for recovery. This degree of resource impact would lead to management of wild horses at a greatly reduced level if BLM is able to manage for wild horses at all on the HMAs in the future. As a result, 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.

As populations increase beyond the capacity of the habitat, more bands of horses would also leave the boundaries of the HMA in search of forage and water, thereby increasing impacts to rangeland resources outside the HMA boundaries as well. This alternative would result in increasing numbers of wild horses in areas not designated for their use, and would not achieve the stated objectives for wild horse herd management areas, namely to "prevent the range from deterioration associated with overpopulation", and "preserve and maintain a thriving natural ecological balance and multiple use relationship in that area".

4.2.2 Vegetation

Proposed Action Alternative

Native plant communities can only sustain a certain level of grazing utilization. Monitoring data has shown heavy use in both HMA's contributed to excess wild horses and burros (burros Marietta Burro Range). The upper limit of the AML range is the maximum number of wild horses or burros that can be maintained within an HMA to achieve a thriving ecological balance and not adversely impact the plant community in combination with other multiple uses such as wildlife and livestock grazing. The proposed action would also help in achieving and maintaining the wild horse and burro populations within AML, vegetative health would be promoted. Reduced numbers of horses will lessen impacts to wetlands and riparian zones. All trap sites and disturbances will be located away from wetlands and riparian zones. Very little domestic livestock use occurs within the Marietta Burro Range, approximately 24 AUMs annually the equivalent of two cows for a year.

No Action Alternative

Under the no action alternative wild horse and burro populations would continue to increase. When wild horse and burro populations are above AML, overutilization of vegetation occurs, as evidenced by monitoring data showing heavy use attributed to horse and burro grazing which confirms that the populations are in excess of the levels at which healthy rangelands can be maintained. The potential negative effects of over-utilization to vegetation are root crown damage, plant stress and the reduced ability of forage species to reproduce and compete with other species in the plant community. If wild horse and burro populations continue to grow, desirable plant species would eventually be lost from the HMAs and surrounding areas. Areas of the Marietta Burro Range have lost Indian rice grass plants due to years of over use. Indian rice grass is an important forage plant to horses and burros. Maintaining and achieving the standards and guidelines for rangeland health would not occur.

A greater number of excess wild horses and burros would eventually need to be removed in future gathers to achieve AML and to reverse resource degradation from an overpopulation of wild horses. Compliance with the CRMP or with promoting a healthy natural ecological habitat in conformance with rangeland health standards and the provisions of Section 1333 (a) of the WFRHBA would not be met.

4.2.3 Invasive, Non-native, and Noxious Weeds

Proposed Action Alternative

Intact healthy native plant communities are more resistant to the establishment and spread of noxious weeds. By managing wild horses and burros at a level compatible with the native plant communities, noxious weeds will be less likely to become established and spread.

BLM would inspect trap areas and any invasive and noxious weeds would be avoided when establishing trap and/or holding facilities, and would not be driven through with motorized vehicles. Noxious weed monitoring at trap/holding sites would be conducted. All noxious weeds discovered on the HMAs would be recorded, to include the species, size of the infestation, cover class, distribution of plants (linear or irregular), and location. The Stillwater Field Office weed coordinator would be notified of any weeds found and provided with this information. All noxious weeds found will be treated and evaluated under the noxious weed program. Treatment methods could include biological, cultural/mechanical, and chemical control. When applicable, several of these methods would be combined into an integrated pest management program in order to reduce costs and risks to humans and the environment.

If chemical control is the treatment method, a Pesticide Use Proposal would be submitted to the Nevada State Office weed coordinator, which would specify the most appropriate herbicide for the site and noxious weed species, as well as the application rate of the herbicide. Any herbicide selection and application would be in conformance with Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (EIS) and Record of Decision (ROD) (BLM 2007a,b).

There may be an increased threat of noxious weeds being introduced into the HMAs by administrative vehicles

No Action Alternative
Under the no action alternative the wild horse and burro populations would continue to increase and eventually the health of the native plant communities would become stressed; thereby facilitating the establishment and spread of noxious weeds.

Under the no action alternative, the HMA's would be routinely surveyed along roadways and other disturbed areas for new weed infestations. The Stillwater Field Office weed coordinator would be notified of any weeds found and provided with the species, size of the infestation, cover class, distribution of plants (linear or irregular), and location for treatment under the noxious weed program. Treatment methods could include biological, cultural/mechanical, and chemical control. When applicable, several of these methods would be combined into an integrated pest management program in order to reduce the costs and risks to humans and the environment. Areas previously treated with herbicides would continue to be monitored.

4.2.4 Livestock

Proposed Action Alternative
Livestock could be temporarily disturbed and/or displaced as a result of helicopter and gather operations. These impacts would be minor and temporary as livestock would likely only be displaced a short distance and return to their normal distribution soon after completion of the gather.

Under the proposed action, there would be indirect beneficial impacts since the health, vigor, recruitment, and production of perennial grasses, forbs, and shrubs should improve following implementation of the proposed gather. This would provide an increase in palatable and a more nutritional source of forage for the cattle. Implementation of the proposed action would assist the HMA's in remaining in conformance with all of the Standards and Guidelines for Rangeland Health (BLM 2003). Soil site stability, hydrologic function, and the biotic integrity for each treated area should move closer to each ecological site's capacity for the capture, storage, and safe release of precipitation, the conversion of sunlight to plant and then animal matter, and the cycle of nutrients through the environment.

No Action Alternative
There would be no disturbance or displacement of livestock as a result of helicopter or gather operations. Loss of desirable plant species would affect livestock grazing as a result of over utilization

of forage by an excess number of wild horses and burros above AML. However, very little domestic livestock use occurs within the Marietta Burro Range, approximately 24 AUMs annually or the equivalent of two cows for a year.

4.2.5 General Wildlife

Proposed Action Alternative

Direct, short-term, localized impacts could occur to wildlife species during gather operations. Wildlife, including small mammals, rodents, and reptiles, could be trampled or have burrows destroyed. Potential spatial displacement to big game, upland game, and resident birds would likely be temporary.

Beneficial indirect effects to wildlife resources would be expected from a reduction in horse and burro numbers to within AMLs, because the health of rangeland resources necessary for wildlife habitat would be protected by avoiding the habitat degradation associated with wild horse and burro overpopulation. Managing horses and burros within AMLs should provide adequate habitat requirements of forage, water, cover, and space for wildlife species.

Overall, if the gather and contraception efforts are successful, the reduction in overall utilization and competition for forage by removing excess wild horses and burros would benefit species dependent on these key habitats for food, water, and cover. Additionally, species that prey on wildlife that inhabit these plant communities, such as golden eagles, may benefit from an increased prey base over time.

No Action Alternative

While no direct, short-term, localized impacts from potential trampling and spatial displacement would occur to wildlife species because no gather operations would occur, horse and burro populations would continue to increase above the upper limit of the AML. This can indirectly have long-term negative impacts to wildlife resources. Wild horses primarily eat native bunchgrasses so dietary overlap between horses and mule deer, as well as pronghorn, has been documented as minimal (1%). Dietary overlap with desert bighorn sheep has been documented around 50% when averaged throughout the year (Hanley & Hanley 1982, Hansen et al. 1977). If AML is exceeded over time and overutilization of vegetation and water sources by wild horses occurs, this is a factor in decreasing plant diversity and altering habitat structure (Beever and Brussard 2000). A less diverse plant community can be vulnerable to fire and in turn invasive grasses such as cheatgrass. Cheatgrass displaces native perennial shrub, grass, and forb species because of its ability to outcompete native plants for water and nutrients by germinating earlier and quicker. Cheatgrass is also adapted to recurring fires that are perpetuated in part by the fine dead fuels that it leaves behind. In general, most wildlife species have a difficult time thriving in these altered fire regimes because diverse native vegetation is required for food, water, and cover. Beever at al. (2008) conducted a study of vegetation response to removal of horses in 1997 and 1998 and concluded that sites from which horses had been removed exhibited 1.1–1.9 times greater shrub cover, 1.2–1.5 times greater total plant cover, 2–12 species greater plant species richness, 1.9–2.9 times greater native grass cover, and 1.1–2.4 times greater frequency of native grasses than did horse-occupied sites.

Burros also consume bunchgrasses, brush and shrub species increasing their dietary overlap with desert bighorn sheep, pronghorn and deer.

The effects of wild horses and burros are not uniform across the landscape. Horses and burros will utilize areas of the HMAs that have more grasses because they are primarily grazers. Decreased cover and diversity of grasses and shrubs as well as decreased mammal burrow density have been documented at water sources utilized by wild horses (Beever and Brussard 2000, Ganskopp and Vavra 1986). Small mammals are a prey base for many species and as a result, less prey can negatively affect raptors and carnivores that may inhabit the area. Mountain lion populations have been kown to predate foals which in turn increased lion numbers (Turner and Morrison 2001).

4.2.6 BLM Sensitive Species

Proposed Action Alternative

Impacts would generally be the same to BLM sensitive species as described in the Environmental Consequences, General Wildlife section (Section 4.2.5. Managing horses and burros within AML should ensure habitat conditions that, over time, would benefit sensitive species by providing a diverse vegetation structure and composition that provides for the applicable life cycle requirements of any given species.

By reducing current levels of competition for water and forage resulting from excess wild horses and burros would be beneficial to sensitive species dependent on key habitats for water, food, and cover. Sensitive species such as the golden eagle or burrowing owl that forage in the HMAs would benefit from a healthy prey base.

No Action Alternative

Monitoring data shows that over-utilization of forage by wild horses and burros is occurring and will continue to increase if population numbers are not maintained within the AML ranges. Habitat could become degraded, which would decrease forage and cover available to BLM sensitive species. Prey for BLM sensitive species could also decline. Over time this could decrease the abundance of sensitive species that inhabit the HMAs.

4.2.7 Migratory Birds

Proposed Action Alternative

Gather operations would not be expected to directly impact breeding populations of migratory bird species because operations would occur in winter outside the breeding season. Direct short-term (temporary), localized impacts could occur to resident birds during gather operations via potential spatial displacement of individual birds.

For reasons described in the Environmental Consequences, General Wildlife section (Section 4.2.5), managing wild horse and burro populations within AML should maintain habitat conditions that benefit migratory bird species over the long-term by providing a diverse vegetation structure that provides for the applicable components of the life cycle requirements that any given species may need to successfully reproduce.

No Action Alternative

While no direct, short-term (temporary), localized impacts from potential spatial displacement would occur to migratory birds, because no gather operations would occur, horse and burro populations would

continue to increase even further over the upper limit of the AML ranges which would indirectly have long-term negative impacts to wildlife resources. Over-utilization of forage by wild horses and burros would continue to occur. Habitat would continue to be degraded, which would decrease forage and cover available to migratory bird species. Over time this could decrease the abundance of species that inhabit the HMAs.

Key Habitat types and associated Ecological Systems (plant communities) in the HMAs that could potentially be affected directly or indirectly by the Proposed Action are displayed in Table 12.

Table 12: **Key Habitat types and associated Ecological Systems that may exist and be potentially affected in the Garfield Flat HMA and Marietta Burro Range. Based on SWReGAP descriptions (USGS 2005).**

Key Habitat / Associated Ecological System(s)	Potential Plant Species	Scientific Name
Intermountain Cold Desert Scrub / Intermountain Basins Mixed Salt Desert Scrub	Alkali sacoton	*Sporobolus airoides*
Sagebrush / Great Basin Xeric Mixed Sagebrush Shrubland, Inter-Mountain Basins Big Sagebrush Shrubland, Inter-Mountain Basins Semi-Desert Grassland	Big galleta	*Pleuraphis rigida*
Lower Montane Woodlands / Great Basin Pinyon-Juniper Woodland	Bailey's greasewood	*Sarcobatus vermiculatus* var. *baileyi*
	Big sagebrush	*Artemisia tridentata*
	Black sagebrush	*Artemisia nova*
	Bottlebrush squirreltail	*Elymus elymoides*
	Bud sagebrush	*Picrothamnus desertorum*
	Common spikerush	*Eleocharis palustris*
	Desert needlegrass	*Achnatherum speciosum*
	Fourwing saltbush	*Atriplex canescens*
	Galleta	*Pleuraphis jamesii*
	Indian ricegrass	*Achnatherum hymenoides*
	Low sagebrush	*Artemisia arbuscula*
	Nevada jointfir	*Ephedra nevadensis*
	Needle and thread grass	*Hesperostipa comata*
	Rubber rabbitbrush	*Ericameria nauseosa*
	Saltbush spp	*Atriplex spp*
	Sandberg bluegrass	*Poa secunda*
	Shadscale saltbush	*Atriplex confertifolia*
	Spiny hopsage	*Grayia spinosa*
	Winterfat	*Krascheninnikovia lanata*
	Yellow rabbitbrush	*Chrysothamnus viscidiflorus*

4.2.8 Human Health and Safety

Proposed Action- Public safety as well as that of the BLM and contractor staff is always a concern during the gather operations and is addressed through the implementation of Visitor and Ground Rules (see Appendix G) that have been used in recent gathers to ensure that the public remains at a safe distance and does not impede gather operations. Appropriate BLM staffing (public affair specialists and law enforcement officers) will be present to assure compliance with visitation protocols at the site. All helicopter operations must also be in compliance with FAR 91.119 to minimize risks to observers on the ground. 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.

No Action Alternative

There would be no gather related safety concerns for BLM employees, contractors and the general public as no gather activities would occur.

4.3 Cumulative Effects for All Alternatives

The NEPA regulations define cumulative effects as impacts on the environment that result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such actions (40 CFR 1508.7). Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time. The relevant supplemental authorities and resources other than supplemental authorities identified by the internal BLM ID team during scoping for the Proposed Action related to wild horses and burros, vegetation resources, wetlands and riparian zones, noxious and invasive species, wildlife, BLM designated sensitive species, migratory birds, livestock grazing, soils, watershed and human health and safety. The Herd Management Area Plans completed for the 2 HMAs evaluated habitat, established short and long-term management and monitoring objectives for the wild horse populations. The Cumulative Effects Study Area (CESA) for evaluating the Proposed and Alternative actions for this EA is the Garfield Flat HMA and Marietta Burro Range.

4.3.1 Past and Present Actions

The actions which have influenced today's wild horse and burro populations are primarily gathers, which have resulted in the removal of 264 excess horses from the Garfield Flat HMA since 2000. Gathers prior to 2000 have had an influence on the Marietta burro population, along with vehicular collisions. The BLM is aware of nine burro deaths within the past several years resulting from vehicle collisions; it is possible there have been more. Refer to EAs Garfield Flat Herd Management Area Plan/Capture Plan and Environmental Assessment EA No. NV-030-04-014, Marietta Wild Burro Herd Management Area Plan 1987, and the Marietta Wild Burro and Pilot Mountain Wild Horse Removal Plan 1987 EA No. NV-030-7-51 for additional information.

4.3.2 Reasonably Foreseeable Future Actions

Over the next 10-20 year period, reasonably foreseeable future actions include gathers about every two-three years to revaccinate the mares and remove a few excess wild horses and burros (burro removals would likely occur every 3 to 5 years) in order to manage population size within the established AML range. The HMAPs which have been completed for the two HMAs to establish short and long-term management and monitoring objectives for the herd and its habitat will be evaluated. Any future wild

horse or burro management would be analyzed in appropriate environmental documents following site-specific planning with public involvement.

Other reasonably foreseeable future actions include the transport, handling, care, and disposition of the excess wild horses and burros removed from the range. Initially wild horses and burros would be transported from the capture/temporary holding corrals to a designated BLM short-term holding corral facility. From there, the animals would be made available for adoption or sale to individuals who can provide a good home, or to GPFs.

Table 13: Past, Present and Reasonably Foreseeable future actions applicable to the CESA.

Project -- Name or Description	Status (x)		
	Past	Present	Future
Issuance of multiple use decisions and grazing permits for ranching operations through the allotment evaluation process and the reassessment of the associated allotments.	X	X	X
Livestock grazing.	X	X	X
Wild horse and burro gathers.	X	X	X
Invasive weed inventory/treatments.	X	X	X
Wild horse and burro issues, issuance of multiple use decisions AML adjustments and planning.	X	X	X

4.4 Summary of Past, Present, and Reasonably Foreseeable Future Actions

Proposed Action Alternative

The cumulative effects associated with the capture and removal of excess wild horses, wild burros and the application of fertility control vaccine to released mares includes a gather-related mortality of less than 1% of the captured animals, about 5% per year associated with transportation, short term holding, adoption or sale with limitations and about 8% per year associated with long-term holding. This compares with a natural mortality on the range of 5-8% per year for foals (animals under age 1), about 5% per year for horses ages 1-15, and 5-100% for animals age 16 and older (Stephen Jenkins, 2002, Garrott and Taylor, 1990). In situations where forage and/or water are limited, mortality rates increase, with the greatest impact to young foals, nursing mares, nursing jennies and older animals. Animals can experience lameness associated with trailing to/from water and forage, foals may be orphaned (left behind) if they cannot keep up with their mare, or animals may become too weak to travel. After suffering, often for an extended period, the animals may die. Before these conditions arise, the BLM generally removes the excess animals to prevent their suffering from dehydration or starvation.

While humane euthanasia and sale without limitation of healthy horses for which there is no adoption demand is authorized under the WFRHBA, Congress prohibited the use of appropriated funds between 1987 and 2004 and again in 2010 for this purpose. It is unknown if a similar limitation will be placed on the use of FY2011 appropriated funds.

The other cumulative affects which would be expected when incrementally adding either of the Action Alternatives to the CESA would include continued improvement of upland vegetation conditions, which would in turn benefit permitted livestock, native wildlife, wild horse and burro population as forage

(habitat) quality and quantity is improved over the current level. Application of fertility control should slow population growth and result in fewer excess wild horses that need to be removed. The return of wild horses or burros back into the HMA could lead to increased difficulty and greater costs to gather horses in the future as released horses learn to evade the helicopter.

Cumulatively, there should be more stable wild horse and burro populations, less competition for limited forage and water resources, healthier rangelands and wild horses and burros, and fewer multiple use conflicts in the area over the short and long-term. Over the next 10-20 years, continuing to manage wild horses and burros within the established AML range would achieve a thriving natural ecological balance and multiple use relationship on public lands in the area.

No Action Alternative

Under the No Action Alternative, the wild horse population could exceed 497 for the Garfield Flat HMA including horses outside of the HMA in four years, and the burro populations could exceed 200. Increased movement outside the HMA would be expected as greater numbers of horses and burros search for food and water. Heavy to excessive utilization of the available forage would be expected and the water available for use could become increasingly limited. Emergency removals could be expected in order to prevent individual animals from suffering or death as a result of insufficient forage and water. Cumulative effects would result in foregoing the opportunity to improve rangeland health and to properly manage wild horses and burros in balance with the available forage and water and other multiple uses. Attainment of site-specific vegetation management objectives and Standards for Rangeland Health would not be achieved. AML would not be achieved and the opportunity to collect the scientific data necessary to re-evaluate AML levels, in relationship to rangeland health standards, would be foregone.

5.0 Monitoring and Mitigation Measures

The BLM COR and PIs assigned to the gather would be responsible for ensuring contract personnel abide by the contract specifications and the SOPs (Appendix B). Ongoing monitoring of forage condition and utilization, water availability, aerial population surveys, and animal health would continue. Fertility control monitoring would be conducted in accordance with the SOPs (Appendix A).

6.0 List of Preparers

The following list identifies the interdisciplinary team member's area of responsibility:

Internal CCDO Review

Name	Title	Responsible for the Following Section(s) of this Document
Terri Knutson	**Field Manager**	
John Axtell	**Wild Horse Specialist**	**Project Lead/ Wild Horse**
John Wilson,	**Wildlife Biologists**	**Wildlife, Migratory Birds, and Special Status Species**

Steve "Chip" Kramer,	**NEPA Coordinator**	**NEPA, Air Quality, Environmental Justice, Human Health and Safety**
Jill Devaurs	**Rangeland Management Specialist & Weed Coordinator**	**Livestock Grazing & Non-native Invasive Species Including Noxious Weeds**
Chelsy Simerson	**Rangeland Management Specialist**	**Livestock Grazing, Soil and Water**
Susan McCabe,	**Archaeologists**	**Cultural Resources and Native American Religious Concerns**
Dan Westermeyer	**Outdoor Recreation Planner**	**Wilderness Study Areas**

7.0 Consultation and Coordination

Public hearings are held annually on a state-wide basis regarding the use of motorized vehicles, including helicopters and fixed-wing aircraft, in the management of wild horses (or burros).). During these meetings, the public is given the opportunity to present new information and to voice any concerns regarding the use of motorized vehicles. The Ely District Office held a state-wide public hearing on June 15, 2011. The Standard Operating Procedures (SOP) were reviewed following this public hearing and no changes to the SOPs were found to be indicated based on this review.

The use of helicopters and motorized vehicles has proven to be a safe, effective and practical means for the gather and removal of excess wild horses and burros from the range. Since July 2004, Nevada has gathered 26,000 animals with a mortality rate of 1.1 percent (of which 0.5 percent was gather related) which is very low when handling wild animals. BLM also avoids use of helicopters for gathering wild horses prior to and during the peak of foaling and therefore does not conduct helicopter removals of wild horses from March 1 through June 30 unless under emergency situations.

8.0 Public Involvement

Comments were accepted on the Garfield Flat and Marietta Herd Management Area Gather Plan Environmental Assessment DOI-BLM-NV-C010-2011-0259-EA, for a 30-day period from September 26, 2011 until October 26, 2011, although comments received in a timely manner after the date were also considered. Hard copies of the EA were available at the Carson City District Office. The EA is posted at:
http://www.blm.gov/nv/st/en/fo/carson_city_field/blm_programs/wild_horse_and_burro/Garfield_Flat_Wild_Horse_and_Marrietta__Wild_Burro_Gathers.html

See Appendix I for Consolidated Public Comments and BLM Responses.

9.0 List of References

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10.0 Appendices

Appendix A - Standard Operating Procedures (Fertility Control Application and Monitoring)
Appendix B - Standard Operating Procedures (Gather Operation)
Appendix C - Win Equus Population Modeling Results
Appendix D - Herd Management Areas and Grazing Allotment Maps
Appendix E - List of Acronyms
Appendix F - Persons, Groups or Agencies Consulted
Appendix G - Wild Horse Gather Public Observation Protocol
Appendix H – Potential BLM Designated Sensitive Species, Migratory Bird Species of Conservation Concern (as per IM 2008-050), and General Wildlife that use Components of the key Habitats in the HMAs
Appendix I - Consolidated Public Comments and BLM Responses for the Garfield Flat and Marietta Herd Management Area Gather Plan 2011

APPENDIX A

Standard Operating Procedures for Population-level Fertility Control Treatments

22-month time-release pelleted vaccine:

1. PZP vaccine would be administered only by trained BLM personnel or collaborating research partners.
2. 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).
3. 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 jab stick 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.
4. 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 jab stick 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).
5. In the future, the vaccine may be administered remotely using an approved long range darting protocol and delivery system if or when that technology is developed.
6. All treated mares will be freeze-marked on the hip or neck HMA managers to positively identify the animals as treated during routine field observation and at the time of possible removal during subsequent gathers.

Monitoring and Tracking of Treatments:

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

4. A tracking system will be maintained by NPO detailing the quantity of PZP issued, the quantity used, disposition of any unused PZP, the number of treated mares by HMA, BLM field office, and State along with the freeze-mark(s) applied by HMA and date.

APPENDIX B

Standard Operating Procedures for Wild Horse (or Burro) Gathers

Gathers are conducted by utilizing contractors from the Wild Horse (or Burros) Gathers-Western States Contract or BLM personnel. The following procedures for gathering and handling wild horses 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-capture evaluation of existing conditions in the gather area(s). The evaluation will include animal conditions, prevailing temperatures, drought conditions, soil conditions, road conditions, and a topographic map with wilderness boundaries, the location of fences, other physical barriers, and acceptable trap locations in relation to animal distribution. The evaluation will determine whether the proposed activities will necessitate the presence of a veterinarian during operations. If it is determined that a large number of animals may need to be euthanized or capture operations could be facilitated by a veterinarian, these services would be arranged before the capture would proceed. The contractor will be apprised of all conditions and will be given instructions regarding the capture and handling of animals to ensure their health and welfare is protected.

Trap sites and temporary holding sites will be located to reduce the likelihood of 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 capture methods used in the performance of gather operations include:

1. Helicopter Drive Trapping. This capture method involves utilizing a helicopter to herd wild horses into a temporary trap.
2. Helicopter Assisted Roping. This capture method involves utilizing a helicopter to herd wild horses or burros to ropers.
3. Bait Trapping. This capture method involves utilizing bait (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. Capture Methods used in the Performance of Gather Contract Operations

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

   All trap and holding facilities locations must be approved by the Contracting Officer's Representative (COR) and/or the Project Inspector (PI) prior to construction.

The Contractor may also be required to change or move trap locations as determined by the COR/PI. All traps and holding facilities not located on public land must have prior written approval of the landowner.

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

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

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

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

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

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

6. Alternate pens, within the holding facility shall be furnished by the Contractor to separate mares or jennies with small foals, sick and injured animals, 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 capture area(s). In areas requiring one or more satellite traps, and where a centralized holding facility is utilized, the contractor may be required to provide additional holding pens to segregate animals transported from remote locations so they may be returned to their traditional ranges. Either segregation or temporary marking and later segregation will be at the discretion of the COR.

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

   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.

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

9. The Contractor shall restrain sick or injured animals if treatment is necessary. The COR/PI will determine if 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.

10. Animals shall be transported to their final destination from temporary holding facilities as quickly as possible after capture unless prior approval is granted by the COR for unusual circumstances. Animals to be released back into the HMA following gather operations may be held up to 21 days or as directed by the COR. Animals shall not be held in traps and/or temporary holding facilities on days when there is no work being conducted except as specified by the COR. The Contractor shall schedule shipments of animals to arrive at final destination between 7:00 a.m. and 4:00 p.m. No shipments shall be scheduled to arrive at final destination on Sunday and Federal holidays, unless prior approval has been obtained by the COR. Animals shall not be allowed to remain standing on trucks while not in transport for a combined period of greater than three (3) hours in any 24 hour period. Animals that are to be released back into the capture 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. Additional Capture Methods That May Be Used in the Performance of a Gather

1. Capture attempts may be accomplished by utilizing bait (feed, water, mineral licks) to lure animals into a temporary trap. If this capture 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 capture of animals.

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

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

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

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

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

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

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

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

C. Use of Motorized Equipment

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

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

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

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

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

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

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

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

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

D. Safety and Communications

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

necessary to protect the welfare of the animals.

a. The proper operation, service and maintenance of all contractor furnished property are 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 Federal Communications Commission (FCC) licenses for the radio system

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

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

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

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

E. Site Clearances

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

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

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

F. Animal Characteristics and Behavior

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

G. Public Participation

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

H. Responsibility and Lines of Communication

Contracting Officer's Representative/Project Inspector

John Axtell
Alan Shepherd

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 Stillwater and Sierra Front Assistant Field Managers for Resources and Stillwater and Sierra Front Field Managers will take an active role to ensure the appropriate lines of communication are established between the Field Offices, State Office, National Program Office, and BLM Holding Facility offices. All employees involved in the gathering operations will keep the best interests of the animals at the forefront at all times.

All publicity, formal public contact and inquiries will be handled through the Assistant Field Managers for Renewable Resources and Field Office Public Affairs. These individuals will be the primary contact and will coordinate with the COR/PI on any inquiries.

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

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

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

APPENDIX C

WinEquus Population Modeling Results

Garfield Flat:

Garfield Flat Growth Rate, No Action
Average Growth Rate in 10 Years 18%

Garfield Flat Population Sizes in 11 Years*. No Action Alternative

	Minimum	Average	Maximum
Lowest Trial	113	272	483
10th Percentile	158	354	641
25th Percentile	161	388	751
Median Trial	168	428	866
75th Percentile	177	492	1028
90th Percentile	190	534	1144
Highest Trial	210	619	1268

* 0 to 20+ year-old horses

Garfield Flat Growth Rate with Fertility Control and removals
Average Growth Rate in 10 Years 4%

Garfield Flat Population Size with Fertility Control and removals over 10 years
Population Sizes in 11 Years*

	Minimum	Average	Maximum
Lowest Trial	49	96	155
10th Percentile	68	105	158
25th Percentile	78	111	162
Median Trial	88	121	169
75th Percentile	94	129	179
90th Percentile	100	136	194
Highest Trial	115	170	277

* 0 to 20+ year-old horses

Garfield Flat number of horses removed with fertility control and removals
Totals in 11 Years*

	Gathered	Removed	Treated
Lowest Trial	263	0	80
10th Percentile	280	0	94
25th Percentile	293	16	100
Median Trial	375	111	92
75th Percentile	332	50	118
90th Percentile	342	66	128
Highest Trial	392	127	135

* 0 to 20+ year-old horses
Female foals, (fillies) would not be treated.

Garfield Flat Growth Rate with removals only
Average Growth Rate in 10 Years 17%

Garfield Flat Population Size with removals only, over 10 years
Population Sizes in 11 Years*

	Minimum	Average	Maximum
Lowest Trial	60	118	160
10th Percentile	82	129	175
25th Percentile	90	138	185
Median Trial	97	148	206
75th Percentile	102	159	225
90th Percentile	108	170	240
Highest Trial	143	200	303

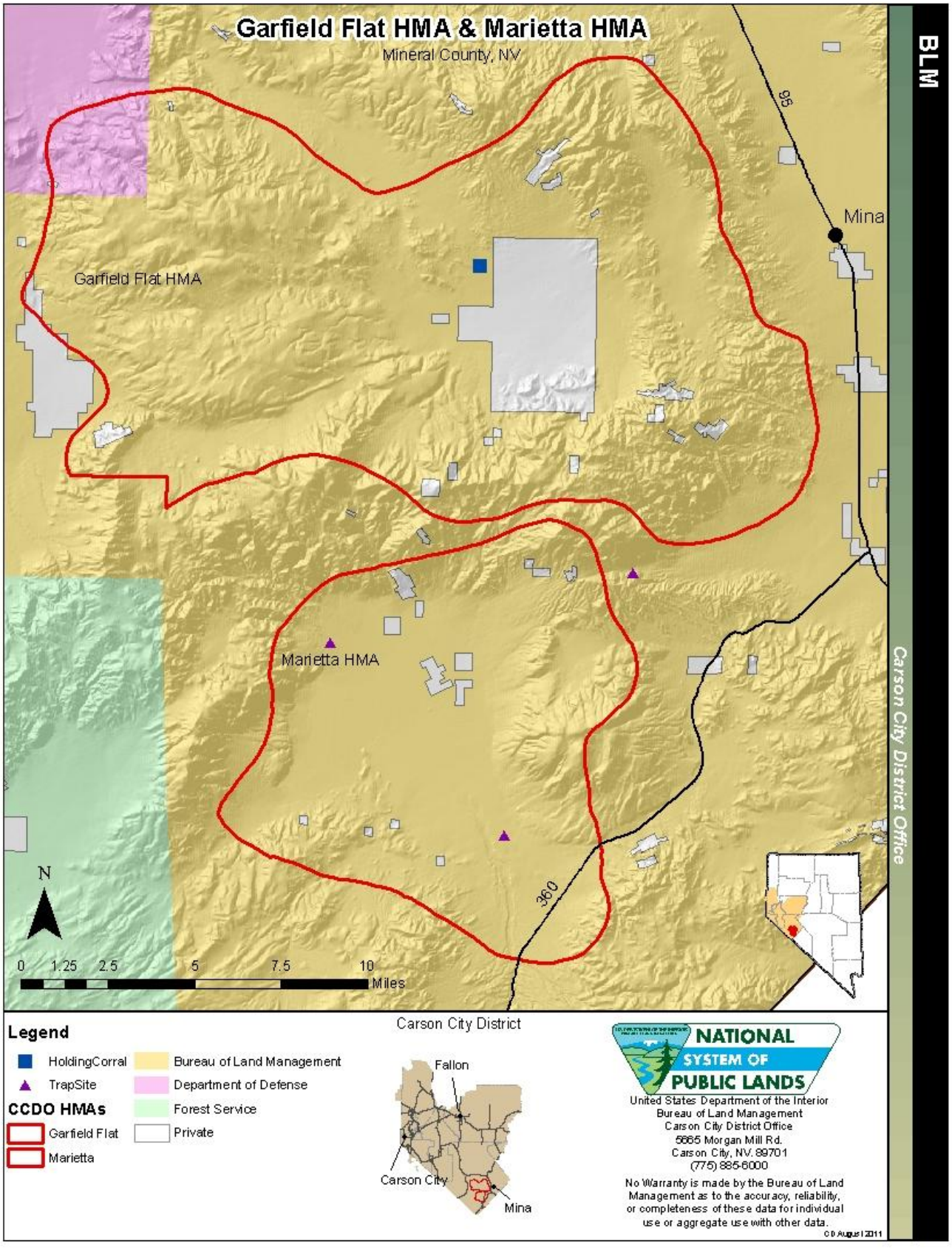
* 0 to 20+ year-old horses

Garfield Flat number of horses removed with removals only
Totals in 11 Years*

	Gathered	Removed
Lowest Trial	265	146
10th Percentile	370	224
25th Percentile	428	258
Median Trial	482	289
75th Percentile	533	324
90th Percentile	564	355
Highest Trial	685	441

* 0 to 20+ year-old horses
Female foals, (fillies) would not be treated

APPENDIX D HMA MAP


Garfield Flat HMA & Marietta HMA
Mineral County, NV
BLM
Carson City District Office
Mina
Garfield Flat HMA
Marietta HMA
95
360
N
0 1.25 2.5 5 7.5 10
Miles
Legend
HoldingCorral
TrapSite
CCDO HMAs
Garfield Flat
Marietta
Bureau of Land Management
Department of Defense
Forest Service
Private
Carson City District
Fallon
Carson City
Mina
NATIONAL SYSTEM OF PUBLIC LANDS
United States Department of the Interior
Bureau of Land Management
Carson City District Office
5665 Morgan Mill Rd.
Carson City, NV. 89701
(775) 885-6000
No Warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.
CD August 2011

APPENDIX E

List of Acronyms

AML	Appropriate Management Level
APHIS	Animal and Plant Inspection Service
AUM	Animal Unit Month
AVMA	American Veterinary Medical Association
BCS	Body Condition Score
BLM	Bureau of Land Management
CCDO	Carson City District Office
CFR	Code of Federal Regulations
COR	Contracting Officers Representative
CRMP	Carson City Field Office Consolidated Resource Management Plan
CESA	Cumulative Effect Study Area
DR	Decision Record
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
FCC	Federal Communications Commission
FLPMA	Federal Land Policy and Management Act
FMA	Freund's Modified Adjuvant
FMI	Freund's Incomplete Adjuvant
FMUD	Final Multiple Use Decision
FONSI	Finding of No Significant Impact
FY	Fiscal Year
GAO	Government Accountability Office
GPF	Grassland Pasture Facilities
HA	Herd Area
HMA	Herd Management Area
HMAP	Herd Management Area Plan
HSUS	Humane Society of the United States
ID	Interdisciplinary Team
IM	Instructional Memorandum
KFPM	Range Utilization Key Forage Plant Method
LTH	Long Term Holding
MBTA	Migratory Bird Treaty Act
MFP	Management Framework Plan
MUD	Multiple Use Decision
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NPO	National Program Office
PI	Project Inspector
PMU	Population Management Unit
PZP-22	Porcine Zone Pellucida

RFS	Reasonably Foreseeable Future Action
RMP	Resource Management Plan
S&G	Standards for Rangeland Health and Guidelines
SFFO	Sierra Front Field Office
SFO	Stillwater Field Office
SOP	Standard Operating Procedures
STH	Short Term Holding
SWReGAP	Southwest Regional GAP Analysis Project
T&E	Threatened and Endangered
TNR	Temporary Non-Renewable
USGS	United States Geological Service
WFRHBA	Wild Free-Roaming Horse and Burro Act

APPENDIX F

Persons, Groups, or Agencies Consulted

American Horse Protection Assoc.
Andrea Lococo
Animal Welfare Institute
Barbara Warner
Betty Kelly
Bonnie Matton
Ed Goedhart (NV Assembly Dist. 36)
Elaine Brooks
Elnoma Reeves
Jo Ann Hana
Joe Dahl
Cathy Barcomb - Animal Rescue Network International
Katie Fite
Linebah
Mark E. Amodei (State Senator)
Mandy McNitt
Michael Kirk
Mike McGinness (State Senate)
Nevada Cattlemen's Association
Nevada Department of Wildlife, Region I
Nevada Humane Society
Nevada State Division of Agriculture
Nevada State Clearinghouse
Nevada State Grazing Board
Office of Sen. Heller
Office of Sen. Reid
Paul Spitler
Pete Goicoechea (NV Assembly Dist. 35)
Ray Cormack
Rebecca Kunow
Resource Concepts Inc
Richard Bryant, Chairman, Mineral County Commissioners
Roberta Royle
The Mule Deer Foundation
Tom J Grady (NV Assembly Dist. 38)
Jerrie Tipton, Mineral County Commissioner
U.S. Fish and Wildlife Service
Vicki Cohen
Virginia Butte
Walker River Paiute Tribe

Wild Horses Forever
Wild Horse Organized Assistance

APPENDIX G

Wild Horse Gather Public Observation Protocol

BLM recognizes and respects the right of interested members of the public and the press to observe the Garfield Flat/Marietta wild horse and burro 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. 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 and burros while maintaining a safe environment for all involved. In addition, observation areas will be sited so as to protect the wild horses and burros from being spooked, startled or impacted in a manner that results in increased stress.

- BLM will delineate observation areas with yellow caution tape (or a similar type of tape or ribbon).

- Visitors will be assigned to a specific BLM representative and must stay with that person at all times.

- Visitors are **NOT** permitted to walk around the gather site or temporary holding facility unaccompanied by their BLM representative.

- Observers are prohibited from climbing/trespassing onto or in the trucks, equipment or corrals, which is the private property of the contractor.

- When BLM is using a helicopter or other heavy equipment in close proximity to a designated observation area, members of the public may be asked to stay by their vehicle for some time before being directed to an observation area once the use of the helicopter or the heavy machinery is complete.

- When given the signal that the helicopter is close to the gather site bringing 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.).*

Public Outreach and Education Day-Specific Protocol

- 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 H

Potential BLM Designated Sensitive Species, Migratory Bird Species of Conservation Concern and General Wildlife that may use Components of the Key Habitats in the HMAs

Potential BLM designated sensitive species, migratory bird species of conservation concern (as per IM 2008-050), and general wildlife that may use components of the key habitats in the HMAs.

Key Habitats	Potential Wildlife Species	Scientific Name	BLM Sensitive Species	Migratory Bird (per IM 2008-050)	Primary Habitat Use Affected
Intermountain Cold Desert Scrub	Black-tailed jack rabbit	*Lepus californicus*	No	N/A	Food sources and thermal cover
Sagebrush	Black-throated sparrow	*Amphispiza bilineata*	No	No	Increased nesting cover
Lower Montane Woodlands	Brewer's sparrow	*Spizella breweri*	No	Yes	Increased nesting cover
	Burrowing owl	*Athene cunicularia*	Yes	Yes	Increased food sources
	Coachwhip	*Masticophis flagellum*	No	N/A	Food sources and thermal cover
	Common side-blotched lizard	*Uta stansburiana*	No	N/A	Food sources and thermal cover
	Dark kangaroo mouse	*Microdipodops megacephalus*	No	N/A	Food sources and thermal cover
	Desert horned lizard	*Phrynosoma platyrhinos*	No	N/A	Food sources and thermal cover
	Desert spiny	*Sceloporus magister*	No	N/A	Food sources and thermal cover
	Ferruginous hawk	*Buteo regalis*	Yes	Yes	Increased prey base
	Golden eagle	*Aquila chrysaetos*	Yes	Yes	Increased prey base
	Great Basin collared lizard	*Crotaphytus bicinctores*	No	N/A	Food sources and thermal cover
	Great Basin rattlesnake	*Crotalus viridis lutosus*	No	N/A	Food sources and thermal cover

	Kit fox	*Vulpes macrotis*	No	N/A	Increased prey base
	Loggerhead shrike	*Lanius ludovicianus*	Yes	Yes	Increased nesting cover and prey base
	Long-nosed leopard lizard	*Gambelia wislizenii*	No	N/A	Food sources and thermal cover
	Pale kangaroo mouse	*Microdipodops pallidus*	No	N/A	Food sources and thermal cover
	Pallid bat	*Antrozous pallidus*	Yes	N/A	Increased prey base
	Prairie falcon	*Falco mexicanus*	Yes	Yes	Increased prey base
	Sage sparrow	*Amphispiza belli*	No	Yes	Increased nesting cover
	Sage-grouse	*Centrocercus urophasianus*	Yes	Yes	Nesting and brood-rearing cover
	Western fence lizard	*Sceloporus occidentalis*	No	N/A	Food sources and thermal cover
	Western whiptail	*Cnemidophorus tigris*	No	N/A	Food sources and thermal cover
	Zebra-tailed lizard	*Callisaurus draconoides*	No	N/A	Food sources and thermal cover

APPENDIX I

Consolidated Public Comments and BLM Responses for the Environmental Assessment Garfield Flat and Marietta Management Ares Gather Plan 2011.

No	Comment	Response
1.	Fully supports the Plan and encourages that the lower end of the AML be reduced to a level so that the gather interval can be extended to 10 years.	The current direction is to manage HMA's for a 4 to 5 year gather interval. Currently a longer lasting PZP based drug is being tested on captive animals. If this new formulation proves safe and effective the interval between gathers could be increased with obvious benefits.
2.	Dr. Gus Cothran estimated that minimum herd size for genetic health is 150-200.	The Marietta Burro Range can only support a limited number of grazing animals. Many areas appear to be deteriorating as a result of over use by burros. Key grass species have been replaced by annual weeds in areas of the Marietta Burro Range. In general most of the native bunch grasses in areas heavily used by burros have disappeared or lack vigor. Page 11 of this EA states that livestock only graze 19% of the HMA. Table 11 on page 19 of this EA shows that 8% of the Belleville Grazing Allotment is within the Marietta Burro Range (19% of the HMA). That table also shows that 55 cattle can graze the entire Belleville allotment between November 1st and April 15th for a total of 303 AUMs. Eight percent of 303 AUMs is 24.24 AUMs the equivalent of two cows grazing an area for one year. If livestock were completely removed from the Marietta Burro Range this would only allow for an additional four burros. Due to over use by burros and excess wild horses which have established home ranges outside of the Garfield Flat HMA and inside the Marietta burro HMA, the capacity of the HMA to support grazing animals has been reduced. If the burro population is not brought to within the AML then the HMA would be able to support even fewer animals in the future. Once native grass plants die they are often replaced by invasive weeds. In cases where bunch grasses are not replaced by weeds it takes many years for native bunch grasses to become re-established. This is a very dry HMA with sparse vegetation. As the desirable forge plants are over used they can die and then are often replaced by invasive weeds that offer little or no forage value to burros and most species of wildlife, thus

		lowering the carrying capacity, the number of animals that the HMA can support for the foreseeable future. Since the number of burros cannot be increased the only option is to manage for a small population or remove the burros entirely. If genetic problems arise, then burros from other HMAs can be released into the Marietta Burro Range providing the necessary genetic diversity to ensure a healthy population. The Garfield Flat Herd Management Area Plan/Capture Plan and Environmental Assessment EA No. NV-030-04-014, cited on page 3 of this EA http://www.blm.gov/nv/st/en/fo/carson_city_field/blm_information/nepa/nepa_archives.html The Garfield Flat Herd Management Area Plan/Capture Plan and Environmental Assessment EA No. NV-030-04-014, states "Animals from other HMA's within this Field Office may be released into the HMA to allow for gene flow, thereby avoiding any deleterious effects of inbreeding resulting from small population size." Section 4.2.1 Wild Horse of the current EA states "More stallions involved in breeding should result in increased genetic exchange improving the genetic health within the herd" and Direct and Indirect Impacts states "It is not expected that genetic health would be impacted by the Proposed Action as the AML ranges should provide for acceptable genetic diversity". On page 10 of this EA it is stated that hair samples may be collected to assess genetic diversity of the herds. If it appears that a diversity issue could occur then horses from other HMAs would be released. Page 12 of this EA states that all permanent natural water in the Garfield Flat HMA is located on private land. The land owner has agreed to provide water to wild horses as long as the wild horse population is maintained within the established AML range. In addition portions of the HMA are receiving heavy use caused solely by wild horse use. Since the number of horses cannot be increased the only option is to manage for a small population or remove the horses entirely. If genetic problems arise, then horses from other HMAs can be released into the Garfield Flat

		HMA providing the necessary genetic diversity to ensure a healthy population.
3.	The EA dismisses an alternative to accommodate current wild horse and burro population levels by reducing livestock grazing and maintaining population numbers with PZP.	In effect almost no livestock grazing occurs in the Marietta Burro Range and PZP has not been tested on burros so reducing livestock and controlling the numbers with PZP is not a viable option for the Marietta Burro Range. Our goal for the Garfield Flat HMA is to eventually control the numbers of wild horses with PZP, however, currently there are too many excess wild horses for this to be practical at this time. If the treatment of PZP is successful it is possible that future removals may not be required in which case the horses would be gathered, the mares treated with PZP and then all or almost all of the horses released back into the HMA. Page 11 of this EA states that reducing grazing on the Garfield Flat HMA would not be in conformance with the existing land use plan, eliminating grazing is contrary to the BLM's multiple-use mission as outlined in the 1976 Federal Land Policy and Management Act (FLPMA).
4.	The EA fails to adequately analyze the impacts of the proposed action on the wild horses including the effects of sex-ratio skewing and the stampeding of horses in late winter at time when mares are heavily pregnant and will suffer spontaneous abortions.	Adjusting sex ratios has been successfully implemented in many HMA's with no apparent adverse effects. Spontaneous abortions are rare and have not occurred in this District. Horses are herded by a helicopter toward portable panels. The speed is adjusted depending on terrain, distance traveled and the condition of the animals. Horses are adapted to fleeing from predators by running and are able to run considerable distances without incurring deleterious stress. The BLM does not gather horses with a helicopter between March 1 and July 1, to avoid the majority of young foals or mares close to parturition.
5.	The EA excludes documentation of range damage caused specifically by wild horses.	Rangeland Utilization Studies in both HMAs documented heavy use solely attributed to wild horses and burros. The utilization data sheets are available at the Carson City District office.
6.	The EA fails to analyze the alternative that would release horses and burros captured outside of the HMAs back into the HMAs	Since both HMAs currently have excess wild horses and burros and are receiving excessive use based on the population within the HMAs, releasing wild horses or burros that are outside of the HMAs into the HMAs would exacerbate the current over use problems. Additionally

		past experience has shown that horses relocated relatively short distances, at least up to 20 miles from point of capture will tend to move back to where they were originally captured.
7.	Horses do not over populate.	Table 3 on page 3 of this E.A. summarizes the inventories and removals for Garfield Flat HMA since 2000. During that period 262 excess wild horses were removed, 85 have established home ranges in the Marietta Burro HMA and 53 (table 8, page 16) mares have been treated with a contraceptive and the HMA currently has 72 excess wild horses. Horses are not native to north America and there is virtually no predation of adult horses. In some areas mountain lions appear to take a substantial number of foals, however predation alone is generally not enough to control the populations and in the case of Marietta and Garfield Flat there appears to be very little or no predation. Overall wild horse populations in the west increase at about 20% per year.
8.	The AML's are not based on science and must be reevaluated and the acreages within the HMA's can support greater numbers of horses.	Current monitoring data and past Rangeland Health Assessments indicate that the AMLs still represent the wild horse and burro populations at which a thriving natural ecological balance can be maintained in balance with other multiple uses by wildlife such as bighorn sheep, pronghorn, deer, and by livestock. Wild horse and burro AMLs are established consistent with allocations between different multiple uses, as determined through the land-use planning process. The AMLs for the HMAs were established through the allotment evaluation and Final Multiple Use Decision (FMUD) process, based on available monitoring data, and were established through public decision-making processes.
9.	Don't send them to slaughter.	BLM does not send or sell any animals for slaughter. While humane euthanasia and sale without limitation of healthy horses for which there is no adoption demand is authorized under the WFRHBA, BLM's policy is not to euthanize or sell healthy wild horses for slaughter. In addition, Congress has prohibited the use of appropriated funds between 1987 and 2004 and again in 2010 for this purpose. Sale with limitations (which requires assurances that the wild horses will not be sent for slaughter) has

		been used by the BLM since 2005 when the Act was amended. This EA describes how the excess horses are placed. Generally the younger and more adoptable horses are placed into the adoption program and the older horses are placed in grassland pasture facilities.
10.	The Wild Horse and Burro Act devoted HMAs principally to wild horses; therefore the HMAs should not be multiple use areas.	The failure to manage HMAs for multiple uses would not be in conformance with the existing land use plans, is contrary to the BLM's multiple-use mission as outlined in the 1976 Federal Land Policy and Management Act (FLPMA), and would also be inconsistent with the WFRHBA, which directs the Secretary to manage wild horses "in keeping with the multiple-use management concept for the public lands" and to immediately remove excess wild horses.
11.	Long term holding is fiscally irresponsible.	One of the primary purposes of the Proposed Action is to adjust the sex ratio to favor males and apply a contraceptive to a sufficient portion of the mares within the HMA to minimize or possibly eliminate the need to adopt or send excess wild horses to grassland pasture facilities in the future. Additionally there are an estimated 85 excess wild horses in the Marietta burro HMA that have established home ranges outside of the Garfield Flat HMA that need to be removed to prevent wild horses from degrading public lands that are not designated for wild horse management.
12	The BLM holds unadoptable horses in sub-standard facilities where they don't live as long as they would in the wild.	Unadoptable horses are placed into grassland pasture facilities in the Midwest where there is typically 6 to 10 acres per horse. The horses live substantially longer in the grassland pasture facilities than they do in the arid areas of the west. In some HMAs reliable water and lack of forage can be problematic. Conversely, in grassland pasture facilities water and food are always available.
13.	Leave the burros and horses on the range it costs nothing to leave them there.	Page 30 and 31 of this EA: Few predators exist to control wild horse populations. Some mountain lion predation likely occurs, but does not appear to be substantial. Coyotes are not prone to prey on wild horses unless young, or extremely weak. Other predators such as wolf or bear do not inhabit the area. Being 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. Individual horses would be at risk of death by

		starvation and dehydration as the population continues to grow. The wild horses would compete for the available water and forage resources, affecting mares, foals and native wildlife species including bighorn sheep most severely. Social stress would increase. Fighting among male horses would increase as they protect their position at scarce water sources, as would injuries and death to all age classes of animals. Significant loss of the wild horses in the HMAs due to starvation or lack of water would have obvious consequences to the long-term viability of the herd. Allowing horses to die of dehydration and starvation would be inhumane treatment and would be contrary to the WFRHBA. Also as stated on page 12 the only two permanent water sources within the Garfield Flat HMA are on private land and the land owner who holds the water rights has agreed to allow horses to utilize these two springs only as long as the population is maintained at the AML.
14	The EA calls for extreme reduction in wild horse numbers.	The proposed action is to remove excess wild horses down to the established AML which has been done in the past. As stated above and on page 12 of this EA the only two permanent water sources within the Garfield Flat HMA are on private land and the land owner has agreed to allow horses to utilize these two springs only as long as the population is maintained at the AML. Due to the damage caused by excess horse numbers, the land owner has indicated he would fence off the springs if the horses are not maintained within the AML range which the BLM set after analyzing resource data. The Marietta burro HMA is essentially grazed by only burros, excess wild horses which have established themselves within the HMA, and wildlife. The HMA cannot support the current burro population or the excess horses that are now residing there. If the burro population is not reduced and excess wild horses removed, eventually the carrying capacity will be reduced. Also the Nevada Department of Wildlife has witnessed burros excluding native bighorn sheep from water sources.
15	PZP can have significant unknown risks and effects to behavioral ecology and genetic integrity.	The PZP vaccine has proven to have no apparent effect on pregnancies in progress, the health of offspring, or the behavior of treated mares (Turner, 1997). Mares would foal normally in 2012 (Year 1). Based on behavioral

		studies PZP-22 does not cause significant changes in behavior at the individual or herd levels (USGS). A paper by Cooper and Larsen, (2006) was cited to support the argument that PZP could have significant unknown risks. The Cooper paper presents no data. It is purely speculative and theoretical. A paper by Nunez et al. (2009) was cited regarding the possibility that PZP application may disrupt social ties among individuals and inhibit normal social functioning at the population level. In this paper the "control" group was nine mares who were permitted to get pregnant at an abnormal rate. Their foals were removed as soon as they were born, thus invalidating the control group. As a result, the Nunez paper provides little insight into potential impacts of PZP application.
16	Capturing, branding and treating wild horses threatens their wild free-roaming character.	It is anticipated that the horses to be released back into the HMA will be held in temporary corrals for two to four days. This has been done many times in the past with no apparent effects. The treated mares will have a small freeze mark applied to their hip which would be visible with binoculars but will not affect their behavior. The freeze mark is necessary to identify mares that were treated with PZP.
17	The EA suggests that similar roundups would occur as the BLM sees fit every 2-3 years. An EIS must be prepared to fully address the cumulative effects of this on wild horse population health.	Page 9 of this EA states that the BLM intends to return to the Garfield Flat HMA in 2-3 years in order to maintain AML through population control measures, specifically, by gathering, re-treating the mares and removing excess animals if necessary. An EIS is only required if there is a finding of significant impact. A determination has been made that the proposed action would not result in "significant environmental impacts," to the natural and human environment, therefore a Finding of No Significant Impact (FONSI) has been prepared separately to document that determination, and a Decision Record has been issued providing the rational for approving The Proposed Action Alternative. The final EA, FONSI and DR are available at: http://www.blm.gov/nv/st/en/fo/carson_city_field/blm_programs/wild_horse_and_burro/Garfield_Flat_Wild_Horse_and_Marrietta__Wild_Burro_Gathers.html

18	The available scientific data shows that wild horses are not in need of population control, including roundups, or immuncontraceptives like PZP, if mountain lions are not eradicated in wild horse territories on behalf of the livestock grazing industry.	In a few HMAs mountain lion predation on foals seems to slow the rate of increase, however, in no instance that we are aware of has mountain lion or any other natural mechanism shown success in maintaining wild horse herds at levels low enough to maintain a thriving natural ecological balance and multiple use relationship. Dr. John Turner has done considerable mountain lion research in the Montgomery Pass Wild Horse Territory (Turner et. al, 1992, Can.J. Zool., and Turner and Morrison 2001, Southwestern Naturalist) and offered the following response: The assumption that the populations can be controlled by mountain lions if persecution of lions is stopped is not realistic for most horse populations. The successful maintenance of a lion population that actually limited the Montgomery Pass horse population was dependent on a seasonal prey switching between horse foals and seasonally migratory mule deer. Most horse ranges simply do not have enough prey base outside of the foaling season to support a resident lion population. There is no evidence of mountain lion predation controlling wild horse population growth in these HMAs.
19	Consider an alternative that would increase the wild horse AML in the HMAs, while decreasing the livestock AUMs	Page 2 of this EA states that the AMLs and AUMs were set through previous decisions. The Marietta burro HMA is essentially grazed solely by wild burros, excess wild horses that have moved out of the Garfield Flat HMA and native wildlife. While the equivalent of 2 cows are authorized to graze the HMA it does not appear that any cattle use the HMA. The only two permanent water sources within the Garfield Flat HMA are on private property, the land owner has agreed to allow wild horses access to these springs as long as wild horses are maintained within the AML; if they are not, he has stated that he would fence the springs. If the private springs were fenced the horses would need to be removed as they have insufficient water and would succumb to dehydration.
20	Consider an alternative that would retain the existing AML, but would not use PZP	The BLM does not manage mountain lions or any other wildlife species. The BLM only manages the habitat, wild horses and livestock grazing. The Nevada

	on wild horses, and would instead halt any future killing of mountain lions within or adjacent to the HMAs, regardless of whether lions kill any livestock, and would, if necessary restore lion populations in the area, reintroduce lions.	Department of Wildlife sets hunting seasons and sometimes controls mountain lions when they threaten populations of wildlife such as bighorn sheep. This office has no data on mountain lions. Mountain lions would be expected to occur in both HMAs. Mountain lions are territorial so their densities are generally low. Some mountain lions likely prey on foals, however, since most foals are born around April there are periods of the year when smaller foals are uncommon so that mountain lions must then prey on other animals which can adversely impact native wildlife such as bighorn sheep and mule deer. It appears that in some areas where mountain lion predation on wild horses is suspected that the horses with young foals change their behavior favoring more open areas away from trees and other ambush points reducing their vulnerability to predation. For these reasons fertility control and gathers to remove excess wild horses and burros are necessary. This point was also previously addressed under item 18.
21	"If wild horses outside of the HMAs would be removed in this project, this would indicate that the BLM does not consider wild horses to be an essential part of the ecosystem, or even authorized, outside of the HMAs. This would violate the WFHBA's requirement that the BLM treat wild horses as an integral part of the ecosystem across all public lands (not just designated refuges like HMAs) were wild horses existed as of 1971 (the date of the WFHBA's passage). 16 USC 1331.	The WFHBA, Public Law 92-195 states that wild horses and burros shall be considered in the area where presently found [1971] , as an integral part of the natural system of public lands. The Act also states that "Nothing in this Act shall be construed to authorize the Secretary to relocate wild free-roaming horses and burros to areas of the public lands where they do not presently exist." [1971]. CFR 4700.0-5(d) defines herd area as the geographic area identified as having been used by a herd as its habitat in 1971. CFR 4710.4 "Management of wild horses and burros shall be undertaken with the objective of limiting the animals' distribution to herd areas. " As cited above, managing wild horses or burros outside of HMAs would be inconsistent with the Wild Free-Roaming Horses and Burros Act of 1971 and the Code of Federal Regulations.
22	"The WFHBA requires that, within areas specifically designated for the conservation of wild horses, like the HMAs, such areas	The Garfield Flat HMA is an HMA and has not been designated as a Wild Horse Range under 43 CFR xxx. The Marietta Burro Range is a designated wild burro range and is managed principally for burros. The equivalent of two cows are permitted to graze the burro

	must be managed "principally", but not exclusively, for wild horses. The BLM violates this requirement on the HMAs by allowing livestock to have more AUMs than wild horses"	range.
23	"The WFHBA only allows removal of wild horses if the Forest Service or BLM has affirmatively established that a thriving natural ecological balance (TNEB) is threatened, and is not being maintained, on the HMAs due to wild horses, as opposed to livestock. The EA fails to credibly establish that: a)TNEB is not being maintained; or b) wild horses are the cause of loss of TNEB on the HMAs."	The WFHBA states in 1333 in part that: (2) Where the Secretary determines on the basis of: (i) the current inventory of lands within his jurisdiction; (ii) information contained in any land use planning completed pursuant to section 1712 of title 43; (iii) information contained in court ordered environmental impact statements as defined in section 1902 of title 43; and (iv) such additional information as becomes available to him from time to time, including that information developed in the research study mandated by this section, or in the absence of the information contained in (i-iv) above on the basis of all information currently available to him, that an overpopulation exists on a given area of the public lands and that action is necessary to remove excess animals, he shall immediately remove excess animals from the range so as to achieve appropriate management levels. Such action shall be taken, in the following order and priority, until all excess animals have been removed so as to restore a thriving natural ecological balance to the range, and protect the range from the deterioration associated with overpopulation. Since there is no evidence of livestock grazing within the Marietta Burro Range all excessive use is attributed to wild burros. Most years, including 2010 and 2011, the permittee has run less than half of the allowable numbers of cattle in the Garfield Flat grazing allotment. Use pattern transects were conducted in areas that were not grazed by livestock so all of the use in these areas is attributed to wild horses. Additional as previously stated the two permanent springs are both located on private land and the land owner has agreed to allow horses access to these waters as long as the

		horse population is maintained within the established AML range. The land owner has stated that he would fence the springs if the horses are not maintained within the AML range. If the waters were fenced all of the horses would need to be removed or they would die of dehydration.
24	Burros are an endangered species	Burros maybe endangered in Africa and or the Middle East. The wild burros in North America originated from domestic animals and are not endangered. As stated above (number 2) the Marietta Burro Range can only support a limited number of animals, if the number of animals is not controlled all of the palatable vegetation would eventually be replaced by unpalatable vegetation, including noxious weeds.
25	The AML was established for administrative reasons.	This comment is similar to others previously addressed please see responses 2,7,8,10,13, and 19.
26	The population cannot possibly be 240 horses inside and outside of the HMA	An inventory flight in June of 2011 documented 155 wild horses inside the Garfield Flat HMA and 85 wild horses within the Marietta burro HMA. The 85 wild horses within the Marietta burro HMA were not included as part of the 89 horses in the Garfield Flat HMA in 2009. The 2009 actions were specific to the Garfield Flat HMA. Upon completion of the 2009 removal of excess horses and treatment of released mares with PZP-22 there were 89 wild horses known to be within the boundaries of the Garfield Flat HMA. Since the current number of 155 is substantially more animals than would be expected from a starting population of 89 horses where the mares were treated with PZP-22, we expect that some horses moved into the heavily timbered areas west of the HMA during the 2009 gather, resulting in an under-estimate of the actual population remaining following the 2009 gather.
27	The Nevada Department of Wildlife (NDOW): The department's desire is that wildlife and wild horses co-exist in a balanced and sustainable manner. As a result, NDOW supports your efforts at managing wild horses and burros within the AML.	After excess burros outside of the HMA are captured BLM will focus on the areas of concerns identified by NDOW biologists.

	As a result of exceeding AML deteriorated habitat conditions exist in both HMAs. Due to degraded habitat wildlife may experience greater stress leading to population declines. Furthermore, NDOW biologists have observed bighorn sheep avoiding water sources occupied by horses and burros. Therefore, it is essential to manage wild horse populations in order to "achieve and maintain a thriving natural ecological balance." If it is determined that undesirable habitat conditions will not improve as a result of reducing wild horse and burro population numbers, please consider adjusting AML during the Resource Management Planning process. As a result of bighorn sheep avoiding spring sources occupied by burros, we recommend gathering disproportionally more animals in areas currently occupied by bighorn sheep. NDOW supports BLM's efforts towards stabilizing population growth rates using fertility control. NDOW supports the BLM's efforts at managing wild horses within the AML. We are optimistic that management of wild horses	

	within AML will lead to improved habitat conditions and consequently reduced stress on wildlife.	