

Nevada Wild Horse Range Herd Management Area

Approved Herd Management Area Plan

INTRODUCTION

The Herd Management Area Plan (HMAP) approved for implementation by Mary Jo Rugwell (LVFO, Field Manager), on June 23, 2008 for the Nevada Wild Horse Range Herd Management Area (NWHR HMA) establishes short and long-term management objectives for the wild horse herd and their habitat. These objectives will guide management of the NWHR HMA wild horses over the life of the plan.

The NWHR HMA is located in the north-central portion of the Nevada Test & Training Range (NTTR) within portions of Clark, Lincoln and Nye Counties, in south-central Nevada. The NWHR HMA comprises 1.3 million acres of public land withdrawn for use by the military. Refer to the Final Environmental Assessment for the Nevada Wild Horse Range Herd Management Area Plan and appropriate maps.

The appropriate management level (AML) was re-established in July 2004 as a population range of 300-500 wild horses. As discussed in the Record of Decision (ROD) for the approved NTTR Resource Management Plan (RMP) and Final Environmental Impact Statement (FEIS – page 14), the upper limit of the AML is the maximum number of wild horses that can survive in a thriving natural ecological balance. This number would result in balanced multiple uses based on analysis of the available forage, the military's operations mission, and available water resources.

Implementation of the HMAP is consistent with the authority provided in 43 CFR 4700 and the 1971 Wild Free-Roaming Horses and Burros Act (WFRHBA). The HMAP is needed to manage wild horses within the NWHR HMA to maintain the wild horse herd as a self-sustaining population of healthy animals in balance with other uses and the productive capacity of their habitat and attain the objectives outlined in the NTTR RMP.

HERD MANAGEMENT AREA PLAN

The selected management strategy would incorporate a number of population control methods, together with reconstruction and maintenance of the existing water developments. Under this strategy, wild horses would be managed within the established AML range of 300-500 animals over the life of the plan, as follows:

- Approximately 240-400 animals would be managed as a breeding population.
- The balance of the herd (about 60-100 animals) would be managed as a non-breeding population of geldings. The management of a non-breeding population of geldings would be implemented as a pilot project. Therefore, gelding will be limited to 30-35 stallions during the next regularly scheduled gather (tentatively planned for December 2012). Pending evaluation of the monitoring results for the initial pilot study, another 30-65 stallions could be gelded during subsequent gathers for a total non-breeding population of 60-100 geldings.

- During future gathers, the sex ratio of the population would be adjusted slightly in favor of males as compared to females (60/40 male/female sex ratio). The adjusted sex ratio includes males in both the breeding and non-breeding populations.
- Excess animals would be removed to the low-range of the AML upon determination that excess animals are present.
- Immunocontraceptive research would be conducted in accordance with the approved standard operating and post-treatment monitoring procedures. Breeding age mares selected for release back to the range would be treated with Porcine Zona Pellucida (PZP) vaccine, which would slow reproduction of the treated mares for one to three breeding seasons.
- BLM will reconstruct spring boxes at Cactus Springs and Cedar Well, install cement water troughs (Cactus Springs, Cedar Well, Silverbow, Rose, Corral and Tunnel Spring), and add water storage at these locations over the next five years. Once reconstructed, the developments would be maintained to the original construction standard on an annual basis, or as needed.
- AML would be evaluated, as needed, following an in-depth analysis of resource conditions including: actual use, utilization, available forage and water, range condition and trend, precipitation, and the military's operations mission.

MANAGEMENT ACTIONS

- Future gather operations would be conducted in accordance with the SOPs described in the National Wild Horse Gather Contract.
- When gather objectives require gather efficiencies of 50-80% or more of the animals to be captured from multiple gather sites (traps) within the NWHR HMA during the winter, the helicopter drive method and helicopter assisted roping from horseback will be the primary gather methods used. To the extent possible gather sites (traps) will be located in previously disturbed areas. Post-gather, every effort would be made to return released animals to the same general area from which they were gathered.
- Given a summer gather window, bait and/or water trapping may be used provided the gather operations timeframe does not conflict with the military's operations mission and is consistent with current animal resource conditions. Bait and/or water trapping may also be selected in other special circumstances as appropriate.
- An Animal and Plant Inspection Service (APHIS) or other licensed veterinarian may be on-site during future gathers, as needed, to examine animals and make recommendations to BLM for the care and treatment of the wild horses. Decisions to humanely euthanize animals in field situations will be made in conformance with BLM policy.
- Animals would be removed using a selective removal strategy. Selective removal criteria for the NWHR HMA include: (1) First Priority: Age Class Five Years and Younger; (2) Second Priority: Age Class Six to Fifteen Years Old; (3) Third Priority: Age Class Sixteen Years and Older.
- Data including sex and age distribution, reproduction, condition class information (using the Henneke rating system), color, size, and other information may also be recorded, along with the disposition of that animal (removed or released).

- Hair and/or blood samples would be acquired every regularly scheduled gather, to determine whether BLMs management is maintaining acceptable genetic diversity (avoiding inbreeding depression).
- Any burros residing within the boundaries of the NTTR will be removed during the regular gather cycle and placed into the BLMs adoption program.

MANAGEMENT OBJECTIVES

Specific management, monitoring and implementation objectives are summarized below:

Management Objective(s)	Monitoring Objective(s)	Implementation Objective(s)
<p><u>A. Control Population Numbers</u></p> <p>Manage wild horse populations within the established AML range to protect the range from deterioration associated with overpopulation.</p>	<p>Census populations a minimum of once every 3-4 years.</p> <p>Determine population number and annual growth rate.</p>	<p>Schedule gathers to remove excess wild horses when the total wild horse population exceeds the AML for the HMA (about every 3 years), when animals permanently reside on lands outside the NWHR HMA core area (i.e. use is more than seasonal drift), or whenever animal health/condition is at risk.</p>
<p><u>B. Age Distribution</u></p> <p>Assure all age classes are represented post-gather.</p>	<p>Monitor post-gather results.</p>	<p>Manage wild horses to achieve the following relative age distribution:</p> <ul style="list-style-type: none"> • 10-25% Young Age Class (Ages 0-5) • 50-80% Middle Age Class (Age 6-15) • 10-25% Old Age Class (Age 16+)
<p><u>C. Additional Selective Removal Criteria</u></p> <p>Objective 1: Club-footed horses would have a high priority for removal from the herd before they can reproduce, consistent with Dr. Gus Cothran's recommendations in the June 2004 genetics report.</p> <p>Objective 2: Maintain or improve animal conformation over the next twenty years.</p>	<p>Record number of club-footed horses gathered/removed as part of the final gather report.</p>	<p>Prioritize removal of any club-footed horses from the herd.</p> <p>In selecting animals for return to the range post-gather, animal size and conformation will have priority over color.</p>
<p><u>D. Assure Rangeland Health</u></p> <p>Objective 1. Assess rangeland health before 2010.</p> <p>Objective 2. Limit utilization by all herbivores to 50% of the current year's above ground primary production for key grasses and 45% for key shrubs and forbs.</p>	<p>Locate key monitoring areas within the core area.</p> <p>Assess rangeland health using procedures outlined in Technical Reference 1734-6.</p> <p>Establish baseline trend studies using the frequency sampling procedures as outlined in the Nevada Rangeland Monitoring Handbook.</p> <p>Measure utilization at key areas/use pattern mapping annually.</p>	<p>Pending completion of the rangeland health assessment, establish additional site-specific resource management objectives for key areas, as needed.</p> <p>Based on above, re-adjust AML or identify management actions to address/resolve rangeland health issues, as needed/appropriate. Re-adjustments in AML will be based on vegetation monitoring, herd monitoring and water production from the spring source (not storage capacity of the water tanks) as</p>

Management Objective(s)	Monitoring Objective(s)	Implementation Objective(s)
		the limiting factors.
<p><u>E. Assure Genetic Diversity</u></p> <p>Maintain genetic diversity within the herd (avoid inbreeding depression) as evidenced by no additional loss (>10%) of genetic diversity (H_o) over the next twenty years.</p>	<p>Collect blood and/or hair samples every gather to detect any changes from the baseline genetic diversity ($H_o = .344$).</p>	<p>If genetic sampling indicates >10% loss in genetic diversity over the next 1-20 years, introduce four mares from a genetically similar HMA(s) every other gather.</p>
<p><u>F. Sustain Healthy Populations of Wild Horses</u></p> <p>Objective 1: Manage wild horses to achieve an average body condition class score of 3+.</p> <p>Objective 2: Manage wild horses to limit lameness.</p>	<p>Visually observe wild horse body condition (Henneke Condition Class Method) and foot health at key watering locations annually.</p> <p>Record average body condition and document lameness/incidence of club-footed horses during periodic gather operations.</p>	<p>Reconstruct existing water developments to assist in limiting the distance horses trail to and from water sources.</p> <p>Annually maintain water developments following reconstruction.</p> <p>Conduct emergency removals when needed if animal body condition is less than Henneke condition class score 3 due to drought, wildfire or other unplanned/unforeseen event.</p>
<p><u>G. Assure Riparian/Wetland Area Health</u></p> <p>Objective 1: Improve riparian condition at Cactus Springs, which is currently being impacted by heavy to severe wild horse use.</p> <p>Objective 2: Improve riparian condition at other springs in the core area that may be impacted by heavy to severe wild horse use.</p>	<p>Re-evaluate riparian functionality every five years using the Proper Functioning Condition (PFC) method on springs within the core area.</p> <p>Assess utilization annually.</p>	<p>Reconstruct the existing Cactus Spring development to provide off-site water for use by wild horses; then exclude the riparian area from use by wild horses.</p> <p>If trend conditions remain static or is downward by 2012, enclosure fences may be constructed to promote riparian recovery, or additional management measures, including, adjusting AML, or developing off-site water for wild horses could be considered where feasible.</p>
<p><u>H. Disperse Wild Horse Use</u></p> <p>Objective 1: Decrease utilization by wild horses within a 1-3 mile radius of existing water developments within the core area from heavy/severe to light/moderate by 2010.</p> <p>Objective 2: Ensure adequate water is available throughout the hot summer months until additional water sources can be developed.</p>	<p>Measure utilization at key areas/use pattern mapping annually.</p> <p>Monitor water sources continuously through the summer months to ensure adequate water availability and to determine if/when supplemental water hauling will be needed.</p>	<p>Reconstruct spring boxes at Cactus Springs and Cedar Well (dependent upon spring flow), install cement water troughs along pipelines at all water sources (Cactus Springs, Cedar Well, Corral Spring, Rose, Silverbow, and Tunnel Spring), and add additional water storage at several of the sources within the next five years.</p>

Management Objective(s)	Monitoring Objective(s)	Implementation Objective(s)
<p><u>I. Additional Population Control Measures</u></p> <p>Objective 1: Adjust the sex ratio of the breeding population slightly in favor of males following future gathers.</p> <p>Objective 2: Manage a portion of the herd as a non-breeding population of geldings.</p> <p>Objective 3: Gather to the low-range of the AML and apply fertility control to mares released back to the range following future gathers (pending additional site-specific environment analysis and population modeling).</p>	<p>Document the number of mares/stallions and geldings released following each gather.</p> <p>Conduct post-fertility control monitoring in accordance with established procedures.</p>	<p>Manage a breeding population of 240-400 animals and a non-breeding population of 60-100 geldings within any given 6-7 year period. Within the population, achieve a 60%/40% ratio of males to females immediately following future gathers. The following management requirements apply to the non-breeding population:</p> <ul style="list-style-type: none"> ✓ Limit gelding to stallions between 5 and 15 years of age ✓ Limit geldings to stallions that have a Henneke body condition score of 4 or above. ✓ Surgery would be performed at a temporary holding facility, at a BLM managed holding center, or in the field by a Nevada licensed veterinarian in good standing, using appropriate anesthetic agents and surgical techniques. ✓ When gelding is done in the field, geldings would be released near a water source approximately 24-48 hours following surgery. When the gelding is performed at a BLM-managed facility, selected stallions would be shipped to the facility, gelded, held in a separate pen to minimize risk for disease, and returned to the range near water within 30-60 days following recovery (recovery is indicated by animals moving freely to/from forage and water). ✓ Gelded animals would be monitored for approximately 7-10 days post-surgery. ✓ Gelded animals would be branded with a "G" high on their hip to minimize the potential for future recapture and to facilitate post-treatment monitoring. ✓ Individual behavior of geldings would be observed during the first breeding season following treatment (i.e. June-October). Monitoring would be designed to determine if they interfere with breeding harems (i.e. demonstrate stallion-like behavior). Observations would be made as needed to determine the behavior of the geldings at key water locations within the core area. Observations would also be made when completing other scheduled fieldwork. ✓ The herd behavior of geldings post-treatment would also be observed. Anecdotal evidence

Management Objective(s)	Monitoring Objective(s)	Implementation Objective(s)
		<p>suggests geldings will form bachelor bands. Monitoring will be completed to determine whether bachelor bands form as expected, or if geldings intermix with the breeding population.</p> <ul style="list-style-type: none"> ✓ Periodic population census, together with gather data from future gathers, will be used to determine whether managing a portion of the NWHR HMA herd as geldings is effective in slowing the average annual population growth. <p>Immunocontraceptive research would be conducted in accordance with the approved standard operating and post-treatment monitoring procedures. Breeding age mares selected for release back to the range would be treated with Porcine Zona Pellucida (PZP) vaccine that would slow reproduction of the treated mares for one to three breeding seasons.</p>

MONITORING PLAN

Monitoring Item	How	Who	When	Actions to Take (Adaptive Management)
Population Management Monitoring				
Manage wild horse populations within the established AML range to protect the range from deterioration associated with overpopulation.	Census populations through aerial flights following established protocols. Direct count method or other approved protocol pending census research results and recommendations. Determine population number and annual growth rate.	FO WH&B Specialist	Census NWHR HMA a minimum of every three years i.e. 2008, 2011, 2014. Schedule flights on/near Labor Day, when possible, to obtain a better estimate the number of adults versus foals.	Schedule gathers to remove excess wild horses when the total population exceeds the AML, or when animals permanently reside outside the NWHR HMA core area (i.e. more than seasonal drift), or when animal health/condition is at risk.
Assure all age classes are represented post gather.	Record ages of animals released post-gather.	FO WH&B Specialist	Every gather.	Adjust age class distribution during future gathers if a relatively even age distribution cannot be achieved during the current gather.
Maintain genetic diversity	Hair and/or blood samples would be collected every	FO WH&B	Every regularly	Introduce four mares from genetically similar HMAs

Monitoring Item	How	Who	When	Actions to Take (Adaptive Management)
(avoid inbreeding depression).	regularly scheduled gather, or about every 4-5 years, to determine whether BLM's management is maintaining acceptable genetic diversity (avoiding inbreeding depression).	Specialist	scheduled gather.	every other gather if genetic sampling indicates greater than 10% loss in genetic diversity.
<p>Manage wild horses to achieve an average Henneke body condition class score of 3+.</p> <p>Manage wild horses to prevent lameness.</p>	<p>Visually observe wild horse body condition (Henneke condition class method) and foot health.</p> <p>Record average body condition and document lameness/incidence of club-footed horses during periodic gather operations.</p>	FO WH&B Specialist	<p>Annually, at key water locations particularly during periods of hot weather/drought.</p> <p>Every gather.</p>	Conduct emergency removals when needed if animal body condition is less than Henneke body condition score 3 due to drought, wildlife, or other unplanned/unforeseen event.
<p>Adjust the sex ratio of the breeding population slightly in favor of males following future gathers.</p> <p>Apply fertility control to mares released back to the range following future gathers.</p>	<p>Document number of mares/stallions released following each gather.</p> <p>Monitor individual and herd behavior for the first season following the gather to determine if the number of geldings reduce access to the water sources by breeding harems.</p> <p>Conduct post-fertility control monitoring in accordance with established procedures.</p>	FO WH&B Specialist	<p>Every gather.</p> <p>Year 2-4 following each gather.</p>	<p>Adjust the sex ratio to 60/40 males/ females as needed during future gathers pending monitoring results.</p> <p>Do not apply fertility control during subsequent gathers unless annual population growth exceeds 5% per year.</p>
Manage a portion of the herd as a non-breeding population of geldings.	<p>Document number of geldings released following each gather.</p> <p>Observe individual behavior of geldings. Monitoring would be designed to determine if they interfere with breeding harems (i.e. demonstrate stallion-like behavior) or with breeding harems access to water. Observations would be made as needed to determine the behavior of the geldings at key water locations within the core area.</p>	FO WH&B Specialist	<p>Post-gather.</p> <p>Observe individual and herd behavior for the first breeding season following initial treatment (i.e. June-October). Observations would also be made when completing other scheduled fieldwork.</p> <p>Evaluate effectiveness of gelding following periodic population census/subsequent gathers.</p>	If monitoring following the initial release of 30-35 geldings indicates geldings substantially interfere with breeding harems or with their access to water, no further stallions would be gelded, or alternatively, consideration could be given to managing the NWHR HMA for a non-breeding herd in its entirety.

Monitoring Item	How	Who	When	Actions to Take (Adaptive Management)
	<p>The herd behavior of geldings post-treatment would also be observed. Anecdotal evidence suggests geldings will form bachelor bands. Monitoring will be completed to determine whether the bachelor bands form as expected, or if geldings intermix with the breeding population.</p> <p>Periodic population census, together with gather data from future gathers, will be used to determine whether managing a portion of the NWHR HMA herd as geldings is effective in slowing the average annual population growth.</p>			

Habitat Management Monitoring

<p>Assess rangeland health before 2010.</p> <p>Limit utilization by all herbivores to 50% of the current year's above ground production for key grasses and 45% for key shrubs and forbs.</p>	<p>Locate key monitoring areas within the core area.</p> <p>Assess rangeland health using procedures outlined in Technical Reference 1734-6.</p> <p>Establish baseline trend studies using the frequency sampling procedures as outline in the Nevada Rangeland Monitoring Handbook.</p> <p>Measure utilization at key areas/use pattern mapping annually.</p>	<p>FO WH&B Specialist and FO Interdisciplinary team</p>	<p>Document indicators of rangeland health and summarize findings.</p>	<p>Establish additional site-specific resource management objectives for key areas, as needed.</p> <p>Based on the above, re-adjust AML or identify additional management actions to address/resolve identified rangeland health issues, as needed/appropriate.</p>
<p>Improve riparian condition at Cactus Springs and at other springs in the core area that may be impacted by heavy to severe wild horse use.</p>	<p>Re-evaluate riparian functionality every five years using the Proper Functioning Condition (PFC) method on springs within the core area.</p> <p>Assess utilization.</p>	<p>BLM</p>	<p>Every five years.</p> <p>Annually.</p>	<p>Consider adding additional water storage or additional fencing to protect riparian habitat, pending evaluation of monitoring results.</p>

Monitoring Item	How	Who	When	Actions to Take (Adaptive Management)
Decrease utilization by wild horses within a 1-3 mile radius of the existing water developments within the core area from heavy/severe to light/moderate by 2010.	Measure utilization at key areas/use pattern mapping. Monitor water sources to assure adequate water availability and to determine if/when emergency supplemental water hauling will be needed.	FO WH&B Specialist	Annually. Continuously through the summer months.	Adjust AML, as needed, pending evaluation of monitoring results (after 2010).
Monitor/assess annual maintenance needs.	Site visits at water sources.	FO WH&B Specialist	As needed, throughout the year.	Schedule and complete any necessary maintenance work. Document maintenance activities.

TRACKING LOG/PROJECT IMPLEMENTATION SCHEDULE

Description	Who	Where	When	Completed	Remarks
Population Management Actions					
Schedule gathers to remove excess wild horses when the total wild horse population exceeds the AML for the HMA (about every 6-7 years, or more often, if needed).	BLM	NWHR HMA	About every six years, 2008, 2014, etc. Summer or winter.		
Assure all age classes are represented post-gather.	BLM	NWHR HMA	About every six years, 2008, 2014, etc. Summer or winter.		
Prioritize removal of any club-footed horses from the herd.	BLM	NWHR HMA	About every six years, 2008, 2014, etc. Summer or winter		
Prioritize size and conformation over color when releasing animals back to the range.	BLM	NWHR HMA	About every six years, 2008, 2014,		

Description	Who	Where	When	Completed	Remarks
			etc. Summer or winter		
Collect hair and/or blood samples to determine whether BLMs management is maintaining acceptable genetic diversity (avoiding inbreeding depression).	BLM	Temporary holding facility and/or short term holding facility.	Every gather from a minimum of 25 animals.		
Selectively release animals post-gather slightly in favor of males (60/40 males/females).	BLM	Temporary holding facility.	Every gather.		
Select up to 30-35 stallions during the next regularly scheduled gather, ages 5-15, for gelding. Pending evaluation of post-monitoring results; select another 30-35 stallions for gelding during subsequent gathers.	BLM	Nearest BLM facility and/or temporary holding facility.	Tentatively scheduled for 2008. Tentatively scheduled for 2014.		
Apply fertility control to mares released back to the range every regularly schedule gather, and monitor results in years 2-4 following treatment.	BLM	Temporary holding facility.	2008, 2014, etc.		

Habitat Management Actions					
Description	Who	Where	When	Completed	Remarks
Reconstruct existing water developments to reduce utilization and limit the distance wild horses trail to and from water sources and available forage. Add additional water storage capability at several of the sources.	BLM	Cactus Spring Cedar Well Corral Spring Rose Spring Silverbow Tunnel Spring	By 2008		
Maintain developments following reconstruction.	BLM	Cactus Spring Cedar Well Corral Spring Rose Spring Silverbow Tunnel Spring	Annually		

HERD MANAGEMENT AREA PLANNING MONITORING AND EVALUATION

Proven mitigation and monitoring are incorporated through standard operating procedures (SOPs) that have been developed over time. These SOPs represent the "best methods" for reducing impacts associated with gathering, handling, transportation, herd data collection, and application and monitoring of fertility control. The NWHR HMA will be monitored annually as outlined in the Monitoring Plan. Management may be adjusted when monitoring data and other information indicates a need. In addition to monitoring, long-term evaluations will be completed at roughly ten-year intervals, or as needed, based on the results of annual evaluations. Monitoring objectives are outlined in the Monitoring Plan. Monitoring is designed to answer two primary questions:

“Did we do what we said we were going to do?”
“Was what we did effective in meeting/moving toward our objectives?”

The objective for the long-term evaluation is to determine:

“Are our objective(s) still current...or do they need to be modified?”
“Is our management on track...or do we need to make some changes?”

Significant changes needed as a result of annual or long-term evaluations may require appropriate NEPA analysis and documentation prior to implementation.

CONSULTATION AND COORDINATION

The consultation and coordination conducted in preparing this herd management area plan is summarized in the Final Environmental Assessment for the Nevada Wild Horse Range Herd Management Area Plan. Please refer to that environmental assessment for additional information and appendices.

List of Preparers

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