

**MURDERERS CREEK WILD HORSE
TERRITORY/HERD MANAGEMENT AREA
MANAGEMENT PLAN**

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I. Introduction

This document provides the management objectives and guidelines for managing wild horses on the Murderers Creek Wild Horse Territory/ Herd Management Area (HMA) in eastern Oregon. Appropriate management levels (AML) are expressed as a range with the upper limit representing the optimum wild horse population which will not degrade the rangeland resource and will provide for the attainment of habitat objectives in correlation with other acceptable multiple uses and the lower limit maintaining a healthy population while incorporating gather cycle considerations. The Murderers Creek Wild Horse Territory/ Herd Management Area is the only designated wild horse territory on the Blue Mountain Ranger District of the Malheur National Forest. Wild horse management within designated wild horse territories is prescribed through Acts of Congress (laws) and their implementing regulations. These laws and documents include:

- Wild Horse Protection Act of 1959
- Wild Free-Roaming Horses and Burros Act of 1971, as amended by Federal Land Policy Management Act of 1976 and Public Rangelands Improvement Act of 1978
- Management of Wild Free-Roaming Horses and Burros – 36 CFR 222 Subpart B
- Forest Service Manual (FSM) Chapter 2200 (Range Management) and Chapter 2260 (Wild Free-Roaming Horses and Burros)
- Malheur National Forest Land and Resource Management Plan (herein called Forest Plan)
- Wild horses may also be managed outside the designated territory as described in the 1971 Wild Free-Roaming Horses and Burros Act and under FSM 2264.3
- Bureau of Land Management Manual Direction
- John Day Basin Resource Management Plan currently being developed.

II. Location

The Murderers Creek Wild Horse Territory/ HMA is located in eastern Oregon between the towns of Dayville, Mount Vernon and Seneca. The original designated territory encompasses approximately 143,000 acres of Forest Service, Bureau of Land Management (BLM), Oregon Department of Fish and Wildlife (ODFW), and private lands. The actual range of the herd adds an additional 37,000 acres of Forest Service ground. Approximately 75% of the lands within the territory are on the Malheur National Forest. On Forest Service land, the designated territory includes all of the Murderers Creek and Rosebud Allotments, as well as part of the Snowshoe Allotment (Tamarack pasture) of the Blue Mountain Ranger District. The extended territory includes more of the Snowshoe Allotment (Snowshoe pasture), all of the Flagtail Allotment and part of the Field's Peak/Deadhorse/Hanscomb Allotment (Tex Creek and Murderers Creek pastures). On Bureau of Land Management Land the territory includes the Big Baldy #4052, Big Flats #4186, Rock Pile #4403, Soda Creek #4044, Morgan Creek #4154, Mahogany #4043, Corral Gulch #4164 and Murderers Creek #4020 allotment. Elevation ranges from 3250 to 6500 feet.

Aldrich Mountain, 6987 feet, is the highest point. Climate is represented by hot, dry summers and cold winters with temperatures ranging from below zero in the winter to 90+ F in the summer. Average annual precipitation ranges from 11.5 inches in the lower elevations to about 30 inches along Aldrich Ridge. Most precipitation occurs as snowfall between November and April.

III. History

The lineage of the Murderers Creek horses is diverse and quite debatable. Although it is likely that horses found in the area by early explorers (probably escaped from Native American herds) left their mark in the area, there can be no dispute that many of the Murderers Creek horses are descendants of animals lost or turned loose by settlers and ranchers. Prior to 1971 (when the Wild Free-Roaming Horse and Burro Act was enacted) ranchers managed the wild herds by turning out their own stallions to bring certain characteristics into the bands, then gathered the young horses in the spring.

The Murderers Creek horses are generally small animals, 13 to 14 hands in size. More than 50% of the horses of Murderers Creek are “timber horses”. They live in heavily timbered areas of ponderosa pine and mixed conifer. These horses tend to be bay or brown in color while the horses that inhabit the western, more open part of the territory have more color variety with grays, duns and sorrels added to the bays, browns and blacks. In 1997 five stallions from two different BLM Herd Management Areas were introduced to the BLM portion of the territory to increase the size and color variation of the herds. This met with limited success as the introduced horses failed to assimilate into the existing herds and therefore did not contribute as they were intended.

IV. Standards, Goals and Objectives

The Malheur National Forest Land and Resource Management Plan (LRMP) sets fourth the direction for managing the land and resources of the Malheur National Forest. The following LRMP standards, goals and objectives relate specifically to Wild Horse Habitat and Management.

- A. Forest-wide Standard #83 (LRMP IV-34) – Conduct livestock management on the Murderers Creek Wild Horse Territory to ensure that resource conditions meet management goals and standards. Resolve conflicts between livestock, big game, and wild horses in accordance with the maintenance of a wild horse herd averaging 100 head.
- B. Forest-wide Goal #23 (LRMP IV-2) – Conduct livestock management on the Murderers Creek Wildhorse Territory to ensure maintenance of a wild horse herd averaging 100 head.
- C. Forest-wide Objective (LRMP IV-18) – Provide Forage to maintain the Murder’s Creek wild horse herd at 100 animals and meet big game population objectives agreed upon between the Forest Service, Oregon Department of Fish and Wildlife, and the Oregon Wildlife Commission.

V. Desired Condition

The following project specific desired future conditions for wild horse habitat and management were developed by comparing LRMP standards (LRMP IV-34), goals (LRMP IV-2), and objectives (LRMP IV-18) described above with the existing conditions described on pages 8-10 of this plan. In summary, the wild horse herd would average 100 head to maintain ecological balance with other approved multiple uses to manage habitat conditions in a stable or upward trend. Wild horse management should be consistent with the Aquatic Conservation Strategy.

A. Habitat

1. Vegetation – Vegetation is one of the essential components of wild horse habitat, providing forage and cover for the animals. Vegetation will be managed for a thriving natural ecological balance. Rangeland health will meet Malheur Forest Plan objectives while providing sufficient forage to maintain appropriate management level of wild horses in a moderately thin or better condition. Sufficient quantity of forage will be 950 lbs dry matter forage per horse per month.
2. Water – Water is an essential component of wild horse habitat. Sufficient water will be available to sustain the appropriate management level of wild horses. Sufficient quantity of water will be 15 gallons per horse per day. Available water will meet state water quality standards for livestock.
3. Cover – Cover is an essential component of wild horse habitat. Murderers Creek Wild Horse Territory has a rich and diverse amount of cover for wild horses. There are areas of rolling to flat lands bisected by very steep rocky canyons covered with Juniper, sage, bunchgrass and ponderosa pine. Also, steep, timbered slopes bisected by relatively narrow stream channels. In these areas the north slopes are usually densely timbered with mixed conifer while the south slopes are more open and may contain rock outcrop or serpentine soils.
4. Living Space – Ample open space within the territory will be available to facilitate a wild free-roaming nature for wild horses. Fences and other human induced barriers to movement within the territory will not impede traditional distribution or seasonal migration of wild horses.

B. Population

1. Population Demographics
 - a. Appropriate Management Level (AML) – The AML has been determined to be 50-140 horses. The 1983 Utilization and Distribution Study included in the 2210 Analysis File concluded that with 100 head of horses the natural elevation, seasonal migration, and the scattered territoriality of the bands, no significant problems would be expected related to the proper use of the forage species. When the herd was around the 200 head level (1979), significant use (and damage) occurred at Vester Meadows and the South Fork of Murderers Creek while at 100

head few areas of concentrated use were found and no areas of damage were found.

- b. Sex Ratio – The sex ratio in an undisturbed population normally favors the female slightly: 52% female, 48% male. Slight adjustments in the sex ratio favoring the male may significantly reduce reproduction, particularly when accompanied with fertility control, and may result in more male participation in breeding thus encouraging genetic exchange. Sex ratio will be managed for a normal distribution, 50% male and 50% female.
 - c. Age Structure – Murderers Creek horses will be managed for a normal age structure with representation from each age class in a pyramidal structure with young animals representing the largest age class at the base of the pyramid.
 - d. Recruitment Rate – Average recruitment rate for wild horses is 18% per year. This can be reduced through sex ratio adjustments and fertility control. Murderers Creek horses will be managed for a normal recruitment rate of 18% or less.
 - e. Animal condition – Murderers Creek horses will be managed for a healthy population with the majority of the wild horses in the population moderately thin to moderately fleshy (Henneke body condition score of 4-6).
2. Phenotype – Wild horses will be managed for historic characteristics. Horses will be generally small (13-14 hands in height), most frequently bays and browns but with a mix of black, gray, sorrel and dun. They are reported to be very sure footed which is a benefit to an animal living in the rugged terrain these horses inhabit.
 3. Distribution – Wild horses will be managed for historic patterns of use within the Murderers Creek Wild Horse Territory, preserving the free-roaming behavior.
 4. Genetic Diversity – Manage for a high level of genetic diversity in wild horses. Management will allow for a 90% probability that 90% of the existing genetic diversity within each herd is conserved over a 200 year period. If genetic diversity within the herd narrows greater than 10%, action will be taken to restore diversity by introducing other wild horses of similar phenotype from another wild horse population. “Only one to two breeding animals per generation (=about every 10 years in wild horses) would maintain the genetic resources in small populations of about 100 animals, thus obviating the need for larger populations in all cases.” (BLM Resource Notes No. 29). Managers are faced with conflicting needs to minimize population size to control habitat damage or forage use, and to maximize population size to preserve genetic variation (BLM Resource Notes No. 34).

VI. Existing Condition

A. Habitat

1. Vegetation – The predominant vegetation types on the Wild Horse Territory are Douglas-fir/ Elk sedge, and Grand fir/ Elk sedge with canopy covers of up to 80 and 84% respectively. Other vegetation types of significant size include Ponderosa pine/ Elk sedge (canopy cover 0-67%), Grand fir/ Pinegrass (canopy cover 0-78%), and Ponderosa pine/ Mountain mahogany/ Idaho fescue-bluebunch wheatgrass (canopy cover 0-57%). Herbage production ranges in these vegetation types from a low of 50 lbs/acre up to 800lbs/acre. There are also significant acreages of shrubland and bunchgrass-type grasslands, but the territory as a whole is dominated by coniferous vegetation.
2. Water – Water is easily accessible throughout the Murderers Creek Wild Horse Territory all year long. The two major drainages include Murderers Creek and Deer Creek. Additional creeks include: Thorn, Fields, Tex, the South Fork of Murderers, Beaver Dam, Bark Cabin, Crazy, Morgan, Dry Soda, Poison, Rosebud, Caps, Indian and Pewee. Several hundred troughs, springs and ponds are also maintained by grazing permittees to provide off-stream water for livestock, wildlife and wild horses.
3. Cover - Murderers Creek Wild Horse Territory has a rich and diverse amount of cover for wild horses. There are areas of rolling to flat lands bisected by very steep rocky canyons, covered with Juniper, sage, bunchgrass and ponderosa pine. Also, steep, timbered slopes bisected by relatively narrow stream channels. In these areas the north slopes are usually densely timbered with mixed conifer while the south slopes are more open and may contain rock outcrop or serpentine soils.
4. Living Space - Ample open space within the territory is available to facilitate a wild free-roaming nature for the wild horses. Fences and other human induced barriers to movement within the territory do not impede traditional distribution or seasonal migration of wild horses. .

B. Population

1. Population Demographics – Additional population information can be found in Appendix B.

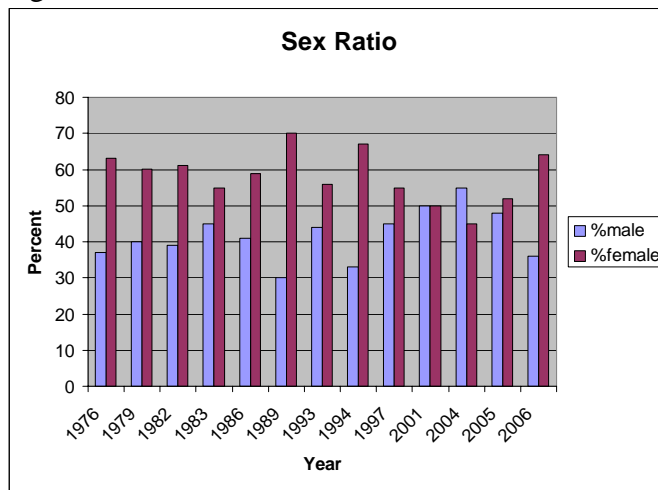
The results of the 2006 summer census are as follows:

- a. Population size: 436 horses were counted
- b. Age structure: 336 adults, 15 yearlings, 85 foals
- c. Sex ratio: of the adults identified to gender, 36% were male, 64% female (52 adults and 100 young were not sexed). The following table shows the sex ratio as it has been noted during gather operations from 1976 to 2005. This is usually the only time that an accurate sex ratio can be determined, however, data from adoptions may be biased against older unadoptable studs and the lesser gathering of younger studs occurring in bachelor bands. The data from 2006 is included since this was a ground survey and the gender of horses was often able to be determined during the count.

Table 1. Estimated Sex Ratio

Year	%male	%female	Notes
1971	42	58	Best guess from graph in 1984 territory management plan
1976	37	63	Actual data from 1976 gather report
1979	40	60	Best guess from graph in 1984 territory management plan
1982	39	61	Best guess from graph in 1984 territory management plan
1983	45	55	Only 9 horses gathered
1986	41	59	
1989	30	70	
1993	44	56	
1994	33	67	
1997	45	55	
2001	50	50	
2004	55	45	
2005	48	52	Of those identified to gender
2006	36	64	Of those identified to gender

Figure 1. Sex Ratio



- d. Recruitment rate: 19% of the horses counted in the 2006 census were foals. It can be reasonably expected that survival rates are high for these foals as there are few predators in the territory and the relatively mild winters mean there is usually readily available forage year round. Data from gathers since 1976 indicate a recruitment rate from 20 to 31% based on the percent of yearlings and younger in the gather.

Table 2. Number of Wild Horses that are Yearlings or Younger

Year	Yearling or Younger	
1971	25	from graph in 1984 TMP
1974	20	from graph in 1984 TMP
1976	24	from graph in 1984 TMP
1979	27	from graph in 1984 TMP
1993	31	from master list data from Burns adoption center
1994	23	from master list data from Burns adoption center
1997	31	from master list data from Burns adoption center
2001	21	from master list data from Burns adoption center
2004	21.5	from master list with horses turned back added to total
2005		request master list to calculate this

- e. Condition: Fair to good on most animals (See Appendix A Henneke 4-6).
2. Phenotype - Horses are generally small (13-14 hands in height), most frequently bays and browns but with a mix of black, gray, sorrel and dun. They are reported to be very sure footed which is a benefit to an animal living in the rugged terrain these horses inhabit.
3. Distribution – The elevational migration of these bands is relatively minor. For example, most of the bands never leave the National Forest, even during the most severe winters. Bands have been observed in the upper elevations in mid-winter, yarded in fir thickets or traversing 4 feet deep snow despite a plowed road accessing the lower elevations.
The “normal” pattern is for the bands to move to the south slopes as winter progresses and to move back as spring comes on. It appears that the bands generally remain within a roughly defined territory throughout the seasonal “migrations”. These territories are somewhat distinct from each other with low populations but overlap more as populations increase. In addition, lone horses or small groups of bachelor bands will operate within band territories.
4. Genetic Diversity – Doctor Gus Cothran performed genetic analysis of this herd in 2000-2001, checking on genetic health as well as possible ancestry. He found that this herd – which is physically isolated from other herd areas – is the most unique, bearing the least similarity to the other Oregon herds studied. He also found that it was not inbred, that genetic health was good, and he predicted no inbreeding issues in the near future if population levels are maintained.

VII. Population Control

A. Natural Population Controls – The rate at which wild horse herds naturally increase or decrease is affected by factors including the quality and quantity of forage and water, the ability to find essential habitat components unhindered, weather, disease, and predation. Knowledge gained in managing wild horses indicates that soil, vegetation, and water resources are almost always severely damaged before the lack of forage and water has a major effect on the rate of population growth. Consequently, when natural population controls do not exert sufficient influence to maintain the population of wild horses at AML, human intervention is necessary. Sometimes mountain lion predation is sufficient to maintain populations at AML. In the Murderers Creek Wild Horse Territory/HMA, mountain lion predation is a small factor but not enough to maintain population at AML.

B. Gather and Removal:

The Authorized Officer shall gather and remove excess wild free-roaming horses in the following order and priority:

1. Emergencies: Extraordinary circumstances such as natural disasters (wild fire, extreme drought, etc.) may require wild horse population adjustments to maintain an ecological balance. Immediate action is normally required to protect the health and welfare of the population and its habitat.
2. Court Orders: Gather and remove excess animals to comply with court orders.
3. Strays: If wild horses stray outside of their designated territory, and the land owner (private, state, or other agency) requests their removal, gather and remove or relocate the offending animals.
4. Appropriate Management Level: Wild horses shall be managed at population levels within the appropriate management level range (50-140). Once the estimated population reaches or exceeds the upper level of AML, excess animals will be humanely gathered and removed. The number of excess animals to be removed will equal the number in excess of the lower level AML.
5. Periodic unscheduled removals of limited numbers of horses (5-20) if concentrations of horses develop along the South Fork of the John Day River where Wild and Scenic values or steelhead habitat exists.

Occasional herd census would be conducted so that the wild horse population would not fall below 50 or exceed 140 horses. Several gathers would be initiated to bring the population within the range, with strong emphasis on horse health and safety as well as safety of contractors, Forest Service personnel, and the public. Contraception could be an important part of long term population control after the population is brought down to the AML.

The following criteria would trigger the need for an adjustment in horse numbers and a subsequent gather and adoption and/or other population control measures:

1. Drought conditions. The Standardized Precipitation Index (SPI) or its successor will be used to define drought conditions. SPI values are available monthly from the Western Regional Climate Center at www.wrcc.dri.edu. Conditions will be determined by the size of the negative number. The larger the negative number, the more severe the drought. SPI values of -0.75 or less for the past month signal drought conditions. SPI values of positive 1.0 or more for the past 12 months signal the end of drought.
2. Herbaceous plant utilization in key wild horse grazing areas exceeding 30 percent utilization standards for two consecutive years.
3. Key grazing areas are sampled for range/ecological conditions and show that range and soil stability conditions are trending downward.
4. Forage production, based on forage production samples in key areas, does not show sufficient forage to support the present population.
5. The number of horses exceeds 140 (determined generally by ground survey).
6. Management of the Murderers Creek Wild Horse Territory/Herd Management Area is not meeting Pacfish/Infish guidelines or the Aquatic Conservation Strategy for listed fisheries.

Generally, a combination of gather methods is used. Weather conditions and snow load along with location, condition and habits of individual horse bands will determine which method would be most humane and appropriate. Drive trapping or running by horseback or helicopter and low stress bait trapping (attracting horses into an area with molasses or alfalfa) are the three most common methods of capture. Motor vehicles would not be used to chase horses during the gather operations. Horses would be gathered into existing or portable holding pens which are approximately 20' by 50' feet. The holding pens would be placed in areas as proposed by the contractor and approved by the Forest Service. Holding pens would be located away from sensitive water sources, springs and outside of Riparian Habitat Conservation Areas. Holding pens will not be located near heritage sites or near locations with sensitive plant species. No ground disturbing activities would be required to place the pens. Once in the holding pens, horses would be promptly transported to the Bureau of Land Management Adoption Facility in Burns, Oregon. Horses are typically not in the holding pens for longer than one day. Horses typically are not gathered in the late spring when foals are being born. All gather operations will be restricted to existing roads on USDA Forest Service, USDI Bureau of Land

Management and Oregon State Department of Fish and Wildlife lands. No new roads would be created. See Appendix C and D for more information.

C. Humane Destruction

Euthanasia may be authorized for a wild horse with any of the following conditions:

1. Displays a hopeless prognosis for life;
2. Suffers from a chronic or incurable disease or serious physical defect;
3. Requires continuous treatment for the relief of pain and suffering;
4. Incapable of maintaining a Henneke body condition score greater than two in a normal rangeland environment;
5. Suffers from a traumatic injury or other condition that causes acute pain.

Animals will be euthanized using the most humane manner possible.

Destruction of an animal will be documented to describe the health of the animal, reason for its destruction, and cause of injury or circumstances leading to the animal's condition.

D. Fertility Control

Since 1997, the unadoptable older male horses that are released back to the territory have been gelded. There were two geldings returned in 1997 and 15 in 2004. Fertility control may be used as a tool to reduce the rate of population growth. Fertility control may extend gather cycles resulting in fewer disturbances to populations, reduced budgetary demands, and may help achieve the goal of minimum feasible level of management. For most wild horse populations, about 70% of all reproductively active females will need to be maintained in an infertile state to achieve a stable population size (BLM Resource Notes No. 34).

Fertility control on mares is more effective than fertility control on stallions to reduce population growth rates because a larger percentage of mares participate in breeding. Thus far, research has shown that porcine zonae pellucidea (PZP) is most effective for meeting objectives of fertility control in wild horses. PZP must be used under an Investigational New Animal Drug Exemption (INAD #8857) and is termed field research with certain specific requirements. If PZP is used on wild horses within the Murderers Creek Wild Horse Territory, 50%-80% of the breeding age mares will be treated with one shot of the 2-year ZP. This treatment level should result in approximate herd growth rates of 18% in year one (as mares are already pregnant when drug is given), 2% in year two, 7% in year 3, 12% in year 4, and normal recruitment levels in year 5. The 2-year PZP may be administered to the same mares not more than every 4 years.

The cost of gathering 70% of breeding mares to treat with the contraceptive every two years could render contraception alone impractical since most of the horse population would need to be gathered to access the breeding mares. The most practical control program would likely involve both contraceptives and periodic removals. Contraceptives

could reduce growth rate and are likely to be cost effective while removals permit management to rapidly adjust overall population size. (BLM Resource Notes)

Permission to conduct research using PZP is covered under an Investigational New Animal Drug Exemption (INAD#8857) filed with the Food and Drug Administration (FDA) by the Humane Society of the United States (HSUS). All BLM wild horse management areas must provide approved gather plans and environmental assessments detailing the contraception research before the research can be initiated in any specific area. Permission must be granted by the HSUS. The BLM is currently working with HSUS to put in place a Field Trial Plan for Wild Horse Fertility Control for the use of PZP under the stated guidelines. To date, the Forest Service has not entered into any research program for the use of the PZP vaccine. However, the opportunity may exist to initiate a research program under existing BLM protocol established in their Field Trial Plan for Wild Horse Fertility Control. Implementing a research program would require working closely with HSUS and the maker of the vaccine. The actual research plan would require the approval of HSUS.

VIII. Improvement Projects

Range improvements including stock ponds, troughs, springs, fences, cattle guards and corrals are maintained by Term Grazing Permit holders on livestock allotments within the Murderers Creek Wild Horse Territory/HMA. Water developments are designed to be used by livestock, wildlife and wild horses.

A range analysis in 1982 addressed the impact of fences in the movement of wild horses. Horses typically return to their traditional areas prior to the closing of gates and maintaining of fences by the grazing permittees in early May and June. The horses typically remain in the unit until the fall when the gates are thrown open. There is some movement between units through breaks in the fences. It appears that wild horse band territories adjust to coincide with allotment unit fences. For this reason, it is important to ensure that fences do not totally cut off normal travel routes, that unit (pasture) sizes remain large enough to provide summer forage for the bands involved and that strategic gates are kept open when livestock are not on the forest (October until May).

The large corrals at the Oregon Department of Fish and Wildlife Murderers Creek Ranch (Phillip W Schneider Management Area) were constructed/reconstructed for roundup use. Prior to use, permission must be obtained from Oregon Department of Fish and Wildlife. There is also an old pole corral at the junction of Buck Creek and Deer Creek that may be available for use.

There are currently sixteen traps throughout the Murderers Creek Wild Horse Territory/ HMA that have historically been used to gather horses. Many of these traps need repair prior to use. Additional temporary traps may also be erected during gather operations. Trap locations include: Thorn, North Shake Table, South

Shake Table, Cougar Mountain, North West Maggot, South East Maggot, Blue Ridge, South West Maggot, Youngs Creek, Dewey/Dugout, Dewey/Buck, Upper Buck, Frenchy Butte, Vester/Buck, Deer Creek Section 7, South Fork Murderers Creek/Murderers Section 14.

IX. Monitoring

A. Habitat

1. Upland trend is generally monitored on the territory and associated grazing allotments through condition and trend plots; riparian trend is monitored through Proper Functioning Condition Assessments (PFC), Designated Monitoring Areas (DMA), and Winward Greenline Assessments. Camera points are used in both upland and riparian monitoring. Generally, the Proper Functioning Condition (PFC) surveys conducted on streams in the Murderers Creek Allotment showed streams in functional at risk to proper functioning condition. No streams were found to be nonfunctional. Trend was upward for streams at risk on all locations but one where the trend was not apparent. DMA monitoring showed near natural rates of recovery at all locations. Greenline showed two locations at potential natural community, one at late seral and one early seral. Condition and Trend transect monitoring results showed plant communities in a range from poor to excellent. Poor conditions were noted in areas with heavy horse grazing impacts. Multiple indicator monitoring at DMAs in 2005 on the Murderers Creek Allotment found that no effects from grazing would carryover to the next year. See Appendix E and F for more information.
2. Climate –The territory is part of NOAA zone 7. More information on the precipitation and timing can be found on the Oregon Climate Service website: <http://ocs.orst.edu>
3. Water – The Murderers Creek Wild Horse Territory/HMA is well watered through a series of free flowing streams. Several hundred troughs, springs and ponds are also maintained by grazing permittees to provide off-stream water for livestock, wildlife and wild horses. An inventory was conducted in 1990 to review the condition of off-stream water sources. A grant was received in 2006 to maintain or repair several water troughs throughout the territory.
4. Utilization levels and distribution patterns will be monitored.

B. Animal

1. Census information has been collected throughout the years. Census methods shall be selected to utilize the most effective and cost efficient techniques. Census of wild horse herds are to be conducted by trained personnel using methods accepted in the scientific community, and techniques should be consistent with current research. To assure a current assessment of population size and growth rates, a census of a territory should be conducted at least every 3 or 4 years. A census rarely determines the exact number of animals within a territory, so population

estimates will be developed from the census results as determined by current research.

Census data collection shall be conducted in a manner which avoids under/over counting due to animal movement. To the extent possible, each census of a territory should be conducted during the same time of the year, using the same type of equipment, and the same personnel to facilitate comparison with prior census data and detect trends in the herd.

At a minimum, the following data shall be recorded during each census: Territory name, date of the census, observer(s) name, weather conditions, type of aircraft used, time of day, location of animals, number of adults, and basic herd health and condition.

Helicopter surveys are believed to under report wild horse numbers due to the heavy timber and rough terrain throughout the territory. In 2006, an extensive on the ground census conducted on foot and horseback was conducted in a systematic fashion throughout the territory. Contractors used terrain, pasture fences and other natural boundaries to stratify their census pattern. Only the horses actually seen were counted. If horse sign was observed in an area but no horses were seen, the contractors would return to the area until a positive sighting was made. Each horse sighting during the 2006 census included the following information where possible: date, location, number, description, gender, age class, and color. This information was reviewed following the census to determine if any horses were counted more than once. In 2006, 436 total horses were identified on the Murderers Creek Wild Horse Territory/ HMA.

2. Seasonal Distribution of Animals – Seasonal distribution may vary over the years, but movement is normally related to abundance and quality of forage, climate, weather patterns, availability of water or some disturbance. Records of movements and identification of seasonal use areas are important in evaluating the impact of wild horses and burros on their habitat and determining the impact of proposed range improvement projects on the population. Data collection over a period of 2 to 4 years may be adequate to establish a pattern of movement that is representative of the animals' seasonal needs or the climatic pressures on the populations. Long term storage of data is required, as is periodic evaluation of the historical data collected, to effectively manage populations for the long-term. A distribution map was created following the 2006 Wild Horse Census. Areas of high and moderately high concentrations and significant wild horse impacts were identified. This map will be used to help plan future gather operations.

3. Condition – The horses of the Murderers Creek Wild Horse Territory/ HMA are generally reported to be in good condition. There was one

gather (1993) that was discontinued in mid-operation in the middle of a particularly harsh winter. That year horses were reported as being severely weakened by the conditions and eight winter kills were located during the gather process. The gather was halted to preclude any further stress on the already weakened animals. All other data from gathers and census operations has shown horses to be in fair to good condition.

4. Reproduction/foaling period – early May is the peak foaling time however, the mares have been observed to foal year round.

5. Mortality - Land Managers document and record dead horses. Law Enforcement Officers and Game Managers notify the Forest Service of any wild horses poached or accidentally shot during hunting seasons. Injured horses that need to be euthanized are also recorded.

Table 3. Mortality

Year	Number	Cause of Death
1976	6	Euthanized for medical reasons
	6	Destroyed unadoptable
1977	3	Destroyed
1978	2	Destroyed
1979	10	Gather operations
1981	1	Destroyed
1982	3	Gather operations
1989	1	apparent winterkill
1990	1	Caught in cattleguard
1991	1	Natural causes
1992	3	Natural causes
	1	Gun shot
1993	1	Euthanized due to broken leg
	1	Euthanized due to weakened condition during gather
	12	Winter kill
1994	1	Euthanized due to injuries in corral
	1	Euthanized due to complications during foaling
	1	Winter kill
1996	1	Puncture or gun shot wound
	1	Broken leg
1997	1	Euthanized due to hopeless prognosis for life
	1	Euthanized due to infected wounds and broken shoulder
	1	Gun shot
	1	Euthanized due to hopeless prognosis
1998	1	Tangled in fence
	1	Unknown
2001	1	Gather operations
2004	2	Gather operations
2005	1	Natural causes
	1	Cattle guard

2006	4	Poached
	2	Broken leg

6. Genetics – Blood samples for monitoring genetic data should be collected from 25% of the estimated population from each territory. These animals, targeted for release, should be gathered during normal gather/removal operations. Blood should be drawn from both mares and studs, of any age class, in a ratio similar to the estimated sex ratio of the herd. The genetic data will be used to identify genetic drift and any narrowing of diversity through inbreeding. Genetic analysis will determine diversity, the presence of rare alleles, and the historic origin of the herd. Blood samples shall be drawn and handled by any veterinarian or trained individual in a manner that is consistent with current laboratory processes and procedures.

Two tubes of blood need to be collected from each horse (one red top and one yellow top vacutainer). The red is the clot sample and the yellow contains an anticoagulant and needs to be inverted several times to mix the anticoagulant with the blood. The sample needs to be drawn directly into the vacutainer.

After the samples have been collected, individual animal tubes should be placed in a zip lock bag along with a data sheet describing as a minimum: 1. Date collected, 2. Territory name, 3. Animal age, sex, and color. The bag should be rolled up and placed in the refrigerator pending shipment. Do not freeze the samples. Samples should be shipped to the laboratory within two weeks of collection. Samples should be shipped in coolers with blue ice, placing newspaper between the blue ice and samples to prevent freezing. Samples should be shipped overnight mail to arrive during working hours Monday to Friday.

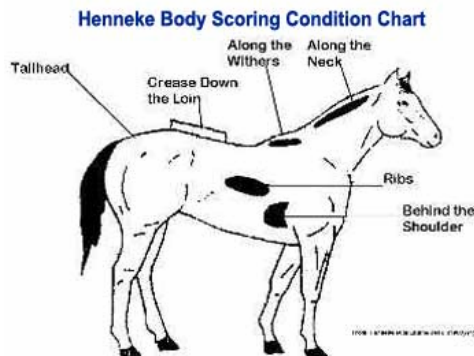
Other scientifically approved methods for monitoring genetic information, in lieu of blood samples, may also be considered, such as hair samples with root follicle. This method requires at least 3 hair samples with root follicle per individual, although 10 samples is preferred. Samples from at least 25% of the estimated population are recommended. Place individual animal hair samples in an envelope and record on the envelope the date collected, territory name, and if known, the animal age, sex, and color.

APPENDIX A

Henneke Body Condition Score

CONDITION	NECK	WITHERS	LOIN	TAILHEAD	RIBS	SHOULDER	NOTES
1 POOR	Bone structure easily noticeable	Bone structure easily noticeable	Spinous processes project prominently	Tailhead (pinbones) and hook bones projecting prominently	Ribs projecting prominently	Bone structure easily noticeable	Animal extremely emaciated; no fatty tissue can be felt
2 VERY THIN	Faintly discernible	Faintly discernible	Slight fat covering over base of spinous processes. Transverse processes of lumbar vertebrae feel rounded. Spinous processes are prominent.	Tailhead prominent	Ribs prominent	Faintly discernible	Animal emaciated
3 THIN	Neck accentuated	Withers accentuated	Fat buildup halfway on spinous processes but easily discernible. Transverse processes cannot be felt	Tailhead prominent but individual vertebrae cannot be visually identified. Hook bones appear rounded, but are still easily discernible. Pin bones not distinguishable	Slight fat cover over ribs. Ribs easily discernible	Shoulder accentuated	
4 Moderately THIN	Neck not obviously thin	Withers not obviously thin	Negative crease along back	Prominence depends on conformation, fat can be felt. Hook bones not discernible	Faint outline discernible	Shoulder not obviously thin	
5 MODERATE	Neck blends smoothly into body	Withers rounded over spinous processes	Back level	Fat around tailhead beginning to feel spongy	Ribs cannot be visually distinguished but can be easily felt	Shoulder blends smoothly into body	
6 Moderately FLESHY	Fat beginning to be deposited	Fat beginning to be deposited	May have slight positive crease down back	Fat around tailhead feels soft	Fat over ribs feels spongy	Fat beginning to be deposited	
7 FLESHY	Fat deposited along neck	Fat deposited along withers	May have positive crease down back	Fat around tailhead is soft	Individual ribs can be felt, but noticeable filling between ribs with fat	Fat deposited along shoulder	
8 FAT	Noticeable thickening of neck	Area along withers filled with fat	Positive crease down back	Tailhead fat very soft	Difficult to feel ribs	Area behind shoulder filled in flush with body	Fat deposited along inner buttocks
9 Extremely FAT	Bulging fat	Bulging fat	Obvious positive crease down back	Building fat around tailhead	Patchy fat appearing over ribs	Bulging fat	Fat along inner buttocks may rub together. Flank filled in flush.

From: Henneke et al. Equine Vet J. (1983) 15(4), 371-372



APPENDIX B

Table A. Wild Horse Population

Year	Base number	+20%	-capture*	carryover
FY 2007	436	87	0	523
FY 2008	523		279	244
FY 2009	244	49	120	173
FY 2010	173	35	100	108
FY 2011	108	22		130

*anticipated capture/removal number subject to change due to budgets, territory conditions, national priorities, etc.

The census at the end of 2006 was 436 animals. Since there are no gather operations scheduled for the winter of 06-07, it is assumed that this number will carryover and be available for the 2007 breeding season. At a recruitment rate of 20%, this will add 87 animals to the total going into the winter of 07-08. A gather of 279 horses is scheduled to start in November 2007 (in FY2008) which will bring numbers down to 244 going into the breeding season. Adding 20% (49) to this number means 293 in the fall, then gathering 120 in the winter (FY2009) leaves 173 for the next breeding season. Again, add 20% (35) and subtract 100 for the next scheduled gather and the number going into the 2011 breeding season is 108. This is the first year that numbers will be within AML but at the end of the year will be up to 130 with the recruitment. This very clearly demonstrates the need for active management of the numbers of horses and a commitment to a regular gather schedule. In the 1976 Roundup Notes prepared by Al Meyer after the first official Murderers Creek Territory Roundup, the recommended gather plan was to reduce the herd size to 70 horses every 3rd or 4th year. This is a reasonable plan that would mean less costs in annual roundup expenses but would rely on accurate counts and estimates of the existing population.

Table B.

Year	Base number	20% increase	Carryover
0	70	14	84
1	84	17	101
2	101	20	121
3	121	24	145
4	145	29	174

If 75 horses are gathered in year 3, then the table resets back to year 0. If no gather until year 4 then 104 horses will need to be gathered and the territory will have been over the AML for a year.

APPENDIX C

Gather/Removal of Excess Animals

This section provides guidance on methods used to capture and transport wild horses. Each capture event has its own special set of circumstances. The terrain, temperament of the animals, weather, equipment, personnel, and a host of other variables will affect the selection of the capture technique and procedures. The level of expertise of the personnel is a major consideration in selection of the capture techniques.

Wild horses may be captured and transported using contract personnel, BLM employees (FS Agreement #05-MU-11132421-013-11/17/04), or Forest Service employees. Available techniques for capture are discussed below.

A. Capture Methods

1. Helicopter Drive Trapping: This method uses a helicopter to herd horses into a trap. Wings are constructed off the ends of the trap to aid in funneling horses into the trap. A helicopter moves the animals into the wings, which funnels the animals into the trap. This method would be conducted by personnel experienced in the humane capture and handling of wild horses. Stipulations for using this method include: 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 authorized officer; under no circumstances shall animals be tied down for more than one hour, b) animals will be herded in such a manner as to assure that bands remain together and no foals are left behind, c) domestic saddle horses may be used as a pilot (i.e. parada or judas) horse to lead the wild horses into the trap; individual ground hazers may also be used to assist in the gather.
2. Horseback herding to a trap: This method is similar to helicopter drive trapping, except horseback riders are used to move the wild horses into the trap. This method is an alternative to helicopter drive trapping in areas of tall timber, steep terrain, or high winds. Horseback herding can also be used in support of helicopter drive trapping. Close radio coordination between the riders and the helicopter pilot is necessary at all times in this situation.
3. Roping: Roping may be accomplished with or without the support of a helicopter. A helicopter may be used to herd wild horses to ropers. Roping can be used to capture escaped animals at the trap, retrieve animals that have escaped from adopters or adoption facilities, or gather a small number of animals from an area. Foals shall not be left behind. Under no circumstances shall animals be tied down for more than one hour.
4. Bait trapping: This method utilizes bait (water, feed, mineral/protein supplements, etc.) to lure wild horses into a trap. Finger gates shall not be constructed of materials that may be injurious to animals, such as T-posts, sharpened willows, etc. All trigger and/or trip gate devices must be approved by the authorized officer prior to capture of animals.

Traps shall be checked a minimum of once every 10 hours. Bait trapping is the least stressful method of capture.

5. Chemical capture: This method uses an immobilizing drug to capture a wild horse. Injection may be administered from a helicopter or the ground. A veterinarian or other trained personnel use a dart gun to shoot a projectile with an immobilizing drug into the muscle of a wild horse, injecting the animal on impact. A professional experienced in the use of immobilizing drugs on large animals shall determine the type of drug used. Chemical capture should be used only as a last resort. Because appropriate chemical dosage is usually based on animal weight, there is a possibility of killing the animal through an overdose. The animal may also suffer a fatal allergic reaction or a fatal reaction from stress combined with the chemical. An underdose may only partially sedate the animal, which would reduce its faculties and make it prone to injury.
6. Net gun: This method uses a net gun to capture a wild horse. This is a very specialized method of capture and shall only be attempted by experienced and trained personnel. Net gun capture may be employed either in combination with other capture methods or as the primary capture technique if it is the only feasible option. Operational guidelines for using this method include: 1) use only pilots and aircraft that are carded for Net Gun Operations; 2) use, at a minimum, a 25 foot lead line for sling load operations; 3) blindfold animals until removed from the net; 4) sling only one animal at a time; 5) minimize the time netted animals spend on the ground; 6) within 8 hours of capture, remove the captured animals to temporary or permanent holding pen with shade and water available; 7) cease net gun operations if the temperature equals or exceeds 100 degrees.
7. Unacceptable methods: Inhumane methods of capture, such as the use of snares or creasing, shall not be considered or implemented for the capture of wild horses. To do so would be a violation of the Wild Free-Roaming Horse and Burro Act of 1971.

B. Trapping and Care

1. Pre-capture Evaluation: Prior to any gathering operation, evaluate the existing conditions in the gather area. The evaluation should include animal condition, 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. If the evaluation determines that there is an eminent risk to the health of the animals, such as poor animal condition, extreme temperatures, etc., obtain the presence of a veterinarian during gather operations. Notify the State Brand Inspector of the planned gather and removal of wild horses 30 days prior to the event. Removed horses should be inspected by a qualified brand inspector to verify the absence of brands. Personnel conducting the gather 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.

2. **Trap Site Location:** All trap and holding facility locations must be approved with the necessary clearances (archaeological, T&E, etc.). All traps and holding facilities not located on public land must have prior written approval of the land owner. Trap sites and temporary holding sites will be located to reduce the likelihood of undue stress and injury to the animals, and to minimize potential damage to the natural resources. Where possible, trap sites should be established on areas of previous soil or vegetation disturbance, such as gravel pits or roads, to avoid impacts to unaltered vegetation and soils. A winter gather may minimize soil and vegetation impacts due to frozen ground and dormant vegetative conditions. Trap sites should be located on or near existing roads to facilitate transport.
3. **Trap and Holding Pen Specifications:** All pens shall be constructed of stout material capable of withstanding the escape attempts of a wild horse. No barbed wire shall be used in the construction of pens. All traps and holding facilities shall have a top rail of not less than 72 inches, and the bottom rail shall not be more than 12 inches from ground level. All traps and holding facilities shall be oval or round in design. The number or size of pens shall be sufficient to accommodate the maximum number of animals to be held at any particular time without overcrowding.

All loading chute sides shall be a minimum of 6 feet high and shall be fully covered with plywood or like material.

All runways shall be a minimum of 30 feet long and a minimum of 6 feet high and shall be covered with plywood, burlap, plastic snow fence or like material a minimum of 1 foot to 6 feet.

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, snow fence, etc.) and shall be covered a minimum of 2 feet to 6 feet above ground level. Eight linear feet of this material shall be capable of being removed or let down to provide a viewing window.

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

4. **Animal Care:** When dust conditions occur within or adjacent to the trap or holding facility, the area should be wet down with water. Within the holding facility, animals should be sorted as to age, size,

temperament, sex, and condition to minimize injury due to fighting and trampling. Animals held in traps and/or holding facilities shall be provided a continuous supply of fresh clean water at a minimum rate of 10 gallons per animal per day. Water troughs shall be constructed of such material (e.g. rubber, galvanized metal with rolled edges, rubber over metal) so as to avoid injury to the animals. 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 2 pound of hay per 100 pounds of estimated body weight per day.

In the absence of more stringent State or local health department requirements, the remains of animals that die or must be euthanized as a result of any infectious, contagious, or parasitic disease will be disposed of by burial to a depth of at least 3 feet. The remains of animals that must be euthanized as a result of age, injury, lameness, or non-contagious disease or illness will be disposed of by removing them from the capture site or holding corral and placing them in an inconspicuous location to minimize visual impacts, or disposed of in any customary manner acceptable under applicable state sanitary statutes including disposal through a rendering plant (36 CFR 222.30). Remains will not be placed in drainages regardless of drainage size or downstream destination.

C. Transport

Only tractor-trailers or stock trailers with a covered top shall be allowed for transporting animals from trap sites to temporary holding facilities, and from temporary holding facilities to final destinations. Sides or stock racks of all trailers used for transporting animals shall be a minimum height of 6 feet 6 inches from the vehicle floor. Single deck tractor-trailers 40 feet or longer shall have two partition gates providing three compartments within the trailer to separate animals. Tractor-trailers less than 40 feet shall have at least one partition gate providing two compartments within the trailer to separate 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 at the minimum of 5 foot wide swinging gate. The use of double deck trailers is unacceptable and shall not be allowed.

The rear door 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 the trailer must be strong enough so that the animals cannot push their hooves through the side.

Animals loaded and transported in any trailer shall be provided the following minimum square feet per animal:

- 11 square feet/adult horse (1.4 linear feet in an 8 foot wide trailer)
- 6 square feet/horse foal (0.75 linear feet in an 8 foot wide trailer)

APPENDIX D

Disposition of Excess Animals

- A. Adoption – Excess wild horses under the age of 10 years shall be offered to the public for adoption at a maximum of 3 adoption events. Adoptions shall be in accordance with FSM 2265.5.
 1. Qualification Standards for Adoption – Written application for adoption and title must be submitted to the Authorized Officer. To qualify to receive a wild horse for private maintenance, and individual shall:
 - a. Be of legal age in the state in which the applicant resides (FSM2265.56);
 - b. Have no prior conviction for inhumane treatment of animals or violation of the PL 92-195;
 - c. Have adequate feed, water, and facilities to provide humane care to the number of animals requested. Facilities shall be in safe condition and of sufficient strength and design to contain the animals. The following standards apply:
 - i. A minimum space of 144 square feet shall be provided for each animal maintained, if exercised daily; otherwise, a minimum of 400 square feet shall be provided for each animal;
 - ii. Until fence savvy, adult, ungentled horses shall be maintained in an enclosure at least 6 feet high, and horses less than 18 months old and adults adopted through gentling programs in an enclosure at least 5 feet high. Materials shall be protrusion-free and shall not include large-mesh woven or barbed wire;
 - iii. Shelter shall be available to mitigate the effects of inclement weather and temperature extremes;
 - iv. Feed and water shall be adequate to meet the nutritional requirements of the animals, based on their age, physiological condition and level of activity.
 - d. Have obtained no more than 4 wild horses and burros within the preceding 12 month period, unless authorized in writing by the authorized officer.
 2. Adoption Fee – Standard base adoption fees for wild horses and burros shall be \$125 for each animal, except as follows:
 - a. There shall be no adoption fee for orphaned foals;
 - b. Adoption fees may be increased through holding a competitive bid adoption event. At competitive adoptions, qualified adopters set adoption fees through competitive bidding. For these adoptions, the fee is the highest bid received over the base fee of \$125 for each horse or burro. Horses or burros remaining at the end of a competitive adoption event may be available for adoption at the established fee;

- c. Adoption fees may be decreased to \$25 for each animal under special circumstances:
 - i. Animal has been offered unsuccessfully at two previous adoption events.
 - ii. Untitled adopted animal has been relinquished to or repossessed by the Forest Service and is in need of a new adopter.
 - iii. Animal has a limiting physical defect (such as blindness, club foot, etc.), or an injury or health condition, at the time of the adoption event, that will require further medical attention.
 - iv. Organizations may adopt trained or ungentled horses or burros at the reduced fee when the adoption of the animal will generate positive recognition and advertisement of the adoption program.
3. Private Maintenance and Care Agreement – To obtain a wild horse or burro, a qualified applicant shall execute a Private Maintenance and Care Agreement and agree to abide by its terms and conditions, including but not limited to the following:
- a. Title to wild horses and burros covered by the agreement shall remain in the Federal Government for at least 1 year after the Private Maintenance and Care Agreement is executed and until a Certificate of Title is issued by the authorized officer.
 - b. Wild horses and burros covered by the agreement shall not be transferred for more than 30 days to another location or to the care of another individual without the prior approval of the authorized officer.
 - c. Wild horses and burros covered by the agreement shall be made available for physical inspection within 7 days of receipt of a written request by the authorized officer.
 - d. The authorized officer shall be notified within 7 days of discovery of the death, theft, or escape of wild horses and burros covered by the agreement.
 - e. Adopters are financially responsible for the proper care and treatment of all wild horses and burros covered by the agreement.
 - f. Adopters are responsible, as provided by state law, for any personal injury, property damage, or death caused by animals in their care; for pursuing animals that escape or stray; and for costs of recapture.
 - g. Adopters shall notify the authorized officer within 30 days of any change in the adopter's address; and
 - h. Adopters shall dispose of remains in accordance with applicable sanitation laws.
4. Compliance with Private Maintenance and Care Agreement – An adopter shall comply with the terms and conditions of the Private Maintenance and Care Agreement,

- a. The authorized officer may verify compliance by visits to an adopter, physical inspections of the animals, and inspections of the facilities and conditions in which the animals are being maintained. The authorized officer may authorize a cooperative extension agent, local humane official or similarly qualified individual to verify compliance.
 - b. The authorized officer shall conduct an investigation when a complaint concerning the care, treatment, or use of a wild horse or burro is received by the Forest Service.
 - c. The authorized officer may require, as a condition for continuation of a Private Maintenance and Care Agreement, that an adopter take specific corrective actions if the authorized officer determines that an animal is not receiving proper care or is being maintained in unsatisfactory conditions. The adopter shall be given reasonable time to complete the required corrective actions.
- 5. Request to terminate Private Maintenance and Care Agreement – An adopter may request to terminate his/her responsibility for an adopted animal by submitting a written relinquishment of the Private Maintenance and Care Agreement for that animal. The authorized officer shall arrange to transfer the animal to another qualified applicant or take possession of the animal at a location specified by the authorized officer within 30 days of receipt of the written request for relinquishment.
- 6. Application for title to wild horses and burros
 - a. The adopter shall apply for title in writing.
 - b. The authorized officer shall issue a Certificate of Title after 12 months if the adopter has complied with the terms and conditions of the agreement and the authorized officer determines, based either on a field inspection or a statement provided by the adopter from a veterinarian, extension agent, local humane official, or other individual acceptable to the authorized officer, that the animal or animals covered by the Agreement have received proper care and humane treatment.
 - c. An adopter may not obtain title to more than 4 animals per 12 month period of private maintenance. Effective the date of issuance of the Certificate of Title, Federal ownership of the wild horse or burro ceases and the animal loses its status as a wild horse or burro and is no longer under the protection of the Act.
- B. Sale – The Fiscal Year 2005 Omnibus Appropriation Act (PL 108-447) amended the 1971 Wild Free-Roaming Horse and Burro Act (PL 92-195), requiring the sale of excess wild horses and burros that are more than 10 years of age or have been offered unsuccessfully for adoption at least three times. Animals that meet sale criteria are no longer available for adoption and must be sold.
 - 1. Sale Eligibility Criteria
 - a. Horse or burro that becomes 11 years of age as of January 1. (Example: Animals born in 1994 are sale eligible on January 1, 2005), or

- b. Horse or burro that has been offered unsuccessfully for adoption at three adoption events. Each adoption event will count as one time no matter how many consecutive days the event lasted or the number of times competitive bidding was conducted during a multi-day adoption event. Records must be maintained to track the number of adoptions an animal has attended.
- 2. Preparation Requirements
 - a. Freeze marking – All sale eligible animals will be marked with the standard alpha angle animal identification freeze mark applied to the left side of the neck. In addition to this freeze mark, all sale eligible animals will be freeze marked with a 3-inch L[symbol on the left side of the neck, immediately to the right, adjacent to and on the same level as the identification freeze mark. This extra symbol will distinguish between animals that are sold and those adopted.
 - b. Age determination – Animals will be aged by a veterinarian or other individual determined to be qualified.
- 3. Sale Methods – Animal sales are to be conducted separately and not as a part of adoption events. Funds generated from the sale of excess animals will be collected and deposited by the Bureau of Land Management to be used for the costs relating to the marketing and adoption of wild free-roaming horses and burros, as directed by the FY 2005 Omnibus Appropriation Act amendment. Sales may occur through two methods:
 - a. Negotiated sales through the Bureau of Land Management’s National Point of Contact (NPOC) – The NPOC will negotiate the purchase price. The NPOC will fax or send an electronic signed approval for each negotiated sale to the appropriate Authorized Officer to provide notification of sale terms and conditions, and to authorize completion of the sale.
 - b. Direct sales at local holding facilities by authorized Forest Service officers:
 - i. Sale eligible wild horses or burros may be offered at an established fee or to the highest bidder.
 - ii. No more than four animals will be sold per purchase. Refer the prospective purchaser’s request for additional animals to the NPOC for further consideration.
 - iii. Purchasers shall provide transportation.
- 4. Sale Requirements
 - a. Each purchaser will be provided a Bill of Sale and an individual wild horse and burro health and identification report. Animal ownership will be transferred by the original bill of sale issued to purchasers, and a copy will be maintained for Forest Service records.
 - b. No Certificate of Title will be issued for any animal that is sold. The bill of sale will be proof that the purchaser owns the animal.

- c. Sales are final upon pick-up when animals leave a facility.
Purchased animals will not be held after a sale is finalized.
- d. Payment is due at the time of purchase.

APPENDIX E

Summary of 2004 monitoring information for Murderers Creek Allotment

Method	Location	Unit	Result	Recommendation
Multiple Indicator Monitoring	North Fork Deer Creek	Deer Creek	Near natural rate of recovery	Continue current management
	Main stem Deer Creek	Deer Creek	Near natural rate of recovery	Continue current management and watch for increased composition and structure
	South Fork Murderers Creek	John Young Meadow	Near natural rate of recovery	Continue to focus on maintaining strong vegetative community
	Main stem Deer Creek	Frenchy Butte	Near natural rate of recovery	Continue to focus on maintaining strong vegetative community
	Main stem Murderers Creek	Murderers Creek Holding	Near natural rate of recovery	Continue to focus on site potential
PFC	South Fork Murderers Creek	John Young Meadow	Functional at risk upward trend	Repair headcut and provide hardened watering access
	South Fork Murderers Creek	ODFW	Functional at risk upward trend	Arrest headcut and prevent animal crossing old beaverdam
	South Fork Murderers Creek	Horse Mountain	Functional at risk upward trend	Needs large wood
	Beaverdam Creek	Dans Creek	Functional at risk upward trend	Repair lower headcut and provide hardened crossing
	Deer Creek	Frenchy Butte	Functional at risk no apparent trend	Evaluate log structures for modification or removal to allow stream to further recover, reduce road system and reduce horse numbers
	Deer Creek	Deer Creek	Functional at risk upward trend	Needs large wood. Small area may need more intensive management to prevent degradation
	Buck Creek	Frenchy Butte	Proper functioning condition	
	Murderers Creek	Oregon Mine	Proper functioning condition	Review log structures for modification or removal. Look for source of sediment.
	Murderers Creek	Murderers Creek Holding	Proper functioning condition	Provide hardened crossing.
	North Fork Deer Creek	Deer Creek	Proper functioning condition	Monitor for streambank trampling
	North Fork Deer Creek	Deer Creek	Proper functioning condition	Monitor

	North Fork Deer Creek	Deer Creek	Proper functioning condition	Review rock checkdams for modification
	North Fork Deer Creek	Deer Creek	Functional at risk upward trend	Monitor vegetation on point bars and sedge/rush community for continued improvement
	Corral Creek	Deer Creek	Functional at risk upward trend	Early stage of recovery so monitor closely for continued improvement. Close roads and reduce wild horse numbers
Winward Greenline	South Fork Murderers Creek	Horse Mountain	Greenline early seral, moderate bank stability. Cross section early seral	
	South Fork Murderers Creek	John Young Meadow	Greenline late seral, moderate bank stability. Cross section early seral	
	Beaverdam Creek	Dans Creek	Greenline at potential natural community, good bank stability. Cross section late seral	
	Upper Deer Creek	Deer Creek	Greenline at potential natural community, good bank stability. Cross section not assessed	
Fred Hall Report		Horse Mountain	Increase in riparian condition	Reduction in ungulate use will increase rate of recovery
		Deer Creek	Vegetation recovery	Continue livestock management changes and do not extend grazing season
Permit Administration Monitoring			Overall compliance with AOI for Murderers Creek Allotment	
Pat Larson Report			Plant communities at site potential, grazing not creating cumulative or negative impacts	
Condition and Trend Study	Cluster 15 Beaverdam Creek	Horse Mountain/Dan's Creek	Vegetation condition score: poor Soil condition rating: fair	Last surveyed in 1968, conditions were poor/good for veg/soil 2004 notes lots of bare soil, loss of A horizon,

				encroachment of Juoc. Heavy horse use noted in the survey but this area not highlighted as such by 2006 census.
	Cluster 14 Antelope Spring	Blue Ridge/ Frenchy Butte	Vegetation condition score: fair Soil condition rating: fair	Heavy horse use noted in 2004 although area not highlighted by 2006 census. High percentage of bare soil, Juoc encroachment relative to 1970 plot reading
	Cluster 4A Junction of Alder and Corral Creeks	Deer Creek	General poor condition	Heavily impacted by horses and ungulates. Dominant grasses are <i>Poa pratensis</i> and <i>Stipa occidentalis</i> .
	Cluster 16 North of Flagtail Mountain	Deer Creek	Vegetation condition score: fair Soil condition rating: excellent	Timber increasing on site. Not much impact from grazing Introduced species on site
	Cluster 13 Big Ridge/ Thorn Creek area	Martin Corrals	Vegetation condition score: excellent Soil condition rating: good	Localized weedy species pose a threat to this site. Not a heavy horse use area.
	Cluster 8 Thorn Creek Butte	Oregon mine	Vegetation condition score: excellent Soil condition rating: good	Watch for more Pose and some Daun, could mean change in plant association. Not a heavy horse use area.
	Cluster 7 Tex Creek	Oregon Mine	Vegetation condition score: poor Soil condition rating:excellent	Not a high horse use area however, grazing damage noted. Creek is downcut which has dewatered the meadow, vegetation is predominantly increaser.
	Cluster 5 Dan's Creek	Dan's Creek	Overall adequate condition	Wet meadow with some elk use noted. Weedy species present in large quantities in some locations.
	Cluster 2A Junction of South Fork Deer Creek and Deer Creek	Deer Creek	Generally good condition	Meadow is completely exclosed at present time.

APPENDIX F

EXCERPT FROM THE 2005 MALHEUR NATIONAL FOREST END OF YEAR GRAZING REPORT

Multiple Indicator Monitoring

USFS Multiple Indicator Monitoring: Note all Designated Monitoring Areas are unit specific.

Deer Creek Unit

Designated Monitoring Area #1 located along North Fork of Deer Creek, south of the 24 road, near the junction with FS road 2400650 was established in 2004. The implementation monitoring part of the Multiple Indicator Monitoring consisting of stubble height, bank alteration and woody species incidence of use monitoring was conducted on October 19, 2005. Based on the results of this monitoring we *believe no effects from grazing will carryover to next year*. It is recommended that management continue to focus on maintaining strong vegetative communities and functional stream attributes. Management should also focus on increasing the structural diversity of shrubs and riparian woody species. For further information on Designated Monitoring Areas see the 2210 files.

Designated Monitoring Area #2 located along the main stem of Deer Creek, just north of FS road 24, between the 173 and 174 spur roads was established in 2004. The implementation monitoring part of the Multiple Indicator Monitoring consisting of stubble height, bank alteration and woody species incidence of use monitoring was conducted on October 19, 2005. Based on the results of this monitoring we *believe no effects from grazing will carryover to next year*. It is recommended that management continue to focus on maintaining strong vegetative communities. Management should focus on: 1) increasing bank stability to 80 percent or greater 2) decreasing greenline to greenline widths and 3) decreasing width/depth ratio. For further information on Designated Monitoring Areas see the 2210 files.

John Young Meadows Unit

Designated Monitoring Area #1 located along South Fork of Murderers Creek, west of FS road 2480 road and south of the junction with FS road 2480266 was established in 2004. The implementation monitoring part of the Multiple Indicator Monitoring consisting of stubble height, bank alteration and woody species incidence of use monitoring was conducted on October 19, 2005. Based on the results of this monitoring we *believe no effects from grazing will carryover to next year*. It is recommended that management continue to focus on maintaining strong vegetative communities and functional stream attributes. For further information on Designated Monitoring Areas see the 2210 files.

Frenchy Butte Unit

Designated Monitoring Area #1 located along the main stem of Deer Creek, just south of FS road 2400, approximately $\frac{3}{4}$ miles west of the unit boundary was established in 2004. The implementation monitoring part of the Multiple Indicator Monitoring consisting of

stubble height, bank alteration and woody species incidence of use monitoring was conducted on September 21, 2005. Based on the results of this monitoring we believe *no effects from grazing will carryover to next year*. It is recommended that management continue to focus on maintaining strong vegetative communities and functional stream attributes. For further information on Designated Monitoring Areas see the 2210 files.

Murderer's Creek Holding Unit

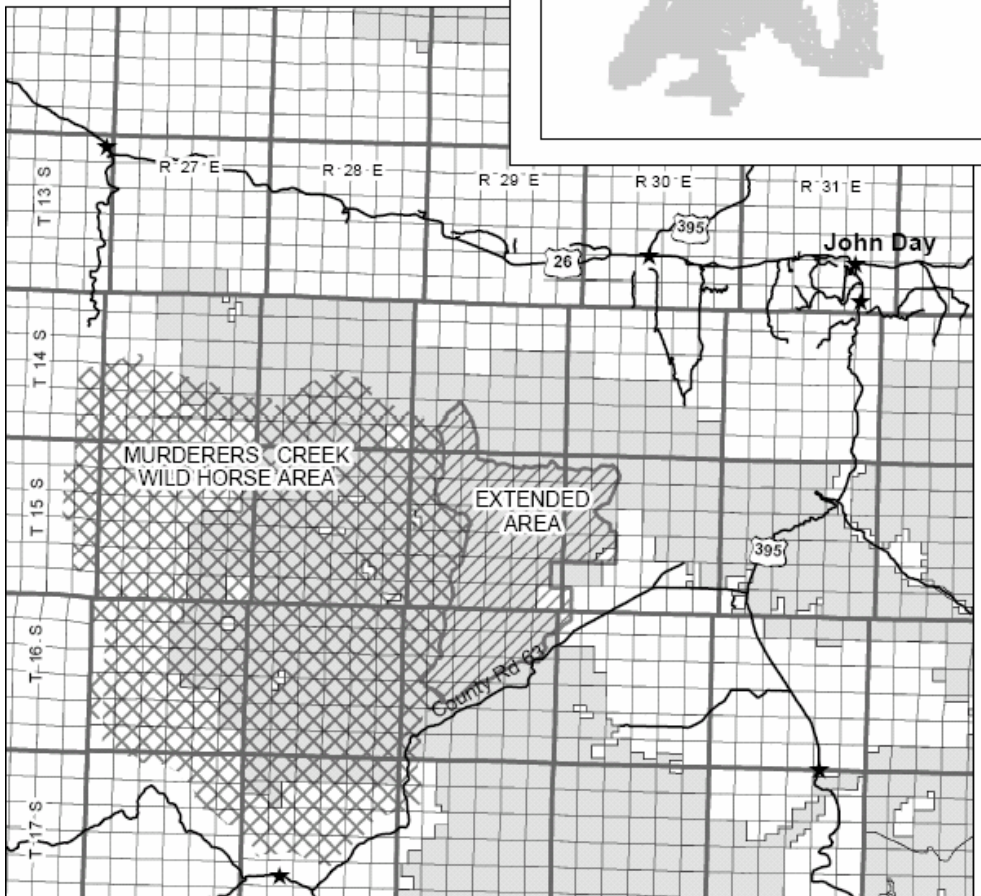
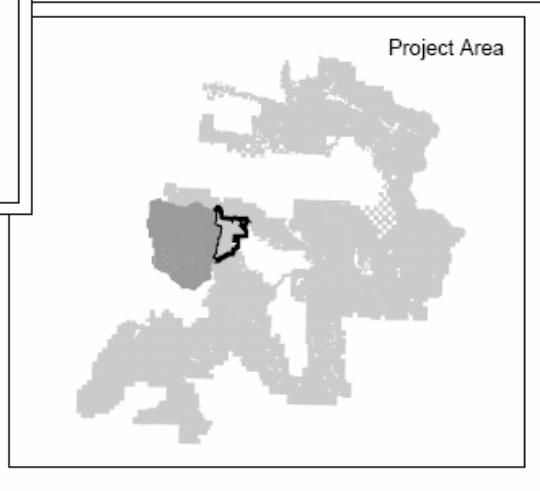
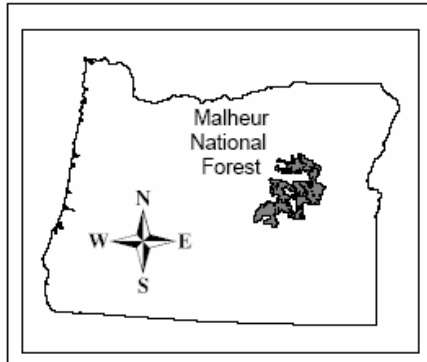
Designated Monitoring Area #1 located along the main stem of Murderers Creek, just south of the FS road 2100, approximately 1/3 miles east of the Oregon Department of Fish and Wildlife land boundary was last monitored in 2004. For further information on Designated Monitoring Areas see the 2210 files.

Permittee Monitoring

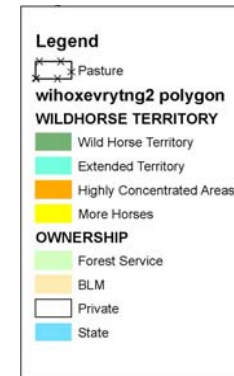
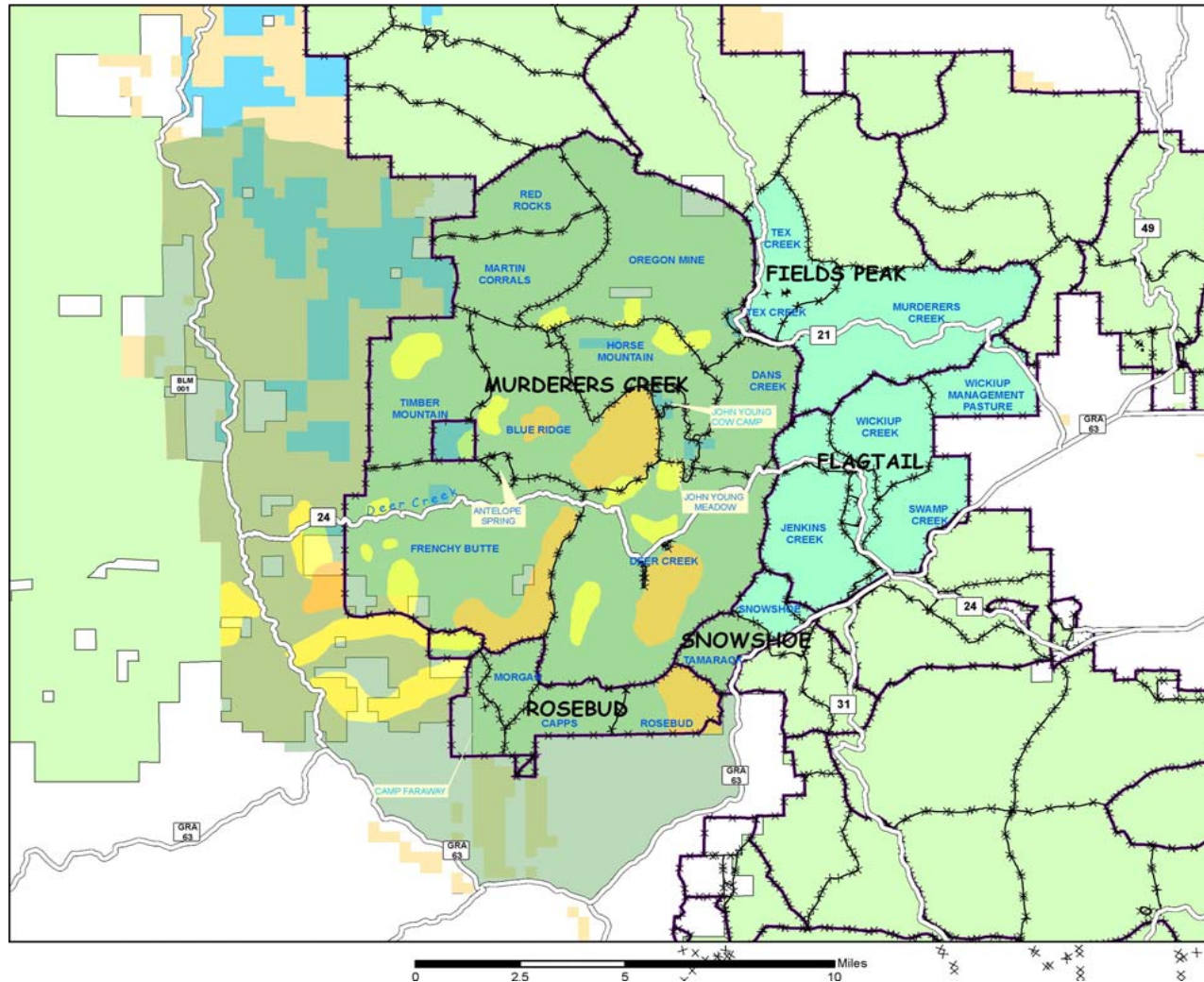
Consultants for the Dayville Grazing Association monitored grazing on the Murderer's Creek Allotment in 2005. Monitoring occurred before, during and after livestock were placed on the allotment. Height-Weight curves were developed and used to monitor stubble heights and sampling was conducted to assess bank alteration. For more information on this monitoring see the 2005 Larson Report in the 2210 files.

APPENDIX G

MURDERS CREEK
WILD HORSE AREA
and
EXTENDED AREA



2007 Wildhorse Area



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