

Environmental Assessment
for
Bordo Atravesado Wild Horse Gather
EA #: NM-A020-2010-07-EA

Preparing Office: Bureau of Land Management, Socorro Field Office

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Land Use Plan: Socorro Resource Management Plan, 1989
DOI-BLM-NM-089-021-4410
County: Socorro
Date: 1/11/2010
Total Acres: 19,606

Lands Description:

Meridian	Township	Range	Subdivision
NMPM	3S	3E	Sections 1-7, Portions of Section 8
	2S	3E	Sections 14-17, 19-23, 26-36 Portions of Sections 8-11, 18
	2S	2E	Portion of Section 25

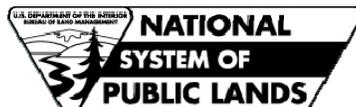


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Introduction and Background

Background

In the Wild Horse and Burro Act of 1971, Congress stated that: “Wild horses are living symbols of the pioneer spirit of the West.” Congress went on to order the Secretary of the Interior to “manage wild free-roaming horses and burros in a manner that is designed to achieve and maintain a thriving natural ecological balance on the public lands.” From the passage of the Act through present day, the Bureau of Land Management (BLM) Socorro Field Office has endeavored to find that thriving balance. Changes in procedures and policies, concerns voiced by the public, lessons learned from past herd management activities, and continued monitoring of rangeland conditions have all influenced the proposed action.

The emphasis of the Wild Free-roaming Horse Program has shifted with time. Originally, the program goal of establishing “thriving ecological balance” focused on setting appropriate management levels (AMLs) for individual herds. As BLM experience has grown, knowledge of the effect of current and past management activities has also increased. For example, wild horses have been shown to be capable of annual population increases of 18 to 25 percent. This can result in a doubling of the population in a little

over three years. This increased knowledge, along with the increased awareness and attention of the public, has caused the program's goals to expand to achieving and maintaining viable, vigorous, and stable herd populations.

The BLM-SFO is committed to maintaining such a herd on the Bordo Atravesado Wild Horse Management Area (HMA). After an initial AML of 32 was established in 1980, improved conditions within the Bordo Atravesado allotment allowed the SFO to increase the AML to 50 in 1989. In 1992, 13 horses from an unrelated herd were introduced in order to improve genetic diversity. In 1997 and 1998, two stallions were introduced for the same purpose. Management activities within portions of the HMA are delicate, because they are overlapped by portions of the Stallion SMA and WSA. However, SFO has installed a solar water pump in 2007 to ensure steady water availability. A vegetation treatment was performed in 2002 in order to enhance forage and improve the watershed.

Purpose and Need

Purpose:

The purpose for the management of wild, free roaming horses is to comply with law and policy pertaining to wild, free roaming horses on public lands. The policy of the BLM addresses a range of topics including establishment and maintenance of Appropriate Management levels (AMLs) in Herd Management Areas (HMAs) in a humane, safe, efficient, and environmentally sound manner.

Need:

The need to gather the horses is to achieve and maintain wild horse AMLs, collect information on herd characteristics, determine herd health, maintain sustainable rangelands, and maintain a healthy and viable population.

Federal Decision to be Made

This Environmental Assessment (EA) discloses the environmental consequences of implementing the proposed action or alternatives to that action. The Finding of No Significant Impact (FONSI) describes the findings of the analysis in this EA. The BLM Socorro Field Office Field Manager is the Deciding Official. The BLM's decision and rationale for that decision will be stated in the Decision Record. Based on the information in this EA, the BLM Field Manager will decide whether to gather the herd, remove excess animals, and return selected individuals to the HMA or to reject the proposed action and not perform the gather.

Conformance with Land Use Plan

The proposed action is in conformance with the terms and the conditions of the approved *Resource Management Plan for the Public Lands Administered by the Bureau of Land Management, Socorro Field Office, August 1989, Socorro Resource Management Plan FEIS* (BLM-NM-PT-89-021-4410), as required by 43 CFR 1610.5. Specifically, the RMP states on page 2-17 that the objective of the Wild Horse Program is to: "...manage the wild horse herd at an average of 40-50 horses and introduce outside stock to maintain a viable healthy herd." It also states that "[a]pproximately every 2 to 3 years, wild horses on the Bordo Atravesado WHMA will be inventoried, then rounded up and captured to remove the excess horses and maintain the average designated stocking level."

Relationship to Statutes, Regulations, or Other Plans

This action is primarily regulated by the Wild Free-roaming Horse and Burro Act of 1971. In Section 3(a), this Act states: “The Secretary shall manage wild free-roaming horses and burros in a manner that is designed to achieve and maintain a thriving natural ecological balance on the public lands.” In addition, in Section 3(b)(2), the Act states: “Where the Secretary determines ... that an overpopulation exists on a given area of the public lands and that action is necessary to remove excess animals, he shall immediately remove excess animals from the range so as to achieve appropriate management levels.”

Second, the proposed action is governed by the Federal Land Policy and Management Act of 1976 (FLPMA). FLPMA requires the BLM to manage the public lands for multiple uses, including the presence of wild horses and burros, livestock grazing, and wildlife.

Third, the Public Rangelands Improvement Act of 1978 (PRIA), which amends both the Wild Free-roaming Horse and Burro Act and FLPMA, affects the proposed action. This Act states: “Congress established a national policy and commitment to ...continue the policy of protecting wild free-roaming horses and burros while facilitating the removal and disposal of excess numbers that pose a threat to themselves, their habitat, and other rangeland values.”

Finally, the following federal regulations require the BLM to manage the wild horse and burro population:

- 43 CFR 4710.4 *Constraints on Management*
Management of wild horses and burros shall be undertaken with the objective of limiting the animals’ distribution to herd areas. Management shall be at the minimum feasible level necessary to attain the objectives identified in approved land use plans and herd management area plans.
- 43 CFR 4720.1 *Removal of Excess Animals from Public Lands*
Upon examination of current information and a determination by the authorized office that an excess of wild horses or burros exists, the authorized officer shall remove the excess animals immediately.

This EA references the *Bordo Atravesado Wild Horse Herd Management Plan* (1991), the *East Socorro Environmental Impact Statement* (EIS) (1979), the *Socorro RMP/EIS* (1989), and the *New Mexico Statewide Wilderness Study EIS* (1988) and *Wilderness Study Report* (1991) for the Stallion WSA (NM-020-040). These documents contain specific management prescriptions regarding the HMA, as well as information on the existing environment and the environmental impacts of the management actions.

Scoping and Issues

Previous gathers have been performed in 1997, 2001, 2004 and 2005. Before each of these gathers, an EA was prepared and sent to interested publics for review and comment. These comments were reviewed by BLM specialists prior to preparation of this EA so that the analysis might address resource issues. This EA will also be sent for review upon completion and before a decision is signed so that current concerns may be incorporated as necessary.

The issue most commonly raised in these comments is the concern that the BLM-SFO has not considered methods of achieving the AML for the herd via other means. In order to address this concern, additional alternatives were examined by the interdisciplinary team and are discussed in the following chapter.

Description of Proposed Action and Alternatives

Alternative 1: No Action

Under the No Action Alternative, no gathering would take place. The herd would be allowed to increase until it reached levels where predation and environmental factors, coupled with density-dependent adjustments in reproductive rates, stabilized the populations.

This alternative would not be in conformance with the Socorro RMP or the herd management plan. It would also be out of compliance with the Wild Free-roaming Horse and Burro Act, the Federal Land Policy and Management Act, and the Public Rangelands Improvement Act, all of which require the removal of horses in excess of the Appropriate Management Level for the Herd Management Area.

Alternative 2: Proposed Action

The Proposed Action is to:

1. capture approximately 107 wild horses via water-trapping methods
2. determine sex, age and color, acquire hair samples, assess herd health (pregnancy/parasite loading/physical condition/etc), and sort individuals as to age, size, sex, temperament and/or physical condition
3. return selected animals to the range
4. remove approximately 40 to 60 wild horses (reduce to lower range of AML)

If it is determined during or after the gather that wild horses need to be introduced to increase genetic viability, additional wild horses may be gathered and removed and wild horses from another herd introduced. An additional one to two gathers, conducted in the same manner described below, may take place within the next seven years. These gathers, which would be covered by this EA, would only take place if the HMA objectives outlined below are not met.

The gather will not be open to the public to minimize the stress on the horses.

A veterinarian will be on-site during the gather, as needed, to examine the animals and to make recommendations to the 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 (Washington Office Instruction Memorandum 2009-041)¹.

Capture

During the dry season, horses will approach the existing man-made sources of water within the HMA. As they approach the water, a gate will be closed behind them. The capture area will be checked multiple times per day to ensure that horses have adequate feed and water and will be stressed as little as is practicable. The trapping will take place in mid- to late-May and will continue until the majority of horses are caught or until it is not feasible to continue.

All capture and handling activities (including capture site selections) will be conducted in accordance with Standard Operating Procedures (SOPs) described in Appendix 2. Selection of

¹ Current policy reference:

http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_Bulletins/national_instruction/2009/IM_2009-041.html

capture techniques would be based on several factors such as herd health, season of the year and environmental considerations.

Data Collection

During the proposed gather activities, experienced personnel would determine animal sex, age, and color; assess herd health (e.g., pregnancy, parasite loading, physical condition, etc.); and sort animals as to age, size, sex, temperament, and/or physical condition. Data, including biological samples, would be collected for analysis and inclusion into future planning documents.

Data including sex and age distribution, condition class information (using Henneke rating system), color, size, and other information may also be recorded, along with the disposition of that animal (removed or released). Hair samples would be collected on 10-15 animals to assess the genetic diversity of the herd. Samples would also be collected during a future gather to determine whether BLM's management is maintaining acceptable genetic diversity (avoiding inbreeding depression).

Return Selected Horses

Approximately 40 to 50 selected animals would be returned to the range. Determination of which horses would be returned to the range would be based on an analysis of existing population characteristics and individual HMA objectives. They are:

1. Maintain a healthy herd of approximately 40 to 50 wild horses on the herd management area
2. Horses should be sound, have good conformation, and show good breeding characteristics
3. The herd should have a mix of colors for aesthetic quality
4. The herd should have a sex ratio of approximately one male to five mature females to achieve optimum reproduction and ensure genetic diversity (increased genetic diversity will improve the overall health and vigor of the herd.)

Remove Excess Horses

Excess animals would be transported to the regional holding facility in Pauls Valley, Oklahoma, where they will be prepared for adoption. Foals would remain with their dams, whether returned to the range or removed for adoption.

Alternatives Considered but Eliminated from Detailed Analysis

Fertility Control Measures Applied to Mares

One alternative considered was wild horse management using fertility control measures to regulate wild horse populations. Periodic capture operations (approximately every two years) would be required in order to administer the vaccine to mares, or suitable remote delivery methods would need to be developed.

At present there is not enough data on the potential impacts of immunocontraception on small herds to warrant the increased frequency of gathering and human interaction with the wild horses. It is also unclear as to whether this alternative would meet herd management goals over the long term.

Natural (Predation) Population Controls

Another alternative which was considered was to allow natural controls to regulate wild horse numbers. There would be no active management to control the size of this population. Under this alternative, wild horses would be allowed to regulate their numbers naturally through predation, disease, and forage, water, and space availability.

This alternative was eliminated from further consideration due to several reasons. First, it is essentially equivalent to the No Action Alternative, in which the BLM would perform no management activities. This alternative is discussed in detail on page 6. Second, wild horses in the HMA are not substantially regulated by predators. This alternative would result in a steady increase in numbers which would exceed the carrying capacity of the range. Finally, the Wild Free-roaming Wild Horses and Burros Act of 1971 mandates the Bureau to prevent range deterioration associated with overpopulation, and to preserve and maintain a thriving natural ecological balance and multiple-use relationships in that area.

Affected Environment

The following section describes the resources that may potentially be impacted by one of the proposed alternatives. Only those resources that may be impacted are discussed; resources that are not present or are unlikely to be impacted are not carried forward for analysis.

General Setting

The Bordo Atravesado Horse Management Area, located on the Bordo Atravesado Allotment, is approximately 15 miles northeast of Socorro, New Mexico. There are 19,606 acres in the wild horse management area consisting of 16,493 acres of public land (84 percent), 548 acres of private land (3 percent), and 2,565 acres of State land (13 percent).

The topography is generally mountainous with rolling limestone hills. The HMA rises from an elevation of 5,500 feet (1,676 meters) in the lowlands to a height of 6,970 feet (2,125 m) in the uplands. Prominent features on the WHMA include the Canon Quemado drainage, running in a north-south orientation through the western portion of the allotment, and the Bordo Atravesado.

Specialist Review

The affected environment was described and analyzed by the team of specialists listed in *List of Preparers*. Only those resources that were deemed to be potentially impacted will be analyzed in this document, and are described in the following section. The potential impacts of each Alternative on these resources will be analyzed in the Environmental Consequences section.

Affected Components of the Environment

Air Quality

Air quality throughout the project area is good. Intermittent dust storms occurring during the spring generate particulate materials that are a source of air pollution in the area. Other sources of airborne pollutants are seasonal prescribed fires on different agency lands and burning of fuel

wood for heat during the winter months. Dust storm events and other sources are not of a frequency or duration to detract from the overall good air quality of the area.

American Indian Religious Concerns

There are no known Native American concerns with either the type of action or the location of the proposed action.

Congressional or Administrative Designations

A wild horse herd has been present in this area since at least the early 1950s. The HMA is overlapped by portions of the Stallion SMA and the Stallion WSA. The present herd consists of approximately 100 horses (adults and yearlings) with 40% of the herd animals located within the WSA on a year round basis.

The Stallion WSA overlaps approximately 7,800 acres of public land within the Bordo Atravesado Herd Management Area, which is about 40% of the total acreage of the HMA. In accordance with the Interim Management Policy for Lands under Wilderness Review (IMP), the BLM takes into account the fact that wild horse and burro numbers fluctuate dramatically within WSAs due to a variety of factors. The BLM, however, is required to make every effort not to allow wild horse populations within the WSA to degrade either wilderness values or vegetative cover as it existed on the date of the passage of FLPMA. Wild horses and burros must be managed at appropriate management levels as determined by monitoring activities to ensure a thriving natural ecological balance. (Wilderness values are described in detail in the New Mexico Statewide Wilderness Study, Volume 3, January, 1988.)

Livestock grazing within the WSA portion of the allotment also falls under the guidance of the IMP and is considered a grandfathered use under Section 603(c) of FLPMA. Grandfathered grazing use is that grazing use, including the number, kind, and class of livestock and season of use authorized and used during the 1976 grazing fee year, including areas that were in the rest cycle of a grazing system. Grandfathered uses are protected by the manner and degree clause of Section 603(c) of FLPMA. These uses must be regulated to ensure that they do not cause unnecessary or undue degradation of the lands. The manner and degree of a grazing use refers to the nature of the physical and visual impacts the use caused as of October 21, 1976, as long as the impacts of that use do not increase.

The Stallion Special Management Area (SMA) encompasses approximately 19,840 acres of public land, 1,920 of state land, and 1,080 acres are private land. Approximately 1,920 acres of the Stallion SMA is located within the Bordo Atravesado HMA. This is approximately eight percent of the SMA, and covers approximately ten percent of the HMA.

The SMA is varied in landscape, a rugged desert mountain range characterized by sheer rock escarpments, deep narrow canyons, ridges, mountain tops, broken badlands, rolling piñon-juniper, and grass covered hills. The vegetation of the SMA is typical of the upper Chihuahuan Desert at the northern extreme of its range. Vegetation types have been identified as: desert shrub, piñon-juniper, creosote, and grassland.

The Stallion SMA is being managed to protect and rehabilitate this critical watershed area. Erosion is being controlled by minimizing surface disturbance, closure and rehabilitation of

unnecessary roads when additional inventory is complete, and monitoring and control of off road vehicle use.

Frequency studies have shown a decrease in bare ground, with a light increase in surface litter. There has also been an increase in species diversity since frequency studies were established in 1981. Species showing improvement include mormon tea and sideoats grama. Other upland vegetation studies within the allotment also support improving conditions and will assist in maintaining and improving the overall watershed condition.

Cultural or Historical Values

The National Historic Preservation Act of 1966 (section 106) requires federal agencies to take cultural resources into account when authorizing projects that have the potential to affect them. The proposed action does not, however, involve surface disturbance and does not constitute an undertaking for the purposes of implementation of section 106 of the NHPA.

Environmental Justice

Executive Order 12898 requires Federal agencies to assess projects to ensure there are no disproportionately high or adverse environmental, health, or safety impacts on minority and low-income populations. There would be no disproportionately high or adverse environmental, health or safety impacts to minority and low-income populations by the proposed action or any of the alternatives. This issue will not be carried forward for analysis.

Invasive, Nonnative Species

No invasive weeds have been found within the HMA. Invasive weed identification and management is done in conjunction with allotment monitoring and HMA supervision on a continual basis.

Weed-risk considerations to stop the introduction and spread of invasive weeds are made part of all permits/leases on BLM land, which include rangeland improvements, supplemental feeding, and grazing.

Land Tenure, ROW, other Realty Uses, issues, or concerns

Under the current land use plan, the BLM-administered land in the area is designated as a retention area. Neither the proposed action nor any of its alternatives would adversely impact any adjacent authorized rights-of-ways (ROWs). This resource will not be carried forward for analysis.

Livestock Grazing

The HMA is located within the Bordo Atravesado grazing allotment, #01254. The allotment permits year long grazing with a carrying capacity of 273 Cattle Year Long (CYL), or 3,276 animal-Unit-Months (AUMs), at 83% public land.

Livestock are rotated among five pastures on the allotment and managed through an approved Allotment Management Plan (AMP). Pasture management is accomplished under a flexible deferred rotation system which varies the season of use within the pastures. Deferred or rest

rotation allows for plant growth and development of key forage species and is considered a Best Pasture Management tool.

Conflicts arise between the wild horse herd and the present livestock operation. Livestock feed supplementation has been utilized on this allotment to meet the nutritional needs of the permittee’s livestock, however, the wild horses often avail themselves of the feed. Horses have been known to kick and injure livestock while feeding. The wild horse herd is not subject to the same deferred rotation system as are the livestock. Therefore, grazing by horses is within each pasture year round.

Non Point-Source Pollution

Water quality within the HMA complies with State water quality standards. The watersheds within the area drain into stream reaches that are not listed on the State of New Mexico 303(d) list. The major pollutant from rangeland watersheds is sediment. As shown by Blackburn (1984), moderate continuous grazing or specialized grazing systems should reduce sediment losses to a minimum. Several studies show moderate grazing to be superior to light grazing (Rauzi and Smith 1973) and no grazing to be inferior in terms of infiltration and sediment yield to light grazing or grazing systems (McGinty et al. 1979).

Recreation

Recreation opportunities include exploration, horseback riding, day hiking, backpacking, natural history activities such as bird watching, rock hunting, landscape-nature photography, and deer hunting. Existing recreational use is moderate, and is primarily restricted to deer hunting during the fall.

Soils – watershed – hydrology

Several soil types are found within the HMA (see Table 5). The *General Soil Map for Socorro County* (USDA-SCS, 1984) refers to the dominant soils within the allotment. The Turney-Yesum-Wink soil is a deep soil, found primarily on fan terraces, bajadas, and plains. The Harvey-Winona-Netoma soil complex varies from a deep soil to a very shallow soil on bajadas, fan terraces, hills, plains, and cuerdas.

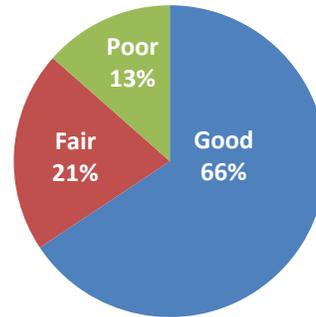
Table 1: Soil Properties of Bordo Atravesado Allotment/HMA

Soil Type	Permeability	Available Water Capacity	Rooting Depth (inches)	Runoff Speed	Water Erosion Hazard	Blowing Soil Hazard
Turney	Moderate	High	60	Slow	Slight	High
Yesum	Moderate	Low	60	Slow to Medium	Slight to Moderate	Very High
Wink	Moderately Rapid	Moderate	60	Slow	Slight	Very High
Winona	Moderate	Very Low	7 - 20	Rapid	High	Moderate
Netoma	Moderate	High	60	Medium	Moderate	High
Harvey	Moderate	Very Low	60	Medium	Moderate	High

The ecological condition ranges from early-seral (poor) to late-seral (good).

Table 2: Range Conditions on the Bordo Atravesado Allotment

Condition	Percent	Acres
Good	65.65%	12,870
Fair	20.85%	4,088
Poor	13.50%	2,647
TOTALS	100.00%	19,605



It is anticipated that no significant disturbance of the soils would occur. Ecological processes including the hydrologic cycle, nutrient cycle, and energy flow should be maintained or improved because of stable soils and vegetation conditions within the HMA. These conditions should also support infiltration and reduce sediment yield.

Special Status, T&E Species

The BLM-SFO has prepared a list of special status species in order to focus management efforts on mitigating potential impacts to species and associated habitats under a multiple use mandate. Special Status Species include those species which are: 1) federally listed as threatened or endangered, are candidates for listing as Federally threatened or endangered, or species proposed for listing under the provisions of the Endangered Species Act (ESA); 2) species listed by a State in a category such as threatened or endangered implying potential endangerment or extinction; 3) those designated by each State Director as sensitive. The authority for this policy and guidance comes from the Endangered Species Act of 1973, as amended; Title II of the Sikes Act, as amended; the Federal Land Policy and Management Act (FLPMA) of 1976; and Department of Interior Manual 235.1.1A, Departmental Manual 632.1.1-1.6, Secretarial Order 3206, and Departmental Manual 6840.

There are no known occurrences of threatened, endangered, or special status plant or animal species within the project area. There are also no known occurrences of potential habitats for sensitive species.

Transportation and Access

Two county roads provide reasonable road access to the majority of the allotment and HMA, currently limited to existing roads and trails. Some of the roads and 67% of the trap sites are located on private land; as a result, the public will not be invited to observe the gather.

Vegetation, Forestry

The HMA is located within the Pecos-Canadian Plains and Valleys Major Land Resource Area (MLRA) and the Southern Desertic Basins, Plains and Mountains MLRA. Upland areas consist of scattered piñon-juniper (*Pinus edulis* and *Juniperus osteosperma*) with a mixture of vegetation

including black grama (*Bouteloua eripoda*), New Mexico feather grass (*Stipa neomexicana*) blue grama (*B. gracilis*), sideoats grama (*B. curtipendula*), galleta (*Hilaria jamesii*), sand dropseed (*Sporobolus cryptandrus*), bottlebrush squirreltail (*Sitanion hystrix*), Indian ricegrass (*Oryzopsis hymenoides*), wolftail (*Lycurus phleoides*), winterfat (*Krascheninnikovia lanata*), mountain mahogany (*Cercocarpus montanus*) and sumac (*Rhus trilobata*). Encroachment by piñon-juniper is increasing based on the number of younger trees in the area.

Lowland areas are occupied by blue grama, alkali sacaton (*Sporobolus arioides*), giant sacaton (*S. wrightii*), burrograss (*Scleropogon brevifolius*), ring muhly (*Muhlenbergia torreyi*), sand dropseed, mesa dropseed (*S. flexuosus*), cholla (*Opuntia imbricata*), sideoats grama, black grama, winterfat, and juniper. Some areas may also contain gyp dropseed (*S. nealleyi*) and coldenia (*Coldenia hispidissima*).

Frequency studies were instituted in 1981, and data indicate improvement in the area. The data also show an increase in species diversity on the allotment; skunkbush, algerita, fourwing saltbush, winterfat, and sideoats grama have either appeared or increased in the last 23 years. Piñon-juniper has also increased based on frequency data.

Current monitoring data show utilizations levels on key species are heavy to severe. Previous years data show utilizations levels light to moderate.

The weather conditions have not been favorable for the past few years. The average annual precipitation for the state of New Mexico is 9.53 inches. The area has been dry with very little moisture during 2008 and 2009 (See Table 3).

Table 3: Local Annual Precipitation (inches)

Weather Station Location	2008	2009
Tecolote Allotment North	5.6 average	2.9 average
Bosque Del Apache	7.4	7.83
Chupadera	11.1	7.6
Bingham	10.79	7.87
Average	8.72	6.55

Visual Resources

The HMA is located within Visual Resource Management (VRM) Classes II and IV. The WSA is considered moderate in regard to scenic quality. Landforms range from grassland to rolling piñon-juniper savannah and from forest to steep box canyons and rugged multi-colored badlands. Areas within the allotment located outside the WSA are managed within VRM Class IV objectives. These areas are of a lower scenic quality and activities can be more evident than within a VRM Class II area.

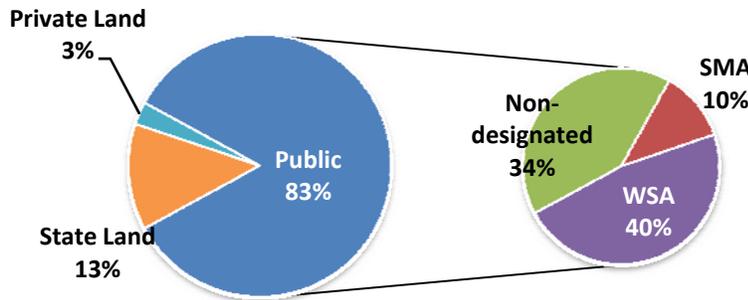
Wild Horse and Burros

The Bordo Atravesado HMA boundary was delineated by the following: wild horse movements and use patterns; horse population and vegetation inventories; allotment terrain, water sources and existing fences (refer to Table 4 for land status acreages and Map 1 for allotment boundary map).

As stated above, the HMA is entirely contained within the Bordo Atravesado grazing allotment. It is comprised of a mix of public, state, and private lands. Table 2 shows the breakdown of land ownership within the HMA:

Table 4: Land Status Within the Bordo Atravesado Allotment

	HMA Acres	Percent of HMA
State Land	2,565	13.08%
Private Land	548	2.80%
Public: Non-designated	6,772	34.54%
Public: SMA	1,920	9.79%
Public: WSA	7,800	39.79%
TOTALS	19,605	100.00%



The last gather took place in 2005. The next gather was scheduled to take place in 2008, but was impossible due to budget constraints. During a flight over the Herd Management Area in June of 2009, BLM personnel counted 84 horses and 20 foals. Due to flying restrictions from White Sands Missile Range, BLM personnel were unable to get a complete and thorough count of the horses.

Wild horses have been observed on the rim of the Tecolote Draw Allotment (#01280), which is just north of the HMA, and within the extreme western portion of the Sierra Larga Allotment (#01260), which borders the HMA to the east. Occasionally, the horses have been seen in the Armijo Community Allotment (#01264) to the southwest. However, it is unlikely that the wild horse herd leaves their home range of Bordo Atravesado due to the low frequency of sightings outside of the allotment and the lack of perennial waters within the allotments surrounding the HMA. There has been no development within or surrounding the allotment. The land is used primarily for livestock and wildlife grazing.

Wildlife

The allotment contains a diverse population of wildlife. Wildlife species known to occur in the area are elk, mule deer, pronghorn, coyotes, and various reptiles, rodents, raptors, and songbirds. For a complete list of species for this allotment, refer to the Integrated Habitat Inventory Classification System, which is on file at the SFO. Sixty-three AUMs are allocated to wildlife within the HMA.

The Taylor Grazing Act (TGA) of 1934 implemented the adjudication of grazing privileges which comply with the Federal Range Code for grazing, 43 CFR 4100. Wildlife was also considered in the process, and historically, AUMs were allocated. This does not, however, accurately reflect the amount of forage available to wildlife.

The grazing strategy allows for an average utilization of 50 percent of the key species. This utilization level does not differentiate between use by livestock, wildlife or wild horses. The remaining vegetation is available for plant health and reproduction, soil protection, and other resources such as wildlife cover. Adhering to the allowable use of 50 percent ensures that there will continue to be sufficient forage for livestock, wildlife, and wild horses.

Environmental Consequences

Alternative 1: No Action Alternative

If the No Action Alternative is selected, no management activities will take place. The current land and resource uses would continue unchanged. This alternative does not conform with the Socorro RMP, nor does it comply with FLPMA, the Wild Free-roaming Horse and Burro Act, or PRIA.

Air Quality

No changes to air quality within the Bordo Atravesado HMA can be expected as a result of this alternative.

Congressional or Administrative Designations

An increased wild horse herd size would decrease the natural, native quality of the WSA and therefore impair its suitability for designation as wilderness. The previously described impacts to vegetation, soils, wildlife, and watershed function would have a detrimental effect on the WSA's ecosystem. Impacts on the naturalness of the WSA could come in many forms, primarily in the form of excessive erosion due to increased horse traffic, and reduced soil stabilizing vegetative cover, and a change in the number of members of other species displaced by the increased competition for resources. Also, the deteriorated habitat would negatively impact opportunities for primitive and unconfined recreation.

Cultural or Historical Values

At the current time, a determination of no action would not adversely affect historic properties. However, a substantial increase in the number of horses over time could have some effect on historic properties through increased trampling.

Livestock Grazing

Under this alternative, increasing horse populations would first displace livestock in the HMA, and then over time in adjacent areas surrounding the HMA. Displacement would be slow and indirect. As competition for forage and water increased, it would become less economically feasible to utilize the areas for domestic livestock. Authorized livestock grazing would be reduced or eliminated. This would have a negative economical impact on the livestock producers. Range conditions in and around the HMA would deteriorate significantly. These impacts would be cumulative.

Non Point-Source Pollution

If wild horse numbers are permitted to increase unchecked, the pursuant loss of forage would then led to loss of sediment. This sediment would contribute to increased run off and erosion.

Vegetation, Forestry

Increased use over the HMA would adversely impact soils and vegetation health. As native plant health deteriorates and plants are lost, soil erosion increases. Invasive plant species would increase and invade new areas following increased soil disturbance and reduced native plant vigor and abundance. There would be increased impacts to areas outside the HMA as horses move out in search of better forage.

Wild Horses and Burros

With this alternative, horses would not experience the stress associated with gathering, removal, or adoption. Herd numbers would increase to well above the capacity of the HMA.

The herd would show obvious signs of ill-fitness including poor individual animal condition, low birth rates, and high mortality rates in all age classes due to disease and/or increased vulnerability to predation. In addition, supporting range conditions would noticeably deteriorate. As the population increased, competition for space would increase with all the associated stress. Social interaction would change. Horses would die of starvation, disease, or from lack of water. These impacts would accumulate.

Wildlife

Increased use over the HMA would adversely impact soils and vegetation health. As native plant health deteriorates and plants are lost, soil erosion increases. Range conditions in and around the HMA would deteriorate significantly. These impacts would be cumulative over time. There would be increased impacts to areas outside the HMA as horses move out in search of better forage. These impacts would have a negative affect on wildlife cover, forage, and movements within the area.

Alternative 2: Proposed Action

Air Quality

During the gathering process, increased vehicle traffic in the area may increase dust. Also, holding the horses during dry weather may cause dust to increase for the short period they are held for preparing.

Congressional or Administrative Designations

There would be no new impacts to wilderness values under this alternative. The proposed level of wild horse grazing would be the same as it was in 1989 under the Socorro RMP. No new improvement management facilities or grazing increases are proposed under this alternative; it is in conformance with the Interim Management Policy And Guidelines For Lands Under Wilderness Review (IMP). Impacts on wild horse grazing and wilderness values were also analyzed in the New Mexico Statewide Wilderness Study document, Volume 3: Appendices Wilderness Analysis Reports, published January, 1988 (Bureau of Land Management). There

would be no overall change to the VRM classes. Site-specific areas where cattle and wild horses concentrate, however, such as around waters, would continue to be of a lower scenic quality. Primitive recreation opportunities would also be reduced where cattle and wild horses concentrate. Facilities such as fences, restrict hiking and horseback riding opportunities.

The BLM must also balance the livestock use within the portion of the WSA that is located within the HMA, in accordance with the IMP and FLPMA as the livestock use is considered a grandfathered use under FLPMA.

Livestock and wild horse grazing management would continue to fall under the guidance of the IMP within the WSA.

Cultural or Historical Values

The proposed action does not constitute an undertaking for the purposes of compliance with section 106 of the National Historic Preservation Act.

Livestock Grazing

Under this alternative there would be no long-term effect on domestic livestock. Reaching the AML and maintaining the horse population at this level would allow for an adequate forage supply in both quantity and quality for livestock. Temporary stress which could occur in conjunction with gathering operations would be minimized or avoided by careful attention to timing and location of activities and close communication with the grazing permittee. No adverse impacts to domestic livestock are anticipated.

Nonpoint Source Pollution

Performing the gather and continuing to manage the herd according to the established AML would prevent non point-source pollution over the long term. Temporary vegetation trampling would not be of an extent or last for a period of time sufficient to cause increased sediment loss.

Vegetation, Forestry

The removal of excess wild horses from the herd area would avoid potential over-utilization of forage and reduction in vegetative ground cover. At the established AML's, utilization by the wild horses would be reduced, which would result in improved forage availability, improved vegetation density, increased vegetation cover, increased plant vigor, and improved seed production, seedling establishment, and forage production over current conditions. Competition for forage among wild horses, wildlife, and livestock would be reduced as utilization levels decrease and rangeland health improves, thereby promoting healthier habitat and healthier animals. Reduced concentrations of wild horses would contribute to the recovery of vegetative resource. Physical damage to shrubs and herbaceous vegetation associated with the physical passage of horses would be decrease.

Wild Horse and Burros

Stress

Wild horses would be subjected to a certain amount of stress under both the Proposed Action and the No Action alternatives. Under the No Action alternative, increased wild horse populations would eventually result in stress from competition for limited habitat, reduced forage and water

supplies, and degrading physical condition. Under the Proposed Action, wild horses would be placed under stress as a result of being captured, prepared for adoption, and transported.

Minor injuries such as scrapes, bites, and bruising are likely to occur. Some horses may be inadvertently injured or killed; however, past experience has shown that this number has been less than 1 percent of the horses gathered. There is a potential for young foals to become separated from their mothers. Every effort would be made to reunite foals with their mothers.

Gathering would be conducted in accordance with selective removal criteria or the current national policy in effect at the time of the gather. The number of excess wild horses to be removed is based on the projected 2009 post-foaling population in relation to the Bordo Atravesado AML.

Horses transported from the trap to a holding and sorting facility may be injured. To minimize this possibility, the horses would be transported in a manner that would allow them to keep their footing during the trip. Horses would be loaded loosely enough to insure that if one fell, it would have enough room to regain its footing.

The horses left on the range would have adequate forage, water, and space. A thriving natural ecological balance would exist within the HMA and lands adjacent to it. Maintaining the population at AML would benefit the remaining horses by improving the quality and quantity of forage.

Adopted animals would undergo a change of lifestyle, but would have sufficient food, water, and care.

Impacts to Individuals

Impacts to wild horses under the Proposed Action take the form of direct and indirect impacts and may occur on either the individual or the population as a whole. Direct individual impacts are those impacts which occur to individual horses and are immediately associated with implementation of the Proposed Action. These impacts include: handling stress associated with the gathering, capture, sorting, animal handling, and transportation of the animals.

Indirect individual impacts are those impacts which occur to individual horses after the initial stress event. Indirect individual impacts may include spontaneous abortions in mares, and increased social displacement and conflict in studs. These impacts, like direct individual impacts, are known to occur intermittently during wild horse gather operations. An example of an indirect individual impact would be the brief skirmish which occurs with older studs following sorting and release into the stud pen which is brief and ends when one stud retreats. Traumatic injuries do not occur in most cases, however, they do occur occasionally. These injuries typically involve a bite and/or kicking with bruises that don't break the skin. Like direct individual impacts, the frequency of occurrence of these impacts among a population varies with the individual. Spontaneous abortion events among mares following captures are very rare.

Impacts to the Herd

Population-wide direct impacts are immediate effects which would occur during or immediately following implementation of the Proposed Action. They include the displacement of bands during capture and the associated re-dispersal which occurs following release, the modification of

herd demographics (age and sex ratios), the temporary separation of members of individual bands of horses, the reestablishment of bands following releases, and removal of animals from the population. With exception of changes to herd demographics, direct population-wide impacts have proven, over the last 20 years, to be temporary in nature with most if not all impacts disappearing within hours to several days of release. No observable effects associated with these impacts would be expected within one month of release except a heightened awareness of human presence.

The effect of band displacement on a population as a result of gather operations has been observed in several HMAs following releases. Observations have been made of individual and population wide horse response following releases from both the trap site where particular animals were captured and from the central holding facility where all captured animals were held. Most horses relocated themselves from the release site back to their home ranges within 12 to 24 hours, and at times much faster. This redistribution occurred following a brief “reorientation swing” involving horses ranging out from the release site in a curving arc until their bearings were apparently restored. Following this initial random travel, most horses lined out and headed off in a particular direction often without deviating from that line until they disappeared into the mountain or over the horizon. Assertions that horses are simply taking the most direct route away from humans are not accurate, as instances where horses reverse their original direction crossing back in front of the release trailer or holding area are fairly common following the re-orientation swing.

Specialists have also observed horse behavior, following releases, as it relates to bands which are separated at capture. While the affinity of individual animals to their band would be expected to vary, it was a very common observation that mares or studs broke from the group they were released with (unexpected behavior for a social animal exercising the flight response) and headed toward a particular animal or group of animals. Following this activity, the pair or trio of horses continued the re-orientation swing and then lined out together in a common direction. In some cases, individual groups were observed later together in a new area presumed to be the site of their original home range. Some specialists have noted individual mares re-associated with specific studs or mare groups following capture.

The effect of the removal of horses from the population would not be expected to have significant impact on herd dynamics or population variables, as long as the selection criteria for the removal ensured that a “typical” population structure was maintained. Obvious potential impacts on horse herds and populations from exercising poor selection criteria not based on herd dynamics includes modification of age or sex ratios to favor a particular class of animal.

Effects resulting from successive removals causing shifts in sex ratios away from normal ranges are fairly self evident. If selection criteria leave more studs than mares, band size would be expected to decrease, competition for mares would be expected to increase, recruitment age for reproduction among mares would be expected to decline, and the size and number of bachelor bands would be expected to increase. On the other hand, selection criteria that leave more mares than studs would be expected to result in fewer and smaller bachelor bands, increased reproduction on a proportional basis with the herd, lengthening of the time after birth when individual mares begin actively reproducing, and larger band sizes.

Wildlife

Under the Proposed Action there would be no negative impact to wildlife. As mentioned above, the removal of horses from the area would avoid potential over-utilization of forage and reduction in vegetative ground cover.

Wild horse grazing has both direct and indirect impacts to the wildlife community in the area. Wild horses compete directly with large ungulate grazers such as elk for forage. Wild horses can also compete directly with grazers and browsers such as pronghorn and mule deer during early spring when new growth is limited. Wild horses can also facilitate vegetation use by these species by removing large coarse material from plants, allowing the smaller ungulates to utilize a more nutritious portion of the plant. In so-called sacrifice areas, primarily near water developments and areas of terrain favorable to cattle movement, heavier rates of use on grass species can cause an increase in the proportion of forbs in the vegetation composition as these annuals invade these sites. This change in the plant community in small areas has a beneficial impact on foraging by species such as pronghorn and mule deer which prefer these plants to coarser grasses.

Both negative and positive impacts to wildlife species can occur as horse and cattle grazing impacts vegetative cover. Negative impacts to bird and rodent species that depend on grass seeds as a major component of their diet can occur if horse and livestock grazing use does not allow for a percentage of plants to complete their full life cycle. A decrease in vertical structure of grassland vegetation can negatively impact ground nesting birds, small rodents, and reptile species by reducing cover for protection from weather and predators. Conversely, a reduction in cover in some areas can facilitate foraging by ground dwelling species that are able to more easily move in less dense vegetative stands. A reduction in overhead cover can also favor predator species that hunt by sight and potentially improve their foraging success. Grassland communities can also have accelerated rates of invasion by woody species of trees and shrubs if these communities were historically maintained by fire carried by grass biomass. This conversion can have detrimental impacts to the wildlife species dependent on the grassland community but favorable impacts to wildlife species adapted to shrub and tree environments.

Predatory species can also be impacted both directly and indirectly by wild horse grazing. The presence of wild horses on the range provides an additional food source for large predators such as mountain lions and coyotes. The ability to utilize wild horses may maintain large predator numbers at higher than historic levels when natural factors such as drought and wild ungulate population declines may have historically lead to predator declines. This, in turn, can lead to increased predation levels on wild prey species, preventing recoveries from natural climate fluctuations. If impacts to wild horses become severe enough that predator management strategies are implemented, direct negative impacts can result to local predator populations. Analysis in NEPA documents prepared by the U.S. Department of Agriculture has shown that these impacts are short term, and in the long term there is no impact to population viabilities. Suppression of large predators for horse and livestock protection can lead to an increase in smaller predators which may have been reduced by direct competition and predation from larger predators.

Grazing strategies implemented by the SFO strive to ensure that a sufficient percentage of grass plants complete their full life cycle for seed availability. A reduction in grass species in some

localized areas from grazing can be positive if invader species of plants are seed producing annuals that may actually produce more available seeds for use by wildlife. Grazing management that allows for diversity in the levels of use within an area can provide for both wildlife protection and predator success. Grazing management that strives for a uniform level of use over an entire area does not provide for this diversity. The detrimental impacts to the wildlife species dependent on the grassland community but impacted by shrub and tree encroachment can be overcome by recognizing the need for management ignited fires to simulate historic periodic wild fires.

Cumulative Impacts

Cumulative impacts result from the accumulation of the individually minor impacts of past, present, and reasonably foreseeable future actions within the human environment. These impacts may be significant when considered collectively. It is therefore necessary to consider the incremental impact of the proposed action (and its alternatives) in conjunction with other, unrelated actions occurring within the same geographic area as the proposed action.

The project area is surrounded by (and overlaps) a WSA and an SMA. These areas were designated in 1988 and have since been managed to maintain their wilderness qualities; no development or management activities have taken place in these areas after their designation. Within the HMA, few management activities other than gathers and the introduction of new horses have taken place.

No reasonably foreseeable, unconnected actions will take place within the project area. The SunZia transmission line project, which is still in the scoping stage, should not traverse the area. The Sevilleta Wildlife Refuge, which is north of the project area, will not be conducting any management activities that will affect the HMA, nor will the nearby Gordy's Hill area or the Quebradas Backcountry Byway. Therefore, the only incremental impacts that must be analyzed are the results of successive wild horse gathers (or the lack thereof).

Alternative 1: No Action Alternative

The cumulative impacts of the No Action Alternative would be that a thriving natural ecological balance would not be maintained, and multiple-use relationships within the Bordo Atravesado HMA would not be preserved. If no horses were removed, populations would increase and in time have a negative impact on other uses as well as the herd. These negative impacts would include a declining condition in the vegetation, soils, wildlife habitat, wilderness values, and watersheds.

As the population increased, competition for space would increase with all the associated stress. Social interaction would change. Horses would die of starvation, disease, or from lack of water. These impacts would be cumulative over time. Over-population could cause the horses to leave the HMA.

Congressional or Administrative Designations

Impacts of an increased wild horse herd size would decrease the naturalness of the WSA and therefore impair its suitability for designation as wilderness. The previously described impacts to vegetation, soils, wildlife, and watershed function would have a detrimental effect on the WSA's ecosystem. Impacts on the naturalness of the WSA could come in many forms, primarily in the form of excessive erosion due to increased horse traffic and reduced soil stabilizing vegetative

cover, and a change in the number of members of other species displaced by the increased competition for resources. Also, the deteriorated habitat would negatively impact opportunities for primitive and unconfined recreation.

Cultural or Historical Values

At the current time, a determination of no action would not adversely affect historic properties. However, a substantial increase in the number of horses over time could have some effect on historic properties through increased trampling.

Livestock Grazing

Under this alternative, increasing horse populations would first displace livestock in the HMA, and then over time in adjacent areas surrounding the HMA. Displacement would be slow and indirect. As competition for forage and water increased, it would become less economically favorable to utilize the areas with domestic livestock. Authorized livestock grazing would be reduced or eliminated. This would have a negative economical impact on the livestock producers. Range conditions in and around the HMA would deteriorate significantly. These impacts would be cumulative over time.

Vegetation, Forestry

Increased use over the HMA would adversely impact soils and vegetation health. As native plant health deteriorates and plants are lost, soil erosion increases. Invasive plant species would increase and invade new areas following increased soil disturbance and reduced native plant vigor and abundance. These impacts would be cumulative over time. There would be increased impacts to areas outside the HMA as horses move out in search of better forage.

Wild Horses and Burros

With this alternative, horses would not experience the stress associated with gathering, removal, or adoption. Herd numbers would increase to well above the capacity of the HMA.

The herd would show obvious signs of ill-fitness including poor individual animal condition, low birth rates, and high mortality rates in all age classes due to disease and/or increased vulnerability to predation. In addition, supporting range conditions would noticeably deteriorate. As the population increased, competition for space would increase with all the associated stress. Social interaction would change. Horses would die of starvation, disease, or from lack of water. These impacts would cumulate over time.

Wildlife

Increased use over the HMA would adversely impact soils and vegetation health. As native plant health deteriorates and plants are lost, soil erosion increases. Range conditions in and around the HMA would deteriorate significantly. These impacts would be cumulative over time. There would be increased impacts to areas outside the HMA as horses move out in search of better forage. These impacts would have a negative effect on wildlife cover, forage, and movements within the area.

Alternative 2: Proposed Action

Wild Horses and Burros

Effects resulting from successive removals causing shifts in age dynamics away from normal ranges are likely to be observed. Herd shifts favoring older horses have been observed, resulting in a favoring of studs over mares in some herds. Explanations include sex based differences in reproductive stress (relative demand for individual contributions to reproduction) and biological stress (timing the most physically demanding period of the annual cycle).

For studs, reproductive stress is based on dominance in the herd and by definition is confined to a fairly narrow period in their lifespan when they are capable of defending a mare group. For mares, recurrent reproductive stress starts as early as age 2 and continues until as late as age 15 or 16, and sometimes as late as 20. Biological stress in wild horses tends to indicate a selection against mares. Biological stress is based on the degree, duration, and timing of biologically demanding activities during the annual reproductive cycle.

For mares, the greatest biological stress is during pregnancy and lactation. In wild horse populations, this occurs in late winter or early spring when forage availability is at its lowest level, and body condition is at its poorest. For studs, biological stress is at its peak during the breeding season. This peak biological demand is in the late spring and early summer and is more suited to a rapid recovery and a lower energy deficit than for mares.

The susceptibility of the older herd to extreme climatic events would depend on the age of the dominant class in the group. Generally, survival rates of horses are very high (exceeding 98%) for mature animals and lower for very young. This survivability declines again at some older age. Similarly, reproductive success also declines at some age. The threshold age at which susceptibility to extreme events and reproductive senescence has not been established. It is reasonable to conclude that the older the population, the more prone it would be to a catastrophic die-off as a result of reduced resistance to disease, lowered body condition, and/or reduced reproductive capacity.

The effects of successive removals on populations causing shifts in herd demographics favoring younger horses (under 15 years) would also have direct consequences on the population. These impacts are not thought of typically as adverse to a population. They include development of a population which is expected to be more biologically fit, more reproductively viable, and more capable of enduring stresses associated with traumatic natural and artificial events.

The Proposed Action would mitigate the potential adverse impacts on wild horse populations by establishing a procedure for determining what selective removal criteria is warranted for the herd. This flexible procedure would allow specialists to correct any existing discrepancies in herd dynamics that could leave the population vulnerable to catastrophic impacts. The Proposed Action would establish a standard for selection which would minimize the possibility for developing negative age or sex based selection effects in the population in the future.

Maintaining wild horse populations at AML would result in no cumulative impacts to the long-term viability of the wild horse herd, and would aid in the attainment of a thriving ecological balance in their habitat. If future monitoring of the wild horse herd and genetic analysis indicated

that genetic viability was threatened, horses from another HMA would be brought in to the Bordo Atravesado HMA to the long-term viability of the herd.

Monitoring and Possible Mitigation Measures

Special guide stipulations, including mitigation measures described here, shall be included in the stipulation compliance checklist and shall be carried out during the implementation of the action. In the event that any previously undiscovered cultural resources are encountered during the implementation of the action, disturbance of the resources will be halted immediately and the Field Archeologist shall be consulted.

Consultation and Coordination

Agencies, Organizations, and Persons Consulted

Wayne Golliheair	Grazing Permittee
Vincent Del Curto	Private Landowner

List of Preparers

Denny Apachito	Wildlife Biologist
John Besse	Assistant Field Manager, Multi Resources
Kevin Carson	Outdoor Recreation/Wilderness
Nathan Combs	Range Specialist
Gus Hoever	Range Specialist
Mark Matthews	Soil/Water/Air; Assistant Field Manager, Renewable Resources
Jeff Fassett	Project Coordinator
Carlos Madril	Wildlife Biologist
Lann Moore	Prescribed Fire & Fuels Specialist
Andi Sullivan	Realty Specialist
Bethany Rosales	Natural Resource Specialist (Invasive Weeds)
Brenda Wilkinson	Archaeologist

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43 CFR 1600. Public Lands: Interior. *Planning, Programming, Budgeting.*

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Appendices

Appendix 1: Bordo Atravesado Map

Appendix 2: Standard Operating Procedures