

APPENDIX D

STANDARD OPERATING PROCEDURES

A. Methods for Humane Capture Wild Horses or Burros

Helicopter Removals with or without a Contract

The method employed for this capture operation requires that horses (or burros) be herded to a trap of portable panels and, on extremely rare occasions to ropers who, after roping the animal, will bring it to the trap. Gathering would be conducted by using experienced agency personnel or Contractors. The same rules apply whether or not a Contractor or BLM personnel are used. The following stipulations and procedures will be followed during the contract period to ensure the welfare, safety, and humane treatment of the wild horses (or burros) in accordance with the provisions of 43 CFR 4700 and (if a contract is used) Gathers Capture Contract.

1. Capture Methods that may be used in the Performance of a Helicopter Gather

a. Drive Trapping - Helicopter

This capture method will involve driving horses into a preconstructed trap using a helicopter. The trap is constructed of portable steel panels constructed of round pipe. Wings are constructed off the ends of the panel trap to aid in funneling horses into the trap. The wings are constructed of natural jute (or similar netting which will not injure a horse), which is hung on both trees and long steel posts. This sort of wing forms a very effective visual barrier to the horses that they typically will not run through. When the trap is ready for use, a helicopter will start moving one band of horses at a time toward the trap and into the wings.

In heavily wooded areas, it may be necessary to use wranglers in support of the helicopter to move the horses. The helicopter will act more as a spotter for the ground crew in this situation.

The Contractor/BLM shall assure that bands remain together, and that foals shall not be left behind.

A minimum of one saddle horse shall be immediately available at the trap site to perform roping if necessary. Roping shall be done as determined by the Contracting Officer's Representative (COR) or Project Inspector (PI). Under no circumstances shall animals be tied down for more than 1-hour.

Domestic saddle horses may also be used to assist the helicopter pilot (on the ground) during the gather operation, by having the domestic horse act as a pilot (or "Judas") horse on the ground, leading the wild horses into the trap site. Individual ground hazers and individuals on horseback may also be used to assist in the gather.

b. Roping - Helicopter

Capture attempts may be accomplished by utilizing a helicopter to drive animals to ropers.

Under no circumstances shall horses or burros be tied down for more than 1-hour.

Roping shall be performed in such a manner that bands will remain together. Foals shall not be left behind.

2. Other Nonhelicopter Capture Methods

a. Water Trapping

Horses not captured by drive trapping may be captured in water traps. This method involves setting up a trap around a well-used water source and closing the gate on them when they have entered the trap to water.

Placement of portable corral panels would be permitted during foaling season to allow wild horses to become accustomed to them. Bait trapping by water would be the primary means of capturing horses after March 1.

b. Hay Trapping

Hay baiting during the winter months may be used as an additional or alternative method of capture. This method would involve setting up a panel trap in an area accessible to the horses and feeding hay in the trap over a period of time to habituate the horses to the hay and trap. Once virtually all horses in an area were coming in to the hay, they would be trapped. The principal limitation of this method is that winter conditions would have to be fairly severe for it to be effective on a large scale. Snow depths could make vehicular access to the hay trap(s) difficult.

Private landowners or the proper administering agency(s) would be contacted and authorization obtained prior to constructing enclosures on any land not administered by BLM.

3. Contract Helicopter, Pilot, and Communications

The Contractor must operate in compliance with Federal Aviation Regulations, Part 91. Pilots provided by the Contractor shall comply with the Contractor's Federal Aviation Certificates, applicable regulations of the State in which the gather is located, and shall follow what are recognized as safe flying practices.

When refueling, the helicopter shall remain a distance of at least a 1,000 feet or more from animals, vehicles (other than fuel truck), and personnel not involved in refueling.

The COR/PI shall have the means to communicate with the Contractor's pilot at all times. If communications cannot be established, the Government will take steps as necessary to protect the welfare of the animals. The frequency(ies) used for this contract will be assigned by the COR/PI when the radio is used. When a VHF/AM radio is used, the frequency will be 122.925 MHz.

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

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

At time of delivery order completion, the Contractor shall provide the COR with a completed copy of the Service Contract Flight Hour Report.

All incidents/accidents occurring during the performance of any delivery order shall be immediately reported to the COR.

4. Noncontract Helicopter Operations

An Aircraft Safety Plan and flight hazard analysis will have been filed and approved prior to commencing the removal operation. Daily flight plans will also be filed. All BLM, Aircraft Safety, and Operations standards will be adhered to if a BLM contract helicopter is used.

There will be daily briefings with the helicopter pilot, Authorized Officer, and all personnel involved in the day's operation. The purpose of this meeting is to discuss in detail all information gathered during the familiarization flight such as hazards, location of horses, potential problems, etc. Discuss any safety hazards anticipated for the coming day's operation or any safety problems observed by the Authorized Officer or anyone else, outline the plan of action, delineate course of actions, specifically position the hazers and their responsibilities, logistics, and timing. After each flight, removal personnel will discuss any problems and suggest solutions. This may be accomplished over the radio or on the ground as the need dictates.

A flight operations plan will be filed with the Dispatch Center. This plan will describe the area to be flown and the expected timeframes of flight operations. A weather forecast will be acquired from the dispatcher. There will be no flights on days of high or gusty, erratic winds or days with poor visibility.

Two-way radio communication between the helicopter and the ground crew will be maintained at all times during the operation.

An operation or Contractor's log will be maintained for all phases of the operation. The log will be as detailed as possible and will include names, dates, places, and other pertinent information, as well as observations of personnel involved.

5. Animal Handling and Care

Prior to any gathering operations, the COR/PI will provide for a precapture evaluation of existing conditions in the gather areas. The evaluation will include animal condition, prevailing temperatures, drought conditions, soil conditions, road conditions, and a topographic map with location of fences, other physical barriers, and acceptable trap locations in relation to animal distribution. The evaluation will determine the level of activity likely to cause undue stress to the animals, and whether or not such stress would necessitate a veterinarian be present. If it is determined that capture efforts necessitate the services of a veterinarian, one would be obtained before capture would proceed.

The Contractor will be apprised of the all conditions and will be given directions regarding the capture and handling of animals to ensure their health and welfare is protected.

The Authorized Officer and pilot may take a familiarization flight identifying all natural hazards (rims, canyons, winds) and human-made hazards in the area so that helicopter flight crew, ground personnel, and wild horse safety will be maximized. Aerial hazards will be recorded on the project map.

The Authorized Officer will make a careful determination of a boundary line to serve as an outer limit within which horses will be herded to a selected trap site. The Authorized Officer will ensure that the pilot is fully aware of all natural and human-made barriers which might restrict free movement of horses. Topography, distance, and current condition of the horses are factors that will be considered to set limits so that undue stress on horses is avoided.

All capture attempts may be accomplished utilizing either drive trapping - helicopter, roping - helicopter, or bait trapping techniques which shall be determined by the Contractor (with BLM concurrence) prior to issuance of delivery orders. All capture attempts shall incorporate the following:

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

Helicopter operations would be monitored and restricted (if necessary) to assure the body condition of the horses is compatible with the distances and the terrain over which they must travel. Pregnant mares, mares with small colts, and other horses would be allowed to drop out of bands which are being gathered if required to protect the safety and health of the animals.

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

Trap sites will be located to cause as little injury and stress to the animals, and as little damage to the natural resources of the area, as possible. Sites will be located on or near existing roads. Additional trap sites may be required, as determined by the COR/PI, to relieve stress caused by specific conditions at the time of the gather (i.e., dust, rocky terrain, temperatures, etc.).

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

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

All loading chute sides shall be fully covered with plywood (without holes) or like material. The loading chute shall also be a minimum of 6 feet high.

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

Wings shall not be constructed out of barbed wire or other materials injurious to animals and must be approved by the COR/PI. Wings may be constructed along existing fencelines, at the discretion of the COR/PI, only if the barbed wire or other wire fencing material is removed from the fenceposts and laid on the ground for the length of the wing, or if portable panels are placed along the inside of the fence to protect the animals from injury from the fence wire.

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, etc.) and shall be covered a minimum of 1-foot to 5 feet above ground level for burros and 2 feet to 6 feet for horses. 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.

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

If the route the Contractor/BLM proposes to herd animals, passes through a fence, the Contractor/BLM shall be required to roll up the fence material and pull up the posts to provide at least a 50-yard gap. The standing fence on each side of the gap will be well flagged or covered with jute or like material for a distance of 50 yards from the gap on each side.

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

The Contractor shall provide animals held in the traps and/or holding facilities with a continuous supply of fresh clean water at a minimum rate of 10 gallons per animal per day. Animals held for 10 hours or more in the traps or holding facilities shall be provided good quality hay at the rate of not less than 2 pounds of hay per 100 pounds of estimated body weight per day. An animal that is held at a temporary holding facility from no later than 5 p.m. and on through the night is defined as a horse/burro feed day. An animal that is held for only a portion of a day does not constitute a feed day.

Separate water troughs shall be provided at each pen where animals are being held. Water troughs shall be constructed of such material (e.g., rubber, rubber over metal) so as to avoid injury to animals.

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

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

The Contractor/BLM shall restrain sick or injured animals if treatment is necessary. A veterinarian may be called to make a diagnosis and final determination. Destruction shall be done by the most humane method available. Authority for humane destruction of wild horses (or burros) is provided by the Wild Free-Roaming Horse and Burro Act of 1971, Section 3(b)(2)(A), 43 CFR 4730.1, BLM Manual 4730 - Destruction of Wild Horses and Burros and Disposal of Remains, and is in accordance with BLM policy as expressed in Instructional Memorandum No. 98-141.

Any captured horses found to have the following conditions may be humanely destroyed:

- a. The animal shows a hopeless prognosis for life.
- b. Suffers from a chronic disease.
- c. Requires continuous care for acute pain and suffering.
- d. Not capable of maintaining a body ratio of one.
- e. The animal is a danger to itself or others.

The COR/PI will determine if injured animals must be destroyed and provide for destruction of such animals. The Contractor/BLM may be required to dispose of the carcasses as directed by the COR/PI.

The carcasses of the animals that die or must be destroyed 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 carcasses of the animals that must be destroyed as a result of age, injury, lameness, or noncontagious 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. Carcasses will not be placed in drainages regardless of drainage size or downstream destination.

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

Branded or privately-owned animals whose owners are known will be impounded by BLM, and if not redeemed by payment of trespass and capture fees, will be sold at public auction. If owners are not known, the private animals will be turned over to the State for processing under estray laws.

If the horses have been transported to the holding facilities, the Authorized Officer will notify the State Brand Inspector and local ranchers that horses are available for inspection. If the Brand Inspector determines that one or more of the horses are branded, he will notify the owner of those horses. After consultation with the parties who inspected the horses, the BLM Authorized Officer will then make a final written determination and decision concerning wild horses, and ownership of claimed animals pursuant to the appropriate Federal Regulations and the cooperative agreement between the BLM and the State Board of Stock Inspection.

Those unclaimed, branded horses, their determined progeny, and horses with obvious signs of domestication will be released to the State for disposition under the State estray laws. Those branded horses (or unbranded horses with a valid claim) will be considered to have been in trespass and will not be released until trespass charges have been assessed by the Authorized Officer and have been paid by the claimant. Examples of costs might include trespass fee for forage, and cost of gathering and removal such as prorated cost of helicopter, prorated vehicle costs, prorated cost of rented facilities, corrals or equipment, and brand inspection fee.

6. Motorized Equipment

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

Vehicles shall be in good repair, of adequate rated capacity, and operated so as to ensure that captured animals are transported without undue risk or injury.

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

All vehicles used to transport animals to the final destination(s) shall be equipped with at least one door at the rear end of the vehicle, which is capable of sliding either horizontally or vertically. The rear door must be capable of opening the full width of the trailer. All 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 sides. Final approval of vehicles to transport animals shall be held by the COR/PI.

Floors of vehicles, trailers, and the loading chute shall be covered and maintained with wood shavings to prevent the animals from slipping.

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

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

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

It is currently planned to ship all animals to a BLM adoption facility. Communication lines have been established with personnel involved in off-loading the animals to receive feedback on how the animals arrive. Should problems arise, gathering methods, shipping methods and/or separation of the animals will be changed in an attempt to alleviate the problems.

If the COR/PI determines that dust conditions are such that animals could be endangered during transportation, the Contractor/BLM will be instructed to adjust speed and/or use alternate routes.

Periodic checks by the COR/PI will be made as animals are transported along dirt roads. If speed restrictions are in effect the COR/PI will at times follow and/or time trips to ensure compliance.

7. Special Stipulations

Private landowners or the proper administering agency(s) would be contacted and authorization obtained prior to setting up traps on any land which is not administered by BLM. Wherever possible, traps would be constructed in such a manner as to not block vehicular access on existing roads.

If possible, traps would be constructed so that no riparian vegetation is contained within them. Sites where riparian vegetation and/or running water are located within a trap (and available to horses) would be mitigated by removing horses from the trap immediately upon capture. No vehicles would be operated on riparian vegetation or on saturated soils associated with riparian/wetland areas.

Gathering would be conducted when soils are dry or frozen and conditions are optimal for safety and protection of the horses and wranglers and, when possible, outside the firearm hunting seasons for big game. Additionally, gathers would not be conducted 6 weeks on either side of peak foaling season to reduce the chance of injury or stress to pregnant mares or mares with young foals (and to reduce impacts on strutting and nesting sage-grouse, if applicable).

Winter removals would be conducted primarily by helicopter herding within those areas where horses could be readily removed and not hampered due to snow conditions.

The helicopter would avoid eagles and other raptors, and would not be flown repeatedly over any active raptor nests. No unnecessary flying would occur over big game on their winter ranges or active fawning/calving grounds.

Standard operating procedures in the siting and construction of traps will avoid any adverse impacts from trap siting, construction or operation to wildlife species, including threatened, endangered or sensitive species.

8. Stipulations for Portable Corral Traps/Enclosures

Capture traps would be constructed in a fashion to minimize the potential for injury to wild horses and BLM personnel. Gates would be wired open at all unmanned trap sites, and would be left closed only when needed to hold horses inside. Trapped horses would not be held inside the traps for a period exceeding 24 hours, unless provided with feed (weed-free hay) and water.

There may be occasions during the trapping process (water trap) when traps equipped with "trip" gate closures would be effective in catching horses. The trip would consist of a single strand of monofilament line attached to the gate, strung off the ground (some distance inside the trap), and attached to a secure object.

The animals would trip the line and activate the closure of the gate when they entered the trap, effectively catching them inside. Traps equipped with trip wires would be checked twice each day for trapped animals.

In order to attract greater numbers of horses to water trap locations, temporary enclosures could be constructed. These enclosures would be flagged and generally consist of a single piece of nylon twine decorated with brightly colored flagging. The flagging would be intended to wave in the breeze and frighten the horses to other water locations. If the horses, during the trapping operation, prove that a more substantial enclosure is needed, a single strand of smooth wire approximately 38 inches high, or two wires 19 inches and 38 inches from the ground could be used. In either case, the wires would be flagged and highly visible to the horses, wildlife, and the public. Wires, twine, and flagging would be promptly removed following completion of the trapping.

All water traps would be constructed (whenever possible) to accommodate wildlife access points. These points would be where wildlife could get to water by going underneath the panels, such as along trails, washes or low spots.

The State Division of Wildlife Resources would be notified as soon as possible if any wildlife became injured during capture operations. Wildlife caught inside traps would be released immediately.

9. Animal Characteristics and Behavior

Wild horses in this area likely have many domestic bloodlines in their background including American Quarter Horse, Thoroughbred, Standard bred, and Arabian. Nearly every coat, color, pattern, and combinations thereof can be found within the herds. The diverse phenotypes of wild horses in this area indicate a varied genotype. Habitat conditions are such that the horses are typically in good condition throughout the year.

Wild horse bands typically include a stallion, lead mare, mares with colts, mares without colts, and subordinate males. Bachelor bands (bands of wild horses without any females) are found in this area as are single wild horses that are typically male. Within an area, bands may develop lead and subordinate roles. Subordinate bands are also known as satellite bands.

This relationship is observable by their behavior at waterholes. The wild horses' competitive social structure, combined with their size and strength, allows them to compete favorably with wildlife and domestic livestock for water.

Wild horses travel up to 10 miles to water, although 2 to 5-mile distances are more common. An adult wild horse normally consumes 10 to 12 gallons of water per day, depending primarily on ambient temperature and the animal's activity. Wild horses usually have adequate water from winter snows and spring runoff

that fill reservoirs and intermittent streams. During late summer and early fall wild horses depend on the few perennial sources of water (some reservoirs, streams, springs, and flowing wells) and on wells pumped for domestic livestock and wildlife. The concentration of wild horses around available water becomes a problem when water is scarce. Wild horses may become possessive of available water, resulting in direct competition with livestock and wildlife. Mountain lions may prey on wild horses.

Releases of wild horses would be near available water. Usually, wild horses gathered together would be released together. If the area is new to them, a short-term adjustment period would be required while the wild horses become familiar with the new area. We anticipate no long-term adverse impacts to returned wild horses.

Released wild horses would increase interband encounters and confrontations. These encounters should not be detrimental over the short term; however, if horse populations exceed Appropriate Management Levels (AMLs) for an indefinite period, impacts would become consequential. These consequences would be born both by the horses and nearby landowners as wild horses would again move outside HMA boundaries.

Returns could change the sex ratio within the HMAs. This should have no effect on the viability of the remaining population in the near term. Long-term effects would not be anticipated unless the practice was repeated in future actions. For this gather the removal criteria would be to reset normal sex and age ratio possibly skewed by previous removals. The specific numbers returned to the HMA/Complex by sex and ages are displayed the Population Model Output.

Returns would increase the average age in the HMAs slightly. Recent winters have been comparatively mild, which may have prolonged the life of some older horses. A small-scale increase in mortality of older horses would likely occur in the next normal or severe winter. The loss of these individuals to the population would be short term as it is unlikely that many of these animals are still reproductively active.

10. Herd Health and Viability Data Collection

The Contractor will be required to assist in the special handling of some animals before their release or transport. Such special handling includes, but is not limited to, inoculations, drawing blood, fertility control vaccinations, sterilization, and freeze branding.

a. Population Management Plan/Selective Removal

Blood samples will be taken for the purposes of furthering genetic ancestry studies and incorporation into the Population Management Plans which will be developed for each HMA/Complex.

Horses returned to the range will be representative of the herd's characteristics. Diversity in age structure will be maintained, but most horses returned will be in the prime of their breeding age span and be from 6 to 12 years old. To enhance and maintain genetic diversity a few animals with compatible characteristics may be introduced from HMAs with similar habitat.

b. Fertility Control (Immunocontraceptive Vaccine)

The formulation would be delivered as an intramuscular injection by a jabstick syringe, CO2 dart or hand pump air-powered dart into the mares in the field. Upon impact the liquid in the chamber would be propelled into the muscle along with the pellets. This delivery method has been previously shown to work. Such a vaccine would permit a single injection to cause one or more years of contraception at approximately 90 percent efficiency. Only trained personnel would mix and/or administer the vaccine.

Previous wild horses immunocontraception research on wild free-roaming horse herds in Nevada has been conducted on the Antelope/Antelope Valley HMAs (1992) (Ely), on the Nevada Wild Horse Range (1996), the Kammass HMA/Antelope HA (1998) (Winnemucca), and the Antelope/Antelope Valley, Sand Springs, and Monte Cristo HMAs (1998) (Ely) utilizing PZP injections. The 1992 Antelope/Antelope Valley HMA's research found that reproductive success was 4.5 percent using two injections, 20.0 percent using one injection plus micro spheres, and 28.6 percent using one injection with no micro spheres. Reproductive success for mares treated with a placebo was 55.0 percent and untreated mares was 53.9 percent, which was significantly greater than treated mares. The following year, without further treatment, reproductive success was 44.0 percent for mares treated with two injections, and 54.5 percent for untreated mares. Data from the other groups is insufficient for comparison (Turner et al. 1997).

The Nevada wild horse range field study utilized three formulations of a revised controlled release PZP vaccine, with the mares broken up into three groups. The micro spheres were designed for longer delay in release and contained adjuvant. Reproductive success was 12.8 percent for group 1 (two injections), 10.6 percent for group 2 (two injections) and 11.3 percent for group 3 (one injection). The lack of difference in fertility rates indicated that the controlled release component in the one injection group provided vaccine exposure equivalent to a second injection of vaccine (Turner et al. 1997).

The data for the Kamma HMA/Antelope HA (1998) has not completely been analyzed, but preliminary data shows approximately 75 percent effectiveness on treated mares. The data for the Antelope/Antelope Valley, Sand Springs, and Monte Cristo HMAs (1998) have not completely been analyzed to show comparative statistics.

Results of fertility control research conducted to date indicate that PZP immunocontraception is highly effective, and that the reproductive success of the mares returns to normal the year following fertility control. There would be no significant increase in stress above that normally associated with the processing and sorting of animals during a gather.

Wild horse populations would experience a decrease in stress due to extending the period of time between gathers. Mares would experience some stress during the administration of the fertility control drugs and would not produce progeny for 1-year if successful. Mares which are not supporting young would be expected to experience an increase in health and condition during their nonproductive time. Animals would be exposed to potential hazards during treatment. If contraception is used genetic contributions from individual animals will be only delayed, not removed.

11. Population Modeling Parameters

The population model used is Dr. Steve Jenkins Wild Horse Population Model, Version 3.2, as amended. The parameters used in the model for each HMA/Complex are as follows:

- a. Each HMA/Complex will have herd specific age/sex information based on best available information and current census numbers.
- b. The AML will have a range of 40 percent.
- c. Foals will not be included in the count unless census is done after March 1 of each calendar year.
- d. Average foaling rate is 20 percent. Sex ratio at birth would be 50 percent.

- e. The gather cycle for the first gather will be 4 years.
- f. Fertility control, if used will be a 1-year vaccine, with a 90 percent effective rate if applied from October 1 to February 28 (primary window). If the animals are primed (using just the PZP part of the vaccine), there will be a 35 percent effective rate. The priming doses would be applied from July 1 to September 30, and would expand the window of application so the effectiveness of the vaccine would be similar to primary window the next time the animals were vaccinated.
- g. Modeling outputs will consist of a minimum of the removal graph, and with tables displaying the age and sex of animals remaining on the HMA/Complex after the first gather and what is expected to be on the HMA/Complex prior to the next gather.

12. Other Criteria which may Prompt the Gather of Wild Horses (or Burros):

Drought conditions that could: a) cause mortality to horses (or burros) due to the absence of water, and b) where continued grazing by horses (or burros) would cause plant mortality at a level that would cause malnutrition in the horses (or burros) or a downward trend to the vegetative communities due to plant mortality and reduced vigor and productiveness.

Fires of a severity that remove forage to the extent that there is inadequate forage to sustain the population or to allow recovery of native vegetation.

Utilization levels that reach a point where a continued increase in utilization would cause a downward trend in the plant communities and impede meeting standards for rangeland health. This level would be where utilization exceeds 50 percent (the combined total impact of horses (or burros), wildlife, and permitted livestock) based on an average year of precipitation and plant growth (on upland vegetation).

Monitoring indicates that horse (or burro) use would begin to cause a downward trend in riparian function or not permit the recovery of riparian vegetation determined to be in undesirable condition.

13. Public Participation

The public is welcome to view the capture of the horses (or burros) at traps where the public presence will not interfere with the operation, or where the safety of the public or employees is not at risk. The public must adhere to guidance from the agency representative and viewing must be prearranged. Qualified local volunteers may also help in the preparation and adoption of the horses. Volunteers will only be placed in nonhazardous support roles. Each volunteer will have a current BLM Volunteer Agreement in place prior to helping with any facet of the removal or adoption operation.

14. Safety

Safety of BLM employees, Contractors, members of the public, and the wild horses (or burros) themselves will be given primary consideration. The following safety measures will be used by the Authorized Officer and all others involved in the operation as the basis for evaluating safety performance and for safety discussions during the daily briefings:

A briefing between all parties involved in the gather will be conducted each morning.

All BLM personnel, Contractors, and volunteers will wear protective clothing suitable for work of this nature. BLM will alert observers of the requirement to dress properly. BLM will assure that members of the public are in safe observation areas.

The handling of hazardous or potentially hazardous materials such as liquid nitrogen and vaccination needles will be accomplished in a safe and conscientious manner by BLM personnel or the contract veterinarian (Page 28, Hazardous Materials).

15. Standards for Rangeland Health

The following section identifies the Standards for Rangeland Health. The standards are listed with a description of each standard.

Standard 1 - Upland soils exhibit infiltration and permeability rates that are appropriate for soil type, climate, land form, and geologic processes.

Standard 2 - Riparian systems associated with both running and standing water function properly and have the ability to recover from major disturbance.

Standard 3 - Healthy, productive plant and animal communities of native and other desirable species are maintained at viable population levels commensurate with the species and habitats potential. Plants and animals at both the community and population level are productive, resilient, diverse, vigorous, and able to reproduce and sustain natural fluctuations and ecological processes.

Standard 4 - Special Status, threatened and endangered species, and other plants and animals officially designated by the BLM and their habitats are maintained or enhanced by sustainable, healthy native plant, and animal communities.

Standard 5- The water quality of all water bodies, including ground water where applicable, located or influenced by BLM land will achieve or exceed the Water Quality Standards established by the State. Water Quality Standards for surface and ground waters include the designated requirements set forth under State law as required by Section 303(c) of the Clean Water Act.

16. Responsibility and Lines of Communication

The CORs and PIs, have the direct responsibility to ensure the Contractor's compliance with the contract stipulations. Field Manager will take an active role to ensure the appropriate lines of communication are established between the field, Field Office, State Office, and corral offices. All employees involved in the gathering operations will keep the best interests of the animals at the forefront at all times.

All publicity, formal public contact, and inquiries will be handled through the Field Manager. This individual will be the primary contact and will coordinate with the corrals to ensure animals are being transported from the capture site in a safe and humane manner and are arriving in good condition.

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

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

17. Glossary

APPROPRIATE MANAGEMENT LEVEL (AML): The optimum number of wild horses that provides a thriving natural ecological balance on the public range.

BAND: A group of wild horses running together or a lone wild horse.

EXCESS WILD HORSES: Wild free-roaming horses which have been removed from public land or which must be removed to preserve and maintain a thriving ecological balance and multiple-use relationship.

STRAY WILD HORSES: Wild free-roaming horses which are not located within an HMA.

THRIVING NATURAL ECOLOGICAL BALANCE: An ecological balance requires that wild horses and burros and other associated animals be in good health and reproducing at a rate that sustains the population; the key vegetative species are able to maintain their composition, production and reproduction; the soil resources are being protected, maintained or improved; and a sufficient amount of good quality water is available to the animals.

WILD HORSE HERD MANAGEMENT AREA (HMA): A designated area where a viable population of wild horses is to be maintained. An AML for wild horses is established to manage the wild horses on the public rangelands.