



United States Department of the Interior



BUREAU OF LAND MANAGEMENT
Colorado River District
Yuma Field Office
2555 East Gila Ridge Road
Yuma, Arizona 85365-2240
www.blm.gov/az
January 27, 2012

In Reply Refer To:
4700 (C020)

Dear Reader:

The Bureau of Land Management is asking the public to review and comment on the Wild Burro Reduction Cibola-Trigo Herd Management Area Environmental Assessment (EA) EA DOI-BLM-AZ-C020-2010-0012EA no later than February 28, 2012. This EA is posted at http://www.blm.gov/az/st/en/fo/yuma_field_office.html.

This EA proposes to gather 400 wild burros in the Cibola-Trigo Herd Management Area. The action would be carried out under the Wild Free-Roaming Horse and Burro Act of 1971 and the Cibola-Trigo Herd Management Area Plan. This gather is proposed to occur in April 2012 and would be focused on Imperial National Wildlife Refuge and the southern portion of the Cibola National Wildlife Refuge in Yuma and La Paz Counties, Arizona.

The 30-day comment period will begin on January 30, 2012, and end on February 28, 2012. All comments are due in the Yuma Field Office (YFO) by February 28, 2012. The YFO is located at:

Yuma Field Office
2555 E. Gila Ridge Road
Yuma, AZ 85365-2240

Comments can also be faxed to 928-317-3250 or emailed to BLM_AZ_YM_WHB@BLM.GOV.

If a hard copy is desired, please contact the YFO as noted above.

Sincerely,

/S/

John MacDonald
Field Manager

**U.S. Department of the Interior
Bureau of Land Management**

DOI-BLM-AZ-C020-2012-0011-EA

**Wild Burro Reduction
Cibola-Trigo Herd Management Area
Preliminary Environmental Assessment**

Yuma and La Paz Counties



Yuma Field Office
2555 E. Gila Ridge Road
Yuma, Arizona 85365

Prepared by: John Hall Date: January 2012



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1.0 PURPOSE AND NEED

1.1 Background

The Cibola-Trigo Herd Management Area (HMA), located in southwestern Arizona and extreme southeastern California, supports populations of wild horses and burros which use lands administered by the U.S. Army Yuma Proving Ground (YPG), U.S. Fish and Wildlife Service (USFWS), and the Bureau of Land Management (BLM). BLM is responsible for managing the herd according to the Wild and Free-Roaming Horse and Burro Act of 1971. The BLM Cibola-Trigo Herd Management Area Plan (HMAP), approved in September of 1980, determined that the Appropriate Management Level (AML) for wild burros is approximately 165, based on “a grazing capacity calculated to restore the vegetative communities within the critical area to approximate original conditions. (C-T HMAP 17).” In 1981, the HMAP was amended to establish the AML for the portion of the HMA in California at 190 wild burros. There are no wild horses on the California side of the HMA. Beginning in 1998, a coordination team representing the Arizona Game and Fish Department (AZGFD), YPG, the Cibola and Imperial National Wildlife Refuges, and the BLM Yuma Field Office (YFO) worked collaboratively to address various concerns with the wild burro and horse population in the HMA. A cooperative vegetative monitoring program in support of the collaborative effort was initiated in 1998. The BLM YFO Approved Resource Management Plan (RMP) Record of Decision (ROD) dated January 29, 2010, amended the 1981 HMAP for the Arizona portion of the HMA, as shown on the map in Appendix A.

The BLM is mandated to manage wild burros and horses in balance with their habitat. When monitoring and population inventories indicate herd numbers exceed that balance, those animals are defined as excess according to the Wild and Free-Roaming Horse and Burro Act of 1971. Excess animals are subject to removal. Over the past 21 years, more than 2,700 wild burros and 100 wild horses have been removed from the Cibola-Trigo HMA in Arizona. Aerial counts of horse and burro populations have been ongoing within the Cibola-Trigo HMA since 1984. These efforts are predicted to continue as budget allows. The current population of wild burros is in excess of the habitat capacity within the critical area shown in Appendix A. The current population of wild horses is within the habitat capacity and, therefore, not included in the proposed action.

1.2 Purpose and Need for Action

The purpose of the Proposed Action is to remove excess wild burros from the Cibola-Trigo HMA to maintain the AML for the HMA and restore a thriving natural ecological balance and multiple-use relationship on the public lands consistent with the provisions of Section 3(b) (2) of the 1971 Wild Free-Roaming Horse and Burro Act.

The need for the proposed action is to prevent undue or unnecessary degradation of the public lands, to maintain a healthy herd with access to adequate available natural forage, and to protect rangeland resources from deterioration associated with excess populations of wild burros within the HMAs and use of rangeland resources by wild burros outside of the HMA boundaries. Examples of wild burro overuse can be seen in Appendix B.

1.3 Land Use Plan Conformance

The removal of excess wild horses and burros from the HMA is in direct conformance with the YFO RMP ROD dated January 29, 2010. According to decision number HB-003: “The AML for the Cibola-Trigo HMA will be 165 wild burros and 150 horses. Monitoring data, including climate, population, and vegetative data, will be collected and used to support removals and/or the revision of AML for either wild horses, burros, or both.”

1.4 Relationship to Statutes, Regulations, and Other Plans

Removal of wild burros is in conformance with Public Law 92-195 (Wild and Free-Roaming Horse and Burro Act of 1971) as amended by Public Law 94-579 (Federal Land Policy and Management Act) and Public Law 95-514 (Public Rangelands Improvement Act) and the regulations at 43 CFR 4700.

No other permits or authorized actions are required prior to implementation of the proposed action.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

The purpose of the Proposed Action is to gather 400 wild burros from the Cibola-Trigo HMA. Of these 400 gathered wild burros, 50 jacks would be castrated and returned to the population in order to reduce the sex ratio of breeding animals within the population and to reduce animal recruitment.

The YFO proposes to capture 400 wild burros from the HMA on the Arizona side of the Colorado River. The population of wild burros in April 2012 is estimated to be approximately 711, based upon a population estimate completed in May 2010. The gather would be split into two areas. The gather is planned for April 1, 2012, with a target to gather 150 burros south of Red Cloud Mine Wash, 150 north of Red Cloud Mine Wash, and another 100 from the Cibola National Wildlife Refuge area. The first area consists of two to three trap sites. The first trap site would be south of Fisher’s Landing near Castle Dome Landing. The second trap site would be at the border of Imperial National Wildlife Refuge and YPG in Yuma Wash or at the intersection of McAllister Wash and Red Cloud Road. The second area would consist of two or three trapping locations. The first would be accessed by boat near Paradise Valley or No Name Wash near Lighthouse Rock. From these sites, 150 animals would be trapped and then transported by boat to a temporary holding facility at another location. The third trap site would be located near Cibola National Wildlife Refuge between Lopez Wash and Mule Wash. The proposed action is part of ongoing management to maintain a healthy population of wild burros in balance with their environment. The proposed removals would leave a population of approximately 361 wild burros within the Cibola-Trigo HMA in Arizona.

Gathering operations would be conducted according to a Cibola-Trigo Herd Area Burro Gather Plan (Appendix C) and would start no later than April 1, 2012, and would continue until 400 wild burros are gathered. This gather would be performed in accordance with the capture methods described in Appendix D. Prior to the construction of temporary trap locations, the area would be field checked to ensure that no cultural sites or other artifacts would be impacted by the capture operation. Cultural sites discovered prior to construction would be documented and an alternate trap site would be found. There would be no motorized vehicle use or landing of aircraft in the wilderness. No temporary or permanent structures are proposed within wilderness.

Of the 400 animals gathered, 50 jacks would be gelded and returned to the HMA in selected locations. The process for selecting jacks to be gelded is described in Appendix C.

2.2 Alternative 1

Alternative 1 to the Proposed Action is to gather and remove 400 animals from the Cibola-Trigo HMA. This would leave a population of approximately 311. Gather operations, trap site locations, and the start date would be identical to the Proposed Alternative. Jacks would not be castrated and the sex ratio of the herd would not be changed.

2.3 No Action (No Gather or Trapping)

Under the No Action Alternative, the BLM would not gather or trap wild burros in the Cibola-Trigo HMA and the population of wild burros would continue to increase.

2.4 Alternatives Considered but Eliminated from Detailed Analysis

Three different alternatives to gathering burros by helicopter were considered during the scoping and public comment phases of the EA. These were: alternate trapping methods as described in Appendix C, adjustment of AML, and the use of PZP fertility control to reduce the herd.

Alternate trapping methods such as the use of water and bait are included in the gather plan found in Appendix C of the EA. Although this gather plan includes common alternative gather methods, bait and water trapping were eliminated from detailed analysis due to the remote location, lack of roads, and time constraints of BLM personnel. Capturing 400 wild burros with traditional bait and water trapping methods in areas with few roads, sparse vegetation, and limited access to water could take weeks or months of BLM personnel time per trap site. Each trap site may only yield 20-30 burros, which would make the gathering process take up to a year.

Adjustment of AML was suggested during the scoping phase of the preliminary EA. The Yuma RMP ROD signed January 29, 2010, identifies in HB-007 that "(T)he AML may be adjusted based on monitoring data and subsequent evaluations (p. 2-94)." Adjusting AML is evaluated as a separate action to this proposed action of removing 400 wild burros. At this time, some additional monitoring data is needed before the AML can be reevaluated. To reduce currently occurring habitat damage, and the fact that the decision record for such an action would be separate from the proposed action, this will be deferred at this time.

Fertility control is another alternative that was raised during scoping but eliminated from further analysis. The BLM's current fertility control program has not tested chemical fertility control methods on wild burros due to the high adoption demand for wild burros, which is supported by a high adoption rate. Also, wild burros are polyestrous, so administering a chemical fertility control at peak fertility is infeasible.

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

The resources affected by the proposed action, Alternative 1, and the No Action Alternative were identified during scoping.

3.2 General Environment

The YFO is located in the southwest corner of Arizona and contains the Cibola-Trigo Herd Area. The Cibola-Trigo Herd Area was established in 1973 and consists of 635,685 acres composed of Federal, State, military withdrawn, and private lands. The area where the herd is actively managed, called the HMA, is composed of 179,000 acres and borders the lower Colorado River and the Chocolate/Mules and Picacho HMAs in Southern California. In California, wild horses and burros are managed in accordance with the *Proposed Northern and Eastern Colorado Desert Coordinated Management Plan and Final EIS*. In Arizona, the HMA was adjusted in the *Yuma Field Office Approved Resource Management Plan and Record of Decision* dated January 2010 to exclude Imperial and Cibola National Wildlife Refuges and portions of YPG east of U.S. Highway 95. These adjustments were deemed appropriate because wildlife refuges were never intended to be included within the HMA and the YPG contains active firing and impact zones which pose a danger to herd management operations and to the animals.

3.2.1 Vegetation

The vegetation in the HMA is composed of upland and riparian types common to the Lower Colorado River Plateau-Sonoran Desert ecoregion. Riparian vegetation includes cattail (*Typha* spp.), phragmites (*Phragmites communis*), arrow-weed (*Pluchea sericea*), saltcedar (*Tamarix* spp.), giant reed (*Arundo donax*), and coyote willow (*Salix exigua*). Areas adjacent to the river may be pure stands of saltcedar and phragmites, although various areas in the HMA support a riparian woodland community that existed before the invasion of many non-native plants. Riparian woodland communities are dominated by honey mesquite (*Prosopis velutina*), screwbean mesquite (*Prosopis pubescens*), Goodding willow (*Salix gooddingii*), and Fremont cottonwood (*Populus fremontii*).

During normal winters, a wide variety of annual grasses and forbs are produced throughout the HMA. These include needle grama (*Bouteloua aristidoides*), sixweek grama (*Bouteloua barbata*), desert indianwheat (*Plantago insularis*), and desert lupine (*Lupinus sparsiflorus*). Production varies widely depending on timing and amount of precipitation.

The upland habitat is a mixture of desert pavement, steep volcanic mountains, and desert wash habitat types. Desert pavement produces very little vegetation, primarily annuals. In upland desert areas, stands of creosote bush (*Larrea tridentata*) and saguaro (*Carnegiea gigantea*) are dominant species. These areas are commonly dissected by broad desert washes that support desert wash woodlands. Desert wash woodland communities are dominated by palo verde (*Parkinsonia* spp.), ironwood (*Olneya tesota*), catclaw acacia (*Acacia gregii*), and desert lavender (*Hyptis emoryi*). Desert wash woodlands are considered a sensitive habitat type by the AZGFD and are treated as a key area in HMA utilization monitoring because they are the primary forage for burros during dry seasons.

Vegetation transects within the HMA key areas were monitored for the last 3 years according to the monitoring protocol. The data collected in November 2011 is reported in Appendix D. The YFO, AZGFD, and USFWS developed a vegetation monitoring protocol for the Cibola-Trigo HMA in 1999. The monitoring is intended for assessing burro utilization as an indicator of appropriate management level. Key habitat areas (desert wash woodlands) throughout the HMA were identified and transects were established in select washes. Data was collected on the 10 previously established transects. Along each transect key, forage species were assessed for grazing utilization levels. Key forage species are blue palo verde (*Parkinsonia floridum*), foothills palo verde (*Parkinsonia microphyllum*), ironwood, mesquite, and catclaw acacia. See Appendix D for transect locations and an in-depth description of sampling protocol.

3.2.2 Wildlife

There is a diversity and abundance of wildlife in the HMA, concentrated in the mountains and bajadas of the Sonoran Desert. These include white-wing (*Zenaida asiatica*) and mourning dove (*Zenaida macroura*), red-tailed hawk (*Buteo jamaicensis*), desert bighorn sheep (*Ovis canadensis mexicana*), western diamondback rattlesnake (*Crotalus atrox*), and western whiptail lizards (*Aspidoscelis tigris*). A list of special status species which may occur within the project area is available for review in the YFO RMP ROD, dated January 29, 2010.

3.2.3 Threatened and Endangered Plants and Animals

There are five federally listed threatened, endangered, or candidate species which may occur in the vicinity of the project area. They are the Yuma clapper rail (*Rallus longirostris yumanensis*), southwestern willow flycatcher (*Empidonax triallii extimus*), razorback sucker (*Xyrauchen texanus*), yellow-billed cuckoo (*Coccyzus americanus*), and Sonoran desert tortoise (*Gopherus agassizi*). The Gila monster (*Heloderma suspectum*), which may occur in the vicinity of the project area, is listed as species of concern by the USFWS.

The Yuma Clapper Rail This species is federally listed as endangered and occurs in the wetland habitat along the Lower Colorado River. Typical habitat is dense cattail or bulrush marsh found in the backwaters of the river. Suitable and occupied habitat occurs in the project vicinity.

Southwestern Willow Flycatcher (SWFL) This species is federally listed as endangered and occurs in riparian woodland habitats along river systems in the Southwest. SWFL habitat along the lower Colorado River is proposed critical habitat. Nesting pairs were historically found near

Picacho State Recreation Area; however, none have been reported south of the Bill Williams River since a 2007 survey.

Yellow-billed Cuckoo This species is listed as candidate and occurs in riparian woodland habitats along river systems in the Southwest. Nesting pairs have been reported in Cibola Conservation and Wildlife Area along the lower Colorado River in a 2011 survey.

Razorback Sucker This species is federally listed as endangered. Critical habitat for this species occurs within the Colorado River and its 100-year floodplain within the vicinity of this project.

Sonoran Desert Tortoise This species is federally listed as threatened. Critical habitat for this species occurs within the HMA. Typical habitat generally occurs in creosote bush flats in basins, mountain bajadas, and occasionally on rocky slopes.

There are no threatened or endangered plant species within the proposed project area.

3.2.4 Cultural Resources

The types of archaeological sites likely to be encountered around or near proposed trapping locations are temporary camps, sleeping circles, rock cairns, lithic and ceramic scatters, and aboriginal art. As all temporary facilities for trapping are located in wash bottoms, it is unlikely that any archaeological sites would be encountered.

A literature search of the proposed trap areas did not reveal any previously recorded cultural resources within the direct Area of Potential Effect of the undertaking; however, a preliminary visit to the trap areas revealed that a single cultural site (AZ-050-0704), identified as a prehistoric rock art site, is located in the vicinity of No Name Wash.

3.2.5 Wilderness

The proposed action would be in the vicinity of two wilderness areas designated in 1990. These are the Imperial Refuge Wilderness and the Trigo Mountains Wilderness. USFWS manages wilderness within the refuges, while YFO manages the Trigo Mountains Wilderness. Both areas are managed in accordance with the Wilderness Act of 1964 which mandates management to preserve and protect natural values and wilderness character as an enduring resource.

3.2.6 Wild Horses and Burros

The established AML for the Cibola-Trigo HMA is 165 wild burros and 150 wild horses. There are approximately 711 burros and 100 horses within the HMA in April of 2012. The BLM has historically made a continuing effort to maintain the numbers at or close to AML.

Between 1997 and 2002, the YFO removed 1,390 excess burros from the Cibola-Trigo HMA. In September 2010, the YFO removed 100 burros from the northern portion of the HMA. Due to the burro population highly exceeding the AML in the 1990s, the Arizona BLM and AZGFD formed a committee to develop a burro inventory technique for the State of Arizona in 1999.

The committee agreed to use the Simultaneous Double Count which continues to be used for big game surveys.

Research in the mid-1970s indicated wild burro populations could increase at a rate of 23 percent every 18 months, or approximately 15 percent annually (Woodward and Ohmart 483). Analysis of age classes from gathers in the Cibola-Trigo HMA from 1997 through 2010 indicates the recruitment rate is near 15 percent. The current population of wild burros is based on a population inventory conducted May 25-27, 2010. Through data gathered during the aerial simultaneous double count, a population estimate of approximately 640 burros was calculated. A 15 percent increase in population annually from the census in May would yield a population of approximately 682 burros when the gather occurred in September. This would leave a population of 582 burros post gather. If the increase of 15 percent is then added again for the 19 months between September 2010 and the planned gather date, the population would be approximately 711 burros.

Data relating to color, age, and sex are also collected for wild burros removed and shipped to a preparation facility. The overwhelming majority of burros captured are gray; other colors include brown, pink, blue, and black. No rare or unique colors have been observed within the HMA. The ages are nearly uniform up to age eight and the jack-to-jenny sex ratio is approximately 1:1. Yearlings have averaged 14.8 percent of the total of animals removed, which supports an anticipated recruitment rate of 14.8 percent annually. Blood samples have been drawn from a sample of captured burros at the Kingman Preparation Facility, in accordance with BLM policy, on two separate occasions as described in Appendix F. Overall, genetic variability in the Cibola-Trigo HMA appears to be strong.

Wild burros use different habitat throughout the year, depending on the season. In average years, wild burros disperse throughout the HMA as winter precipitation brings ephemeral forage. This dispersal, depending on the amount and timing of precipitation, usually begins around November-December and may last through May. During the hot, dry months of summer, wild burros are concentrated within a 3- to 5-mile area near permanent water. For a vast majority of the wild burros, the Colorado River is their source of water during this period. The river banks are not within the boundaries of the HMA but located on Imperial and Cibola National Wildlife Refuges. This corridor adjacent to the river is critical to the continued survival of the wild burros within the HMA.

During dry winters, wild burros are not able to disperse into uplands and remain concentrated near permanent waters. This continuous concentration, particularly under current numbers, has led to accelerated habitat degradation within the riparian habitat and other habitat within the crucial area. Much of the crucial area is located on Cibola and Imperial National Wildlife Refuges and, therefore, falls under the jurisdiction of the USFWS. The agency is not mandated to manage wild horses and burros.

During wet winters wild burros disperse from the river and move out into the desert flats and mountains. This dispersal can result in the increase of human contact with burros due to YPG and Highway 95 going through the HMA. When the wild burro population is in excess of the AML, auto collisions increase due to the lack of fencing along Highway 95.

3.2.7 Domestic Livestock

Approximately 889,700 acres of BLM-administered lands within the YFO are managed as part of grazing allotments ranging in size from 523 to 234,645 acres. All authorized use in the planning area is specific to cattle. Resource management within an allotment is based on Animal Unit Months (AUMs), where one AUM is equal to the forage required to sustain one cow-calf pair for a month (approximately 800 pounds dry forage). Annual and seasonably available species are considered when determining the AUMs available and the season of use authorized. Grazing does occur in a 26,719-acre allotment north of the proposed gather sites. This perennial allotment (Bishop Lease) is unfenced and restricted to 516 AUMs for cattle yearly. Forage for livestock is supplemented from private land or supplemental feed stuffs during the hot or dry season. Livestock control primarily consists of water or bait trapping.

3.2.8 Soils

Since the area is arid, its soils generally lack profile development. As a result, the soils lack structure and are highly susceptible to erosion. Soils are dependent on vegetation cover to remain in place and continue the geological process of soil development. Vegetation prevents raindrops from directly striking the soil and increasing runoff and erosion. A majority of the soils in the HMA are armored by gravel and rock fragments which also impede erosional processes. In the YFO area, the soils are predominantly in the order of Entisols and Aridosols.

3.2.9 Precipitation

The HMA receives an average of about 3 to 6 inches of precipitation annually. Approximately 60 percent of the precipitation occurs during the winter season. The remaining precipitation occurs as short-duration, high-intensity summer convectional thunderstorms (Cibola-Trigo HMAP 4).

3.2.10 Recreation

The public enjoys seeing wild horses and burros roaming free in the HMA. Visitor use is not well documented in areas other than those around the Colorado River due to its random nature and the fact that anyone who can drive is free to drive out and see wild animals. The area is also used for hunting and camping.

The adoption of wild horses and burros allows the public the opportunity for an up-close, more in-depth, and long-term recreational experience for interested and qualified members. In some instances, wild horse and burro adoptions have become important to the local social networks.

3.2.11 Climate Change

Climate change refers to the shifts in the Earth's long-term (decades to millennia) weather patterns as a result of changes to the concentrations of greenhouse gases in the Earth's atmosphere. A greenhouse gas is a gas that traps heat when emitted into the Earth's atmosphere.

Greenhouse gases emitted from the project area consist of carbon monoxide releases as a result of machinery operations.

3.2.12 Floodplains

The project area is subject to occasional high-intensity summer and fall rainstorms, which can lead to flash flooding. The primary hazard resulting from these storms occurs in the lower elevations and washes, especially where human intervention has changed the natural drainage system. The lower Colorado River is subject to spring flooding from snowmelt in the upper Colorado River watershed. The Colorado River Floodway Protection Act, Public Law 99-450, mandated that the Bureau of Reclamation develop maps that show designated floodway boundaries. BLM adheres to stipulations in the Act when it reviews proposed development in the floodway.

3.2.13 Migratory Birds

The greatest variety and abundance of birds occur in the riparian and wetland habitats located near the project area, particularly the backwater areas along the Colorado River. These habitats are fragmented but still contain some original native plant communities such as cottonwood, willow, mesquite, arrow-weed, cattail, and bulrush. Migratory birds found in the nearby riparian areas may include shorebirds, waterfowl, passerines, or raptors and may be found wintering or breeding near the project area. Habitat for the California brown pelican and great egret exists within the project area within riparian and marsh habitat which occurs within 300 to 600 feet of the project boundaries.

3.2.14 Non-Native Invasive Species

Noxious and invasive weeds are listed by State and Federal law. They are usually considered exotics and are harmful or potentially harmful to agriculture, navigation, fish, wildlife, or public health. Invasive weed species have a variety of origins, including use as grain seed, use in landscaping, livestock feed where horses are kept, boat ballast, packing material, reclamation, and ornamental plants.

Invasive non-native species displace native plants as they compete for space, water, light, and nutrients and may eventually alter the ecosystem. Their distribution varies in response to implemented control measures. The most common invasive species found in the region around the project area are salt cedar, giant salvinia, Mediterranean and Bermuda grasses, Sahara mustard, and lead plant.

4.0 ENVIRONMENTAL CONSEQUENCES

The Proposed Action and Alternative 1 will not impact air quality, areas of critical environmental concern, prime or unique farmlands, flood plains, hazardous or solid waste, ground and/or drinking water, wild and scenic rivers, Native American Religious Concerns, or Environmental Justice. When reading this section, please note that where the effects of the

Proposed Action and Alternative 1 differ, each alternative is discussed separately. Where the effects on a given resource are common to the two alternatives, the discussion of environmental consequences applies to both.

4.1 Impacts from the Proposed Action and Alternative 1

4.1.1 Vegetation

Implementation of the Proposed Action would have a positive impact on upland and riparian vegetation within the critical area. A combination of excess animals and drought conditions over the last 10 years has resulted in severe utilization within the critical area. Removal of 350 wild burros would dramatically reduce use levels and result in attaining the utilization objective from the HMA plan. Recovery of degraded habitat would be enhanced through the implementation of the Proposed Action as described in Appendix E.

This is based on the results from the 2010 monitoring survey. The results from the survey indicate that for all 10 transects, overall utilization exceeds the objective 20 percent level set, an objective agreed upon by the coordination committee to be an acceptable level of use. Grazing activity causing hedging (assessed as the browse line) appears to be consistent with natural growth forms in all 10 transects. Appendix F reports the results from the survey as well as data summaries for all transects, combined and individually.

Because the key species in the sample show signs of overgrazing, it is likely that burro population density is greater than that which can be sustainably supported by the HMA. Based on this fact and the results of the monitoring survey, the consequences of the Proposed Action would likely reduce grazing stress in sensitive habitat areas and allow for habitat recovery.

4.1.2 Wildlife

Initial temporary and minor disturbances to wildlife resulting from the Proposed Action could be expected. Additional temporary disturbances to wildlife may occur during operations to release the gelded jacks. No significant, detrimental impacts to wildlife, wildlife corridors, or wildlife habitat are anticipated as a result of the Proposed Action. Positive impacts are expected from overall habitat improvement due to reduced forage utilization. There is a potential that numbers of desert mule deer and desert bighorn sheep may increase as a result of improved forage conditions.

4.1.3 Threatened and Endangered Plants and Animals

Capture and removal activities would not occur in or near habitat for the Sonoran desert tortoise, and the Proposed Actions would have no impact on them.

Capture and removal activities will occur adjacent to or within Yuma clapper rail marsh habitat and razorback sucker critical habitat. Initial temporary noise disturbances may occur, but other suitable habitat is available nearby. Additional temporary disturbances to the Yuma clapper rails

and razorback sucker habitat may occur during operations to release the gelded jacks, depending on release location.

Initial Southwest willow flycatcher proposed critical habitat and yellow-billed cuckoo migratory habitat may be temporarily impacted by noise. Additional temporary disturbances to the Southwest willow flycatcher and its proposed critical habitat and the yellow-billed cuckoo may occur during operations to release the gelded jacks, depending on release location. Due to the estimated time of the gather and projected release dates, neither species should be affected. A limited amount of migratory southwest willow flycatcher proposed critical habitat will be removed to allow for watercraft loading of animals. According to BLM Manual 6840, because it is not likely to adversely affect the proposed critical habitat, no consultation with the USFWS is required. The vegetation removed will immediately re-sprout to recreate the suitable migratory habitat removed.

4.1.4 Cultural Resources

Some impacts to cultural resources may occur as a result of herding wild burros to a specific trap site. However, these impacts are not anticipated, as trap sites are generally situated in drainage bottoms where few archaeological sites are found. A BLM archaeologist will conduct a Class III cultural resource inventory of the trap areas when the exact locations are determined prior to the gathers. Trap and other operational locations would be reviewed to ensure such sites would not be impacted prior to use. Specific management actions have been developed as part of the proposed action to minimize impacts to the cultural resources area.

One prehistoric rock art site, AZ-050-0704, is located in the vicinity of No Name Wash and could be indirectly affected by stray animals should this trap site be used. Mitigation measures to fence the site to prevent stray animals will be implemented should the trap site be utilized.

4.1.5 Wilderness

No adverse impacts to wilderness resources and values are expected from the Proposed Action. There would be short-term impacts to solitude during herding operations which may occur over wilderness. While implementing the proposed action, low-level over flights would be minimal and temporary; no facilities, motorized vehicles, or other uses are proposed within wilderness. In consideration of wilderness resources, capture operations minimize the potential for wilderness impacts.

4.1.6 Wild Horses and Burros Proposed Action

4.1.6.1 Proposed Action

In the short-term, 350 wild burros would be removed from the HMA and processed into the adoption program. These animals will suffer stress related to the herding, trapping, transportation, and hauling associated with these activities as described in Appendix D. Wild burros adapt quickly to new environments and/or situations, so the stress would be temporary. Those burros remaining would benefit immediately from reduced competition for habitat and

over the long-term from improved habitat conditions. The Proposed Action would not compromise the genetic viability of the herd. Management of the wild burros within the Cibola-Trigo HMA at the AML would maintain a healthy, viable population for future generations.

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

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

Of the 400 animals gathered, 50 jacks will be gelded and returned to the HMA in selected locations. The process for selecting jacks to be gelded is described in appendix C. Although the gelding process is very stressful to jacks, precautionary actions will be implemented to lessen these impacts on the castrated jacks.

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

At short-term corral facilities, a minimum of 700 square feet is provided per animal. Mortality at short-term holding facilities averages approximately 5 percent per year (GAO-09-77, page 51) and includes animals euthanized due to a pre-existing condition; animals in extremely poor

condition; animals that are injured and would not recover; animals which are unable to transition to feed; and animals which are seriously injured or accidentally die during sorting, handling, or preparation.

Adoption applicants are required to have at least a 400-square-foot corral with panels that are at least four-and-a-half feet tall for all burros. Applicants are required to provide adequate shelter, feed, and water. The BLM retains title to the burro for one year, and the burro and the facilities are inspected to ensure the adopter is complying with the BLM's requirements. After 1 year, the adopter may take title to the burro after an inspection from a humane official, veterinarian, or other individual approved by the authorized officer, at which point the burro becomes the property of the adopter. Adoptions are conducted in accordance with 43 CFR 5750.

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

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

While humane euthanasia and sale without limitation of healthy burros for which there is no adoption demand is authorized under the Wild Free Ranging Horse and Burro Act, Congress prohibited the use of appropriated funds between 1987 and 2004 and again in 2010 for this purpose. It is unknown if a similar limitation will be placed on the use of FY 2012 appropriated funds.

The Proposed Action does not include removal of wild horses. There may be some negative impacts to bands in the vicinity of capture activities; however, these impacts would disappear once operations are ceased. Overall, impacts to wild horses would be positive as habitat conditions improve.

4.1.6.2 Alternative 1

Alternative 1 allows for the total 400 wild burros gathered to be removed from the HMA. Under this alternative, the added stress from gelding 50 jacks would not be an issue to the wild burros. This alternative also allows for 400 wild animals to be processed into the adoption program. All other impacts would be identical to the proposed action.

4.1.7 Domestic Livestock

Domestic livestock, if present in the area during the gather, could be temporarily disturbed by noise and vehicles. However, during the time of year when the gather is to take place, domestic livestock in the Bishop Allotment are usually located on private land. In the long term, there are no anticipated impacts to domestic livestock from the effects of the gather because livestock's dietary selection is different than that of wild burros during key foraging seasons.

4.1.8 Soils

Short-term impacts to soils during gather operations would be minor, caused by concentrations of animals and by vehicles staging for the gather. The ephemeral washes where gathers are to take place are gravelly and would not exhibit signs of the gather because gravel is frequently disturbed by seasonal events such as localized flooding after rain events.

4.1.9 Recreation

Recreational visitors to the area would not have access to the gather sites during the gather unless previously arranged. Portions of the road accessing gather sites could be temporarily closed during gather operations. This would be short term during staging or when contractors and personnel are entering or exiting the area. If the herd size is reduced, there could be fewer opportunities for burro sightings by recreationists.

4.1.10 Climate Change

The BLM requires that the proposed contractor have the responsibility for ensuring that all operations are properly permitted with the appropriate agencies and that the operations are in compliance with all mobile and stationary source guidelines. The Arizona Air Quality Division within the Arizona Department of Environmental Quality has jurisdiction over present and future sources of air pollution. Because of the small size of the project, significant GHG emissions are not anticipated. The project would have a contribution to emissions; however these emissions are not anticipated to significantly contribute to climate change on a regional or global scale.

4.1.11 Floodplains

The natural drainage system around washes and sloped areas would not be affected by gather operations. However, the removal of excess burros would have a positive impact on drainage systems by lessening soil compaction. Fewer burros would also decrease rill formation caused by trailing.

4.1.12 Migratory Birds

Migratory birds would be most prevalent within the marsh habitat. Noise disturbance from the helicopter and watercraft activities may push birds into other nearby habitat. Early spring operations would pose less of a disturbance due to quantities of migratory birds present.

Additional temporary disturbances to migratory birds may occur during operations to release the gelded jacks, depending on release location.

4.1.13 Non-Native Invasive Species

Implementation of the Proposed Action may result in an expansion of invasive species to previously disturbed and undisturbed areas. Washing of vehicles and equipment before entry into the proposed project area may prevent the spread or introduction of invasive, non-native species.

The BLM coordinates with local governments to conduct an active program for control of invasive species. Washing of vehicles and annual monitoring and spraying, along with site-specific mitigation, are applied as approval conditions for authorizations of surface-disturbing activities to prevent the spread or introduction of invasive, non-native species.

4.2 Impacts from No Action Alternative

Under the No Action Alternative, no wild burros would be removed. Continued overuse of vegetation within the critical area would continue; and a thriving, natural ecological balance would not be obtained. The current wild burro population would continue to grow, and current monitoring-use levels would increase. Resource condition objectives in the HMAP would not be achieved.

Auto collisions with wild burros along Highway 95 would increase due to wild burros searching for forage in areas inhabited by humans. Public safety and the safety of wild burros would become a major issue.

4.3 Cumulative Impacts

4.3.1 Cumulative Impacts for Proposed Action

Cumulative effects were analyzed within the HMA for each resource for a 10-year planning horizon. The removal of 350 burros, together with past and reasonably foreseeable future actions to manage the herd, would not appreciably alter or affect the wild burro herd in the HMA. Wild burros continue to be healthy and genetically diverse when managed at a population level consistent with the Cibola-Trigo HMAP.

4.3.2 Cumulative Impacts for Alternative 1

Cumulative effects were analyzed within the HMA for each resource for a 10-year planning horizon. The removal of 400 burros, together with past and reasonably foreseeable future actions to manage the herd, would not appreciably alter or affect the wild burro herd in the HMA. Wild burros continue to be healthy and genetically diverse when managed at a population level consistent with the Cibola-Trigo HMAP.

5.0 CONSULTATION AND COORDINATION

5.1 List of Preparers

John Hall, Project Lead
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Archaeologist, BLM YFO

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Realty Specialist, BLM YFO

Ron Morfin
Team Lead, Wilderness and Recreation, BLM YFO

Karen Reichhardt
Assistant Field Manager, BLM YFO

5.2 Distribution

A preliminary EA will be distributed to the public for review and comment from Feb?????. A press release will be issued to the local and state media informing the public that the EA was prepared and available to the public for comment during the comment period. Copies of the EA will be posted on the BLM Arizona website and available at the BLM YFO and the Arizona State Office located in Phoenix, AZ. The EA will be distributed to the following organizations and individuals:

Federal/State/County Governments/Interested Public

Animal Protection Institute of America

Animal Welfare Institute

Arizona Game and Fish Department

Cocopah Indian Tribe

Colorado River Indian Tribes

Fort Yuma Indian Tribe

Humane Society of the United States

International Society for the Protection of Mustangs and Burros

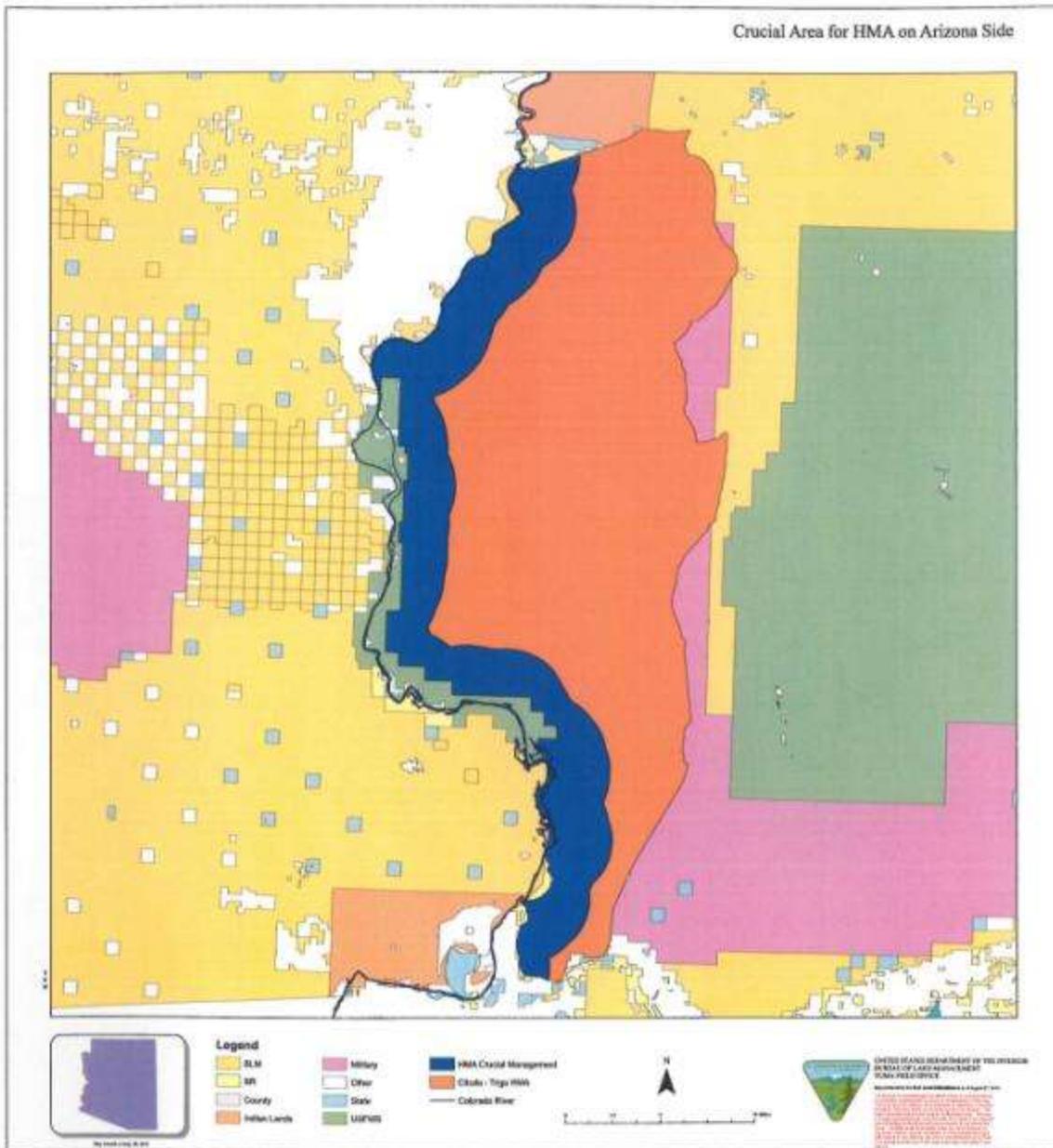
Mr. Craig C. Downer

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Ms. Deniz Bolbol
Julianne French
Ms. Nancy Babcock
Pryor Mountain Wild Mustang Center
The Fund for Animals, Inc.
U. S. Army Yuma Proving Ground
U.S. Fish and Wildlife Service, Imperial and Cibola National Wildlife Refuges
Wild Horse Organized Assistance
Yuma Valley Rod and Gun Club
Ginger Kathrens (the Cloud Foundation)
Mr. D.J. Schubert

APPENDIX A- Map of Cibola-Trigo HMA



Appendix B- Photographs of Burro Use

December 20, 2010

Bark stripping and hedging of Blue Palo Verde in Paradise Valley.





December 30, 2010
“Lollypopping” of IronWood at Paradise Valley



Appendix C

Standard Operating Procedures for Field Castration (Gelding) of Jacks in Cibola-Trigo HMA January 2012

Gelding would be performed with general anesthesia and by a veterinarian. The combination of pharmaceutical compounds used for anesthesia, method of physical restraint, and the specific surgical technique used would be at the discretion of the attending veterinarian with the approval of the authorized officer (I.M. 2009-063).

Pre-surgery Animal Selection, Handling and Care

1. Jacks selected for gelding would be greater than 6 months of age and less than 10 years of age.
2. All jacks selected for gelding would have a Henneke body condition score of 4 or greater. No animals which appear distressed, injured, or in failing health or condition would be selected for gelding.
3. Jacks would not be gelded within 36 hours of capture, and no animals that were roped during capture would be gelded at the temporary holding corrals for rerelease.
4. Whenever possible, a separate holding corral system would be constructed on site to accommodate the jacks that are gelded. These gelding pens would include a minimum of three pens to serve as a working pen, recovery pen(s), and holding pen(s). An alley and squeeze chute built to the same specifications as the alley and squeeze chutes used in temporary holding corrals (solid sides in alley, minimum 30 feet in length, squeeze chute with non-slip floor) would be connected to the gelding pens.
5. When possible, jacks selected for gelding would be separated from the general population in the temporary holding corral into the gelding pens prior to castration.
6. When it is not possible or practical to build a separate set of pens for gelding, the gelding operation would only proceed when adequate space is available to allow segregation of gelded animals from the general population of burros following surgery. At no time would recently anesthetized animals be returned to the general population in a holding corral before they are fully recovered from anesthesia.
7. All animals in holding pens would have free access to water at all times. Water troughs would be removed from working and recovery pens prior to use.
8. Prior to surgery, animals in holding pens may be held off feed for a period of time (typically 12-24 hours) at the recommendation and direction of the attending veterinarian. The final determination of which specific animals would be gelded would be based on the professional opinion of the attending veterinarian in consultation with the Authorized Officer.

Gelding Procedure

1. All gelding operations would be performed under a general anesthetic administered by a qualified and experienced veterinarian. Jacks would be restrained in a portable squeeze chute to allow the veterinarian to administer the anesthesia.

2. The anesthetics used would be based on a xylazine/ketamine combination protocol. Drug dosages and combinations of additional drugs would be at the discretion of the attending veterinarian.
3. Animals may be held in the squeeze chute until the anesthetic takes effect or may be released into the working pen to allow the anesthesia to take effect. If recumbence and adequate anesthesia is not achieved following the initial dose of anesthetics, the animal would either be re-dosed or the surgery would not be performed on that animal, at the discretion of the attending veterinarian.
4. Once recumbent, rope restraints or hobbles would be applied for the safety of the animal, the handlers and the veterinarian.
5. The specific surgical technique used would be at the discretion of the attending veterinarian.
6. Flunixin meglamine or an alternative analgesic medication would be administered prior to recovery from anesthesia, at the professional discretion of the attending veterinarian.
7. Tetanus prophylaxis would be administered at the time of surgery.
8. All geldings would be allowed to recover from anesthesia within the working pen or the adjacent recovery pen. Once fully recovered, each gelding would be transferred to the gelding holding pen(s). Animals would remain segregated from intact jacks for at least 24 hours following surgery, or until their release.
9. Any jack determined or believed to be a cryptorchid would be allowed to recover from the anesthesia, marked for later recognition, and shipped to a BLM prep facility for appropriate surgery or euthanasia if it is determined that they cannot be fully castrated. At no time would a partial castration be performed. Because cryptorchidism is an inherited condition, at no time should cryptorchid jacks be released back into an HMA.
10. Gelded jacks would be marked in such a way that their condition and subsequent activities could be monitored.

Post-operative handling, care and monitoring

1. All animals that have fully recovered from anesthesia would have free access to water and hay prior to subsequent release.
2. All geldings would be held at least overnight for observation. Animals would not be left unattended for at least 3 hours following the procedure.
3. The attending veterinarian would observe all animals 12 hours after the procedure and again 24 hours following the procedure and prior to release. Geldings would be released near a water source in their home range approximately 24-48 hours following surgery.
4. Gelded animals would be monitored for approximately 7-10 days post-surgery.
5. Animals found on the range with serious gelding complications would either be recaptured for treatment or euthanized as an act of mercy.
6. Observations of gelding behavior would be recorded during routine resource monitoring work. Such observations would include but may not be limited to social interactions other geldings, habitat utilization, and activities around key water sources.

APPENDIX D -
Cibola-Trigo Herd Management Area
Burro Gather Plan

PREPARED BY
John Hall
Wild Horse and Burro Specialist

Yuma Field Office
January 2012

I. Purpose and Need

The Yuma Field Office (YFO) is charged with the responsibility to maintain a healthy, viable population of wild burros in the Cibola-Trigo Habitat Management Area (HMA) and, to accomplish this, is proposing to remove excess wild burros. The removal of wild burros is necessary to restore and maintain a balance with their habitat. Wild burros were captured and removed annually through 1989 to maintain the population near the Appropriate Management Level (AML). From 1991 through 1996, there were few removals. During this time frame, the wild burro population continued to increase. From 1995 through September 1997, drought conditions prevailed throughout southwest Arizona. Severe habitat degradation occurred in concentrated areas adjacent to the Colorado River because the wild burro population was over AML during the drought. Recovery after the emergency removal of 437 burros in August 1997 was short-lived as the winter of 1998-99 was also dry, concentrating wild burros along the Colorado River.

Monitoring data collected during the winter of 1999 indicates overuse of key forage species. An aerial inventory in July 1999 estimated the population of wild burros to be approximately 749. In response to continued habitat degradation in Paradise Valley, 137 wild burros were removed after the July inventory. Also, a total of 650 burros were removed during three separate gather operations between May 2000 and May 2002. A 2010 inventory estimated the population of wild burros to be approximately 596 wild burros. Since the inventory in 2010, 128 burros have been removed through a gather in September 2010 and various bait trappings. The annual population increase of wild burros is 15 percent; therefore, the current population in April 2012 would be approximately 711. Excessive utilization, habitat degradation from recent drought occurrences, and a population well in excess of the AML support a removal of excess wild burros.

II. Area of Concern

The proposed gather is located on lands administered by Imperial National Wildlife Refuge, Cibola National Wildlife Refuge, the Bureau of Land Management, and Yuma Proving Ground within the Cibola-Trigo HMA, Arizona.

III. Time Frame

The burros would be removed beginning April 1, 2012. The objective is to remove 400 wild burros found within the Cibola-Trigo HMA, which is anticipated to take up to 7 days. Of these 400 burros, the Proposed Action is to geld and release 50 jacks back into the Cibola-Trigo HMA.

IV. Capture Methods

Capture operations would be coordinated by the BLM and performed under the National Capture Contract. Wild burros would be captured using one or more of the live-capture techniques described below, with the preferred method being herding to a wing trap.

A. HELICOPTER HERDING OF ANIMALS TO A WING TRAP: A site is selected where

wild burros would travel by instinct. The area would typically be in the bottom of a drainage using natural features as much as possible. A portable corral is set up with long wings of burlap stretched out, suspended from posts. The wings form a V with the corral situated in the apex of that V. The animals view the burlap as a solid barrier or wall with the only opening at the end of the trap. Once the helicopter moves the wild burros into the mouth of the V, wranglers on horseback move in behind the burros and move them into the corral. Once in the corral, the gate is shut and the burros are caught. The captured burros are then transported to a holding facility.

- B. **BAIT AND/OR WATER TRAPPING:** In bait or water trapping, burros would be enticed into a temporary corral which is constructed with a one-way gate; the animals may enter but not exit the corral. The one-way gate, or triggers, are locked into the open position for a few days to let the burros become accustomed to entering and exiting the corral to get the water or bait hay. The triggers are then closed and burros entering the corral may not exit. Bait and water trapping can be effective but relatively slow, and has the advantage of being the least stressful of the live-capture methods for burros. However, due to the remoteness of the capture area and lack of access, bait trapping would not be used.

Wing traps would be constructed of portable panels for the corral with wings of burlap hung on steel fence posts leading away from the corral. When capture is completed at a specific site, all materials would be removed. Hazards such as fences, cliffs, and old mine shafts would be scouted prior to herding animals toward any capture location.

Wild burros in the lower deserts do not form strong band associations, so stress associated with splitting social groups is not an issue. Wild burros foal year round, so avoidance of a peak foaling season is not a consideration. Jennies and foals would be allowed to travel together and are rarely separated during capture operations.

Capture/removal operations are expected to have little physical impact on the wild burros. Very few burros are injured when the capture methods outlined above are employed. Based upon past records, mortality is expected to be less than one percent, which is very low compared to most wildlife capture/transport operations.

V. Standard Operating Procedures

Following the standard operating procedures listed below minimizes injuries and ensures safe, humane treatment and handling of wild burros during herding, capture, holding, and transportation.

1. Handling of wild burros would be kept to a minimum.
2. Burros would not be herded more than 7 miles nor faster than 10 m.p.h. by the helicopter.

3. All herding would occur during daylight hours.
4. All herding activities would cease once the temperature reaches 105 degrees Fahrenheit. During past capture operations in the Cibola-Trigo HMA during similar seasons, operations ceased by approximately 1100 hours daily. Capture operations during the winter months are not affected by temperatures.
5. Burros would be allowed to choose their own route to the capture area, to the extent feasible, and would not be pushed to the extent that injury results or foals are abandoned. Should the animals exhibit signs of fatigue, or several foals begin falling behind, herding would be discontinued to allow the animals to rest.
6. Jennies and foals would be kept together.
7. Captured animals which are obviously lame or sick and cannot be transported to temporary holding facilities without causing undue pain or suffering to the animal would be dispatched at the capture site, in accordance with BLM Euthanasia Policies. All other animals, including old burros, would be transported to Ridgecrest California.
8. A veterinarian would be at the capture site during capture operations.
9. Capture locations and activities would be closely coordinated with wildlife staff to avoid habitats where special status species occur and with cultural staff to avoid known cultural sites.
10. Temporary traps and corrals would be removed and sites would be left clean of all debris following completion of gathering operations. Surface disturbance at each trap location would be less than 1 acre.

VI. Transportation of Captured Animals

After capture, wild burros would be transported to temporary holding facilities by trailer. Temporary corrals would be used as a collection point. Burros held at temporary corrals for more than 24 hours would have shade and water available and be fed. Jennies and jennies with foals would be separated from the jacks. When enough animals have been gathered, they would be shipped by straight deck trailer to adoption preparation facilities at Ridgecrest California.

Captured animals from the Paradise Valley and No Name Wash would be transported by boat to a temporary holding facility downriver from the trap location. The boat used for transportation would be approved by the Contracting Officer's Representative before gather operations.

Appendix E

Cibola-Trigo Herd Management Area Field Monitoring Guide and Sampling Methodology

1. Project Information

This guide is a field reference for performing vegetation monitoring of key areas utilized by wild horses and burros in the Cibola-Trigo Herd Management Area (HMA). The guide is to be used with two field forms: the “Modified Extensive Browse” form, and “Transect Location and Documentation Data” form (inserts 3 and 4 of this document). Refer to this guide to obtain specific information regarding transect location and data collection.

The Wild Horse and Burro Subcommittee developed this guide as part of the Trigo Mountains-Imperial Wildlife Refuge Cooperative Management Plan (T-I CMP). Members of the subcommittee are comprised of U. S. Bureau of Land Management (BLM) Yuma Field Office (YFO), Imperial National Wildlife Refuge (INWR) and Cibola National Wildlife Refuge (CNWR) managed by U.S. Fish and Wildlife Service (Service), U. S. Army Yuma Proving Ground, and Arizona Game and Fish Department (AZGFD). Reference the T-I CMP for further information regarding the presence of wild horses and burros in the area and the need for monitoring.

The subcommittee initially established 10 permanent transects to monitor key species utilized by wild horses and burros near the Colorado River where animals tend to concentrate during hot or dry conditions. Transects are placed in representative areas where grazing/browsing pressure is heaviest. Annual monitoring is needed to detect change and condition in key species utilized by the herd.

2. Management Objective

The objective is to define the thriving natural ecological balance for the Cibola-Trigo HMA and to ensure management actions achieve and maintain that balance.

3. Sampling Objective

The sampling methodology is a modification of the extensive browse method described in *Utilization Studies and Residual Measurements* (Interagency Technical Team, 1996). For further reference on current vegetation monitoring methodologies, consult *Measuring and Monitoring Plant Populations* (Elzinga, Salzer, and Willoughby, 1998) and *Inventory and Monitoring of Wildlife Habitat* (Cooperrider, Boyd and Stuart, 1986).

The subcommittee developed the modified extensive browse method based on the extensive browse method, which is rapid and can be used on all browse species. The modified extensive browse method records percent, current year utilization, age class, hedging/form class, and bark stripping.

The modified extensive browse method is an adaptation of the extensive browse technique to more closely fit the unique characteristics of the Sonoran Desert. The trees of the Sonoran Desert do not demarcate current year's growth. This makes estimating utilization of current year's growth very difficult to impossible. Therefore, utilization is judged by current use of branches less than 1 centimeter in diameter. Additional modifications include establishing permanent transects and modifying data collection procedures.

Limits of the Study Area

The study area is in the Cibola-Trigo HMA. Reference the T-I CMP map of the HMA. Transects are placed in key areas, adjacent to the Colorado River where utilization is heaviest.

Sampling Unit

The sampling unit is comprised of the Riverbend or Carrizo soil type found in washes near the Colorado River. These sites will fall within the Sandy Bottom Ecological Site. This is where key species predominately are and wild horses and burros tend to concentrate during droughts and/or summer months. The soils are representative areas in the sampling unit.

Sampling Time

Data collection is to occur annually after burros and horses have dispersed into the uplands as winter precipitation begins. Collect data in late fall/winter (November, December, January, or February). Should no winter precipitation occur, transects can be read as late as March 1 of each year.

4. Location and Layout of the Study Area

Transect locations are listed in Table 1 and shown on the transect location map. The beginning point for each transect is marked by a T post.

Table 1. General locations of each transect; 7.5 minute quadrangle name and UTM position of marker stake.

Transect Locations			
	Transect Name	7.5 Minute Map Name	Legal Location UTM
1	Los Angeles Wash	Imperial Reservoir/Red Hill H432114/A433114	3651960.5029, 737973.0579
2	McAllister Wash	Red Hill A433114	3655849.7824, 734425.3625
3	South Yuma Wash	Picacho A533114	3658141.576, 731317.0464
4	Arrastra Wash	Picacho A533114	3657958.1579, 725689.0298

Transect Locations			
	Transect Name	7.5 Minute Map Name	Legal Location UTM
5	Red Cloud Wash	Picacho SW A633114	3659869.6037, 719692.2119
6	Paradise Valley	Picacho SW A633114	3666172.6532, 714866.3471
7	No Name (North of Light House and Draper Lake)	Picacho NW B633114	3670356, 716477.1551
8	Clip Wash	Picacho NW B633114	3675991.3668, 717076.6132
9	Lopez Wash	Picacho NW B633114	3679785.7137, 717587.7454
10	Gould Wash	Palo Verde/Mule Wash D633114/D533114	3700012.5289, 720248.2384

5. Equipment

Transect Location and Documentation form (insert 3)

Modified Extensive Browse form (insert 4)

Digital Camera

Compass

GPS Unit

Flag Markers on Wire

Transect Location Map



Detailed Description of Sampling Process

Photograph Transect

Take at least three photos of each transect. Take the first photo from a photo point (nearby ridge). Take a second photo from the transect marker stake pointing down the length of the transect. Use the transect bearing (compass bearing) recorded on the previous “Transect Location and Documentation” form. Take a third photo of anything you find unusual or distinctive about the vegetation condition. Record photo locations with a GPS position on the “Transect Location and Documentation Data” form.

Pace Interval – Sample Plants

Note length of transect and total number of samples to determine pace interval between each sample point. Each transect length is noted on the respective “Transect Location and Documentation Data” form. The length is either 1 mile or the length of the wash if less than 1 mile and will include 100 points along this length. Divide transect length by 100 (the number of points on a transect) to determine the number of paces between sampling points. The transect starts at the T post marking the beginning of the transect. It is desirable to have two pin flags: one to mark the current point and one to mark the next point. This ensures that, while searching for key species, you don’t move into the area of the next sampling point. Data collection begins at the point marked by the pin flag.

At the sampling point, all data is collected for the nearest perennial plant whether or not it is one of the key species. Then, the nearest plant of each key species is sampled. To limit search time, and to ensure that the search stays within the plot, search for key species is restricted to a band of 25 meters on either side of the center line between the current sample point and the next sample point. All data discussed in the following sections is collected for the nearest perennial plant and for all key species found within the 25-meter band described above.

Key species

ACGR	catclaw acacia	<i>Acacia greggii</i>
OLTE	ironwood	<i>Olneya tesota</i>
PAFL	blue palo verde	<i>Parkinsonia florida</i>
PAMI	little leaf palo verde	<i>Parkinsonia microphylla</i>
PRSP	mesquite	<i>Prosopis</i> spp.

Percent Utilization

Estimate percentage of leaders (stem ends less than 1 centimeter diameter) browsed during the last year. Look at the entire plant below 2 meters. Count 10 leaders and subtract the number stems grazed during that year. If the plant is large, more leaders may be counted. Estimate the average after the whole plant is observed. Do not count utilization over 1 year old. If grazing is more than 1 year old, the stem end should be grey and scarred. Current year utilization will not exhibit as much scarring.

Age Class

Mark one of the following categories for each plant.

S – “seedling”

Y – “young”

M – “mature”

D – “dead” or “decadent”

Hedging/Form Class

Hedging/form class is the volume of branches over 1 centimeter diameter removed by browsing in the current year. Refer to the photo guide (insert 2) to attain consistency measuring hedging/form class. The measurement is a percentage of stems no longer available on the tree or shrub below 2 meters height (about 6 feet).

Bark Stripping

If you see fresh bark stripping from the current year, mark “yes” in the designated box for each plant sampled. Mark “yes” in the “old” column if you find older bark stripping. Old bark stripping shows scarring and is bleached grey.

Other Plants on Transect

Use the space at bottom of the form to list other plants observed on the transect.

Abbreviation Codes of Common Shrubs and Trees

The following table is a list of perennial plants potentially occurring on the transects. For a more detailed plant list see Bern (1995).

Table 2. Abbreviation Codes of Common Shrubs and Trees Expected in the Study Area

Family	Binomial	Common Name	Code
ACANTHACEAE	<i>Justicia californica</i>	hummingbird bush	JUCA
ASCLEPIADACEAE	<i>Asclepias subulata</i>	rush milkweed	ASAL
ASTERACEAE	<i>Ambrosia ambrosioides</i>	ambrosia leaf burr ragweed	AMAM
	<i>Ambrosia dumosa</i>	white bursage	AMDU
	<i>Ambrosia ilicifolia</i>	hollyleaf bur ragweed	AMIL
	<i>Baccharis salicifolia</i>	mule’s fat	BASA
	<i>Baccharis sarothroides</i>	desertbroom	BASA
	<i>Bebbia juncea</i>	sweetbush	BEJU
	<i>Brickellia atractyloides</i>	spearleaf brickellbush	BRATA
	<i>Brickellia coulteri</i>	Coulter’s brickellbush	BRCO
	<i>Encelia farinosa</i>	brittlebush	ENFA
	<i>Hymenoclea salsola</i>	white cheesebush	HYSA
	<i>Palafoxia linearis</i>	palafoxia	PALI

	<i>Peucephyllum schottii</i>	Schott's pygmy cedar	PESC
	<i>Pluchea sericea</i>	arrow-weed	PLSE
	<i>Stephanomeria exigua</i>	white-plume wire- lettuce	STEXE
BIGNONIACEAE	<i>Chilopsis linearis</i>	desert willow	CHLIA
CHENOPODIACEAE	<i>Atriplex canescens</i>	fourwing saltbush	ATCA
	<i>Atriplex hymenelytra</i>	desertholly	ATHY
	<i>Atriplex lentiformis</i>	big saltbush	ATLEL
	<i>Atriplex linearis</i>	thinleaf fourwing saltbush	ATLI
FABACEAE	<i>Acacia greggii</i>	catclaw acacia	ACGR
	<i>Olneya tesota</i>	ironwood	OLTE
	<i>Parkinsonia aculeata</i>	Jerusalem Thorn	PAAC
	<i>Parkinsonia florida</i>	blue palo-verde	PAFL
	<i>Parkinsonia microphylla</i>	little-leaf palo-verde	PAMI
	<i>Prosopis glandulosa</i> var. <i>torreyana</i>	honey mesquite	PRGLT
	<i>Prosopis velutina</i>	velvet mesquite	PRVE
	<i>Psoralea arguta</i>	smoketree	PSSP
	<i>Senna covesii</i>	hairysensitive plant	SECO
FOUQUIERIACEAE	<i>Fouquieria splendens</i>	ocotillo	FOSP
KRAMERIACEAE	<i>Krameria erecta</i> SYN <i>K. parvifolia</i>	small-flower ratany	KRER
	<i>Krameria grayi</i>	white ratany	KRGR
LAMIACEAE	<i>Hyptis emoryi</i>	desert lavender	HYEM
	<i>Salazaria mexicana</i>	Mexican bladder-sage	SAME
MALPHIGIACEAE	<i>Janusia gracilis</i>	slender janusia	JAGR
RHAMNACEAE	<i>Colubrina californica</i>	las animas nakedwood	COCA
	<i>Condalia globosa</i>	bitter snakewood	COGL
	<i>Ziziphus obtusifolia</i>	lotebush	ZIOB

RUTACEAE	<i>Thamnosma montana</i>	turpentine-broom	THMO
SALICACEAE	<i>Populus fremontii</i>	Fremont's cottonwood	POFR
	<i>Salix exigua</i>	sandbar willow	SAEX
	<i>Salix gooddingii</i>	Goodding willow	SAGO
SIMAROUBACEAE	<i>Castela emoryi</i>	thorn of christ	CAEM
SOLONACEAE	<i>Lycium andersonii</i>	red-berry desert-thorn	LYAN
	<i>Lycium cooperi</i>	peachthorn	LYCO
	<i>Lycium fremontii</i>	fremont's desert-thorn	LYFR
	<i>Lycium parishii</i>	parish's desert-thorn	LYPA
TAMARICACEAE	<i>Tamarix aphylla</i>	athel tamarisk	TAAP
	<i>Tamarix chinensis</i>	five-stamen tamarix	TACH
ZYGOPHYLLACEAE	<i>Larrea tridentata</i>	creosote bush	LATR

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Appendix F

1999-2004 Cibola-Trigo HMA Monitoring/Management Summary

Introduction

The Cibola-Trigo HMA (Herd Management Area), was initially identified in 1973. In 1980, the burro population was estimated at 1,200 animals in the HMA. In the same year, the Cibola-Trigo HMAP (Herd Management Area Plan) was completed. The HMAP established the AML (Appropriate Management Level) at 165 wild burros. There were two population censuses, one conducted in 1984 and one in 1989. Throughout the 1980s, regular gathers maintained the population between 250 and 400 burros. Due to budget and other constraints, few wild burros were gathered from 1990 through 1996, animals removed were only nuisance animals. In the early 1990s, the population grew rapidly, aided by extremely wet years in 1993 and 1994. By 1996, the expanding population of burros, and the beginning of a drought cycle, created overuse of the habitat within the HMA. In January 1996, the BLM and Imperial National Wildlife Refuge initiated a joint planning process for Wilderness management along the Colorado River on the Refuge and the Trigo Mountains Wilderness. Wild burros were a major issue in this plan, and became a very volatile issue. A "Burro Subgroup" was formed to develop monitoring protocols and other management activities. In 1998 and 1999, a monitoring protocol was developed in collaboration with personnel from the Refuge, Arizona Game and Fish Department, Yuma Proving Ground, and BLM. Although the Imperial/Trigo Plan has not been completed, several agreements and commitments have been reached, and have guided management of wild burros on the Cibola-Trigo HMA since 1999. These include:

- I. The AML for wild burros will remain at 165.
- II. Monitoring data will be collected annually in accordance with the monitoring protocol and will be used to periodically review the AML and guide removal decisions.
- III. All portions of the HMA east of US 95 will revert to Herd Area Status and all wild horses and burros would be removed due to safety concerns.
- IV. The Imperial and Cibola National Wildlife Refuges are recognized as not being within the boundaries of the HMA, however, because of their location adjacent to the river, wild burro use is allowed. Such use will be maintained at minimum levels, with the objective being 20% use on key species at established monitoring sites.

Monitoring Data

Vegetation

Vegetation monitoring transects were established in 1999 in 10 major washes adjacent to the Colorado River within the HMA. These transects were established in coordination with Imperial and Cibola Refuge and Arizona Game and Fish Department. Desert wash habitat was selected because an overwhelming majority of the available forage, and actual use by wild burros, occur in washes in southwestern Arizona. The protocol follows the Modified Extensive

Browse methodology developed by the Burro Subgroup. Each transect collects various types of data, including species composition, utilization, age class, hedging/form class, and bark stripping. Long term data collection from the protocol includes species composition, age class, and hedging/form class. Short term data includes utilization and bark stripping. Data has been collected on all transects since 2000, and on six transects since 1999.

Key forage species identified include ironwood (*Olnea tesota*), mesquite (*Prosopis* spp.), little leaf palo-verde (*Parkinsonia microphylla*), blue palo-verde (*Parkinsonia florida*), and catclaw acacia (*Acacia greggia*). All of the data is collected for all key species found throughout each transect. Page 12 of Appendix I displays the average number of key species sampled by transect.

Data for such attributes as species composition, age class, and hedging/form class have been analyzed annually and combined through the entire monitoring period. The combined averages for these attributes will from baseline data from which to evaluate the success or failure of future management actions.

Species Composition

For the most part, there are three species which tend to dominate the composition through all of the transects. These are sweetbush (*Bebbia juncea*), cheesebush (*Hymenoclea salsola*), and creosote (*Larrea tridentata*). Sweetbush and cheesebush are short-lived perennials that thrive in disturbed areas, making desert washes prime habitat for them. Other species that have been found to be co-dominant with these are smoketree (*Psorothamnus spinosus*), catclaw acacia (*Acacia greggii*), and brittlebush (*Encelia fremontii*). Species composition is summarized on pages 8 through 11 in Appendix I.

Age Class

The average age class for each key species by transect is presented on pages 13 and 14 of Appendix I. Overall, there is a good mix of young and mature plants throughout the transects. Some seedlings have been observed on at least one transect each year except for 2001 and 2002.

Hedging/Form Class

The hedging/form class categories were split into five categories. The average by key species by transect are shown on pages 15 and 16 of Appendix I. The ultimate objective would be to have all key species in the 0-20% category. However, such a goal is not attainable for quite some time. The current objective is to maintain the current categories, or show improvement through movement towards a lower hedging/form class category.

Utilization

Use levels have fluctuated throughout the monitoring period. At only one site, Los Angeles Wash, have use levels been at or below the objective of 20% every year. At six of the sites, use levels were high the first two to three years, but have been at or below for the rest of the time.

Use levels at three sites, Yuma Wash, Arrastra Wash, and No Name Wash at Lighthouse Rock have consistently been above the objective. During most of the monitoring period, winter precipitation has been below normal, although there was some precipitation, generally, few annual forbs were produced. This can explain some of the heavier use levels. Also, gathers did not achieve the AML until 2002.

Higher use levels in Yuma Wash are more a result of its position in the HMA. Yuma Wash forms a broad valley between the Middle Mountains and the Chocolate Mountains as it drains south to the Colorado River. Its size and position is a natural path to water in the summer, and likely gains burros from as far north as Red Cloud Wash which may have followed a monsoon storm. Yuma Wash has been regularly used as a gather location since gathers were initiated on the HMA.

Arrastra Wash is accessible only from the Colorado River. The wash empties into the northeast side of Island Lake, which is inaccessible to large boats. Arrastra is a relatively small, short wash. This coupled with lack of access and the dry conditions prevailing during the monitoring period have led to high use levels. Access to the lake heavily restricted by a near impenetrable cover of salt cedar and phragmites. In February 2004, Imperial National Wildlife Refuge conducted a controlled burn at Island Lake. This burn came to within 30 feet of the beginning of this transect in Arrastra Wash. All of the key species exceed the objective of 20% when averaged over the five years of data. The average use level for *Olte* is 23. 3%, *Pafl* is 29. 1%, *Acgr* is 29. 4%, and *Prju* is 38. 7%.

No Name Wash at Lighthouse Rock regularly exceeds the objective of 20% use on three of five of the key species. The wash is accessible only from the Colorado River. It also is a small, short wash. The banks of the river in this area are typically eight to ten feet above the water and protected by a near impenetrable cover of salt cedar and phragmites. Excessive utilization on *Olte*, *Pafl*, and *Prju* have been recorded for most of the past five years. This can be attributed to the same factors described for Arrastra Wash.

Bark Stripping

Bark stripping was raised as a concern during the development of the monitoring protocol, particularly during 1997 when use levels were extremely high due to drought and high population levels. Bark stripping was particularly prevalent in Yuma Wash on *Parkinsonia microphylla*. It was proposed that such extensive bark stripping would lead to the loss of these trees. Although some have in fact died, others have continued to grow.

Bark stripping has been observed at all of the monitoring sites. There has been some level of bark stripping observed every year. Throughout the HMA, bark stripping has been observed on all key species. Bark stripping on *Olnea tesota*, *Acacia greggii*, and *Prosopis* spp. is attributable to rodents. This bark stripping has been observed on small branches with all bark removed all the way around. Bark stripping by wild burros targets primarily *Parkinsonia microphylla*. New bark stripping ranges from a low of 2. 3% of the plants sampled to 13. 3% of the plants sampled. Bark stripping is most prevalent in McAllister Wash, Yuma Wash, No Name Wash at Clip Wash, and Lopez Wash.

Population Monitoring/Management

In 1999, the BLM and Arizona Game and Fish Department formed a committee to develop a burro census technique the State of Arizona. The committee agreed to initially test the Simultaneous Double Count that continues to be used for big game surveys. In May 2000, personnel for Arizona Game and Fish Department and the BLM conducted a pre- and post gather census of the Cibola-Trigo Herd Management Area to test the use of the methodology. The post gather census estimated the population of wild burros in the HMA to be 396. Based upon estimations of recruitment and removals, the current population as of September 30, 2004 is approximately 170 burros. The Cibola-Trigo HMA will be censused again in May 2005.

Data is gathered on all wild burros removed and shipped to a preparation facility. Data is gathered relating to color, age, and sex of the animals. From 1997 through 2002, 1,390 wild burros have been removed. Gathers of at least 100 or more animals were completed in every year during this period except 1998, when no animals were removed. Captures were conducted in the late summer of 1997, summer of 1999, December 1999 (FY 2000), spring of 2000, spring of 2001, and spring of 2002. Additionally, blood has been drawn on a representative sample of the animals and sent to the University of Kentucky for Genetic Analysis. These samples were drawn on animals captured in 2001 and 2002.

Age Data

The ages of animals captured have ranged from very young foals to 18 year olds. The oldest capture was a jack that was 19 years old. The oldest jenny captured was 11 years old. The age structure is relatively uniform up to 8 years. There have been few animals over 10 years gathered. From 1999 through 2002, only 28 captured burros were 10 years or older. This was only 2. 9% of the total gathered during this time. Approximately 93% of the total animals gathered were between the ages of 1 through 8 years. On average, foals have made up 21. 3%, yearlings 14. 8%, and adults (age 2 and over) 64. 9% of the animals gathered. Foals outnumber yearlings by a ratio of 1. 44:1.

The age structure appears to be stable. A majority of the population is between two and eight years of age. There appears to be some loss between foals and yearlings and a rather large, but not unexpected, loss after nine years of age. This data indicates a recruitment rate of approximately 15% during this period.

Color Data

The overwhelming majority of burros captured are gray. Gray burros represent from 72% to 85% of the animals gathered. As the gray color tends to blend more with the habitat in the HMA, this was not unexpected. Other colors include brown, pink, blue, black, and maltese. No rare or unique colors have been observed within the HMA.

Reproductive and Sex Ratios

The ratio of jennies to foals has ranged from a high of 1.09:1 in the 1999 gather, to a low of 4.21:1 in the 2001 spring gather. When reviewing capture data from 1997 to 2002, the overall average has been 1.65:1. The ratio of jennies to foals for the 1997 gather was 2.17:1. This was the emergency gather which occurred at the end of an extremely dry period. The high ratio occurred in 1999 which followed the wet winter of 1997-98. The data appears to show that dry years do reduce the foaling rate to some degree, but once conditions improve, they respond to a near 100% foal crop. The data do not show any true “foaling period” for burros in the HMA.

The ratio of jacks to jennies ranged from a high of 2.19:1 in the 2001 spring gather, to 0.57:1 in the 2000 winter gather. The average for gathers from 1997 to 2002 is 0.87:1. It appears that the sex ratio is close to one jack for each jenny. This ratio should be watched to see if changes in the ratio could be used to slow population growth.

Removals

From 1997 through 2002, a total of 1,390 wild burros have been removed from the Cibola-Trigo HMA. The following shows the month and year of these gathers.

1997 Aug/Sept	437 burros
1999 July	134 burros
1999 December	182 burros
2000 May	267 burros
2001 May	101 burros
2002 Mar/May	282 burros

Genetics

Blood samples have been drawn from a sample of captured burros at the Kingman Preparation Facility, in accordance with BLM policy, on two separate occasions. The samples are sent to Dr. E. Gus Cothran at the University of Kentucky. Dr. Cothran has been conducting genetic testing for BLM wild horses and burro herds. The samples are tested for variation at nine equine microsatellite systems, and compared to data from other wild herds and four domestic donkey breeds.

The first samples were taken following a gather in May 2001. The burros were captured in Red Cloud and Yuma Washes. A total of 25 samples, out of the 101 gathered, were submitted to the University. The data indicate that the population is in genetic equilibrium with no evidence of inbreeding. The report further states that the data indicate a single, interbreeding population. The burros are most genetically similar to the Standard donkey with little similarity to other wild herds, including the Chocolate/Mules and Picacho herds just west of the Colorado River.

A second set of samples were taken following a gather in March 2002. The burros in this sample were gathered between McAllister Wash and south of Fisher’s Landing, as well as 32 head from the Cibola area in Hart Wash. A total of 41 samples, out of 144 burros gathered, were submitted to the University. The findings were very similar to the findings from the May 2001 gather. These burros were found to be genetically similar to the Standard donkey. The report further

states that the similarity with other wild herds is highest with Sinbad Utah, Picacho and Chocolate/Mules herds in California, but not very similar to the group of burros gathered from Red Cloud and Yuma Washes one year previous. Notwithstanding the findings of the second report, overall, genetic variability in the Cibola-Trigo HMA appears to be strong.

Recommendations/Conclusions

Utilization levels are falling to the goal of 20% use, except at Arrastra Wash and No Name Wash at Lighthouse Rock. Both of these areas are accessible only by the river. However, the gather in July of 1999 was in the vicinity of No Name Wash. Future gathers should consider this area again. Arrastra Wash is a difficult wash to access, even from the river. During census flights in 2005, sometime should be spent in the area to attempt to find a suitable trapping area.

The estimated population is at or very near the AML of 165. Future gathers should begin shifting to the north portion of the HMA. No problems with the population have been identified.

APPENDIX G- 2011 Monitoring Data Summary

Transect # 1

LOS ANGELES WASH

<u>KEY SPECIES</u>	<u>% USE</u>	<u>HEDGING CLASS</u>
Acacia greggii	----	---
Parkinsonia florida	34.29	1 - 20
Olneya tesota	32.03	1 - 20
Parkinsonia microphylla	14.5	1 - 20
Prosopis sp.	20	1 - 20

Transect #2

MCALLISTER WASH

<u>KEY SPECIES</u>	<u>% USE</u>	<u>HEDGING CLASS</u>
Acacia greggii	18.85	1 - 20
Parkinsonia florida	25.44	1 - 20
Olneya tesota	35.18	1 - 20
Parkinsonia microphylla	20	1 - 20
Prosopis sp.	10	1 - 20

Transect #3

YUMA WASH

<u>KEY SPECIES</u>	<u>% USE</u>	<u>HEDGING CLASS</u>
Acacia greggii	22.09	1 - 20
Parkinsonia florida	19.14	1 - 20
Olneya tesota	22.16	1 - 20
Parkinsonia microphylla	22	1 - 20
Prosopis sp.	50	1 - 20

Transect #4

ARRASTRA WASH

<u>KEY SPECIES</u>	<u>% USE</u>	<u>HEDGING CLASS</u>
Acacia greggii	23.02	1 - 20
Parkinsonia florida	65.7	1 - 20
Olneya tesota	52.16	1 - 20
Parkinsonia microphylla	27.5	1 - 20
Prosopis sp.	35	41-60

Transect #5

RED CLOUD WASH

<u>KEY SPECIES</u>	<u>% USE</u>	<u>HEDGING CLASS</u>
Acacia greggii	15.97	1 - 20
Parkinsonia florida	42.73	1 - 20
Olneya tesota	16.9	1 - 20
Parkinsonia microphylla	10	1 - 20
Prosopis sp.	---	---

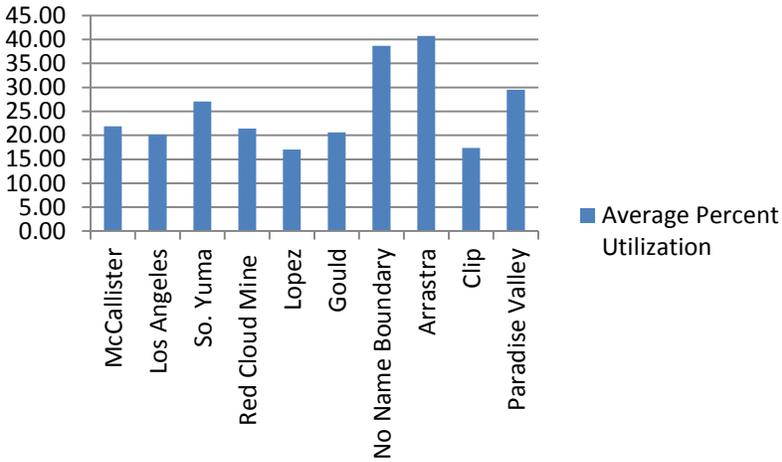
Transect #6

PARADISE VALLEY WASH

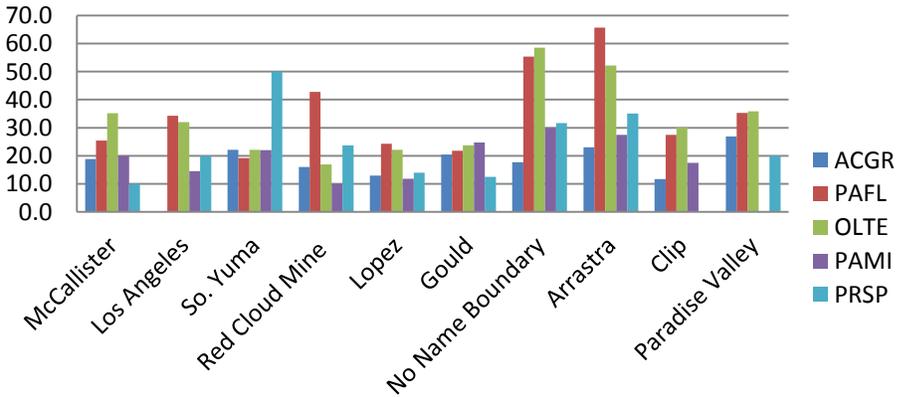
<u>KEY SPECIES</u>	<u>% USE</u>	<u>HEDGING CLASS</u>
Acacia greggii	26.88	20-Jan
Parkinsonia florida	35.26	20-Jan
Olneya tesota	35.8	20-Jan
Parkinsonia microphylla	---	---

	Prosopis sp.	20	1 - 20
<u>Transect #7</u>	NO NAME AT LIGHTHOUSE		
	<u>KEY SPECIES</u>	<u>% USE</u>	<u>HEDGING CLASS</u>
	Acacia greggii	17.74	1 - 20
	Parkinsonia florida	55.31	1 - 20
	Olneya tesota	58.46	1 - 20
	Parkinsonia microphylla	30	21-40
	Prosopis sp.	31.67	1 - 20
<u>Transect #8</u>	CLIP WASH		
	<u>KEY SPECIES</u>	<u>% USE</u>	<u>HEDGING CLASS</u>
	Acacia greggii	11.16	1 - 20
	Parkinsonia florida	27.5	1 - 20
	Olneya tesota	30.08	1 - 20
	Parkinsonia microphylla	17.5	1 - 20
	Prosopis sp.	---	---
<u>Transect #9</u>	LOPEZ WASH		
	<u>KEY SPECIES</u>	<u>% USE</u>	<u>HEDGING CLASS</u>
	Acacia greggii	12.92	1 - 20
	Parkinsonia florida	24.29	1 - 20
	Olneya tesota	22.13	1 - 20
	Parkinsonia microphylla	11.85	1 - 20
	Prosopis sp.	14	1 - 20
<u>Transect #10</u>	GOULD WASH		
	<u>KEY SPECIES</u>	<u>% USE</u>	<u>HEDGING CLASS</u>
	Acacia greggii	20.41	1 - 20
	Parkinsonia florida	21.8	1 - 20
	Olneya tesota	23.75	1 - 20
	Parkinsonia microphylla	24.71	1 - 20
	Prosopis sp.	12.5	1 - 20
	ALL WASHED COMBINED		
	<u>KEY SPECIES</u>	<u>% USE</u>	<u>HEDGING CLASS</u>
	Acacia greggii	18.78	1 - 20
	Parkinsonia florida	31.15	1 - 20
	Olneya tesota	32.87	1 - 20
	Parkinsonia microphylla	19.78	1 - 20
	Prosopis sp.	24.15	1 - 20

Total Percent Utilization



Average Percent Utilization of Key Species for All Washes



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