


NATIONAL HORSE & BURRO RANGELAND MANAGEMENT COALITION

Advocating for commonsense, ecologically-sound approaches to managing horses and burros to promote healthy wildlife and rangelands for future generations

DATE: 22 June 2016

TO: House Natural Resources Committee
Subcommittee on Federal Lands

FROM: Keith Norris, Associate Wildlife Biologist®
Director of Government Affairs & Partnerships, The Wildlife Society
Chair, National Horse & Burro Rangeland Management Coalition

RE: Testimony for oversight hearing entitled "*Challenges and Potential Solutions for BLM's Wild Horse & Burro Program*"

Dear Members of the House Natural Resources Federal Lands Subcommittee:

I appreciate the opportunity to provide testimony regarding the expanding overpopulation of wild horses and burros on BLM managed rangelands and the resulting challenges this creates for our rangelands, native wildlife, western heritage, taxpayer dollars, and wild horse and burro well-being.

I serve as the Chair of the National Horse & Burro Rangeland Management Coalition. The Coalition is composed of a wide range of sportsmen's, livestock, wildlife, and land conservation organizations and professional societies. Collectively, we represent millions of Americans and focus on commonsense, ecologically-sound approaches to managing horses and burros to promote healthy wildlife and rangelands for future generations.

I also serve as the Director of Government Affairs & Partnerships for The Wildlife Society, a member organization of the Coalition. The Wildlife Society, founded in 1937, represents nearly 10,000 professional wildlife biologists and managers dedicated to excellence in wildlife stewardship through science and education. Our mission is to inspire, empower, and enable wildlife professionals to sustain wildlife populations and habitats through science-based management and conservation.

This testimony is delivered on behalf of these two entities. Our hope is this hearing and collective testimonies will result in improved management of our nation's wild horses and burros, to the benefit of all wildlife, rangelands, and the multiple uses of those rangelands.

Sincerely,

Keith Norris

Executive Summary

Management Objective: Sustain healthy rangelands that support a balance of multiple uses, including wild horses, wildlife, ecosystem services, and livestock

Identified Problems in Reaching that Objective for this Committee to Address

1. Wild horse and burro populations already greatly exceed ecologically-based objectives
2. Populations of wild horses and burros continue to grow at exponential rates
3. Bureau of Land Management has limited options available to manage wild horses and burros at identified objectives to protect the range and achieve mandate of law

Section 1: Historical and Legal Context

- Horses and burros are non-native species in North America; those present and free-roaming on western rangelands are the descendants of domestic stock
- The Wild Free-Roaming Horses and Burros Act of 1971 charges BLM and USFS with managing horses and burros found on certain public lands in a "manner that is designed to achieve and maintain a thriving natural ecological balance"
- Federal law requires multiple use of rangelands, including that of wild horses and burros

Section 2: Wild horse and burro population status and trends

- > 67,000 horses and burros reside on BLM managed rangelands with an AML of ~27,000
- ~ 45,000 horses and burros are in long- and short-term holding facilities
- 15–20% annual population increase; potential to double in size every 4–5 years

Section 3: Impacts of excess of wild horses and burros

A. Horse and burro health – *starvation and dehydration are a likely result of overpopulation*
B. Native wildlife – *competition for water and food resources and habitat degradation*
C. Rangeland ecosystem – *soil compaction, spread of invasive species, desertification*
D. Western heritage – *reduced grazing, impact to recreational activities; local economies at risk*
E. Taxpayer dollars – *$50 million spent on horses and burros in holding; costs continue to rise*

Section 4: Available Management Actions Identified by the Coalition for Congress' Consideration

- Achieving population objectives that balance wild horse and burro populations with the needs of rangeland health will require the application of multiple management activities
- Congress needs to provide and direct more management options for BLM to implement

***On-range**: reduce populations & slow growth*

- Increase gathers and removals
- Increase use of fertility control
- Apply sterilization techniques
- Create non-reproducing herds

***Off-range**: relieve BLM of budget obligations*

- Increase adoptions via incentives
- Authorize euthanasia
- Permit unrestricted sale
- Increase budget for holding

Section 5: Conclusions and Recommendations

- Congress should encourage and empower BLM to implement management to protect our rangelands

Section 1: Historical and Legal Context

***Attachment**: Policy Timeline*

A. Origin of wild, free-roaming, and feral horses and burros in North America

Many horse lineages evolved in North America but disappeared from the landscape nearly 12,000 years ago during the Pleistocene epoch—a geological period characterized by repeated cycles of glaciation; global cooling; and the presence of several distinctive large land mammals. During the late Pleistocene, several of North America's large mammals went extinct, including but not limited to American lions, American mastodons, mammoths, saber-toothed cats, ground sloths, western camels, and all forms of the American wild horse. Since native North American horses went extinct, the southwestern United States has transitioned over thousands of years from a cool climate with abundant precipitation to the much more arid and warm environment of today.

All free-roaming horses and burros currently present in North America are feral descendants of domesticated animals from Eurasia and Africa, respectively. As feral animals, these horses and burros have undergone many generations of selective breeding, or artificial selection. However, many people still perceive feral horses and burros as "natural" components of the environment, not understanding the damages they inflict on today's native systems.

B. Motivation and components of the Wild Free-Roaming Horses and Burros Act of 1971

In the 1950's several individuals and humane organizations grew concerned over the treatment of feral horses and burros in the American West, and fearing their eradication, urged Congress to provide federal protections. By 1971, Congress passed the Wild Free-Roaming Horses and Burros Act (WFRHBA), which declares "wild free-roaming horses and burros [as] living symbols of the historic and pioneer spirit of the West;" to be managed as "components of the public lands;" in a "manner that is designed to achieve and maintain a thriving natural ecological balance."

WFRHBA legally designates feral horses and burros as "wild" on certain public lands managed by the Bureau of Land Management (BLM) and U.S. Forest Service (USFS). Despite the legal designation as "wildlife," typical tools of wildlife management are not permitted to be used to manage these animals. As a result of this unique categorization, wildlife managers are challenged with both preventing ecosystem deterioration and managing for a non-native species; all while responding to and balancing the concerns voiced by a variety of stakeholders—a feat that has proven difficult, if not impossible.

C. Other laws and policies impacting horse and burro management

In 1978, the Public Rangelands Improvement Act amended WFRHBA by directing BLM and USFS to determine appropriate management levels (AML) of horses and burros in herd management areas (HMA) consistent with the principles of "multiple use and sustained yield" as established by the Federal Land Policy and Management Act of 1976. BLM and USFS establish AML through an interdisciplinary and site-specific environmental analysis and decision process that includes public involvement. Each AML expresses a population range within which wild horses and burros can be sustainably managed in balance with other uses. Wild horse and burro populations currently exceed

AML by over 250%, primarily because of the presence of conflicting directives from Congress and the failure of BLM and USFS to comply with WFRHBA.

In order to "maintain a thriving natural ecological balance," WFRHBA, as amended, allows for agencies to destroy or sell without limitation, excess wild horses and burros for which an adoption demand does not exist. However, BLM and USFS have failed to comply with these provisions over fears of the anticipated negative public reaction from both the general public and Congress. Furthermore, when these options have been considered in the past, Congress has taken steps to ensure that no horses or burros are euthanized or sold without limitation as allowed under WFRHBA by adding to the Interior Appropriations Act a conflicting rider that restricts the use of these management tools.

Section 2: Wild Horse & Burro Population Status, Management Actions, and Trends

Attachments: *Overview Fact Sheet*

The BLM provides estimates of on- and off-range wild horse and burro populations, management activities, and budget. These are the best estimates available for understanding the status and trends of wild horse and burro populations and management activities. Note: horses and burros exist on federal lands beyond BLM - including USFS, NPS, USFWS, and DOD – and on state, tribal, and private lands, but this testimony focuses on BLM's wild horses and burros covered by federal law.

A. On-range population numbers and management actions
BLM estimates **67,027 wild horses and burros** roam across 10 western states as of March 2016. This is an **increase of 8,877 animals (15.3%)** over March 2015 population estimates, continuing the trend of 15-20% annual population growth. This population estimate exceeds the ecologically-based appropriate management level (AML) of **26,715 animals.**

More than 40,000 excess animals are currently on BLM rangelands (149% over capacity). On-range populations are doubling every 4 to 5 years under the current management regime.

BLM **gathered and removed 3,819 animals during** FY2015. Note: these removals are in addition to the on-range population growth; the on-range population would actually grow by >12,000 per year without any removals. The BLM has generally gathered and removed fewer horses and burros in recent years and only intends to remove ~3,500 animals per year in the future. This level of removals will not keep pace with on-range population growth.

Fertility control applications have also been limited and ineffective. The BLM **applied fertility control to 469 individuals** in FY2015. Sterilization is being researched, but has not yet been implemented.

B. Off-range population numbers and management actions
As of May 2016, BLM had **more than 45,000 animals in holding facilities**. Each animal placed in holding facilities costs BLM approximately $50,000 over its lifetime.

The BLM **adopted 2,631 animals** in FY2015 and **sold an additional 267 animals.** Adoptions and restricted sales have not kept pace with the growth of the on-range population, and cannot be expected to do so in the future – resulting in the need for increased holding capacity.

C. Outlook
BLM's management actions are not effective in reducing populations or stopping population growth. Under the current management approach of removing ~3,500 animals per year with 18% growth, and barring massive die-offs, the following population numbers are likely:

- Year 2020 = 112,000 animals on-range
- Year 2024 = 198,000 animals on-range
- Year 2028 = 366,000 animals on-range

Section 3: Impacts of Excess Wild Horse & Burro Populations

Attachments: *5 Fact Sheets – Wild Horse & Burro Well-Being; Native Wildlife; Rangeland Ecosystem; Western Heritage; Taxpayer Dollars*

When wild horse and burro populations exceed ecologically-sustainable levels, they can have negative impacts on many of the multiple-uses of public rangelands.

A. Horse & Burro Well-being
Horse and burro populations can negatively affect their own health and well-being when they exceed ecologically-sustainable levels. Excessive populations deplete scarce food and water resources on the arid rangelands, leading to starvation and dehydration of the horses and burros.

BLM gathered and removed over 9,000 horses and burros during 24 emergency gathers from 2006-2015 due to dire animal health situations resulting from poor rangeland conditions. If we wish to maintain healthy herds on our public rangelands, we need to ensure those herds are sustainably managed at appropriate levels.

B. Native Wildlife
Elk, mule deer, pronghorn, sage-grouse, bighorn sheep, lizards, and a suite of other native wildlife rely on our public rangelands to survive. The well-being of wildlife, including threatened and endangered species, are put at risk by growing populations of horses and burros.

Horses and burros compete with native wildlife for food and water. As horse and burro populations continue to grow, they consume more and more of these scarce resources, leaving less for our native wildlife.

Horses and burros often express dominant behavior towards native wildlife, particularly around water sources. Horses have been documented pushing native ungulates off of water sources and restricting access to the resource, and some native wildlife have shown avoidance of an area when horses are present.

Sage-grouse habitats overlap with 30% of BLM horse and burro management areas. Horses and burros overgrazing forage, trampling vegetation, spreading invasive species, and causing soil compaction, all weaken efforts to keep this bird off of the Endangered Species list.

C. Rangeland Ecosystem
Areas inhabited by horses and burros tend to have fewer plant species, less vegetative cover, and an increased susceptibility to invasive plant species – which can have ecosystem-wide implications.

Overpopulation leads to overgrazing of the rangelands, where the consumption of vegetation reduces plant species and vegetation cover. The removal of vegetation also makes rangelands vulnerable to invasive species, with cheatgrass in particular spreading throughout the West.

Soil compacted by excessive horse and burro hoof traffic limits water infiltration, increases runoff and erosion, inhibits root and plant growth, and restricts nutrient cycling by soil microbes.

Consistent overgrazing and soil compaction exposes the soil to the elements, causing it to dry out. This process is known as desertification and it causes already dry land to become increasingly arid. Bodies of water on the range dry up, and native species dependent on the former rangeland can no longer survive in the desert landscape.

D. Western Heritage

Western rangelands are utilized by ranchers, farmers, hunters, campers, and other recreationists. The detrimental ecological impacts of horse and burro overpopulation have resulted in a depletion of resources for cattle as well as for native wildlife that draw outdoor enthusiasts to the area.

Over 90% of public lands are located in Western states. Many communities are dependent on access to and use of these lands for their livelihoods. Because they depend on this resource, these communities are invested in maintaining and improving the health of the rangelands. By paying grazing fees, utilizing targeted grazing to control invasive species and reduce fire fuel loads, and other actions, they help support healthy watersheds, carbon sequestration, recreational opportunities, and wildlife habitats.

Over $640 billion is contributed in direct spending by outdoor recreationists, including hikers, hunters and bird-watchers for equipment and travel. This spending generates approximately $39.7 billion in state and local tax revenue.

E. Taxpayer Dollars

American taxpayers pay for the costs of the BLM's Wild Horse and Burro Program. This program's budget continues to be consumed by the off-range holding facilities, causing BLM to remove fewer and fewer horses and burros from the rangelands. The horses and burros removed from rangelands and placed in holding facilities currently cost taxpayers about $50 million annually. For an animal that remains in one of these facilities for its entire life, the cost can reach $50,000 per animal.

BLM spent $75.245 million on the horse and burro program in Fiscal Year 2015. This money was used to remove a small number of horses from the rangelands ($1.8 million), adopt out approximately 2,000 horses ($6.3 million), and care for horses and burros in long- and short-term holding facilities ($49.4 million). Costs continue to increase every year, and horse and burro populations continue to grow.

Continuing to leave excess horses and burros on rangelands only exacerbates the costs. The larger the rangeland populations become, the greater the damage they cause to the ecosystem. As rangelands deteriorate, the costs associated with restoring habitat for wildlife and other rangeland uses increases. This can lead to increased costs and time spent implementing state wildlife plans as well as federal measures such as Endangered Species Act listings.

Section 4: ***Available Management Actions Identified by the Coalition for Congress' Consideration***

Attachment: *Management Options Fact Sheet*

There are two spheres of management consideration for wild horses and burros: A) management of on-range populations, and B) management of off-range populations. Each sphere has its own objectives and challenges that need to be addressed. Neither is currently in a sustainable status.

BLM's current management model for wild horses and burros can be summarized as 1) set horse and burro population management objectives (AML) based on multiple use rangelands and ecological thresholds, 2) identify excess horses and burros that exceed those population objectives, 3) remove excess horses and burros, 4) adopt out horses and burros.

Unfortunately, this model has proven to be an ineffective management approach. On-range wild horse and burro populations continue to grow at exponential rates of 15–20% annually, essentially unaffected by the limited management actions being implemented by BLM. Off-range populations remain at high levels as adoption demand steadily declines and cannot keep pace with the increasing number of excess horses and burros. Costs of the program have reached untenable levels.

Improved management actions are needed throughout all aspects of this program. The one action we should not consider is maintaining the status quo of leaving excess horses and burros on the rangelands. Doing so places our rangelands – and all animals and multiple-use activities that rely on those rangelands – at risk.

All management actions listed below are permitted and/or directed by the Wild Free-Roaming Horses and Burros Act of 1971, as amended. Effective management – i.e. *management that achieves and sustains wild horse and burro population objectives at ecologically-sustainable levels* – will likely require a combination of these methods.

A. On-Range Population Management
The population management goal for on-range wild horses and burros has been set based on evaluations of rangeland health and the other uses of public rangelands – this is referred to as the Appropriate Management Level (AML). We need to remain focused on achieving and maintaining that goal in our on-range management activities in order to produce healthy rangelands that sustain healthy wild horse and burro herds. On-range management activities should be able to 1) reduce the current population, and 2) maintain the population at ecologically-sustainable levels.

Methods for improving management of on-range wild horse and burro populations could include:

1) Increase Gathers & Removals – BLM employees and contractors gather horses and burros from the rangelands via a variety of methods (*e.g.* helicopter roundups, water bait traps, etc.) that follow established humane protocols and procedures. This is the primary method of reducing populations of on-range horses and burros.

Benefits: Gather and removal of excess horses and burros is the most effective form of reducing the current population on the range. In a May 2016 letter to members of Congress, BLM indicated that the only method of achieving AML within 3, 5, or 10 years is by removing large numbers of animals from the range.

Challenges: Gathers can be costly and difficult to administer in certain areas due to the rugged terrain and size of some herd management areas.

Legal considerations: Currently permitted by law; some court orders direct or restrict the removal of horses and burros from certain areas.

2) Increase use of Fertility Control Vaccines/Contraception – the primary fertility control vaccine is known as PZP, *porcine zona pellucida*, which is an immunocontraception that prevents sperm attachment to the egg. This produces temporary infertility in the mare. This drug is administered by either hand-injection or remotely via darting. Further research and development of scientifically-sound methods of fertility control is still needed.

Benefits: When applied in a robust manner, fertility control drugs can effectively reduce population growth rates in some controlled situations. Lower reproductive rates can mean reduced need to gather and remove horses and burros in the future and reduce the strained capacity in BLM holding facilities.

Challenges: The National Academy of Sciences determined in their 2013 report that no highly effective, easily delivered, and inexpensive fertility-control methods are currently available.

PZP is only effective at reducing pregnancies for one year, with some limited evidence of longer-term effectiveness. Methods of delivery (*e.g.* hand-injection or darting) require the gather of animals and/or the ability to get in relatively close proximity to administer the drug – both of which are logistically and fiscally challenging in most western rangelands.

Fertility control does not reduce the current on-range population; it only slows the growth (but does not stop the growth) of the population.

Legal considerations: Currently permitted by law

3) Apply Permanent Sterilization – sterilization would render an individual reproductively inviable for the remainder of its life. This can be accomplished via surgical methods, primarily focused on the mare.

Benefits: Permanent sterilization would help reduce the growth rate of on-range populations. This method improves on fertility control vaccines because of the reduced need to gather horses and burros to apply the drug. Animals would be gathered and handled once and would not need to be gathered again.

Challenges: No sterilization method is currently being implemented for wild horses and burros. BLM is initiating research on a variety of sterilization methods to determine their efficacy and humaneness in applying these methods to wild horses and burros on the range.

Sterilization does not reduce the current on-range population; it only slows the growth (but does not stop the growth) of the population. Cost of performing the procedure on a large population is also a factor.

Legal considerations: Currently permitted by law

4) Create non-reproducing herds – BLM could establish herds of all sterilized male or all sterilized females. These herds would be non-reproducing herds and would therefore remain stable in size.

Benefits: Non-reproducing herds would not require regular gathering or fertility control application to prevent growth.

Challenges: BLM would need to manage the logistics; if external animals were introduced to the non-reproducing herd, breeding could be initiated.

Legal considerations: Currently permitted by law; some court challenges are pending

B. Off-Range Population Management

Off-Range management needs to relieve BLM of either 1) the obligation and responsibility of caring for animals indefinitely, or 2) the budget constraints such obligations produce. By relieving the BLM of the off-range pressure, more focus and resources can be provided to on-range management options, controlling populations, and protecting the rangelands.

Methods for improving management of off-range wild horse and burro populations could include:

1) Increase adoptions/transfers via incentives and authorities – This method involves the transfer of animals to private individuals and/or government agencies. The intent is those receiving the animals are committed to providing a healthy environment for the animal. Transferred animals typically retain their protected status under the law. Incentives could be produced to encourage adoptions.

Benefits: Animals placed in adoptive facilities would no longer be under the direct care of BLM. Each animal transferred would reduce the obligation of the federal government to care for the animals.

Challenges: The number of animals adopted each year has been on decline for nearly two decades. Even if adoption were to reach historic levels, the on-range growth rate would still outpace public demand.

Legal considerations: Adoptions are currently permitted by law; authority to transfer horses to other agencies has been proposed and is being considered via the appropriations process.

2) Authorize euthanasia of unadoptable animals – excess animals that meet certain criteria (*e.g.* beyond a certain age; deemed unadoptable) would be euthanized using humane methods. Euthanized horses and burros could be disposed of on-site.

Benefits: Euthanizing unadoptable animals would relieve BLM of the burdens of caring for these animals in holding facilities throughout the remainder of their lives, freeing up holding space and funds for managing on-range populations.

Challenges: Euthanasia can be a controversial approach to management among the public.

Legal considerations: Authorized under the Wild Free-Roaming Horses and Burros Act of 1971, but restricted via Congressional appropriations language and BLM internal policy. BLM does currently euthanize gathered animals that are in extremely poor body condition.

3) Permit unrestricted sale of unadoptable animals - excess animals that meet certain criteria (*e.g.* beyond a certain age; deemed unadoptable) would be sold. Sale would not be restricted to any particular buyer and would not require any contractual agreements.

Benefits: Unrestricted sale of unadoptable animals would relieve the BLM of the burden of caring for these animals in holding facilities for the remainder of their lives, freeing up holding space and funds for managing on-range populations. Revenue generated from the sale could be used to support other program activities.

Challenges: Unrestricted sale is viewed as synonymous with the slaughter of horses.

Legal considerations: Authorized under the Wild Free-Roaming Horses and Burros Act of 1971, as amended, but restricted via Congressional appropriations language and BLM internal policy. BLM does currently sell a few hundred horses each year, but have policies in place to limit the number of animals sold to an individual.

4) Increase budget for holding facilities, but not at the expense of on-range management – holding facilities currently use about 65% of BLM's wild horse and burro program budget. Increases in budget for holding facilities would need to ensure that on-range management could continue.

Benefits: Allows BLM to remove more horses and burros from the range, while simultaneously maintaining care for those excess animals in holding facilities.

Challenges: Budgets for federal agencies are tight and finding additional funds on the magnitude (*i.e.* several billion dollars over the next few decades) that are needed to care for all of the excess horses and burros will be difficult. BLM will continue to be responsible for caring for thousands of horses and burros over their lifetime.

Legal considerations: Would need to be addressed via annual federal appropriations process

Section 5: Conclusions and Recommendations

1. We must prioritize healthy rangelands

Health of the public's rangelands should be prioritized above all other considerations. Healthy rangelands are where native wildlife can thrive, livestock can graze to support local communities, free-ranging horses and burros can live successfully, and water quality can be sustained**.**

Healthy rangelands can rebound from moderate disturbance naturally and in a timely manner; habitat quality is sustained; and natural growth processes are enabled. Healthy rangelands are critical to the future of the Western way of life.

2. Wild horse and burro populations threaten healthy rangelands; populations continue to grow unchecked

Wild horse and burro populations already exceed ecologically-based population objectives, and their populations continue to grow at 15-20% per year. Overpopulation of horses and burros threatens the health of public rangelands and negatively impacts several other uses of public rangelands.

3. BLM needs to improve management actions to ensure healthy rangelands for the future

BLM's current management paradigm does not work – it is not achieving the goal, and cannot achieve the goal. ***Increasing gathers and removals is the only strategy that will achieve ecologically-sustainable population objectives within a reasonable amount of time.*** Scientifically-proven fertility control and other population growth suppressants should be utilized more robustly once appropriate management levels have been achieved. Population growth suppressants cannot achieve appropriate management levels on their own.

4. Congress needs to address policy barriers, conflicts, and challenges to enable improved management by BLM

BLM needs to gather more horses and burros to achieve ecologically-sustainable population levels, support multiple uses of the range, and ensure rangeland health. They cannot gather more animals until either 1) budget increases enable them to care for more animals in holding facilities, or 2) they can be relieved of animals currently in holding facilities.

Congress can help BLM address this challenging situation by considering a suite of management tools, and then empowering BLM to implement the tools needed to achieve the goal.

Major Policies Governing BLM's Wild Horse and Burro Program		
Policy	**Date**	**Relevant Provisions**
Wild Free-Roaming Horses and Burros Act of 1971 (Public Law 92–195)	Dec. 15, 1971	Declares that "wild free-roaming horses and burros are living symbols of the historic and pioneer spirit of the West." Authorizes and directs the Secretaries of the Interior and Agriculture "to protect and manage wild horses and burros **as components of the public lands**" that shall be managed—*in consultation with the wildlife agency of the state*—in a "**manner that is designed to achieve and maintain a thriving natural ecological balance**." Authorizes the Secretaries, in areas found to be overpopulated, to order old, sick, or lame animals to be destroyed in the most humane manner possible and to capture or remove wild horses and burros for private maintenance under humane conditions and care. Limits range of wild horses and burros to areas of public lands where they existed in 1971.
Federal Land Policy and Management Act of 1976 (Public Law 94–579)	Oct. 21, 1976	Directs the Secretary of the Interior to manage BLM lands under principles of "**multiple use and sustained yield**." Authorizes the Secretaries of the Interior and Agriculture, after a public hearing, to contract for the use of helicopters and motor vehicles to transport captured animals using humane procedures.
Public Rangelands Improvement Act of 1978 (Public Law 95–514)	Oct. 25, 1978	Directs the Secretaries of the Interior and Agriculture to "maintain a current inventory of wild horses and burros on given areas of public lands [**Herd Management Areas**]" to determine "whether and where overpopulation exists." Directs the Secretaries to "determine **appropriate management levels** [**AML**]…and determine whether appropriate management levels should be achieved by *removal* or *destruction* of excess animals or through other options (such as *sterilization* or natural controls on population levels)." Directs the Secretaries, upon finding that action is necessary to restore a thriving ecological balance, to **destroy "additional excess wild free-roaming horses and burros for which an adoption demand by qualified individuals does not exist…in the most humane and cost efficient manner possible."** Authorizes the Secretaries, to transfer title of adopted wild horses and burros to qualified individuals after a determination that the individual has provided **humane conditions, treatment, and care for the animal for a period of one year.**
BLM's Burford Policy	1982	BLM Director, Robert Burford, places a moratorium on destruction of surplus, healthy wild horses.
Congress Directs BLM to Triple Removals	Oct. 12, 1984	Congress triples wild horse and burro program funding (PL 98–473) and directs BLM to triple removals. **BLM removes 18,959 horses** in 1985 after removing 6,084 horses in 1984; on-range populations drop from 60,356 in Mar. 1984 to 44,763 by Mar. 1986.
Fee-waiver adoptions	1987–1988	BLM considers a policy change that would allow destruction of surplus wild horses and burros 90 days after they are put up for adoption, but ultimately decides to waive adoption fees for two years. The number of **adoptions increase** from 7,600 in 1986 **to 12,776 in 1987** (the highest level in the history of the program) and 10,646 in 1988 before dropping back down to 5,220 in 1989.
Interior Appropriations Rider	1988–2004	Congress inserts an Interior Appropriations Rider stating that "appropriations herein made shall not be available for the destruction of healthy, unadopted, wild horses and burros in the care of the Bureau or its contractors."
Animal Protection Institute of America (APIA) Appeals to IBLA (109 IBLA 112)	1989–1990	Several gathers are halted pending a legal challenge from APIA. The Interior Board of Land Appeals (IBLA) concludes that under the 1971 Act, removals must be "properly predicated on a…determination that removal is necessary to…prevent a deterioration of the range." IBLA then interprets AML as "synonymous with restoring the range to a thriving natural ecological balance." Thus, the number of "excess" animals the Secretary is authorized to remove is that which prevents deterioration of the range—*taking into account multiple-use*—or that which exceeds a properly established AML.

NATIONAL HORSE & BURRO RANGELAND MANAGEMENT COALITION

Advocating for commonsense, ecologically-sound approaches to managing horses and burros to promote healthy wildlife and rangelands for future generations

California Desert Protection Act of 1994 (Public Law 103–433)	Oct. 31, 1994	Transfers approximately 3,500,000 acres of land formerly administered by BLM to the National Park Service (NPS), which is not governed by the 1971 Act. **NPS views horses and burros as feral animals** and therefore removes them from Mojave National Preserve and Death Valley National Park to preserve native desert species.
BLM limits removals to concentrate on adoptions	1998–1999	BLM limits removals to concentrate on adoptions in an attempt to move some of the animals out of long-term holding. **Adoptions, however, continue to decline while on-range populations increase.**
4 Year Wild Horse and Burro Removal Initiative	2001–2004	BLM attempts to reduce expanding wild horse and burro populations that were posing serious environmental risks due to rangeland deterioration. **Between 2001 and 2004, the BLM removes over 45,000 wild horses and burros from public lands**; on-range populations drop from 47,376 in 2000 to 31,760 in 2005.
BLM begins Fertility Control Program	2004–Present	In collaboration with Humane Society of the United States, BLM continues to support the development and implementation of fertility control methods for wild horses. **However, significant reductions** in the rate of population increase **have not yet been apparent** and fertility control remains difficult to administer on a population level.
Fiscal Year 2005 Omnibus Appropriations Act (Public Law 108–447)	Dec. 8, 2004	Directs the **sale, without limitation, of excess wild horses and burros, or their remains, if "the excess animal is more than 10 years of age; or the excess animal has been offered unsuccessfully for adoption at least 3 times."** Sale of excess animals shall continue until "all excess animals offered for sale are sold; or the appropriate management level…is attained." Also provides that wild horses and burros, or their remains, once sold, are no longer wild horses and burros for purposes of the 1971 Act; thereby exempting animals sold under this provision from the general prohibition against processing their remains into commercial products.
BLM Establishes Limitations on Sale of Wild Horses and Burros	2005–Present	**Despite their legal requirement to sell excess wild horses and burros without limitation,** BLM implements internal controls intended to prevent slaughter of sold animals. As part of the sale of any wild horse or burro, buyers must agree not to knowingly sell or transfer ownership of the animals to persons or organizations that intend to resell, trade, or give away animals for processing into commercial products.
Last Domestic Horse Slaughterhouse Closes	Fall 2007	With this outlet removed, more domestic horses are either shipped to Canada or Mexico for processing or become available to the public—**causing direct competition with wild horse/burro adoptions and sales**. The number of domestic horses killed in slaughterhouses from 2000 to 2005 ranged from about 40,000 to 75,000 annually.
Interior Appropriations Act Rider	2010–Present	Congress inserts language into the text of Interior Appropriations **prohibiting "the destruction of healthy, unadopted, wild horses and burros in the care of the Bureau…** or its contractors or **for the sale of wild horses and burros** that results in their destruction for processing into commercial products."
The National Academy of Sciences' Review of BLM Wild Horse and Burro Management Program	2013	Report finds that "continuation of 'business as usual' practices will be expensive and unproductive for BLM. Because **compelling evidence exists that there are more horses on public rangelands than reported at the national level** and that horse population growth rates are high, unmanaged populations would **probably double in about 4 years**. If populations were not actively managed for even a short time, the abundance of horses on public rangelands would **increase until animals became food-limited**. Food-limited horse populations would affect forage and water resources for all other animals on shared rangelands and potentially **conflict with the multiple-use** policy of public rangelands and the legislative mandate to maintain a thriving natural ecological balance."
BLM Mare Sterilization Research	2016	BLM initiates efforts to comply with the 1971 Act by allowing for implementation of a proposed Mare Sterilization Research study. Research, however, has been delayed following a formal complaint questioning the safety of the proposed experiments.

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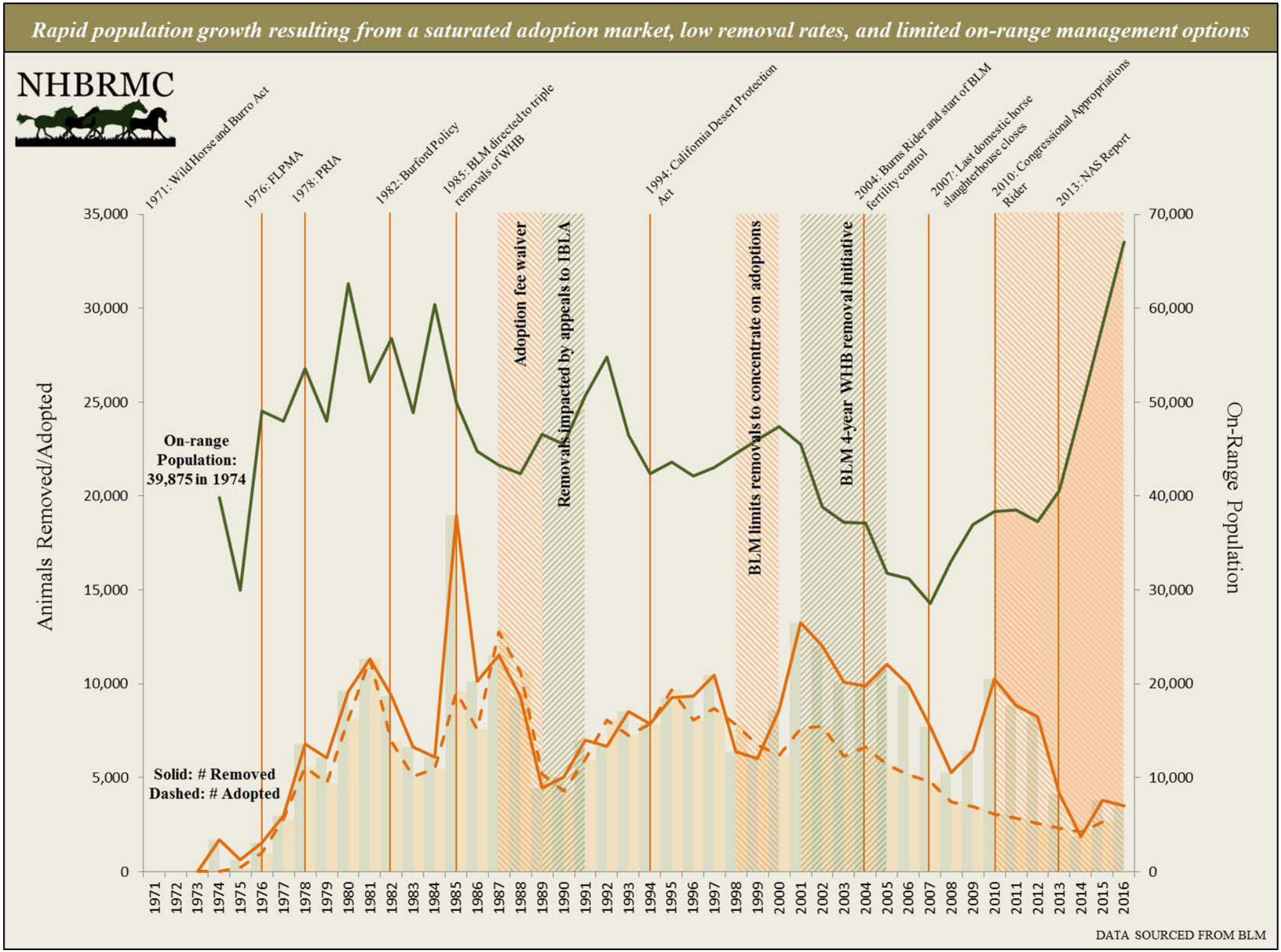

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Horses and Burros: Overview

Wild Horse and Burro Populations Estimated on BLM Lands

130,000 estimated in 2020

67,000 in 2016

25,000 in 1971

Populations double every 4-5 years

Appropriate Management Level: 27,000

The majority of wild horses and burros on public land reside on Bureau of Land Management (BLM) lands.

There are **179 HMAs** on BLM land, amounting to **31.6 million acres.**

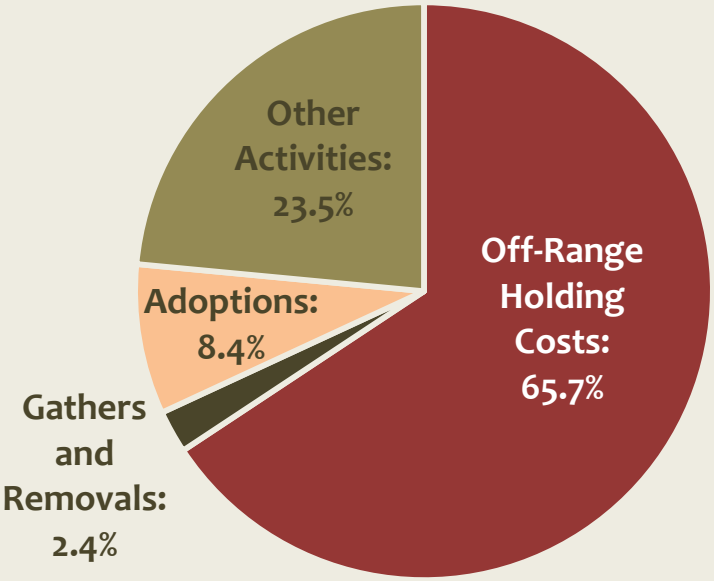
Herd Management Areas (HMA) are areas currently managed for wild horses and burros. HMAs are based on where viable populations of horses and burros roamed in 1971.

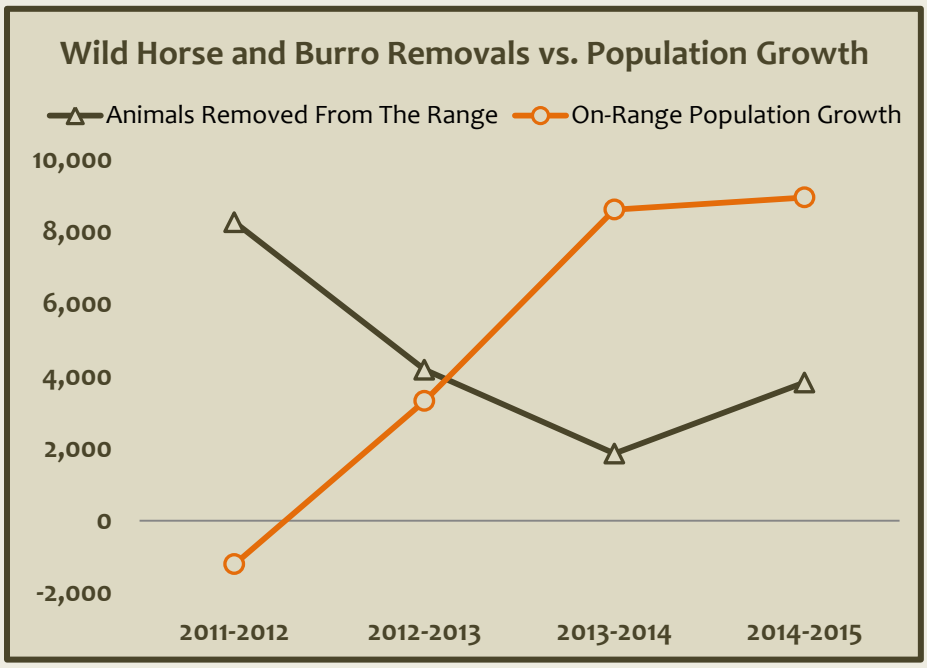
BLM scientists establish **Appropriate Management Levels (AML)** for HMAs to promote healthy conditions & thriving ecological balance.

The **Wild Free-Roaming Horses and Burros Act of 1971** directs U.S. federal agencies to manage wild herds to "maintain a thriving natural ecological balance and multiple-use relationship.

Over-population of horses can lead to a depletion of food and water resources. (Ostermann-Kelm 2009)

BLM Wild Horse and Burro Program Expenditures in Fiscal Year 2015





In 2015, off-range holding costs totaled to nearly $50 million

BLM's off-range holding costs have been steadily rising, from 59% of the Horse and Burro budget in 2012 to 66% in 2015

Over the last 10 years, horse adoptions have declined by nearly 70%

There are a total of 47,478 wild horses and burros living in BLM off-range holding facilities as of Feb 2016.

- 65% in off-range pastures
- 34% in off-range corrals
- 1% in eco-sanctuaries

In fiscal year 2015, 2,898 horses and burros were placed into private care, while on-range population grew by more than 10,000.

- 2,631 adoptions
- 267 sales

Due to the high cost of caring for animals, BLM is now only removing as many animals from the range as can be adopted, leaving more excess horses on the rangelands

What about Fertility Control?

The current available fertility control vaccine *(procine zona pellucida)* is only effective for 22 months and must be hand-injected into a wild horse. A second formulation can be deployed via ground darting, but is only effective for one year. Alternative methods are being researched.

Since 2012, BLM has applied PZP to 1,045 horses.

United States Department of the Interior. Bureau of Land Management. Wild Horse and Burro Quick Facts. 2016. <http://www.blm.gov/wo/st/en/prog/whbprogram/history_and_facts/quick_facts.html> Accessed March 2016.
Osterman-Kelm, S., E.A. Atwill, E.S. Rubin, L.E. Hendrickson, and W.M. Boyce. 2009. Impacts of feral horses on a desert environment. BioMed Central Ecology 9(22)

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HORSE AND BURRO WELL-BEING

Wild Horse and Burro Facts

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- Taxpayers pay about $50 million per year to care for horses and burros in holding.

Competition for resources can lead to starvation, dehydration, and death of wild horses and burros.

Even if all cattle were removed from the rangelands, wild horse and burro populations are projected to **surpass what Herd Management Areas (HMA) can support** by 2018.

BLM removed **9,073** animals from the range in **24** emergency gathers from **2006-2015**

Cold Creek Emergency Gather, Sept. 2015

(Credit: BLM Nevada)

Horses and burros that do not have adequate access to food will suffer a long, drawn-out death from starvation or become more susceptible to disease as a result of their poor health and emaciated condition.

The herd in this area was traveling more than 10 miles between water and forage areas, adding additional stress to the population. Veterinary reports found some individuals to be emaciated beyond recovery. There were no cattle grazing in this area.

Why does this happen?

Excess horses and burros significantly impact riparian areas in the arid and semi-arid rangelands they occupy. Their foraging behaviors result in the destruction of vegetative cover that would otherwise help protect from soil erosion, water contamination, and desertification (Osterman-Kelm 2009).

As water resources become depleted through desertification, horse and burro populations concentrate around limited water supplies. This concentration then amplifies the negative impacts of their foraging behavior.

Horse and burro populations will eventually exceed HMA carrying capacity, or the maximum population a HMA can viably support. At that point, limited resource availability will result in dehydration, starvation, and die-offs unless BLM intervenes.

Cold Creek Emergency Gather, Sept. 2015

When dehydration occurs, horses and burros experience extreme thirst, cramping, and lethargy before their blood pressure becomes so low that their hearts can no longer beat.

Improved management actions are needed for the humane treatment of free-roaming horses and burros.

United States Department of the Interior. Bureau of Land Management. Wild Horse and Burro Quick Facts. 2016. <http://www.blm.gov/wo/st/en/prog/whbprogram/history_and_facts/quick_facts.html> Accessed March 2016.

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Osterman-Kelm, S., E.A. Atwill, E.S. Rubin, L.E. Hendrickson, and W.M. Boyce. 2009. Impacts of feral horses on a desert environment. BioMed Central Ecology 9(22)

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EFFECTS ON NATIVE WILDLIFE

Wild Horse and Burro Facts

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Elk, mule deer, pronghorn, and sage-grouse rely on our public rangelands to survive. The well-being of native wildlife, including those of threatened and endangered species, is put at risk by the growing population of wild horses and burros.

Dominance Behavior – Horses have been known to exhibit dominance behavior towards native wildlife over common resources. For example, **bighorn sheep**, a native species in the rangelands, avoid watering sites when horses are present. The presence of horses at a resource **reduces bighorn sheep willingness to approach by 76%** (Osterman-Kelm et al. 2008).

Competition for Food & Water – Horses and burros must share resources with native wildlife.

Growing populations of horses and burros lead to increased competition with native wildlife over scarce food and water resources.

Horse herd chasing off native elk.

Why are horses considered non-native?

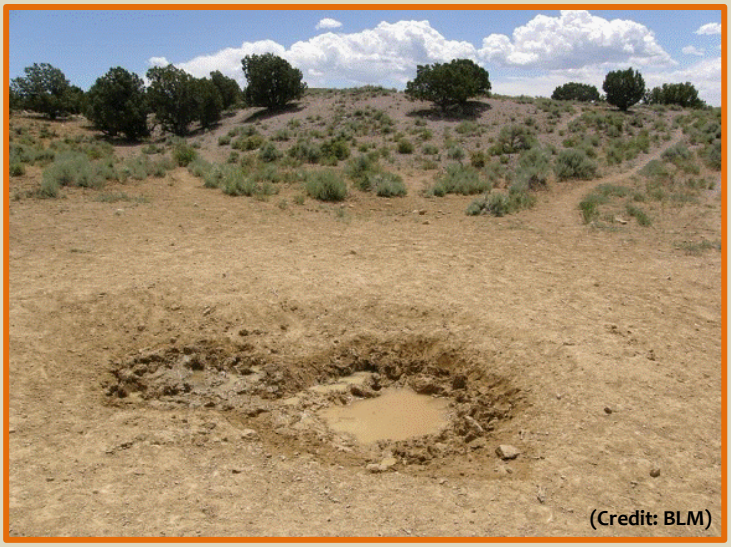
Although some horse lineages evolved in North America, they went extinct approximately 11,400 years ago.

Modern feral horses in North America are descendants of a domesticated breed introduced from Europe and are therefore considered a **non-native species.**

Impacts to Habitat - Horses exhibit non-selective grazing behavior, trample native vegetation, and cause soil compaction near critical access points to water. These behaviors have severe negative impacts on native wildlife. Areas with an overabundance of horses and burros have fewer plant species, lower occurrence of native grasses, higher presence of invasive species, and less vegetative cover (Beever & Aldridge 2011).

Greater sage-grouse – Sage-grouse habitats overlap with 30% of BLM horse and burro rangelands, making them susceptible to the changes in vegetation composition associated with horse and burro grazing. **A decrease in grass height is directly correlated with a decrease in nest survival** (Doherty et al. 2014)


(Credit: USFWS Pacific Region)


(Credit: BLM)

Impacts to soils by wild horses.

Ant Populations – Horse and burro foraging behavior has had a negative impact on ant populations. Ants are a necessary component of the western ecosystem, acting as decomposers and soil aerators.

In the western U.S., ant mounds have been found to have **2.2 – 8.4 times greater abundance in areas where horses have been removed** (Beever & Herrick 2006).

Beever, E. A., and C. L. Aldridge. 2011. Influences of free-roaming equids on sagebrush ecosystems, with a focus on Greater Sage-Grouse. Pp. 273–290 in S. T. Knick and J. W. Connelly (editors). Greater Sage-Grouse: ecology and conservation of a landscape species and its habitats. Studies in Avian Biology (vol. 38), University of California Press, Berkeley, CA.

Beever, E.A., Herrick, J.E. 2006. Effects of feral horses in Great Basin landscapes on soils and ants: Direct and indirect mechanisms. Journal of Arid Environments. 66:96-112.

Doherty, K.E., D.E. Naugle, J.D. Tack, B.L. Walker, J.M. Graham, and J.L. Beck.2014. Linking conservation actions to demography: grass height explains variation in greater sage-grouse nest survival. Wildlife Biology 2014 20 (6), 320-325

Osterman-Kelm, S., E.R. Atwill, E.S. Rubin, M.C. Jorgensen, and W.M. Boyce. 2008. Interactions between feral horses and desert bighorn sheep at water. Journal of Mammalogy 89(2): 459-466.

(*See generally*) United States Department of the Interior. Bureau of Land Management. Wild Horse and Burro Quick Facts. 2016. <http://www.blm.gov/wo/st/en/prog/whbprogram/history_and_facts/quick_facts.html> Accessed March 2016.

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RANGELAND ECOSYSTEM

Wild Horse and Burro Facts

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- Horse populations double every 4 years.
- There are >46,000 horses and burros in BLM off-range holding facilities.
- Taxpayers pay about $50 million per year to care for horses and burros in holding.

Overpopulation of horses and burros on rangeland ecosystems can lead to several negative impacts, including the spread of invasive species, water contamination, and desertification.

Horses and burros damage landscapes by **trampling vegetation, compacting soil, and over-grazing forage plants.** Areas inhabited by horses and burros tend to have fewer plant species, less vegetative cover, and an increased susceptibility to invasive plant species – which can have **ecosystem-wide implications.**

Species that may be affected by excess wild horses and burros:

Greater Sage-Grouse

(Credit: U.S. Fish and Wildlife Service)

Bighorn Sheep

(Credit: Jon Sullivan)

Reptiles and Mammals

(Credit: Seney Natural History Assoc)

Horses have physiological attributes that are unique for rangeland ungulates, leading to greater ecosystem damage (Mernard 2002).

Effects on water quality and riparian areas:

Root systems break up and aerate soil, allowing rain water to penetrate. When horses and burros deplete vegetation and remove roots, erosion and soil temperatures increase. This can lead to a shift in plant and animal communities (Osterman-Kelm 2009).

Appropriate management levels (AML) are based on the amount of forage resource available in an area, with regard to multiple land uses.

What about cattle grazing?

To prevent overgrazing, livestock permits are based on available forage. Authorized livestock grazing on BLM-managed land has declined by nearly 50% since the 1940's, and has **declined on public rangelands by 30% since 1971.** Meanwhile, the horse and burro population on BLM land has **increased by 250% since 1971.**

In studies where horses and burros were excluded from plots of land, exclusion areas had higher plant density and diversity than horse-grazed areas. The more heavily vegetated area behind the fence is a horse exclusion plot (Beever 2000).

Beever, E., P.F. Bruzzard. 2000. Examining ecological consequences of feral horse grazing using exclosures. Ecosphere 60(3):236-256

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THE WESTERN HERITAGE

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The western rangelands have been utilized by ranchers, farmers, hunters, and recreationists for centuries. Wild horse and burro overabundance has depleted resources that are valuable to the western way of life.

Ranching & the Western Tradition

The BLM manages **155 million acres of public land** for livestock grazing and administers **18,000 permits and leases** to ranchers to graze on public lands.

Cattle ranching is a living tradition in the American West and one that exemplifies the identity of the region. For modern-day Western communities, well-managed rangelands provide economic opportunity, support habitat for wildlife, and preserve an iconic way of life.

Multiple-Use Rangelands

Under the Federal Land Policy and Management Act of 1976, the BLM must manage public lands for multiple-use, including public recreation, wildlife conservation, and cattle grazing. The excess horse and burro populations above **Appropriate Management Levels (AML)** upsets the balance provided by multiple-use land management and required by federal law.


(Credit: USDA)

Recreation & the Economy

Ecosystem degradation caused by horses and burros **negatively impacts** the economic value of public lands for rural western towns.

$646 billion is contributed in direct spending in the American West by outdoor recreationists, including hikers, hunters and bird-watchers for equipment and travel. This spending generates approximately **$39.7 billion** in state and local tax revenue.

Hikers explore the rangelands in Nevada.

Outdoor recreation supports over 6.1 million jobs and funds $110.3 billion in salaries/wages.

Federal agencies cannot control when and where wild horses and burros graze. Therefore, it is important that the BLM and Forest Service manage populations to a level where the range is able to support them.

(*See generally*) United States Department of the Interior. Bureau of Land Management. Wild Horse and Burro Quick Facts. 2016. <http://www.blm.gov/wo/st/en/prog/whbprogram/history_and_facts/quick_facts.html> Accessed March 2016.

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TAXPAYER DOLLARS

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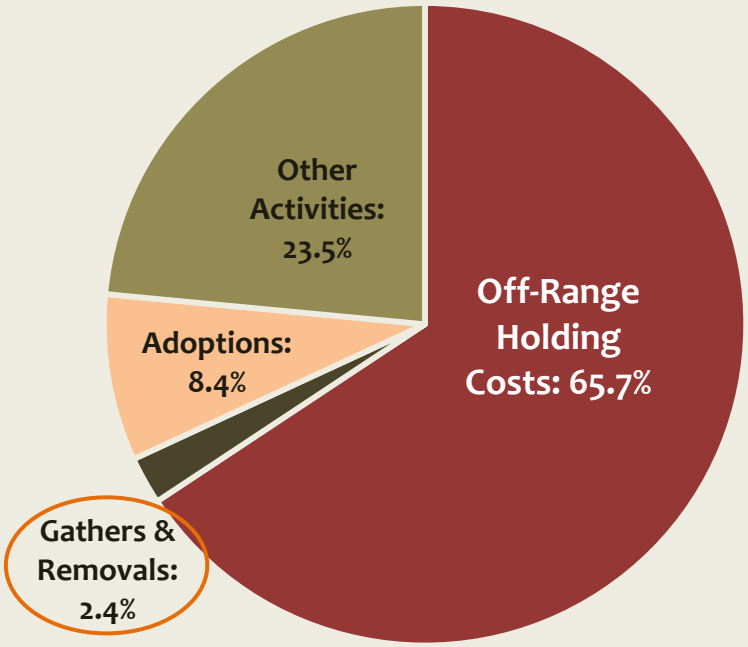
The biggest cost to the American public is leaving horses and burros on the range because of their long-term, negative environmental impacts. However, funding for on-range management continues to decrease.

BLM Wild Horse and Burro Program Fiscal Year 2015 Expenses




(Credit: BLM Nevada)

Horses in holding at the Northern Nevada Correctional Center.

In 2015, each horse or burro adopted into private care cost BLM an average of **$2,400** in program costs.

Each animal kept in holding costs the BLM nearly **$50,000** over its lifetime.

In 2015, off-range holding costs amounted to nearly $50 million

Between Fiscal Years 2012-2015…

Off-range holding costs have increased by **$6.4 million**

Gathers and removals spending has decreased by **$6 million**

Increasing funding for off-range holding fails to address the core issue of rangeland overpopulation.

Overpopulation of on-range horses and burros results in substantial financial costs to public land managers and private landholders, limiting multi-use yields (Bastian 1999).

In 2015, BLM spent about **$100,000** on implementing **population growth suppression measures** on **469 animals.**

BLM is investing **$11 million** over 5 years to research longer-lasting **fertility control methods,** inluding safe and humane spay/neuter methods.

Modeling Study: How Much do Various Management Scenarios Cost?

Simulations of a variety of management scenarios find that fertility control treatments reduce program costs, but **only as long as removal rates were maintained.** When fertility control treatments were utilized in conjunction with a decrease in removals, overall costs went up.

Overall, there was an inverse correlation between cost-effectiveness and average annual population sizes – cheaper management options corresponded to smaller population growth.

Contraceptive use did not eliminate the need to remove wild horses and burros from the range in any of the scenarios (Barthalow 2007).

Barthalow, J. 2007. Economic Benefit of Fertility Control in Wild Horse Populations. The Journal of Wildlife Management. 71(8):2811-2819.

Bastian, C.T., L.W. Van Tassell, A.C. Cotton, M.A. Smith. 1999. Opportunity costs related to feral horses: A Wyoming cast study. Journal of Rangeland Management. 52:104-112.

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MANAGEMENT OPTIONS

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Increase Adoptions into Private Care

Pro - Fewer horses would be in holding & more horses could be removed from rangelands.

Con - There is a lack of public demand for horse and burro adoptions and high costs associated with BLM's off-range holding facilities and adoption program.

Furthermore, at the apex of annual BLM horse and burro adoptions, only ~8,000 were adopted. Even if BLM can replicate that number, it would not be enough to keep pace with current population growth rates.

BLM Adoption Statistics: Adoptions and Expenses

Fiscal Year	Number of Adoptions	BLM Adoption Expenses	BLM Off-range Horse & Burro Holding Costs
2012	2,583	$4.6 mil.	$43.0 mil.
2013	2,311	$7.5 mil.	$46.2 mil.
2014	2,135	$7.1 mil.	$43.2 mil.
2015	2,631	$6.3 mil.	$49.4 mil.

Current trends show a decrease in annual adoption demand and rising off-range holding costs.

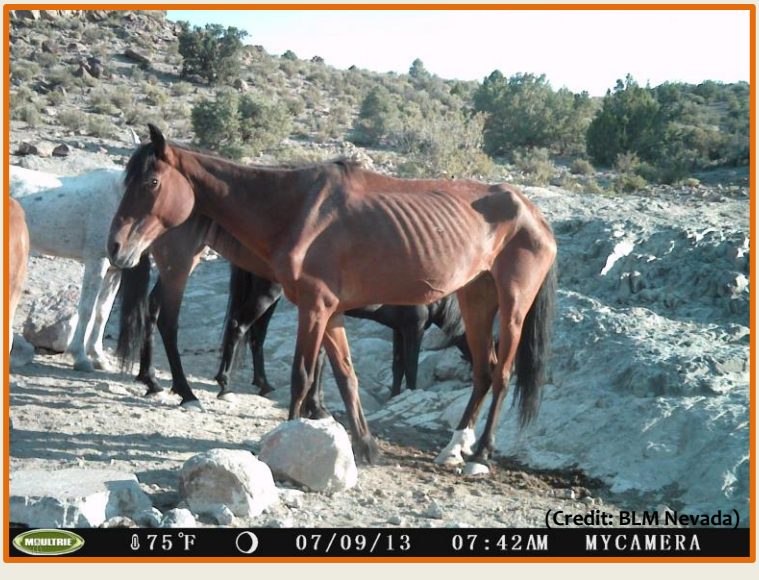
Current horse and burro management actions are proving to be insufficient in maintaining the number of horses and burros on public lands at appropriate levels.

Status Quo – Leave Excess Horses and Burros on the Rangelands

Pro - Leaving the horses and burros on the range would reduce some of BLM's financial burdens—for now—and would allow the horses to roam free.

Some may also view this as an opportunity to remove livestock and other uses from public lands.

Con - Horse numbers **double every 4-5 years**. Significant and concentrated population increases lead to range degradation and desertification. Animals would eventually suffer from starvation and dehydration.



(Credit: BLM Nevada)

Implement Current Fertility Control

Sterilization: Surgically rendering an individual reproductively inviable.

PZP (*procine zona pellucida*): A fertility control vaccine that is hand-administered to animals.

Pro - Lower reproductive rate means fewer gathers, horses in holdings, and taxpayer money spent on holding.

If Herd Management Areas (HMA) are maintained at Appropriate Management Levels (AML) with sufficient fertility control, horses may remain on the range where the public can visit and view them as free-roaming. Also, fewer gathers will occur, leading to less stress on the horses.

Con - PZP has limited use because it must be administered every year, but effective administration is nearly impossible within a larger HMA. **Current 2 year or longer vaccines are not working.**

Fertility control alone will not reduce herd sizes to a sustainable level in a timeframe that would save the ecosystem from severe degradation.


(Credit: John Nelson)

Gather, Remove, and Hold Excess Horses for Remainder of Their Life

Pro - Provides a thriving natural ecological balance so the remaining horses, wildlife, livestock, and other multiple uses can thrive.

Once numbers are within AML, fertility control actions can be implemented to keep numbers at that level and reduce the need for further gathers.

Con - Taxpayers fund the care of each horse in holding, which is approximately $50,000 per horse over its lifetime.

Sell Horses without Restrictions

Pro - Significantly reduces the cost of holding facilities and allows for the removal of excess horses from rangelands. Once numbers are within AML, fertility control actions can be implemented to keep numbers at that level.

Excess horses are not left on the range to degrade the range, starve to death, or held in captivity at the taxpayer's expense.

Individuals/groups wishing to protect the horses could purchase and care for them. Entrepreneurial opportunity would exist for those with large land holdings to care for privately owned "wild" horses.

Horses that are not purchased by those wanting to "protect" them could provide protein for those in need or those who choose to use it.

Con - Emotional issue for some individuals, as they consider horses and burros as pets and fear they would be sold for slaughter or treated inhumanely.

(*See generally*) United States Department of the Interior. Bureau of Land Management. Wild Horse and Burro Quick Facts. 2016. <http://www.blm.gov/wo/st/en/prog/whbprogram/history_and_facts/quick_facts.html> Accessed 28 March 2016.

American Farm Bureau Federation • American Sheep Industry Association • Congressional Sportsmen's Foundation
Masters of Foxhounds Association • Mule Deer Foundation • National Association of Conservation Districts
National Cattlemen's Beef Association • National Rifle Association • National Wildlife Refuge Association • Public Lands Council
Public Lands Foundation • Rocky Mountain Elk Foundation • Safari Club International • Society for Range Management • The Wildlife Society

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Updated: May 2016

Final Position Statement

Feral Horses and Burros in North America

Feral horses and burros are invasive species in North America. Exotic, non-native species are among the most widespread and serious threats to the integrity of native wildlife populations because they invade and degrade native ecosystems. When invasive species are perceived as a natural component of the environment, the general public may regard them as "natural," not understanding the damages they inflict on native systems. These misperceptions create special challenges for wildlife managers. As a result, some groups advocate conservation and management of exotic species that promote their continued presence in landscapes where they are not native. Because these species are exotic, few policies and laws deal directly with their control. Feral horses (*Equus caballus)* and burros *(E. asinus)* that roam freely across western North America and along the Atlantic coast are examples of such species: they are iconic and beloved by some, but damage wildlife habitat and require improved and sustainable management practices. The numbers and impact of feral horses and burros can be difficult to control, amplifying their effects on native habitat and wildlife. In some cases, management of feral horses and burros and their effects divert resources (human and financial) from management of native species and habitat.

Feral horses and burros in North America are descendants of domestic horses and burros that either escaped from or were intentionally released by early European explorers and later settlers. Although many horse lineages evolved in North America, they went extinct in North America approximately 11,400 years ago during the Pleistocene, along with many other mammals. All horses and burros now present in North America are descendants of those domesticated in Eurasia and Africa (respectively) and were subjected to many generations of selective breeding (artificial selection) before they were introduced to North America by settlers. Since native North American horses went extinct, the western United States has become more arid and many of the horses' natural predators, such as the American lion and saber-toothed cat, have also gone extinct, notably changing the ecosystem and ecological roles horses and burros play.

Herds of feral horses and burros can damage the habitat they occupy. Estimates suggest that these herds range across more than 45 million acres in 10 American states and 2 Canadian provinces in western North America. Feral horses are also found in eastern North America on barrier islands off the coasts of Maryland, Virginia, Georgia, North Carolina, and Nova Scotia. Large herbivores (both native and non-native) disturb landscapes by trampling soils and vegetation, selectively grazing palatable plants, and altering the distribution of nutrients in the ecosystem. Research in the Great Basin has reported that areas inhabited by feral horses have fewer plant species and less grass, shrub, and overall plant cover than areas without horses, and more invasive plant species and weeds such as cheatgrass, an invasive species that degrades wildlife habitat. Riparian and wetland areas may also be impacted by feral horses and burros through soil compaction and increased erosion. The overall impact feral horses and burros have on any type of ecosystem depends on intensity and duration of use, timing, and the health and

resilience of the area. Where feral horse and burro density is high, lands are degraded, water resources are limited, and native species are already stressed, impacts can be substantial.

When feral horses and burros are introduced to an ecosystem, much of the native habitat is used by these non-native grazers. Free-ranging horses typically use higher elevations and steeper slopes than cattle, often moving to higher elevations for grazing, defense, and temperature control. Because of horses' flexible lips and long incisors, they are able to crop vegetation close to the soil surface, which can delay re-growth of grazed plants. The digestive systems of burros and horses dictate that they must ingest more forage per unit of body mass than any other large-bodied grazer in western North America. Feral horses are also dominant among native Great Basin ungulates in social interactions, notably at watering areas. There may not be aggressive behavior among horses, deer, and bighorn sheep (*Ovis canadensis*), but the presence of horses can affect the distribution of native species and their use of the habitat.

The diet of feral burros overlaps a great deal with that of bighorn sheep and uncontrolled burro populations have been predicted to lead to greater competition for forage and a decline in the populations of bighorn sheep and other native animals. Burros have one of the most-inclusive diets of large mammals. Given the climates that their ancestors inhabited, extant burros typically live in the hotter, drier ecosystems of North America. In those systems, rainfall is so scant that annual productivity is very low, and recovery from disturbance has been reported to require decades to centuries, depending on the type, intensity, and duration of the disturbance.

The small reptiles and mammals in the western North American ecoregion that depend on burrows and brush cover to survive and breed are lower in species diversity and less abundant in horse- and burro-occupied sites. These reptiles and mammals are an important component of the ecology of desert systems because they are a link in the food web, and perform numerous critical ecosystem functions (e.g. prey base, nutrient cycling, seed dispersal, insect control).

A variety of management practices have been in use since Congress passed the Wild Free-Roaming Horses and Burros Act in 1971, which guides management of feral horses and burros on Bureau of Land Management (BLM) and U.S. Forest Service lands in the western U.S. Existing management practices include: periodic population counts and rapid assessments of ecosystem status to determine where overpopulation exists; roundups to capture and transport animals; use of contraception to reduce productivity; adoption of animals to private owners; and the humane euthanasia of old, ailing, or unadoptable animals. However, management involving euthanasia, and sometimes roundups, is severely restricted by public opinion. While the public and interest groups express concern for the affected horses and burros, they often fail to consider the conservation of native plants and animals in the ecosystem, and the likelihood that horses and burros will die from starvation, thirst, and exposure when their numbers exceed the carrying capacity of the region.

Due to public opinion, animals passed over for adoption are not euthanized; instead, they are placed into short- or long-term holding facilities. The number of animals adopted annually has declined in recent years, necessitating additional holding facilities. In turn, program costs are rising to unsustainable levels and diverting funding that could be used to manage and sustain habitats for native wildlife. Sound, scientifically-based feral horse and burro management practices should be employed to conserve the highly sensitive arid and semiarid ecosystems of the West and keep taxpayer costs to an acceptable level.

The policy of The Wildlife Society regarding feral horses and burros is to:

1. Encourage the BLM and U.S. Forest Service to place primary emphasis upon the habitat needs of native wildlife and plants when developing, revising, and implementing herd management plans and to include wildlife biologists with differing areas of expertise on planning teams.

2. Encourage the U.S. Fish and Wildlife Service and National Park Service to remove feral horses and burros from all refuges and parks to protect wildlife and their habitat, historic and archaeological resources, and other trust values.

3. Encourage the BLM to eliminate feral horse and burro populations in Herd Areas that have been determined to have insufficient habitat resources necessary to sustain healthy horse populations.

4. Recommend that BLM and other responsible agencies direct adequate attention and resources toward accurately and precisely identifying the impacts of feral horses and burros on wildlife populations, habitats, and other natural resources managed for public benefit by 1) developing and implementing appropriate survey and removal methodology 2) conducting surveys and removals in a timely manner to minimize impacts on natural resources that can result from the overpopulation of feral horses and burros and 3) identifying and mitigating impacts on perennial and ephemeral riparian and wetland habitats, upland habitats, and threatened, endangered, and special status species of wildlife. Inventories should be performed using scientifically-based abundance estimation techniques that quantify population size and associated estimate error.

5. Support the use of roundups to remove feral horses and burros from rangeland while simultaneously seeking opportunities to improve the knowledge and use of the best and most humane capturing and handling methods.

6. Recognize that adoption programs are a socially acceptable method for removal and relocation of feral horses and burros, but that the pool of possible adopters is declining and adoption is not a viable long-term solution to overpopulation.

7. Support euthanasia as a humane method for removal of old, ailing, or unadoptable feral horses and burros and as a possible method to control population size.

8. Recognize that no feral horse or burro management plan should depend solely on fertility control given the uncertainty, logistical difficulty, and great expense that still exist regarding these methods.

9. Support increased funding for scientifically-defensible assessments of ecosystem conditions and interactions between feral horses and burros and native wildlife used to make decisions related to feral horses or burro management. Such assessments should consider the welfare of the feral horses and burros, and the ability of the system to conserve native plant and animal populations and provide ecosystem services such as clean air, clean water, and carbon sequestration.

10. Support the management of feral horses and burros at or below Acceptable Management Levels using a statistically valid sampling methodology. Underestimated populations can hinder management plans and lead to increased levels of resource damage.

11. Discourage the conversion of currently viable, ungrazed native or converted grasslands to pasture lands to house unadoptable horses and burros, privately or publically owned.

12. Cooperate with the conservation and animal-welfare communities to educate the public and key decision makers about the evolutionary history and ecological role of feral horses and burros and the negative impact they have on native vegetation and wildlife, including mammals, birds, reptiles, amphibians, and endangered species.

Approved by Council July 2011. Expires October 2016.