EXTENSION
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Wild Horses and Burros: An Overview

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Wild Horse and Burro Populations in the U.S.

Based on DNA testing, most scientists believe that modern horses and burros are not native to North America; their ancestors became extinct on the continent about 10,000 years ago (Beever, 2003). Modern horses and burros were introduced to the continent with missionaries and explorers in the late 1400s through the 1600s.

As European settlers moved into the west, horses became an icon of the "spirit of the west." In response to concerns that wild horses were being mistreated, congress first passed the Hunting Wild Horses and Burros on Public Lands Act in 1959 (Public Law 86-234). This was followed by the 1971 Wild Free-Roaming Horses and Burros Act (Act) to protect free-roaming horses and burros on lands managed by the U.S. Forest Service and the Bureau of Land Management (BLM, 2017a; Public Law 92-195). To implement the 1971 Act, the federal government created Horse Management Areas (HMA).

Horses and burros that are associated with federal HMAs are considered "wild"; this term has contributed to the misconception that horses and burros are native species. Additionally, although most scientists disagree, some members of the public feel that horses have been on the continent long enough to be considered wild. This differing of opinions

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among segments of society and scientists has caused problems with horse and burro management for more than 4 decades.

Populations of Horses and Burros

A wild animal is an organism that has not been domesticated or become accustomed to depending on humans for survival. A feral animal is considered one that once was domesticated

"Wild" or Feral Horses

"Wild" or feral horses found throughout the United States look just like domestic horses, without combed manes or brushed pelage. They are the same species, *Equus caballus*, whether cared for by a person or free-roaming.

They range in size from 4 - 5ft (to their back), and can be a variety of colors: white, grey, black, brown, painted, palamino, and various combinations of these colors.

Photo courtesy of BLM

but has become wild over time (Merriam, 2017). Most horses and burro populations became feral hundreds of years ago, and these are the "wild" horses we refer to. Sometimes, domesticated horses are abandoned or lost on rangelands. If they survive, they become newly feral. Should they join an existing herd of wild horses, their offspring would look like those horses within the herd. Because they are genetically similar, it is difficult to tell how long a horse or horse population has been feral just by looking at it.

"Wild" free-roaming horses live in 10 western U.S. states, while burros range in Arizona, California, Nevada, Oregon, and Utah. The Bureau of Land Management estimates that there are over 72,000 wild horse and burros on their lands. Additionally, the U.S. Forest Service estimates that there are 10,000 wild horses on their lands. Feral horses and burros - animals not protected by the 1971 Act - live on tribal, federal and state lands in these and many other states, including the barrier islands off the coast of Maryland and Delaware. The Navajo nation estimates that there are up to 40,000 horses and burros on their lands (http://www.hcn.org/issues/49.20/). Therefore, there could be more than 120,000 horses and burros living in North America in 2017.

Why Is an Overpopulation a Concern?

When the 1971 Act was passed, biologists estimated that western rangelands could sustain 27,000 horses and burros. Based on this estimate, this means that the United States has an over-population of wild horses and burros in excess of 45,000 animals; this does not count the animals not protected by the 1971 Act. Often people wonder why we can't simply let the horses and burros multiply until they find a natural balance, and maintain a population at "carrying capacity" - the number of horses and burros the landscape can support, based on the availability of plants and water. It is a complex answer.

First, there are no natural predators to create a source of mortality for a herd of horses to help slow their population growth. Certainly, there are predators that eat wild horses when they overlap with their territories. For example, mountain lions have been reported to prey on wild horses in Nevada (Turner, Jr. et al.; 1992). However, this predation is not enough to slow down the rate of growth of a herd of horses. Therefore, only the availability of food can limit how fast a population of horses can grow.

Second, horses forage differently than the other ungulates (elk, deer, cattle) in North America. They eat a broader range of plants, eat plants closer to the ground, and live in a wider range of habitats than any other ungulate species (Scasta et al., 2016). Because they can live in so many different habitats and eat a variety of plants, their populations can get quite large before they are limited by food. This can be a problem because their digestion is different than the native grazers, and they need to eat more food than elk (*Cervus elaphanus*),

"Wild" or Feral Burros

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When domesticated, burros are referred to as donkeys, but they are the same species, *Equus asinus*. They stand about 5ft tall at the shoulders, have short manes and long ears. They can be light grey, brown, to black in color. This species evolved to exist in the dry climates of Africa and now inhabits many desert areas of the United States.

Photo courtesy of BLM Nevada

Photo courtesy of Anita Ritenour

sheep (*Ovis spp.*), pronghorn (*Antilocapra americana*), or beef cattle (*Bos taurus*) of similar weight, and require more water (Beever, 2003; Gooch et al. 2017). Because of their large size, they can outcompete the native ungulates for this food and water (Hall et al., 2016; Gooch et al. 2017). Thus, a herd of horses at carrying capacity could mean reduced food or water resources for any other native species of ungulate. This intense use of the environment has repercussions for the suite of other wildlife species that exist in the western United States, including birds and small mammals. In arid environments, intense foraging by horses and burros can negative impact the ecology of the environment (Beever and Aldridge, 2011).

It is important to note that these conflicts don't always occur; the presence of the conflict depends on the vegetation that horses and burros are eating in an area and the other grazing species that exist in that area. However, the BLM has a mandate to manage lands for "multiple use" so the numbers of wild horses and burros must be balanced with other uses such as wildlife habitat, recreation, mining and energy development and livestock grazing. It must manage for a balance of all species of wildlife, not the carrying capacity of one species.

Horses have the potential to exist in most ecosystems from California to Kentucky, and Canada to Mexico. Letting them expand until they find a balance with the ecosystem has the potential to devastate the vegetation and the native wildlife that depend on it, across the west coast, the Intermountain West, and the Great Plains. Along the way, their increasing populations would create conflicts with farmers, ranchers, and recreationalists (e.g., campers, hikers, OHV users, etc.). Therefore, the intent of horse and burro management is to manage them at a level balanced with the ecosystem within the designated HMAs.

What Does the U.S. Do with the Extra" Horses and Burros?

Since the 1970s, the US has had more horses and burros in their management areas than the vegetation and water available could support, according to BLM land use plans (BLM 2017a). Currently, the federal government has two programs designed to alleviate the stress horses and burros cause to the land. First, the BLM organizes round-ups of horses that are over HMA carrying capacity . Following round-ups horses are made available for adoption by the public for $25. Adoptees must meet certain requirements in order to adopt a wild horse or burro. They are allowed to take the animal home for a 1 year trial period. After a year the adoptee must demonstrate that the horse has been well cared for. After verification, the horse ownership is transferred to the individual.

The Wild Free Roaming Horse and Burro Act mandates that the federal agencies:

"Maintain a thriving natural ecological balance among wild horse populations, wildlife, livestock, and vegetation and to protect the range from the deterioration associated with overpopulation."[1]

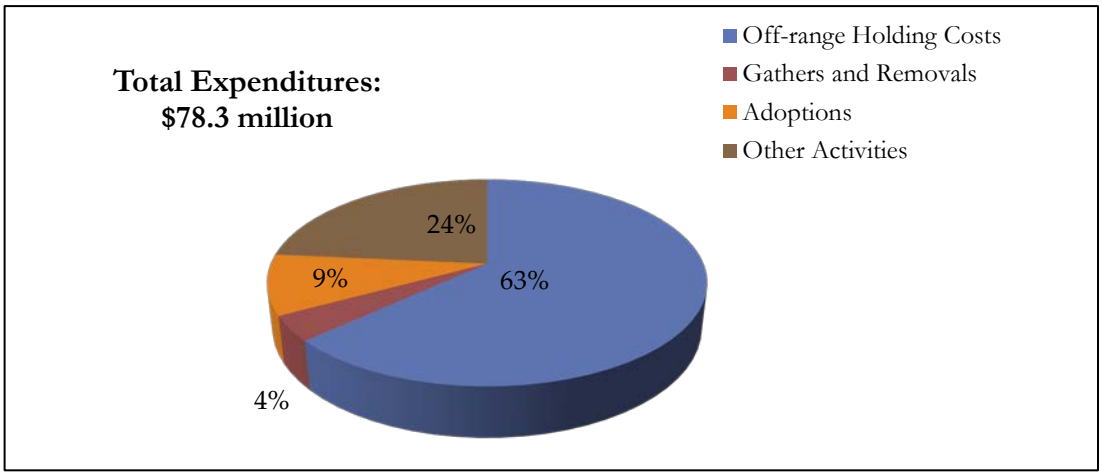
Alternately, an individual can purchase the horse or burro at the adoption events for $125; this immediately transfers ownership to the individual. However, ownership still comes with some restrictions. Individuals cannot buy a large number of horses in one sale, and must be able to

demonstrate that they intend to train and care for the purchased horses and burros. Sales to persons interested in slaughtering and selling horse meat is not allowed. Annually, about 2,000 - 3,000 horses and burros are adopted or purchased. A horse may be presented at auction up to three times; afterward, the animal is unlikely to be adopted and is transferred to a long-term facility. Currently there are more than 45,000 horses and burros in holding facilities across the western U.S. Caring for these wild horses and burros costs taxpayers nearly $50 million A YEAR (Figure 1).

Future Management of Wild Free-Foaming Horses and Burros

Horse populations grow at a rate of 15-20%, because of high fertility rates and low mortality rates. Their populations can double every 4-5 years. Currently, the Bureau of Land Management has the funding and capacity to round up a maximum of 5,000 animals each year (BLM 2017a). This is less than the number of new horses and burros born each year (BLM 2017b). Therefore, with current management strategies, horse and burro populations will continue to grow and expand across the western landscape.

Figure 1. The distribution of costs expended by the Bureau of Land Management for the Wild Horse and Burro Program during fiscal year 2016 (BLM 2017a).



Western rangeland and wildlife biologists meet regularly to create strategies for managing horses and burros at a level that is balance with the native plants and animals of the western landscapes (www.wildhorserange.org). Future strategies under discussion are: using contraception to decrease fertility, changing adoption laws to allow for people to purchase a herd of horses to keep on private lands, humane euthanasia (lethal control) of old, sick or unadoptable horses and burros, strategized hunts to mimic predation and increase mortality of horses, and to allow horses to be sold for slaughter. Each strategy has its pros and cons and no strategy will be successful by itself.

Conclusion

Horses and burros are viewed as symbols of the American West, although most scientist believe they are not native to this continent. Since 1971, they have been protected on federal lands in western states by the Wild and Free-roaming Horse and Burro Act. Because of their large body size, they can outcompete native species for food and water resources. Their ability to live in a variety of habitats and eat a wide range of plants allows their populations to grow large, unchecked by any predators. When populations grow too large, they can cause damage to vegetation and water resources, and exclude native species from resources. To alleviate these problems, the BLM conducts round-ups to gather "extra" animals and attempt to sell them to private landowners. Those not sold are kept in long-term holding facilities, funded by US taxes. Unfortunately, in many horse/burro management areas, horse and burro populations are growing faster than the BLM can gather them and find a home for them. Future management to reduce horse and burro populations in problem areas may include a combination of fertility control, a change in adoption laws, euthanasia or lethal control, or a change in laws regulating the sale of horses for slaughter.

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