

Liminal Mustangs:  
*Wild Horse Controversy and Policies in the  
Southwestern United States*

A Thesis Presented to  
The Faculty of the Department of Southwest Studies  
Colorado College  
In Partial Fulfillment of the Requirements for the Degree  
Bachelor of Arts

Sereniti Mora  
May 2017

*“She often exuded faint undertones of hay, dust, and the fragrance of horse, which once you smell it you always miss it. Humans were meant to live with the horse.” —Louise Erdrich’s The Round House*

## Introduction

“Captain, target.” I point to the rope tied to the fence. He swings his head to brush it with his nose before looking at me expectantly. “I need more than that.” Huffing through his nose, he tries again, quicker this time. “No, buddy. Target.” I rest my finger on the rope and his head follows. He nibbles at it while I count out “3, 2, 1, deet!” The high-pitched sound indicating he’s finally earned his reward. I ask again after he swallows. “Target.” This time he touches it and wiggles his nose, but not for long enough. We try again. Squinting my eyes, I look around to check the progress of the other girls with their own horses. Robyn seems to be doing well with Kahlua, considering how skittish he was yesterday. Captain starts bobbing his head at me to get my attention. I help him by touching the rope again and then give him a little extra food to keep him from getting discouraged. I check his water and then let myself out of his pen. We both need a break and this desert heat is brutal.

I’ve only been working with Captain for a few days, but it feels like weeks. Time has little meaning here, and progress is measured by the accomplishments of the horses. Some days they’ll fly through whole sections of the training criteria, and other days will be spent trying as any ways as possible to get through a single goal. The most frustrating part is knowing that Captain would do most anything I ask, but it’s sometimes exceedingly difficult to make him understand exactly what I want. I have a handful of horses assigned to me, and all at different levels of their training. Each of them have such strong

personalities that it's easy to imagine them absolutely thriving with their future adopters. But for every horse that we can train and adopt out to private homes, there are hundreds more which may never do anything besides sit in government holding facilities.

Captain and I spent our 2016 summer at the Mustang Camp, a small nonprofit deep in the northwestern canyons of New Mexico. This facility works as an intermediary for facilitating the adoptions of mustangs like Captain from government holding into private homes. The camp uses a modified training program to increase the chances of successful adoptions for both the mustangs and their adopters. I interned there for the summer to gain a hands-on perspective of the details and relative success of the government's mustang management, which has been a highly-debated topic for many years.

Conservation efforts in the 1970s protected the mustangs from unregulated over-hunting and charged their management to the U.S. Bureau of Land Management (BLM). The BLM has since resorted to removing horses from their allocated land to stabilize population numbers, which have grown drastically due to their protection and lack of natural predators. Several of the policies and discussions surrounding the long-term management of the horses are controversial and leave people frustrated with the level and direction of efforts invested in the issue. Many argue that the current methods of population control cause more problems than they solve and are a dramatic misuse of resources.

### *Overview*

In this thesis, I explore many of the controversial topics outlined above to address some of their fundamental underlying issues. This discussion is based on research through primary and secondary literature, legislation, web resources, and is supplemented by an analysis of the Mustang Camp program. My experience in the non-profit sector of this public land management conundrum is just one

side of the issue, though a particularly important one in my opinion. Through my research and participant-observation, I suggest that the collective understanding about this unique species must shift if there is to be any sort of truly long-term solution. In the following section I look closely at the roots of this problem through the complex history of the horses and the many collective shifts in perception that have already taken place.

## History of Horses in the Southwest

### *The Rise*

The mustangs currently roaming the Southwest are the descendants of animals shipped from Europe at the time of the Spanish conquest, and later during the formation of the colonies.<sup>1</sup> The success of the Spanish conquest of the Aztecs was largely due to the handful of horses they brought with them to the New World. Throughout his memoir of the Cortéz expedition, “The True History of the Conquest of New Spain,” Bernál (Díaz 1632) contributes much of their success to the few horses used as war mounts for the strength they provided and the fear they instilled in the native peoples as a large and unknown animal.

After the initial conquests in Central America, horses rapidly spread up through northern Mexico and into the current United States. This was due to exploration and settlement funded by the Spanish

---

<sup>1</sup>All the horses in North America today are descendant from these European immigrants, though many would say that the actual beginning of this story starts long before the arrival of the Spanish in the 1500s. It would instead refer to the prehistoric equids which roamed North America during the Pleistocene epoch, the same time as other large mammals such as the mammoths and giant sloths. The extinction of these mammalian species within just a thousand years of each other, and just 10,000 years ago, is barely the blink of an eye in geologic time. The reason for this mass extinction is highly debated, though popular ideas blame it on climate change and/or over hunting by early humans settling on the continent at that time (Steiguer 2011, 21).

crowns, as well as trade with native peoples and the expansion of missions rapidly built for their religious conversion (Steiguer 2011, 66). Large herds were raised across the southwest, but before the introduction of barbed wire fencing, it was common for horses to wander off or be raided by one group or another. The first “wild” horse herds grew from these stray horses. The word “mustang” itself comes from the Spanish word *mesteño*, which is loosely translated to “stray animal” (Steiguer 2011, 104). These populations of feral horses reproduced rapidly and were continuously augmented by free-roaming and released livestock so that by the end of the 1700s through the early 1800s, there were an estimated 2-5 million horses freely roaming across the United States (Zarn, Heller and Collins 1977, 14).

### *The Decline*

Throughout the 19<sup>th</sup> century and into the beginning of the 20<sup>th</sup> century, Anglo-American settlers moved west across the country and brought new forms of fixed field agriculture and domesticated livestock at such a magnitude that it would prove to forever alter the landscape of the Southwest. The homesteading lifestyle required work animals - particularly horses - for a means of travel and working the land. The need for more work animals led some men to build businesses from the already large horse herds that could be utilized as a very profitable resource for those willing to take the risk of working with them. The drastic demand for horses led to the rise of professional horse hunters called ‘mustangers’ who “could sell all the wild horses they could catch” (Zarn, Heller and Collins 1977, 15).

Most mustangers spent their time simply rounding up the horses in densely populated areas and shipping them off to the highest bidder. Some groups went a step further and even made on-the-range breeding programs to produce a popular breed from European stallions such as draft horses or thoroughbreds mixed with strong and sturdy mustang mares. The mustangers would turn a stallion loose in an isolated herd and then conduct roundups for the foals the next year. The foals would be shipped off for sale as dependable and versatile work horses (Zarn, Heller and Collins 1977, 136). Many

men found great success in filling the horse demand. All they had to do was go out and get them. The mustanging profession would quickly prove to be a strong force in the fate of the wild horse populations.

The demand for horses wavered at times throughout the 19<sup>th</sup> and 20<sup>th</sup> centuries, but a quick succession of wars helped to keep the demand consistently high. The Civil War and the Indian Wars were among the first to garner a large demand for horses to be used as labor animals, mounts, and even for human consumption. Military groups facing harsh winters in the North often relied on the fat “Indian ponies” to survive (Steiguer 2011, 121). At the end of the 19<sup>th</sup> century, the Boer War in South Africa created additional demand for horses to be gathered and shipped overseas for British use. The British acquired horses from other places, but the U.S. had by far the largest concentration of horses ready to be gathered and shipped. Because a portion of the horses died during travel and many were killed in battle, the high demand remained until the end of the war three years later in 1902 (Zarn, Heller and Collins 1977, 15). This trend continued at the onset of WWI, which spurred the huge demand for additional horses for the war effort.

The invention of the internal combustion engine was a game-changing development for the legacy of the horses. Mustangers shifted to chasing the mustangs with mechanized vehicles rather than on horseback, and the mustangs were sorely outmatched. Small planes were used to scare the horses out of elevated, vegetated areas where they had been difficult to track, and then chased down on open, flat areas using trucks. The mustangers either steered them to waiting corrals or simply lassoed them to heavy objects and waited for the horses to exhaust themselves (McNight 1959) (*see appendix A for photographs*).

In many ways, the Taylor Grazing Act of 1934 was “the knockout blow” to the free-roaming horse of the Great Plains. The act was intended to regulate the use of common lands to prevent overgrazing and preserve them for future use (Zarn, Heller and Collins 1977, 138). It essentially instituted a permit system to allow groups to use given areas of land for grazing and later allowed for the erection of fences to separate permit areas. The fences restricted the movement of the mustangs, and many permit holders wanted them removed from their land so that there was no grazing competition for their livestock. This led to the rise of mustangers as they are best known – freelance workers rounding up mustangs at any cost and shipping them to the highest bidder; usually a slaughterhouse (Zarn, Heller and Collins 1977, 138).

During the 1920s, pet food canneries began buying horses as quickly as could be delivered. By the mid-1930s, there were hundreds of companies reportedly producing pet food from slaughtered horses with a fraction of the companies emerging as giants among the industry. Among just a handful of companies on the east and west coast that built up their own mustanging operations, tens of thousands of mustangs were shipped for slaughter (Steiguer 2011, 140)

This commercialized slaughter for pet food also paved the way for exporting horsemeat for human consumption to various European nations. In some cultures around the world, horsemeat is considered a staple or a delicacy. The U.S., in contrast, has a rather strong cultural taboo against consuming it. It is considered barbaric to consume animals which are regarded as more than simple livestock, and within the past century horses have largely shifted to companion and entertainment animals in the societal mind. Horses are often held to a higher position than most other domesticated animals for their rich history and powerful symbolism.

These complex labels which people assign to horses are in many ways the crux of the controversy surrounding them. The horses mean something different to everyone, which makes them a unique challenge for official classification and management. Even other high profile and controversial species have a clearly defined place in their ecosystems, such as wolves as a keystone species (Dalke 2011). On the other hand, the current state of modern mustangs is far more closely tied to human interference and their claim to their habitats is far more controversial. The current management of mustangs is the result of a handful of policies put in place to end the inhumane treatment and declining population of the United States' wild horses.

## The Wild Horse Controversy and Resulting Policies

### *The Wild and Free-Roaming Horses and Burros Act*

The unregulated round ups and slaughters continued throughout much of the mid-1900s. The massive decreases in wild horse populations and the barbaric methods for rounding them up caused many Americans to grow concerned and lobby their politicians for regulation and humane treatment. Leading this charge was the famed Velma B. Johnston, better known as "Wild Horse Annie." One day in 1950, on her way to work as a secretary, Velma was stopped at an intersection next to a livestock truck dripping with blood. When she looked closer, she saw horses in a sad state with obvious injuries and anxiety, including one young horse having been trampled on the floor of the trailer. Like others, Velma had heard rumors of the poor treatment of the mustangs, but never to this degree. She followed the truck that morning to a slaughterhouse where she saw them unloaded and learned about the "bloody commercial exploitation that had been going on for a number of years on a large scale" (Steiguer 2011, 153).



In the years that followed, Velma worked tirelessly to advocate for the horses and end the inhumane treatment. She quickly learned that her efforts were opposed not only by ranchers fighting for grazing land, but also by hunters who saw the horses as a menace, taking resources from other game species. This would prove to be a powerful group, since hunting was a large and profitable system with which many people were involved in some way (Steiguer 2011, 156). To create a lasting impact on the fate of the mustangs and make it impossible for her opponents to reverse any work she accomplished, she corresponded heavily with most everyone involved and gathered support from several public groups. As she later stated, her long-term goal was for humane horse treatment, but she began by simply attempting to make the whole horse slaughtering system as unprofitable as possible for those involved (Steiguer 2011, 157).

In 1959, with the assistance of Nevada Congressman Walter Baring, Velma wrote and passed a federal wild horse bill to ban the use of mechanized vehicles for rounding up horses. The bill also prohibited poisoning water sources and outlined a vision for proper government management of the wild horses on public land. For the first time in a legal setting, the horses were referred to regarding their potential to become an asset to the public lands rather than a hindrance (Steiguer 2011, 160). Appropriately dubbed the “Wild Horse Annie” act, this bill was a huge step in the proper protection and management of the wild horses. Their victory was not celebrated for long though, as there was more work to be done. Mechanized vehicles were prohibited on federal lands, but scores of horses were still being rounded up and inhumanely sent to slaughter. Velma and Walter worked together for another decade to produce a more lasting and comprehensive solution for the plight of the mustangs.

This next piece of legislation would arrive in 1971 and encompass a variety of specific and important notes to make the bill as strong as possible for future generations to follow. The first challenge to address was how to define the horses to be protected. Many used the term “wild” to describe the free-

roaming horses, but Velma knew that such a term would never hold up in court because of the unique origins of the mustangs.

Before the Spanish conquest, equids had not been in North America since the Pleistocene, so that all the horses now roaming public lands are descendant from once domesticated ancestors. This means that technically speaking, they are “feral” and not truly “wild.” Using the term “feral” itself was also problematic because it had demeaning connotations and in its own way did not properly represent the horses. “Mustang” was likewise complicated because strictly speaking it referred only to the true Spanish-type mustangs which by then had been so dispersed and crossbred out of the population that only a handful of horses could be properly protected in a court of law. In the end, the mustangs (and their donkey counterparts) would be dubbed “wild free-roaming horses and burros’ [which] means all unbranded and unclaimed horses and burros on public lands of the United States” (WFRHBA 1971).

One important factor to the success of the upcoming legislation was the extent of public support for the mustangs and the work of their advocates. The Pryor Mountain Herd is a noteworthy example of the strength of the growing public support. The Pryor mountains on the border of Montana and Wyoming were home to a relatively small and isolated herd, well-liked by the locals. These horses, like others across the Southwest, were targeted for removal by large groups holding permits from the Taylor Grazing act. At one point, the horses were proven to have particularly strong Spanish-type traits due to their relative isolation for more than a century. Reporters quickly found out about this and began circulating stories to raise awareness and garner support for the protection of the mustangs with such strong ties to their romanticized history. Hundreds of concerned citizens began writing letters to Wyoming’s governor asking for protection on behalf of the horses (Steiguer 2011, 168).

Subsequent attempts to remove the horses and outrage on the part of their advocates eventually led to the support of animal welfare groups such as the Humane Society, which filed a lawsuit against the Secretary of the Interior and the BLM for their proposed tactics of removal. The strength of the public support immediately urged the Secretary “to create the Pryor Mountain Wild Horse Range, a permanent 32,000-acre home for the mustangs reserved from BLM and National Park Service lands” (Steiguer 2011, 169). This strong public support was key to the success for both the Pryor Mountain herd and Velma’s legislation. The sheer amount of citizen support was unheard of as this was the first major issue to incite widespread public interest in the use and management of federal lands. Before this, all federal land was utilized and managed by the government in whatever way they saw fit, without any substantial public input.

After a decade of hard work to write a bulletproof piece of legislation and gather public support, Velma introduced The Wild and Free-Roaming Horses and Burros Act (WFRHBA) of 1971 to congress which passed within the year. The opposition by hunting groups and BLM officials, which may have once been a strong force to contend with, was easily surpassed by the sheer strength of the proposed act and the public support behind it (Steiguer 2011, 175). The bill promised protection and humane management of all mustangs and burros on federal land to be enforced by the BLM and run by an advisory board of horse and ecology experts.

At the time of the hearing, Velma outlined her vision for mustang management. She called for a reevaluation of the priority of cattle ranchers on federal lands to the detriment of the larger ecological picture and urged the groups in charge to focus on research surrounding the mustangs because so little was known about them in an ecological sense (Steiguer 2011, 172). The strength of the protections placed on the mustangs by this act was a huge success in 1971, but in the decades since then, the act

itself would create many challenges for their proper management. The controversy over the fate of the mustangs, however, has not disappeared.

### *Multiple Land Use and Population Challenges*

A noteworthy aspect of the WFRHBA was that it gave mustangs their own designation and management, which was entirely separate from set definitions of wild animals such as game animals or pests. Their classification as not-quite-wild, but free-roaming for centuries, was both necessary for ensuring proper management, and complicated for the same reason. The “wild or feral” classification is generally the basis for determining whether animals are considered a native or invasive species, and therefore the direction of their management. Per the dominant ecological perspective, if they are native, they must be protected as a vital aspect of the ecosystem, filling a niche and influencing the environment accordingly. However, if they are invasive, they are most likely harming the delicate balance of the ecosystem which may cause damage to other truly native species and the health of the area overall. Neither of these fully apply to the horses, but biological and ecological research on them and the impact they have is vital for proper mustang management.

To monitor and influence the health and populations of the horses, the BLM formed Herd Management Areas (HMAs) so that small pockets of horses can be more closely monitored and managed separately (*see appendix B for map*). The HMAs are overseen by an advisory board made up of a variety of groups representing multiple interests and backgrounds. These include “wild horse and burro advocacy groups, wild horse and burro research institutions, veterinarians, natural resource organizations, humane advocacy groups, wildlife associations, and livestock organizations, plus [educated representatives of] the general public” (BLM n.d.).

The HMAs represent areas of federal land which has been expressly used for the protection of mustangs and where they are actively monitored in health and in relation to their environment. In recent years, with ever-growing pressures by different groups to use the land, the BLM has begun focusing on a multiple land use policy. Federal lands, being public lands, cannot be isolated or “privatized” by one group at a time. The land must be available for use by multiple groups or interests (Dalke 2011) For example, cattle grazing areas could also contain energy sourcing material such as wind turbines or oil drilling. Often, these interests overlap with HMAs to abide by this policy, but it has been the cause of a lot of controversy regarding the mustang management by the BLM.

One of the strongest pressures on the BLM is to maintain public lands for use by cattle and sheep grazing. Many argue that the horses overgraze and destroy the land so that the cattle are unable to graze (Dalke 2011). To address conflicts like this, the BLM must weigh the actual impact of the mustangs on the land and continue to ensure that they have sufficient land and resource availability as afforded to them by the WFRHBA.

For each HMA, the BLM assigns an estimated carrying capacity for the number of horses which can safely roam. Any more than this number and the over population would become detrimental to the balance of the ecosystem and the health of all the plants and animals in the area. With the protection and management efforts afforded to them by the WFRHBA the mustang populations have grown steadily, even exponentially at times, to the extent that population control has become a major issue (BLM n.d.).

It is estimated that healthy mustang populations can double in size every 4 to 5 years. These populations are protected from major human manipulation by the BLM, and the mustangs in the southwest have essentially no natural predators. They live on vast spaces of land where wolves, bears,

and mountain lions once roamed before eradication efforts took hold. Now, wolves are confined to a few small national park areas while bears and mountain lions are heavily controlled, particularly near ranch land and urban areas (Dalke 2011). Without these types of large predators, horse population growth remains relatively unchecked until more drastic consequences such as overgrazing take effect.

To keep wild populations low, the BLM will often conduct gathers to round up excess horses and place them in government holding (*see appendix C for photographs*). Though still protected under the act, the horses are available for adoption to transfer them to private ownership and reduce the number of horses in federally funded facilities (BLM Web). This adoption system has been the answer for thousands of horses removed from the range, but has also been the source of further complications.

## Current Wild Horse Management

The Bureau of Land Management (BLM) introduced the adoption program in 1973. It has proven to be marginally successful, but has declined in popularity in the last few years, so that the number of horses being held by the BLM far exceeds the number they can adopt out each year. The BLM continues to round up horses from many HMAs that have exceeded their defined capacity. The gathered horses are placed in short term holding corrals and long term holding pastures rented from private ownership. These holding facilities, particularly the long term holding for the older, less adoptable animals, consumes roughly 50% of the funding spent on the entire Horse and Burro program. It costs, on average, \$55,000 per horse to round up and hold in a long-term facility. Since they are placed on privately owned land, the horses have access to greater resources. Without many of the natural selection pressures they face on public land, the horses can live for up to 10 more years than they do in the wild, consuming more resources and costing the program more money (Loomis 2017).

## *Adoption and Training Programs*

To reduce the number of horses and burros kept in the costly long term holding, adoption and training programs have taken center stage. The BLM sponsors internet adoption events every few weeks and in-person events are hosted all over the country for people to see and adopt mustangs up-close. Through its partnership with the BLM, the Mustang Heritage Foundation (MHF), a nonprofit group founded in 2001, has sponsored well known and successful events such as the Trainer Incentive Program (TIP) and the Extreme Mustang Makeover (EMM). The goal of these programs has been to change the prevailing negative notions surrounding mustang adoption through showing the mustang's versatility and success (MHF n.d.). Because these horses are wild, many people are reluctant to adopt and put the work in to train them.

Events such as the Extreme Mustang Makeover help to showcase the wide range of abilities of the mustangs with proper training. It is a family event and trained mustangs are auctioned off for a substantial profit at the end of the show. The horses are successfully placed in homes and the proceeds go directly back into the program. Horse trainers are considered a very influential group in the horse world, and through these events, the merits of the mustangs are on display for both the trainers and audience (MHF n.d.). Events like these educate the public about the plight of the mustangs in government holding and work to change long-standing notions about the stereotypically wild and untrainable mustangs.

Trainer Incentive Programs (TIP) remove the burden of working with completely green horses for potential adopters. Horses are sent home with registered trainers to teach basic commands necessary for safe horse ownership. These required skills include teaching the horses to properly lead, understand spatial boundaries, load into a trailer, allow hooves to be cleaned, and many other simple skills required

for safe and successful horse ownership. The trainers are then responsible for “marketing” the horse to find an adopter (MHF n.d.). The adoption still goes through the BLM, which requires an application and proper facilities for housing the horse. The training facilitates successful adoptions for both horse and adopter, as the horses are exposed to people and the expectations of further training, and adopters are more confident in working with a horse that already has a foundation of skills and commands.

The Mustang Camp was formed through a modification of the TIP program, so that it receives an average of 20 new horses every few months from short term holding facilities. The camp has run this way for years under annual contracts with the BLM and Forest Service<sup>2</sup>, but the BLM has only recently publicized the “Storefront” program following the same guidelines. This program gives \$1000 per horse to trainers who can take and train a minimum of 10 horses at a time and advertise for adopters (EMM 2016). This is a bargain for the BLM, which spends more than \$49 million per year to feed and house the nearly 47,000 horses under its care (BLM n.d.). Through this program, there are likely other facilities similar to the Mustang Camp, but I don’t know of any working on such a scale other than rescue groups, which do their work after a mustang has already been adopted and transferred to private ownership.

The contracts formed through the storefront program are the main contribution to the Camp’s operating budget, supplemented by grants and small donations. As a nonprofit, the grants are often essential for fulfilling extra funding needs, but many of them come with complex rules and restrictions, so that the money cannot be used freely to improve the facility. One of the most frustrating limitations is that nonprofit money must be used in a way that can eventually be transferred if needed. This means

---

<sup>2</sup> The National Forest Service is responsible for the (relatively small) fraction of mustangs on National forest land. The Forest Service works closely with the BLM and is generally included in all the major programs such as the TIP, but pays the expenses of their horses separately.



that if the camp were to go under or disperse, any of the supplies bought with grant money must be ready to donate to another nonprofit. While I was at the facility, some of the fencing on many of the pens needed to be replaced, but the money received from a grant could only go toward temporary/movable fencing rather than a fully grounded fence, which would hold up better in the long run. The animals are not gentle to the fencing, but the new equipment must be able to be dismantled and transported to a different nonprofit if needed.

The Mustang Camp is run by a married couple at their secluded property deep in a Northwestern New Mexico canyon. Patricia handles most of the training, while her husband John is responsible for more of the office and house work that keeps the facility running and gets the horses adopted. Together they teach small monthly classes in the warmer months to students wishing to learn animal training techniques. A handful of students generally stay on throughout the summer to essentially become full-time trainers alongside Pat. I took this class and interned at the facility for an additional month with two other students. Pat uses a behavioral science-based training method, which relies on positive reinforcement and applied behavior science.

The class was set up to be as hands-on as possible. We were out watching the training and interacting with green horses on the first day, and by the third, each person was assigned two of their own horses. Like many other applied sciences, animal behavior, notoriously unpredictable, is particularly difficult to learn in a classroom setting. In the first few days, we spent some time going over many of the theoretical aspects of behavioral science, much of which I already knew from previous classes. These included the principles behind positive reinforcement and basic equine behavior, which I'll discuss later in this section. The most important work, and the part of the class that I learned the most from, however, was simply working with the horses and gaining an understanding of how each animal responds to my actions.

Until you understand many of the major principles, every action is essentially trial and error to see what does and doesn't work. Only after practicing the same skill with several horses was I able to make the connections and move past previously difficult issues. Days later, I could accomplish the same task in a fraction of the time it took in the first few days and with much less of a headache. By the time the class itself was ending, we had all become more confident in our expectations of both ourselves and the horses, and had established the rhythm that would shape the rest of our time at the camp.

Each morning started with feeding and mucking all the pens. Many people underestimate the work that goes into properly caring for horses and the long days associated with this kind of work. With an average of 50 head to care for each day (including the long-term residents) the mucking and feeding often took at least 45 min, usually an hour. Only then was there time for us to have breakfast and work in the classroom. We met every morning to discuss the progress of each horse and plan for the day. This was a time to work through any challenges a trainer was facing and schedule time for tasks which required more than one person or a specific space to accomplish. Then, the next 8 hours or so (with a short lunch) would be spent cycling through the horses, jumping from task to task and assisting other trainers with their own work. At the end of the day, everyone would come out to feed the horses an evening meal just before sundown. Dinner would be served in the evening before everyone went off to bed. The days were long, and the hot weather cruel, but it was amazing to see the progress the horses could make in one day.

Through behavioral science, much of this training is based in developing trust and reducing fear, since the horses are formerly feral animals unhabituated to humans. Although scientifically based techniques such as positive reinforcement are commonly accepted within the academic community, they are relatively new to the horse training community, which relies primarily on traditional pressure/release methods (Irick 2016). With the pressure method, the horse is essentially trying to do

whatever it takes for you to leave them alone. The “pressure” is simply inducing mild stress to get the horse to take some action, and then removing the stressful cue when they do something correct. Positive reinforcement, when viewed through a behavioral science lens, is basically the opposite of that.

Instead of inducing stress to get a response, positive reinforcement asks the horse to ‘play a game’ where they get a reward for doing something correct, but receive nothing for an incorrect behavior. As soon as the horse understands the game it is much more motivating than inducing stress and the horse is more likely to retain the correct behavior (Irick 2016). Over the span of a few days or even hours, the horses, when properly motivated with the correct rewards, can achieve huge amounts of progress and retain it much more easily than through traditional methods.

With the behavioral science-based method, the progress of each horse can be tracked through an incremental curriculum designed to ensure that all horses are fully prepared for adoption. Within a span of 2 to 3 weeks, most horses go from fearing hand-feeding, to allowing full handling and following all basic cues correctly. After just a few days of training it’s easy to see which horses are motivated enough to move through the training quickly, and which will require more time to become comfortable with the process. On the few occasions in which we were forced to rely on traditional pressure methods, the training of a single goal took more than twice as long as through positive reinforcement, and the horses clearly had a much more adverse reaction to it.

For weeks, I watched this program produce some of the most fantastic horses I’ve ever worked with, and I firmly believe that the use of many of these more “gentle” techniques, far surpass the effectiveness of more traditional methods in the long run. But, as much as we work to prepare the horses for as many different scenarios as possible, the adoptions are not always successful. In the first few days of the program, we were introduced to a lovely palomino mare named Baileys. Unlike many of

the other mustangs who arrived with her, Baileys was bold and friendly, not afraid to come right up to search for food and allow you to lightly pet her. She was very motivated and eager to learn with tons of personality, so it was not surprising when she was adopted and dropped off within just a few weeks of her arrival. I had no doubts that she would go on to be a lovely and spirited companion for her new adopter. Unfortunately, this would not prove to be the case.

Although her adopter's application was approved in advance by the BLM, and John approved of her new home when he dropped her off, she was returned to the facility within the week. John delivers every horse they adopt in order to do a home check and ensure that the horse settles in well. When she returned to the camp, she had become a completely different horse in that short time. Many of her bones were prominent through her skin and she continued to move anxiously even once back in her old enclosure with familiar horses. She would come up to us but then dart off immediately after snatching up some food. She was a completely unrecognizable horse for days.

One of the strongest limitations facing many of the horses we worked with was the result of their birth within the BLM holding facilities. Foals born in BLM facilities have known nothing besides the interior of an enclosure. There is little enrichment in these facilities, and therefore their interaction with other foals and mustangs tend to become the center of their lives (Irick 2016). They see very little interaction with humans besides basic feeding and secured handling, so the foals become extremely social with each other and herd-bound as they grow. This makes the transition into private homes very difficult and many struggle with the shift, particularly those moving to homes with no other equines nearby.

In Bailey's case, the sheer shock of moving to a new place was jarring enough, but with no other horses nearby, she became extremely agitated as soon as she arrived. She paced non-stop in her new

enclosure without stopping to eat or drink. Her adopter provided her with all the food, water, and shelter she needed, but it seems his mistake was to keep her isolated even from his own donkeys when she arrived. He wanted to have time alone with her to bond before introducing her to them, which is the type of controversial thinking that many would praise and others would scoff at.

In my assessment, the unfortunate truth is that if any of these variables had been changed, this situation may not have resulted in a failed adoption. Perhaps if he had kept her near the donkeys, even just within her line of sight, much of her anxiety may have been reduced. Or, perhaps more could have been done earlier in her life, either within our training or during her time in a BLM facility, to prevent her herd-bound tendencies from holding her back. She has since been successfully adopted to a new home with other horses, where she seems healthy and happy.

The adoption and training programs are the main route for transferring horses from public to private ownership, but there are simply not enough adopters willing to make the leap. To further reduce the number of horses in long term holding, the BLM made a 2004 amendment to the WFRHBA to release horses for sale (WFRHBA 1971). This is different from adoption in that the ownership is transferred immediately, rather than after one year of “adoption” in which the horses must prove to be well taken-care-of. While the sale option is more efficient in the transfer of horses to private ownership, it increases the risks for negative results.

There is concern about the sale of horses to butchers. Although the original act of 1971 prohibited all sale of the horses, the 2004 amendment allows for the sale of horses over the age of ten and those passed over for adoption three times (BLM n.d.). The outright sale of these horses increases the likelihood of their dispersal, and generates important revenue for the program to continue at a sufficient capacity. Despite the amendment, the BLM stands by its policy to never send any wild horses

or burros to slaughter. However, during the inevitable transition period, there were a few instances including a particularly large and publicized instance, where groups of horses slipped through the cracks and were sent to slaughter. The BLM stepped in immediately and enacted a bill of sale imposing criminal repercussions if the humane treatment rules were not obeyed (BLM n.d.). There are currently no equine slaughterhouses legal within the United States. Many people praise this fact, but the sad truth is that many U.S. horses are still slaughtered. They are simply shipped across the border to Mexico or Canada, or taken to illegal slaughterhouses which are unregulated for clean or humane treatment as they once were (Steiguer 2011).

### *On the Range Management*

It is widely recognized among those familiar with the Wild Horse and Burro program that adoption is not enough to deal with the complex population demands. Even BLM officials will readily admit the adoption programs are not a strong enough demand to make a true impact on the current populations. Of the more than 45,000 horses in holding, less than 3,000 were adopted in 2016 (Loomis 2017). Fortunately, adoption is also not the only potential solution, though it is generally the least controversial. One idea which has been gaining momentum recently is the use of contraceptives on a portion of the horses left on the public land. Contraceptives have been considered the best option for long term population control, but have shown few results in the minimal preliminary investigations. This is generally due to several factors, including a general reluctance to use them at all due to controversy over their safety and relative effectiveness (Steiguer 2011).

The contraceptives currently used are short term vaccines, with ingredients derived from pig ovaries. As vaccines, they can be difficult to administer effectively to wild populations. The horses must either be captured and injected one at a time, or injected with darts from helicopters which is also inefficient and costly. Each of the injections last just 1-3 years before they need boosters, depending on

the type, which is difficult to track and administer as consistently as required. A large-scale contraceptive program, in order to be successful, would have relatively hefty upfront costs, and require a lot of time and labor for administering the vaccines and conducting the necessary research. In the long run, however, these efforts could drastically reduce total costs as fewer horses would have to be placed in long term holding (Garrott, et al. 1992). Recall that it costs the BLM \$55,000 *per horse* to round up and place horses in long term holding. If preventative measures such as contraception could be better researched and put into action, many of these unnecessary costs, particularly the cost of long term holding, could theoretically be removed altogether. The large-scale use of contraceptives, in conjunction with other preventative measures, has the potential to be revolutionary in the field of wild horse management.

## Conclusion

### *Comprehensive Management Solutions*

Let me begin this final section by stating that my intention is not to simply criticize the current management of mustangs. The state of mustangs today has drastically improved since their decimation in the early 20<sup>th</sup> century. The Wild Horse and Burro act, spearheaded by Velma Johnston, was a grand success, and necessary for the protection and proper management of the wild horses remaining in the Southwest. Since the formation of the herds hundreds of years ago, they have been a symbol of freedom and the “open range,” and they mean more to the public than can sometimes be explained. However, in the time since their management was put in place, they have returned to populate at a rate unsustainable for the land they were allotted. The BLM management, which was once exactly what was needed, is no longer sufficient for the modern mustang.

With funds being drastically funneled to long term horse care, and horse adoptions at one of the lowest rates they've been in years, the BLM has been feeling the pressure to make some radical changes. In board meetings in early September 2016, there was a proposal to euthanize all unadoptable animals and release for sale without stipulation all animals currently in holding (Brulliard 2016). The uproar following this announcement shut down any further discussion in that direction, but it got a lot of attention and helped to highlight the urgency of this problem (Kovatch 2016). Something must be done. The BLM needs to come up with a radical management plan which will do more to prevent the need for roundups, and focus on getting the horses out of holding and into private hands.

This means three major steps need to be taken. The first is to fix and/or support the programs currently in place to get horses currently in holding out of the system and adopted into private homes. Nonprofits like the Mustang Camp provide a great service for getting horses out of government holding and helping to ensure successful adoptions. These types of small-scale programs will eventually make a large dent in the number of horses in holding, but they need a proper support system to be set in place to streamline the adoption process and make sure the groups have the funding to properly manage the facilities for such a large volume of horses.

The second step is to invest more time and money into preventative measures, such as contraceptives, so that many of these issues can be stopped at the source. If you limit the rate that the horses are reproducing, there will eventually be fewer horses on the allotted land and therefore fewer horses that must be removed. I absolutely believe that the widescale implementation of contraceptives among wild horse populations can have a positive long term effect on the state of mustang management. It may have hefty upfront costs and require a lot of manpower, but there are more than enough volunteers willing to put in the time, and the efforts would more than pay for themselves in the



long run (Kovatch 2016). This does, however, require more research and a better understanding of the horses' impact on their land.

The third step then, (and perhaps the most important) is to simply conduct more research. We've had plenty of practice watching how mustangs move and determining the best ways to round them up, but we know embarrassingly little about their true impact on public lands. We know that their impact can certainly be detrimental, but we really have no explicit indication of how much. More research needs to be done on the actual effects that the horses are having on the land, as compared to other species such as cattle or sheep, as well as the differences between each herd and HMA. Wild horse management requires that wild populations are maintained "in ecological balance" with their environment (Loomis 2017). The problem is, there is no agreement over what this actually looks like, and how many horses truly are too many. Some argue that the current population caps placed on most HMAs are far too low, and the roundups are conducted unnecessarily (Kovatch 2016).

This type of research is also important because the current management as it is viewed today is fundamentally muddled. Wild horses are unlike any other species in the southwest, and therefore require unique management. Their current management is based on systems already in place for wild species, which can easily be classified as native or nonnative species. With their complex history, mustangs fall under neither of these terms and therefore their management is a hodgepodge of both. As defined as "neither classically livestock nor wildlife, the wild horse occupies a singular, exalted place on the Western range that pushes the land's caretakers deeper into political quagmire every year" (Loomis 2017). Those in charge of their management need to understand how these wild/feral/domesticated labels hinder the proper management of in-between species and issues such as mustangs. Their liminal status as neither truly feral, wild, or domestic, means that there is no precedent

for their proper and sustainable management. We need to tackle the issues as they arise, and work with what we've got.

If we extrapolate this issue further, it must also be understood that public lands are in a constant state of shift. Healthy population levels even just 50 years ago may be drastically different today. The land is subject to natural processes, which although they may appear to be drastic, are all part of a much larger system. This system has an equilibrium, to be sure, but humans tend to view a very narrow snapshot of the environment and equate that very specific set of conditions with the absolute norm (Monbiot 2014, 96). Wild horses must be managed within this fluctuating natural system, not within the rigid limits placed on them many years ago based on the environment at that time.

This is just one example of the way many species should be actively managed with their changing environment. A 2008 documentary suggests that “the mustang acts as an indicator for the health of public lands” where if even the hearty mustangs are struggling, it is due to improper land management by the BLM (Dalke 2011). Proper management should not necessarily be to preserve ecosystems at any given state, but rather to allow ecological processes to resume and maintain a balance (Monbiot 2014, 8). Mustangs can be a great example of the repercussions that proper or poor management of a given species can have on the animals, the environment they inhabit, and the public. Situations such as these help to set the ideal for good governance as we work to improve standards of wildlife management.

### *Saying Goodbye*

The Mustang Camp is located more than an hour from paved roads. On the day I was scheduled to leave, the sky opened up and turned the dirt roads into muddy rivers which my small city car couldn't hope to pass through unscathed. My disappointment quickly disappeared when I unpacked my things

and sloshed back out through the rain to work with Captain one last time. He's slightly pigeon-toed, which, though it didn't seem to bother him at all, made it more difficult to find an adopter willing to give him a chance. This meant two things: 1) He had not yet been adopted by the time I left, and 2) I had been allowed to continue training him passed the basic requirements and onto saddle work. I was ecstatic to work with him one more day, as we had ended my last day just before actually climbing up onto his back.

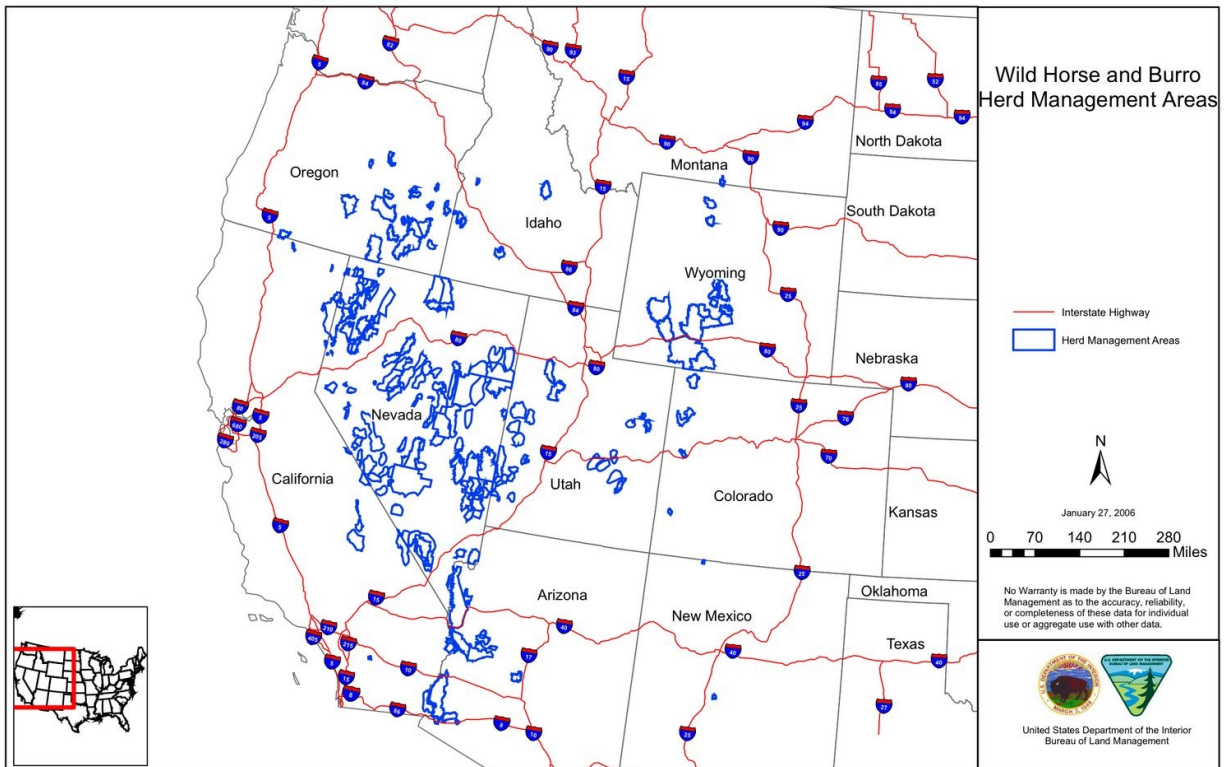
We practiced aligning his body to the fence I was sitting on, the way we had done the day before. Robyn stood by his head to feed him as I stood up on the fence and waved about. I stepped all the way down and then climbed up a little higher. Captain watched me, but he stayed focused on the steady stream of food. Soon I was clinging to the fence and swinging my leg over his back and pulling away. He flicked his ears at me but only shifted his weight. 10 minutes later, and with a serious leg work out, I was all but reclining with a glass of wine and a good book on his back. In that moment, I couldn't wipe the grin off my face if I wanted to. I got to sit on the back of my favorite wild horse, and he was going to be steady as a rock for his future adopters. Captain was my mountain, and as I sat there with him in the rain, I thought about how far we've both come since I first worked with him. It's been a long road since targeting the rope for a few seconds, but there's plenty more to be done.

# Appendix

## A. Images of mustang gathers (McNight 1959)



## B. Map of BLM and Forest Service Herd Management Areas (HMAs)



- C. Modern mustang gathers use helicopters to herd horses into processing areas, with the use of a trained “Judas” horse released among the wild to lead them in. Many criticize this process due to the percentage of horses injured or killed, and how stressful it can be for them in the long run.



## Works Cited

- BLM. n.d. *Bureau of Land Management: Wild Horses and Burros Advisory Board*.  
[https://www.blm.gov/wo/st/en/prog/whbprogram/Advisory\\_Board.html](https://www.blm.gov/wo/st/en/prog/whbprogram/Advisory_Board.html).
- Brulliard, Karin. 2016. "Rumer has it the government is oin to kill 45,000 horses. Here's the reality."  
*Washington Post*, September 16.
- Dalke, Karen. 2011. "A Translocal Perspective: Mustang Images in the Cultural, Economic, and Political Landscape." *Animals* 27-39.
- Díaz, Bernál. 1632. *The True History of the Conquest of New Spain*.
- EMM. 2016. "Storefront Program Press Release." *Extreme Mustang Makeover*. May 20.
- Garrott, Robert A., Donald B Siniff, John R Tester, Thomas C Eagle, and Edward D. Plotka. 1992. "A Comparison of Contraceptive Technologies for Feral Horse Management." *Wildlife Society Bulletin* 20 (3): 318-326.
- Irick, Patricia, interview by Conversation with Author. 2016. *Mustang Camp Director*
- Kovatch, Kristen. 2016. "BLM Wild Horse Advisory Board Proposes Euthanasia of Excess Mustangs: Q&A With Ginger Kathrens." *horsenation.com*, September.
- Loomis, Brandon. 2017. *Running Wild*. Directed by Pat Shannahan. Produced by AZ Central.  
<http://www.azcentral.com/pages/interactives/wild-horse-management-mustangs-north-america/>.
- McNight, Tom L. 1959. "The Feral Horse in Anglo-America." *Geographical Review* 49 (4): 506-525.
- MHF. n.d. *Mustang Heritage Foundation History*. [mustangheritagefoundation.org](http://mustangheritagefoundation.org).
- Monbiot, George. 2014. *Feral: Rewilding the Land, the Sea, and Human Life*. The University of Chicago Press.

Steiguer, J. Edward De. 2011. *Wild Horses of the West: History and Politics of America's Mustangs*. The University of Arizona Press.

WFRHBA. 1971. "Wild Free-Roaming Horses and Burros Act." *United States Congress*.

Zarn, Mark, Thomas Heller, and Kay Collins. 1977. *Wild, Free-Roaming Horses: Status of Present Knowledge*. Technical Note, Denver: U.S. Department of the Interior, Bureau of Land Management.