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Wild horse and burro management has been a controversial topic over the past several decades, since the passing of the Wild and Free-Roaming Horses and Burro Act of 1971, as federal land management agencies attempt to manage wild horses and burros in a way that supports natural ecological balance. In recent history, this balance has proven difficult to achieve due to extensive overpopulation of wild horse and burro herds throughout the western U.S. as indicated by studies of the ecological impacts of wild horses and burros. Land management agencies use a variety of methods to attempt to achieve a thriving natural ecological balance, many of which are objected to by wild horse and burro advocacy organizations and groups. Past research has focused on the ecological, economic, and policy that relates to wild horse and burro management. Inquiries related to the relationship between the advocacy groups and the federal land management agencies is lacking. This capstone project seeks to explore the relationship between the advocacy groups and federal land management agencies to identify areas of common perspective and identify potential bridges of communication and/or collaboration.

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Wild Horse and Burro Management: Public Perceptions of a Wicked Issue

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The author expresses sincere appreciation....

To Yvette Gibson and Amanda Gearhart

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List of Abbreviations

AML	Appropriate Management Level
AWHPC	American Wild Horses Preservation Campaign
BLM	Bureau of Land Management
FLPMA	Federal Land Policy and Management Act of 1976
GnRH	Gonadotropin-Releasing Hormone
HA	Herd Area
HMA	Herd Management Area
NEPA	National Environmental Policy Act
PZP	Porcine Zona Pellucida
USFS	United States Forest Service
WHB	Wild Horses and Burros
WFRHBA	The Wild Free-Roaming Horses and Burro Act of 1971

Introduction

Today, free-roaming horses and burros are considered “living symbols of the historic and pioneer spirit of the West” (The Wild Free-Roaming Horses and Burro Act of 1971). However, these majestic animals weren’t always in the American West landscape. Horses (*Equus ferus caballus*) native to the North American continent were part of the fauna of the Pleistocene epoch (Garrott, 2018) but, due to an expanding human population and changes in the climate around 10,000-14,000 years ago, horses became extinct in North America. Horses continued to evolve in Eurasia and around 5,500 years ago humans began to domesticate them and incorporate horses for societal uses. Approximately 500 years ago, when Europeans began colonizing North America, they brought with them domestic horses that escaped human control or were purposely released forming wild or feral populations. Although humans no longer had as much of a need for horses or burros, there was still a commensal relationship between humans and horses. From 1600 to 1900 wild horses were used primarily by Native Americans and pioneers who turned out their horses to improve the quality of the herds, and by the 19th century the estimated population of free-roaming horses and burros was 2-7 million (Beever, 2003).

By the mid-20th century, free-roaming horse populations had declined to approximately drastically due to the persecution, domestication and other means of removal, facilitated by the Taylor Grazing Act of 1934. (Beever, 2003). Until the 1950s wild horses had no legal status, which meant they could be captured, killed, and utilized for any purpose. In response to the perceived eradication of mustangs from public lands and inhumane capture techniques used by “mustangers”, Velma B. Johnston led a grass roots campaign to protect the horses. In 1959, congress passed Public Law 86-234, otherwise known as the “Wild Horse Annie Act”, which prohibited the use of motor vehicles to hunt free-roaming horses (Danvir, 2018) and outlawed

the poisoning of waterholes on public land. However, the law fell short of providing federal protection or management of free-roaming horses and burros, and by 1970 populations had declined to approximately 25,000 horses and burros on public lands in the west.

In 1971, Congress declared that “wild free-roaming horses and burros are living symbols of the historic and pioneer spirit of the West; that they contribute to the diversity of life forms with the Nation and enrich the lives of the American people; and that these horses and burros are fast disappearing from the American scene” which led to the passage of The Wild Free-Roaming Horses and Burros Act (WFRHBA) of 1971. The WFRHBA provided guidelines for how the Secretaries of the Interior and Agriculture should manage horse and burro populations on public lands. However, the BLM and USFS do not follow the management guidelines of the WFRHBA due to the public opinions that prevent the agencies from adhering to mandates in the WFRHBA. For instance, the WHFRHBA allows the Secretary to destroy in the most humane and cost efficient manner possible animals for which no adoption demand exists. Yet, historically and currently, this does not occur. Only animals that are injured or sick are destroyed. Currently, the number of horses and burros gathered off the lands each year far exceeds the number placed into private care by either sale or adoption. This has led to an excess of free-roaming horses and burros on the land and in holding facilities as well. As of October 2019, there were over 49,000 animals in off-range facilities while only 7,097 animals were adopted or sold in 2019. Meanwhile, gathers continue to occur throughout the 10 western states that the animals inhabit in order to try and manage the populations by removing portions of the on-range population.

The WFRHBA of 1971 authorized the Secretaries to protect and manage all free-roaming horses and burros as components of public lands, as well as designate specific ranges on the public lands for their protection and preservation. The WFRHBA outlined management

guidelines for the Secretaries and stated that management activities should be carried out at the minimal feasible level and in consultation with the wildlife agencies to protect the wildlife species that inhabit the lands. Since the protections of The Wild Free-Roaming Horses and Burros Act began in 1971, populations of free-roaming horses and burros have been growing at an average rate of 20 percent per year and nearly doubling their herd size every four years (Bureau of Land Management, 2020). The Bureau of Land Management (BLM) and United States Forest Service (USFS) manage 270 herd management areas (HMAs) and Herd Areas (HAs) across 10 western states including Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Washington, Utah, and Wyoming (Figure 1 and 2).

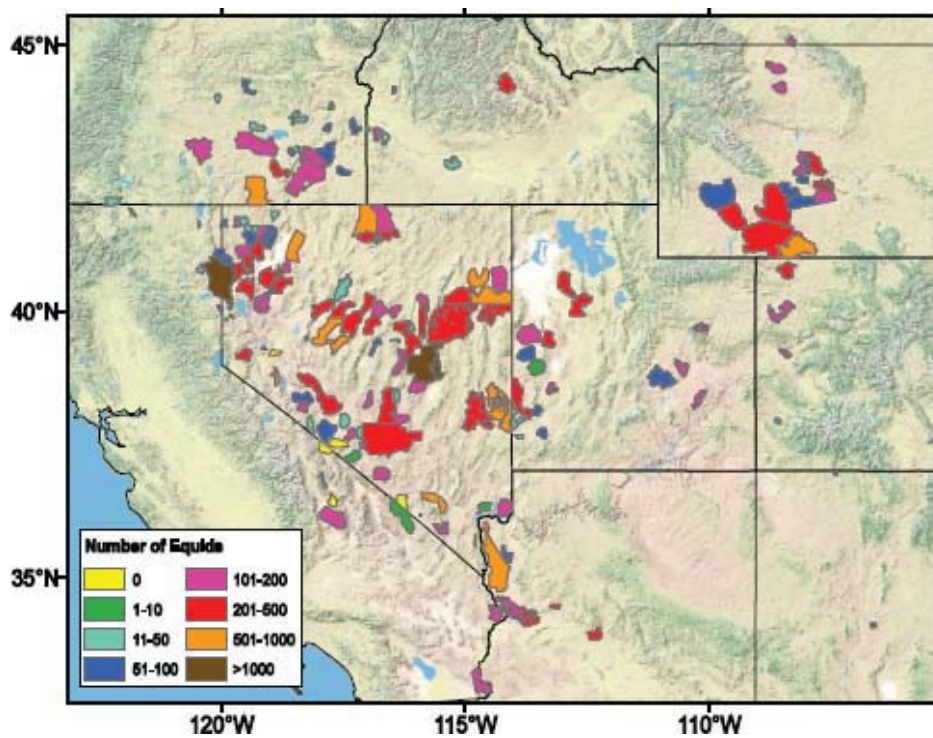


Figure 1: Map depicting current BLM Herd Management Areas for Free-Roaming Horses and Burros. (National Research Council, 2013)



Figure 2: Map depicting current USFS Wild Horse and Burro Territories (USFS, 2020).

As of March 1st, 2019, the on-range wild horse and burro population was estimated to be 88,090 animals for BLM herd management areas, which exceeds the appropriate management level (AML) of 26,690 by more than 61,000 animals (Figure 3) (Bureau of Land Management, 2020). Within the USFS wild horse and burro territories, it is estimated that the populations are approximately 7,100 wild horses and 900 wild burros. (USFS, 2020).



Figure 3: Taken from “Wild Horse Demography: Implications for Sustainable Management within Economic Constraints” by Robert A. Garrott. Numbers of wild horses (*Equus ferus caballus*) estimated to be living on Bureau of Land Management (BLM) administered lands in the western United States compared to the Appropriate Management Level (AML) determined by the BLM. Annual removals of wild horses as well as a projection of the range-wide horse population assuming a 15% annual growth rate in the absence of removals are also depicted.

Population growth rates of nearly 20% annually can be attributed to the protections of the WFRHBA and few natural predators. “Field studies indicate that mountain lions are generally the only effective predators on young horses, and only a few studies of small, isolated horse herds have documented mountain lion predation of sufficient magnitude to have a noticeable impact on population growth.” (Garrott, 2018). The Bureau of Land Management has been challenged with managing herds in a way that can “achieve and maintain a thriving natural ecological balance on the public land” (The Wild Free-Roaming Horses and Burros Act of 1971). The WFRHBA states that WHBs are an integral part of the natural system in which they are found, and provides protection from illegal capture, branding, harassment or death. Prior to the signing of the WFRHBA, populations were generally controlled by the public, as they were able to perform the above actions without penalty. However, since 1971, gathers have only been performed by the BLM and BLM-authorized contractors when an overpopulation has been

determined through a population survey or for an emergency (e.g., catastrophic wildfire or drought).

Over the past 50 years, wild horse and burro management has become a controversial topic of discussion with many stakeholders that have differing opinions on WHB management. From wild horse and burro advocacy groups to animal welfare organizations to livestock owners, both private and federal grazing permit holders, there is a wide range of viewpoints on how the wild horses and burros should be managed. Some believe that the WHBs should be left on the range as they represent the American west, while others believe the WHBs need to be managed in a way that protects the rangelands, yet another viewpoint is that the WHBs should be managed to allow sustainable livestock grazing without degrading the land. Federal land management agencies are mandated by federal policy to manage the wild horse and burro populations in a sustainable manner that allows for multi-use on public lands.

There are a plethora of wild horse advocacy and animal welfare groups with a wide spectrum of views and vested interests in wild horse and burro management. Some of these groups believe that wild horses are native to North America and have evolved here, despite a 10,000 year gap in the fossil record. These groups often believe that WHB should be managed as native wildlife, but do not support hunting seasons as a means of population control. Some groups believe that WHB populations will eventually reach a carrying capacity, and nature will self-regulate these populations. Other groups believe that natural predators, such as mountain lions, will regulate populations, although there has been little evidence for this in the past half century (Beever 2003). Still other groups believe that the federal land management agencies are deliberately falsifying population data and that no overpopulation exists. Some groups believe an overpopulation exists, but are not in agreement with how to solve the problem.

In 1976, Congress passed the Federal Land Policy and Management Act (FLPMA) which mandated that BLM manage their lands in a manner that would provide scenic, historic, ecological and archeological values, as well as provide food and water for wildlife, and recreation opportunities for the public. In other words, the public lands managed by the BLM needed to be managed for multi-use in a way that would be sustainable. In 1974, the Forest and Rangeland Renewable Resources Planning Act of 1974 was passed, which mandated the United States Forest Service to protect and enhance the productivity of the forest resources for future generations. By 1976, the WFRHBA had already been in effect for about five years with the goal of managing the populations for a thriving natural ecological balance. With the passage of the Federal Land Policy and Management Act of 1976 (Public Law 94-579), came one change to the WHB program, the BLM was allowed the use of helicopters for the purpose of transporting captured animals. This gave BLM the ability to use helicopters during gathers of wild horses and burros, which has led to controversy in the years following as many advocacy groups believe this method of gather can be stressful on the animals and should not be an approved gather method for wild horses and burros.

Additionally, fertility control methods are currently limited. Porcine Zona Pellucida (PZP) is a vaccine that is administered and causes the body to produce antibodies against gametes, reproductive hormones and proteins involved in early gestation. However, to be effective PZP needs to be administered annually, which due to the remoteness of many HMAs, is not feasible. GonaCon, an alternative fertility vaccine, binds to the gonadotropin-releasing hormone (GnRH), which stimulates antibodies and reduces the release of sex hormones. With this, sexual activity is decreased and animals remain in a nonreproductive state as long as the antibody is active. The benefit of GonaCon over PZP is that it can potentially last for more than

one year after administration, but like PZP it is a vaccine and the accessibility of herds may make it hard to administer. A third fertility control option is SpayVac, which like GonaCon causes the animals to go into a non-reproductive state once the vaccine is administered. The other fertility control alternative is permanent, physical sterilization. This method entails spaying the mares or gelding the stallions via a surgical procedure to render them sterile. These procedures are irreversible and although precautions are taken by the federal land management agencies to ensure the safety of the animals before, during and after the procedure is done, complications such as post-operative infections can arise. These fertility control options come with a suite of opinions from different stakeholders. Federal land management agencies want to use the most effective method(s) to control population growth, while some advocacy groups believe that fertility control is not necessary as overpopulation is not a concern for wild horse and burro management due to some believing it does not exist or that there are no repercussions from the overpopulation of WHBs on the rangelands. Other groups believe that permanent sterilization methods are barbaric, carry too many risks for animals, and therefore, should not be considered as fertility control methods. Research is continually conducted on all four fertility control methods in order to determine which method is not only the most effective at reducing the population growth rates, but also which is the most cost effective for the federal land management agencies.

Nearly five decades ago, Rittel and Webber (1973) proposed the idea of wicked issues, which are considered “problems of governmental planning...[that] are ill defined, and they rely upon elusive political judgement for resolution.” Wicked issues are problems for which there is no immediate solution and no ultimate best solution, the problem is not one that can be solved by trial and error, and are unique. These problems are often accompanied by a high degree of

complexity and uncertainty with numerous stakeholders. The values of stakeholders differ extensively according to their group or personal interests, values, or morals. Over the past 50 years, wild horse and burro management has evolved into a wicked issue due to the complex relationship between federal land management agencies, wild horse and burro advocacy groups, animal welfare organizations, livestock owners, and the American public.

As populations increase wild horses can stray onto private land when rangeland health becomes poor, within their designated herd management area and create problems for private landowners. However, due to protections of the WFRHBA, landowners are prohibited from harassing, harming, destroying, or removing federally-protected horses and burros even if the animals are on private property (WFRHBA 1971). Landowners must wait for federal land management agencies (BLM or USFS) to remove the animals. Due to agency policies and adherence to protocols, it can take time for the responsible agency to locate proper personnel and equipment to gather animals. In the meantime, the private landowner is losing forage that they rely on for their livestock to the horses, and the agency does not reimburse them for their losses. The starkly different and, oftentimes contrasting, viewpoints of different stakeholders, in combination with no clear solution and the multiple policies regulating management of wild horses and burros combine to make wild horse and burro management a wicked issue.

Statement of the Problem

With the protections of the WFRHBA and low predation rates in the on-range populations of burros and horses alike have been exceeding their carrying capacity for many years. (Appendix I) As of March 1st, 2019, the total population had grown by 6,139 animals over the 2018 estimate (BLM, 2020) , which means that if the population continues to grow at this rate the population could grow as much as 24,500 animals in four years. However, many of the

herds have the potential to grow at an annual rate of 15-20% and nearly double every four years. While there are new management techniques available, such as fertility control, many of these processes are delayed or stopped by advocacy groups who file lawsuits against the BLM in order to protect the free-roaming status of the horses and burros. In addition to managing on-range populations, there are currently over 45,000 horses and burros in off-range facilities that are under the care of BLM (no data could be obtained for USFS holding facilities). In fiscal year 2019 (01 October 2018 through 30 September 2019), 67% of the budget (nearly \$58 million of the \$85 million budget) was spent caring for animals in off-range facilities (Bureau of Land Management, 2020).

Free-roaming horses and burros can cause severe, potentially irreversible damage to the ecosystems on which they rely. Free-roaming horses and burros can alter ecosystem services and functions by repetitive, selective plant consumption, trampling of plants and surface soil horizons, and spatial redistribution of nutrients via ingestion and subsequent excretion (Beever and Aldridge, 2011). These alterations can have a trickle-down effect on the ecosystems on which free-roaming horses and burros, along with other wildlife species, rely (Figure 4). For instance, when free-roaming horses or burros trample soils along waterways this causes soil detachment and erosion, which in turn can have effects on the structure and composition of vegetation along that particular waterway (Beever and Aldridge, 2011). The change of vegetation can affect other wildlife species that depend on waterway for habitat, nesting or escape cover. Erosion and soil detachment along the riparian area can dewater the riparian area due to the change in the floodplain from the instability of the banks from the loss of vegetation and root system.

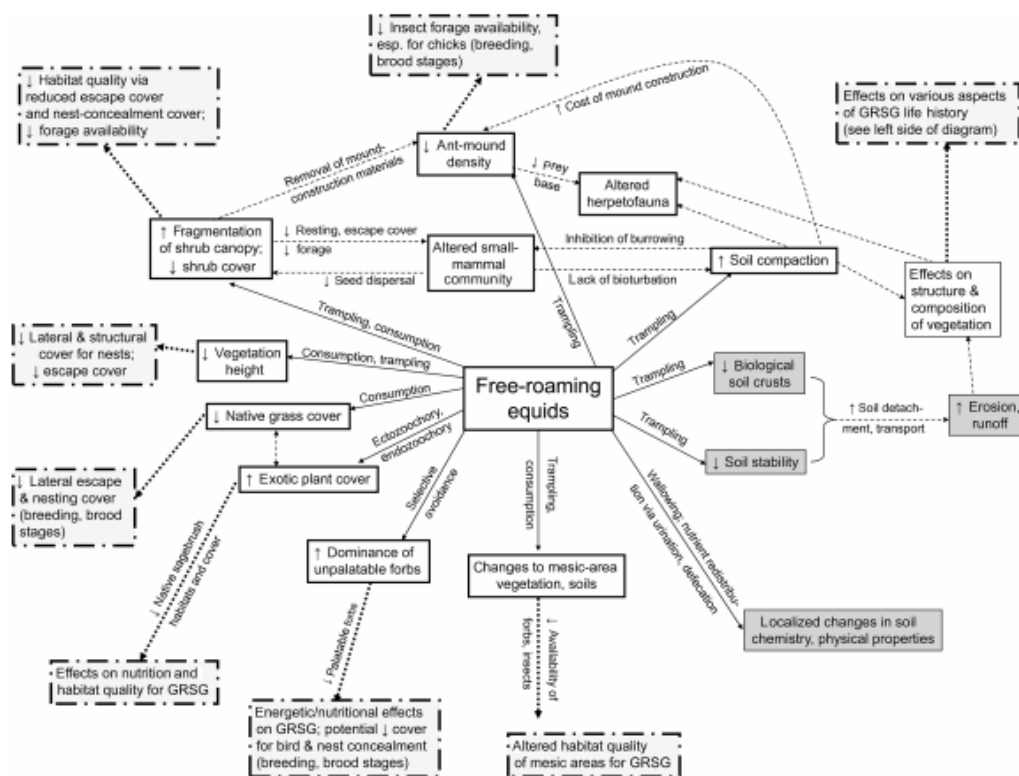


Figure 4: Taken from Beever and Aldridge (2011). Conceptual model of relationships between free-roaming equids (center) and various aspects of sagebrush communities. Direct effects of equids are denoted by solid lines, whereas potential ecological cascades and indirect effects are denoted with dashed lines.

Current research is focused on which proportion of these effects (overgrazing, trampling of vegetation, and damage to riparian areas) are attributable to free-roaming equids, livestock, and wildlife (Beever, 2003). Several threatened and/or endangered species have habitat that overlap with wild horses and burros including the desert tortoise and greater sage-grouse, whose habitat overlaps 30% of WHB management areas (Beever and Aldridge, 2011). Ostermann-Kelm et al. (2008) reported a 76% decrease in use of water sources by bighorn sheep when horses were present. To mitigate effects of wild horses and burros, researchers and managers need to continue to study the effects of WHBs on the public lands.

With the growing population of wild horses and burros, federal land management agencies are faced with a daunting task of managing populations in the face of controversy. If

populations remain unregulated, rangelands will be irreversibly damaged and there will be long term consequences for not only the wild horses and burros, but the other wildlife that depend on those ecosystems. Federal land management agencies, wild horse and burro advocacy groups and animal welfare organizations need to find a way to collaborate for the management of wild horses and burros or all stakeholders may soon have to make changes to protect the rangeland ecosystems of the American west.

Purpose of Study

Even though there are laws and regulations that guide wild horse and burro management it is often a controversial topic for the federal land management agencies. Additionally, wild horse advocacy and animal welfare groups interfere with management by filing lawsuits too slow or halt gathers, impede fertility control efforts and hinder adoption events because they feel the WHBs are a symbol of the American West and should be left on the rangelands. The purpose of this capstone project was to develop a survey sent to wild horse and burro advocacy groups, animal welfare groups, wild horse and burro rescues and sanctuaries, and wild horse and burro federal employees in order to gain insight on the perspectives about WHB management.

One objective for this survey was to examine outreach messages among advocacy groups, welfare organizations and management agencies. A second objective was to understand perspectives and social attitudes of advocacy groups, animal welfare groups, and federal land management agencies involved in wild horses and burro management to provide insights and recommendations to management agencies. Another objective was to determine causes of disconnects between the different stakeholders (federal land management agencies, advocacy groups, animal welfare organizations). With this information, we hope to provide insights and recommendations to federal land management agencies regarding WHB program outreach and

the issues so that gaps can be bridged for the benefit of wild horse and burro management, as well as potentially finding the resolution to a wicked issue with a long history. The focus of providing insights and recommendations to federal land management agencies only is because they are the primary managers of the WHB herds and the WFRHBA directs them to manage the herds in a sustainable manner.

This capstone project includes a literature review of wicked issues and results from a survey on wild horse and burro management, and the relationship between advocacy and animal welfare groups and federal management agencies. The literature review will examine what makes an issue wicked and why wild horse and burro management is considered a wicked issue. The purpose of the survey is to better understand perceptions of the wild horse and burro program, and provide input that may be used to inform protocols, procedures, and approaches on how public land management agencies and animal welfare organizations may be able to work together.

Part I – Literature Review

What is a Wicked Issue?

In 1973, Rittel and Webber introduced the idea of wicked issues, which are societal problems that are controversial and unsolvable. Wicked issues do not have a widespread consensus on a resolution or a goal for solving the issue and often involve multiple stakeholders with differing opinions on how the issue should be handled or resolved. There is no single solution to the problem, and the effort to solve on aspect of a wicked issue may create yet another problem within the original issue. Changing of peoples' mindsets and behaviors is often required for a potential solution to occur for a wicked issue, as well as collaboration of stakeholders to find the best possible solution. Some examples of wicked issues include global climate change and international drug trafficking.

Why is Wild Horse and Burro Management a Wicked Issue?

Over the past 50 years, wild horse and burro management has grown into a wicked issue due to federal land management agencies, wild horse and burro advocates, federal livestock permittees and animal welfare groups have differing opinions on how wild horses and burros should be managed. The impacts of the wild horse and burro management issue cross ecological, economic, and social factors, all of which define a wicked issue.

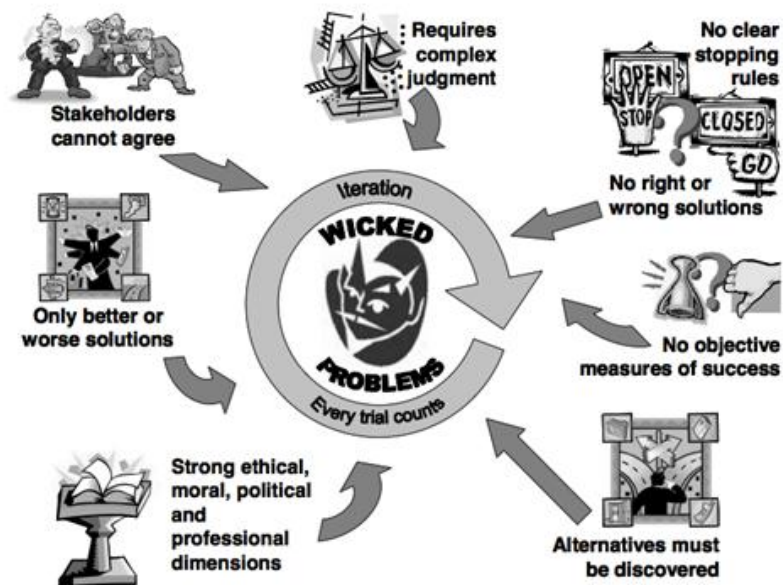


Figure 5: Visual image of what is a wicked issue? (Source: Rodrigo, 2012)

Federal land management agencies, federal livestock permittees, WHB advocacy groups, animal welfare organizations and other users of public lands have different perspectives about how WHB herds should be managed. Historically, there have been numerous lawsuits involving wild horse and burro management as the different stakeholders have stated their various opinions on how the herds should be managed (Figure 5). “These concerns can be generally categorized as concern for the nutrition and well-being of horses on-range and concern for the safe handling of horses in the process of management activities” (Scasta et al., 2018).

Many lawsuits have dealt with the interpretation of the WFHRBA and management of WHBs. The first landmark case was *Dahl v. Clark* in 1984 (600 F. Supp. 585). In this case, DeMar Dahl, a permittee grazing livestock on BLM land, requested excess horses removed from the HMA which was also part of his permitted federal grazing allotment and requested the population to be reduced to the same number as in 1971, when the WFRHBA was passed. According to monitoring data collected by BLM personnel from 1971 to 1982, the health of the ecosystems was deteriorating. This was due to the excess number of horses, which mandated a reduction in both livestock and wild horse use. Although the population was above the established AML range, it is not stated in the WFRHBA that populations must be maintained at the levels they were at when the WFRHBA was passed. The judge decided that the removal of wild horses must be warranted based on proper range utilization analysis and monitoring studies. In this case, the Secretary of the Interior rejected prior BLM study methods and concluded that they were inaccurate. The Secretary directed BLM officials to use new monitoring methods to determine the current range utilization. By doing this, there was enough scientific evidence that the range was healthy based on studies that were conducted by an independent consultant and experienced personnel from other states (U.S. District Court for the District of Nevada, 1984). The new studies showed that the plant species used by livestock and wild horses and burros were not being over-utilized and that the amount of use on key forage species was not enough to remove the wild horses from any of the allotments, as there was no substantial damage. From 1979 to 2017, there have been more legal cases like this one, but have been consistent and have upheld the language within the WFRHBA. These cases include *APHA v. Andrus* (1979), *AHPA v Watt* (1982), *Wyoming v USDOJ* (2016), and *Colvin & Son, LLC* (2017). While all these cases involved the WFRHBA, each one involved a different aspect of the WFRHBA. The 1979 case of

APHA v. Andrus asserted that removal decisions by the Secretary must be supported by the appropriate National Environmental Policy Act (NEPA) analysis. This court decision supported section 3(a) and 3(b) of the WFRHBA, in that the Secretary will consult with Federal and State agencies and that all management activities should be done to “...protect the natural ecological balance of all wildlife species which inhabit such lands...”(The Wild Free-Roaming Horses and Burros Act of 1971).

Wyoming v. USDOJ (2016) and Colvin & Son, LLC (2017) are two recent cases that have helped clarified the language of the WFRHBA regarding when and how the BLM can conduct gathers of excess WHBs. The first case concluded that BLM has no duty to immediately remove excess wild horses, and the second case stated that BLM is not required to remove all horses above appropriate management levels every time it conducts a gather. These two cases do however go slightly against the wording of the WFRHBA. Section 3(b)(2) does say that “...he [the Secretary of the Interior] shall immediately remove excess animals from the range so as to achieve appropriate management levels...” However, gathers are a process that take time and something that may not be able to be done immediately due to lack of capacity. All cases presented thus far have a commonality of private landowners requesting BLM to remove horses. Conversely, BLM has also faced legal challenges from advocacy groups who want WHBs left on the range and not removed.

Advocacy groups have a long history of filing lawsuits against the federal land management agencies in order to delay or halt gather operations, fertility control measures and other management methods used to control the populations. The American Wild Horse Campaign states they “help dismantle, reform, and replace failed portions of the federal management program to better protect wild horses and burros...” (American Wild Horse

Campaign, 2020). Friends of Animals is a non-profit group with an extensive litigation history, conducts legislative outreach to pass laws that will protect animals, and lobbies in opposition to laws they believe will harm animals. Several advocacy groups believe the WFRHBA actually harms WHBs. The two groups mentioned above are national groups that try and protect all wild horses and burros. However, some groups were formed to protect specific herds such as the Pine Nut Wild Horse Advocates and Salt River Wild Horse Management Group.

Lawsuits are filed by advocate groups to stop gathers and leave the wild horses and burros on the rangelands, where the groups believe all the animals belong. In 2014, the American Wild Horses Preservation Campaign (AWHPC) and Return to Freedom filed a lawsuit against the U.S Forest Service over a new management plan for the Devils Garden Plateau Wild Horse Territory. Under the new management plan, the USFS would establish an AML for the Devils Garden Plateau Wild Horse Territory of 206-402 animals (Devil's Garden Plateau Wild Horse Territory Management Plan Environmental Assessment, 2013) and gather any excess animals that would then be placed into private care via adoption or sale with limitation. As of January 2013, the wild horse population was estimated to be 1,124 animals and approximately 269 or 24% were residing outside the territory. The AWHPC and Return to Freedom aimed to stop the USFS from gathering roughly 80% of the wild horses living within the territory by asserting that the USFS decisions violated federal animal protection and environmental laws, as well unlawfully prioritizes ranchers and privately owned livestock. On Sept 30, 2015, the U.S District Judge ruled against AWHPC's lawsuit and in September/October 2016, the USFS conducted a gather of wild horses from the territory with a total capture of 290 horses, who were outside the boundaries of the territory.

In 2018, The Cloud Foundation and the American Wild Horse Campaign filed a lawsuit against the BLM as a challenge against the BLM’s decision to limit public access to observe and document the sterilization of wild horse mares. This lawsuit was a follow-up to a lawsuit filed in 2016, *Kathrens v Jewell* No. 2:16-cv-01650, in which the plaintiffs raised concerns as to whether the sterilization process was “socially acceptable” to the public. This case was abandoned by the BLM. The 2018 lawsuit claims that by BLM limiting public access to observing the sterilization procedures, they are violating the Plaintiffs’ rights under the First Amendment to the Constitution of the United States, which protects the freedom of press, and impairing her ability to perform important newsgathering and ability to advocate for humane, responsible and transparent management of wild horses. The Plaintiffs wanted a court order declaring BLM’s restrictions on public access unconstitutional and requiring BLM to provide reasonable access to observe the sterilization procedures at the corrals. The decision of this case is still pending, which shows that some lawsuits that are filed do not get resolved quickly and can take several years to get resolved.

Over the past seven years there have been 27 litigation cases (Table 1) with several of these cases still pending a decision (Bureau of Land Management, 2020) (Appendix II). These litigation cases cost the BLM and USFS millions of dollars and thousands of hours that could be spent on other aspects of the WHB program.

Year	Number of Cases
2014	3
2015	2
2016	4
2017	8
2018	6
2019	3
2020	1
Total	27

Table 1: Number of WHB litigation cases by year for the past six years

While there are several policies that affect wild horse and burro management, there are three policies that often come into play when the federal land management agencies are making management decisions: The Wild Free-Roaming Horses and Burro Act of 1971 (WFHRBA) (16 U.S.C 1331 et seq), National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.), and Federal Land Management and Policy Act (FLMPA) (43 U.S.C 1701 et seq). The WFRHBA provides guidelines for how the Secretaries of the Interior and Agriculture should manage wild horses and burros on public lands while managing the populations at a minimum feasible level for a thriving natural ecological balance. NEPA requires federal land management agencies to assess the environmental effects of the proposed actions prior to making decisions. In other words, the federal land management agencies are required to complete a NEPA analysis prior to a WHB gather and determine if there will be any effects to the land, other wildlife, riparian areas, etc. FLPMA was passed in 1976 and requires the BLM to manage their lands in a way that promotes multiple-use and also allows the use of helicopters during the gathers of WHBs, which has become a controversial topic among stakeholders.

Federal land management agencies have an assortment of tools within their toolbox that they can use for the management of WHBs. However, there is no one tool fixes all when it comes to managing the overabundance of wild horses and burros on the rangelands. Each office of jurisdiction conducts population estimate surveys on a regular basis in order to approximate how many WHBs are on the range. These surveys are typically done via fixed wing or helicopter in order to cover a large amount of space in a short period of time, and to visualize the animals over a large area. Once a population estimate is reached, federal land management agencies decide if excess animals exist within the particular HMA. If excess animals do exist, which in most HMAs today there is an excess of WHBs, then the agencies must decide what actions need

to be taken. If the range cannot continue to support the WHBs that are there due to a shortage of resources such as water or forage, then a gather may be conducted. However, before a gather can be done the holding facilities have to have space for the incoming animals, and an environmental assessment needs to be conducted within the gather area to meet NEPA guidelines. All of these steps take time, money and personnel. Gathers are a temporary fix to the overpopulation problem unless fertility control or other population management control method is implemented within the herds. This is because although the gathers may bring down the numbers for a short time, herds can grow annually at a rate of 15-20%, so without implementing a management method to slow this growth rate the populations will return to or exceed the size they were at before the gather. Once WHBs are gathered, they are prepped (vaccinated, freezebranded, and gelded) and placed up for adoption. In fiscal year 2019, over 7,100 were placed into private homes via the WHB adoption and sales program (BLM, 2020). However, this is almost equal to the amount of WHBs that were removed from the range in the same time period, 7,276. So while there appears to be an adoption demand for WHBs, unless the demand is greater than the amount being gathered off the range, there will continue to be a limited amount of space in holding facilities and an overabundance of WHBs on the range until new or more tools get added to the toolbox.

Part II – Survey

This section will examine this project's survey methodology including design, question formatting, research subjects, materials and procedures, research results and analysis, and other survey components. It is important to take note that this project was limited in design and scope due to time and number of responses to the survey. The survey results may help to understand the perception of advocacy and animal welfare groups on wild horse and burro management, and answer the research objectives posed at the beginning of this paper; which are to gain insight into

current perspectives on WHB management, and identify common areas of perspectives between WHB advocacy groups and federal land management agency employees.

Methodology Overview

Research Questions

The demographic of people represented includes wild horse and burro advocacy groups, animal welfare organizations, wild horse and burro sanctuaries, and federal land management agencies (Bureau of Land Management and United States Forest Service) involved with the management and/or protection of wild horses and burros on public rangelands and off-range facilities. Participant knowledge of current wild horse and burro management was assessed with the survey. Questions this survey was designed to answer were:

1. Do wild horse and burro advocacy groups and animal welfare groups have different ideas or concerns about how the WHB populations should be managed?
2. What is the degree of overlap on agreement of current wild horse and burro management from different participant groups?

Survey Methods

Design

Multiple choice and open-ended questions were used to collect quantitative data, while qualitative data were collected by sliding scale and ranking questions. Generally, qualitative data inform insights into similarities and differences among respondents' perspectives on wild horse and burro management, while quantitative data characterize demographic data and participants' thoughts on future wild horse and burro management. The combination of quantitative and qualitative data allowed for a methodical approach of the current level of knowledge of wild horse and burro management of the survey sample population. The data also allowed exploration

of the reasoning behind viewpoints and/or opinions relating to wild horse and burro management currently and in the future.

Question Formatting

Two Qualtrics© (Qualtrics, 2020) surveys were designed, one for advocacy and animal welfare groups and one for federal land management agency employees. Both surveys were designed to measure knowledge about current wild horse and burro management, and investigate ideas about future management. The rationale for designing two separate surveys was to be able to compare opinions and knowledge between federal land management agencies and WHB advocacy groups. If only one survey had been designed and distributed to the participants, then there would not have been a way to know which responses came from which group and therefore making a comparison would not have been possible. The surveys asked the same questions about WHB management. However, the demographic questions were specific to the group to which the survey was distributed. The surveys included open- and closed-ended questions, multiple choice, ranking, and short answer types. The multiple choice questions were used primarily to collect demographics information from survey participants (e.g., region of the country they were based, average age of the members [advocacy groups only], position held within their agency [agency personnel only]). Ranking questions were used to gain insight into advocacy groups, animal welfare groups and federal land management agency personal beliefs about impacts of on-range ecological degradation, percentage of public dollars that should be spent on WHB management, and biggest concerns for WHB management. Short answer questions were used to allow the explanation of what public land management agencies and advocacy groups could do better in the future for the benefit of wild horses and burros, and how all stakeholders could increase collaboration. This would allow for the comparison of perspectives between the two

groups to evaluate groups' thoughts about current WHB population management, and whether they believe the current management methods are effective.

Research Subjects

Survey subjects were divided into two groups: advocacy groups/animal welfare groups and agency personnel to allow for the comparison of answers between the two groups of interest. All participants remained anonymous using the Qualtrics© survey software (Qualtrics, 2020) and survey participation was voluntary. Survey materials and recruitment were reviewed by Oregon State University's Institutional Review Board (IRB). The IRB determined this study to be a minimal risk to participants, and received a "flex" review level. The IRB study approval number for this survey is IRB-2019-0400.

The Google© search engine was used to create a list of wild horse/mustang advocacy groups, animal welfare groups and mustang sanctuaries. Search terms included, but were not limited to, wild horse, mustang, advocacy, rescue, sanctuary, and groups. Based on the results of the searches, a list of 69 groups was developed for an email survey. A list of wild horse and burro federal agency contacts at the Bureau of Land Management, Department of Agriculture (United States Forest Service), and US Geological Survey was obtained from a representative at the BLM. This list contained 189 contacts.

Materials and Procedures

Qualtrics© survey software (Qualtrics, 2020) was used to design the survey and contained a consent page that required a positive response prior to participants gaining access to the survey. The survey was broken down into four sections: demographics, the issue and its nature, perception of management and the relationship of WHB advocacy groups and federal land management agencies. An email was sent to the advocacy and animal welfare group contact

list with a link to the survey designed for advocacy groups. A separate email was sent to WHB agency personnel with a link to the survey designed for agency staff.

Although participants were not asked to distribute the survey to applicable individuals, an assumption was made that the survey may have been distributed beyond the list of contacts that we had. Therefore, it is not possible to calculate the response and nonresponse rate. Additionally, some emails were returned due to invalid email addresses, which affects the original number of surveys distributed. The survey was open for 30 days, with a reminder email sent out to participants after seven days and 14 days.

Survey Results

Qualtrics© software was used to analyze survey data by cross tabulations and frequency tables (Qualtrics, 2020) to compare demographics, respondents' thoughts on current WHB management practices, and their understanding of the effects of WHBs on ecosystems. Open-ended questions were reviewed, and common words were identified between the two survey groups to compare and contrast ideas and thoughts about the current practices and future of WHB management.

Demographics

During the time that the surveys were open, there were 33 responses to the consent question on the advocacy survey, with 32 consenting and one declining to participate in the survey. In comparison, there were 32 responses to the consent question on the agency survey, and all participants consented to participate. However, once participants viewed the survey, only 15 participated in the advocacy survey and 16 participated in the agency survey for a total of 33 participants.

Participants were asked which region their office or group was located in. For both groups of participants, the largest group of respondents lived in the southwest region (Utah, Colorado, Arizona, and New Mexico), with 53% of the advocacy participants and 20% of the agency participants located in that region. The remaining seven regions had similar numbers of responses (figure 6).

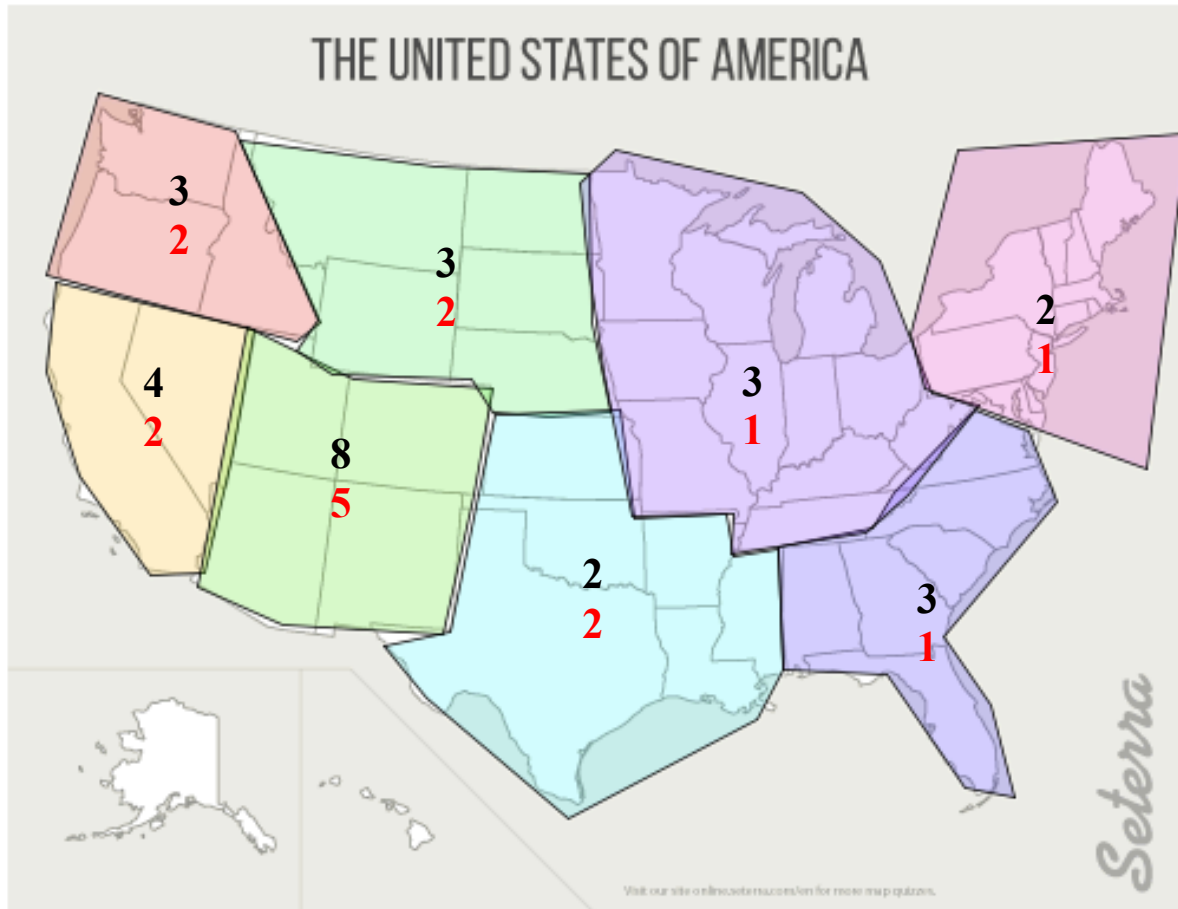


Figure 6: Number of respondents by region. Survey respondents' region of office or group location. Advocacy responses are indicated by black numbers and agency responses are indicated by red numbers.

The remaining questions within the demographics section were specific to each participant group. Demographic results are discussed by participant group beginning with the agency survey

Research Question: For which agency do you work?

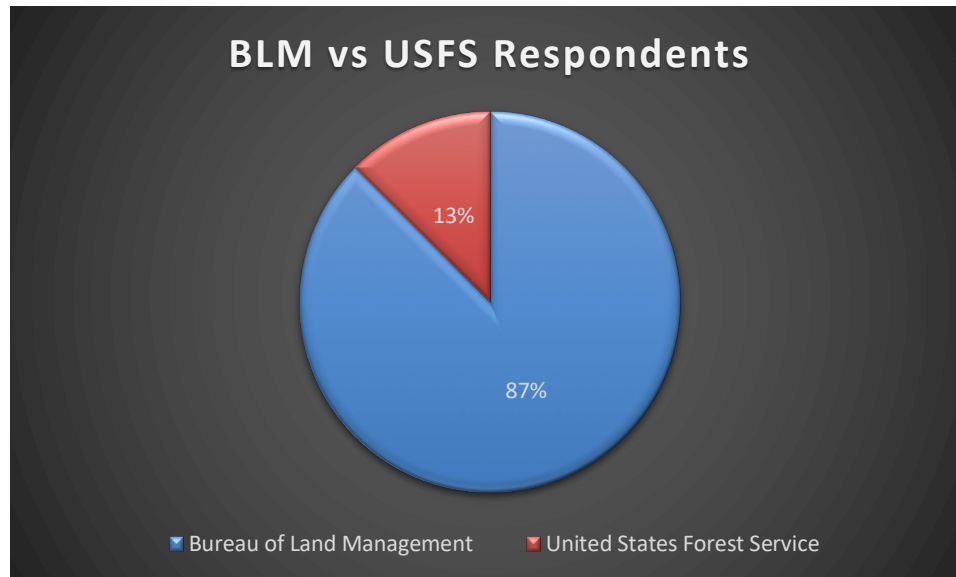


Figure 7: Respondents of the agency survey overwhelmingly worked for the Bureau of Land Management. Limited responses were received from the United States Forest Service.

Research Question: What is your current position? (If WHB Specialist if not your full-time duties, please mark "other" in addition to WHBS)

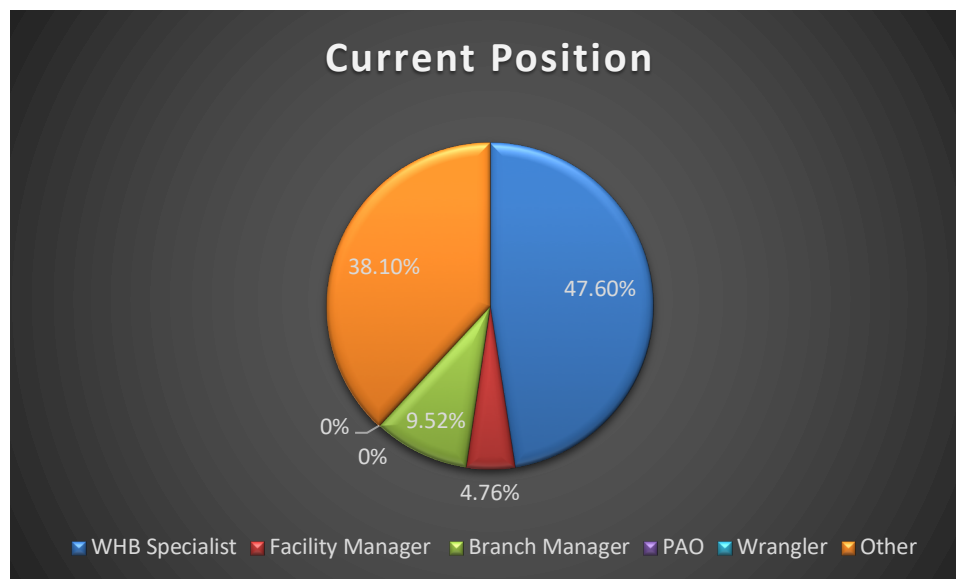


Figure 8: Respondents of the agency survey primarily held the positions of Wild Horse and Burro Specialist, with Other being the second highest option selected. The positions written in "other" included Field Manager, Wildlife Biologist, and Resource Advisor.

Research Question: Approximately how many members does your organization have?

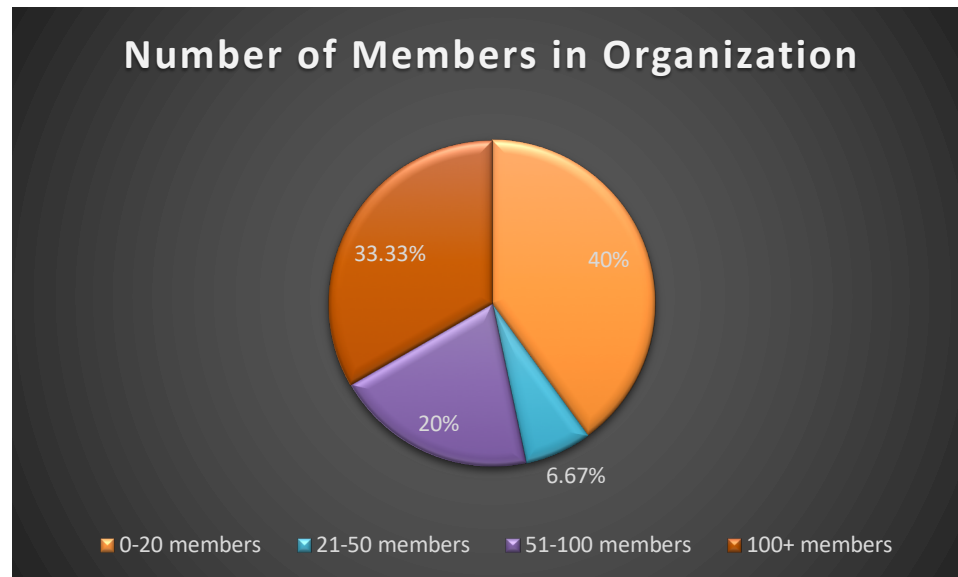


Figure 9: The majority of respondents on the advocacy survey showed their groups as having 0-20 members, with 100+ members being the second largest group of respondents.

An open-ended question about decision making allowed respondents the opportunity to provide a detailed description of how decisions are made within the organization. All of the respondents indicated some variation of a board of directors or use of a voting system to make decisions within their organizations.

Research Question: Fill in the bar by clicking to reflect approximately how the operating funds of your group are spent annually.

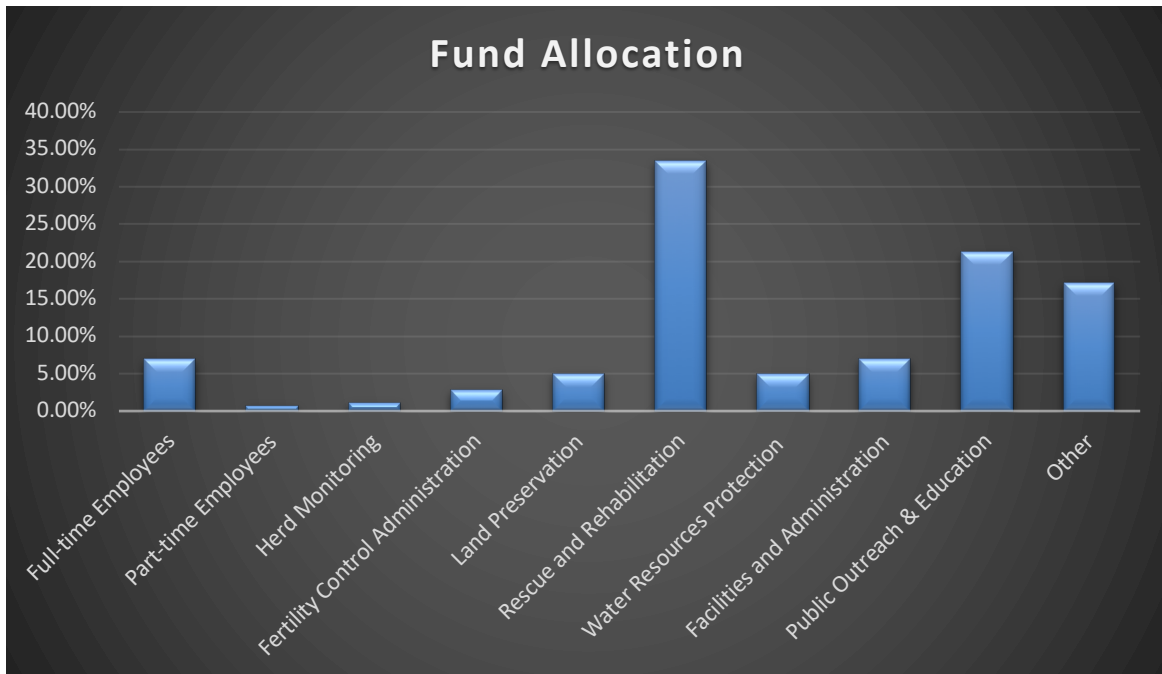


Figure 10: Rescue and rehabilitation were reported as the area where most advocacy respondents spend their operating funds annually, while part-time employee salaries was the area where the least amount of funds were spent.

The Issue & Its Nature

The second section of questions was designed to assess knowledge of the current wild horse and burro situation and management methods. The first question asked whether respondents thought that wild horses and burros were contributing to ecological degradation. If respondents answered yes, they were asked two additional questions about the impacts of WHBs. If respondents answered no, the additional two questions were skipped.

Research Question: From an ecological standpoint, are wild horses and burros contributing to ecological degradation?

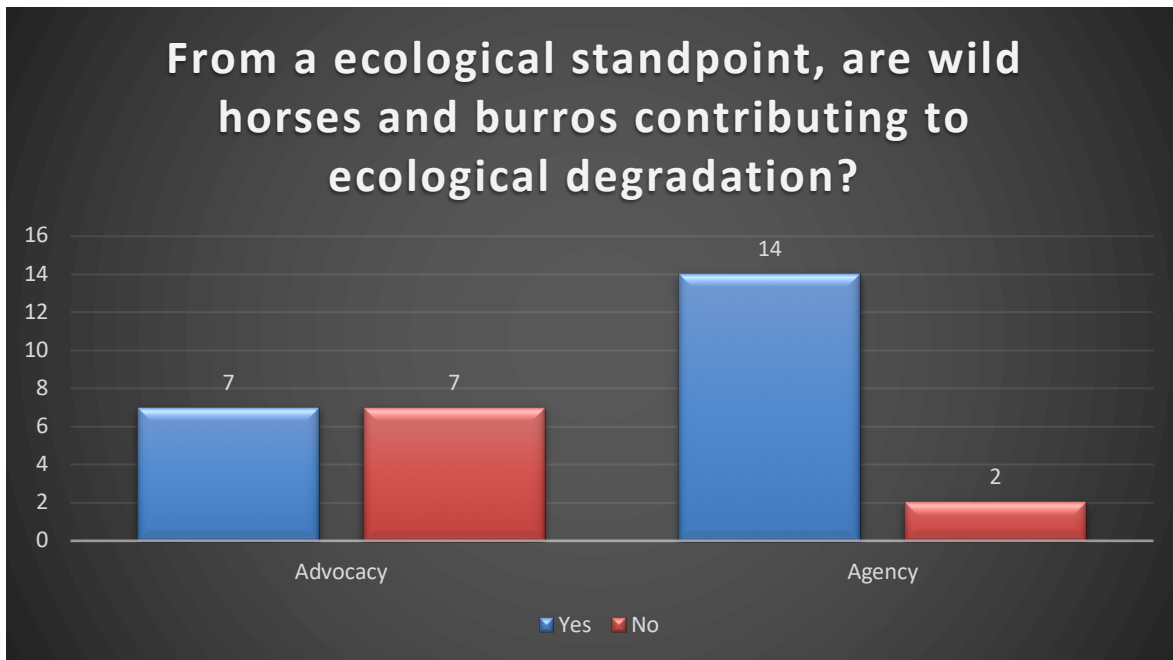


Figure 11: The majority of agency respondents thought that WHBs are contributing to ecological degradation, while only half of advocacy respondents thought this was true.

If respondents answered yes to the above question, they were asked the following questions.

Research Questions: In what regions are wild horses and burros contributing to ecological degradation? (select all that apply)

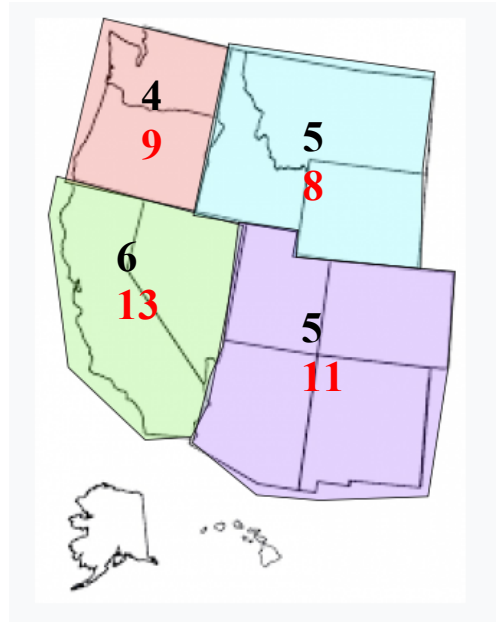


Figure 12: The majority of respondents, both agency and advocacy, think that WHBs are contributing to ecological degradation in the southwest and south compared to the northwest and west regions. Advocacy responses are indicated by black numbers and agency responses are indicated by red numbers.

Research Question: Sort the possible causes of on-range ecological degradation in order from most impactful to least impactful.

	Advocacy	Mean	Agency	Mean
Most Impactful	HMA Restrictions	4.17	Overlap with wildlife habitat	4.07
	Overlap with wildlife habitat	3.67	HMA restrictions	3.60
	Budgetary Issues	3.33	Overlap with livestock grazing	3.60
	Overpopulation (tied)	2.67	Budgetary Issues	3.53
Least Impactful	Overlap with livestock grazing	2.67	Overpopulation	1.40

Table 2: Advocacy respondents think that HMA restrictions are contributing the most to ecological degradation, while agency respondents think the overlap with wildlife habitat is contributing the most.

Table 2 shows the responses from both surveys on causes the respondents believe are the most impactful for on-range degradation. This means that the responses with the highest “mean”

or average were considered to have the most effect on rangeland health whereas the responses with the lowest mean were considered to have the least effect on rangeland health.

Research Question: To what degree of concern do you think each of the following criteria is for wild horse and burro management.

	Advocacy	Mean	Agency	Mean
Most Concern	Injury to WHBs due to increased competition among horses and burros for resources	2.31	Injury to WHBs due to increased competition among horses and burros for resources	2.50
	Starvation due to increase of invasive weed dominance	2.08	Starvation due to increase of invasive weed dominance	2.06
	Injury due to WHBs on roadways	1.92	Injury due to WHBs on roadways	2.06
	Starvation of WHBs due to lack of forage production	1.77	Starvation of WHBs due to lack of forage production	1.44
Least Concern	Dehydration of WHBs due to lack of water sources	1.46	Dehydration of WHBs due to lack of water sources	1.44

Table 3: Both advocacy and agency respondents thought that injury to WHBs due to an increase in competition for resources was the main concern for WHB management.

Research Question: To what degree do you feel that wild horses and burros have the following ecological impacts?

	Advocacy	Mean	Agency	Mean
Most Impact	Degradation of floodplain, channel characteristics and streambanks	2.92	Ability of landscape to capture, store, and safely release quality water	2.00
	Ability of landscape to capture, store, and safely release quality water	2.75	Degradation of floodplain, channel characteristics and streambanks	1.80
	Soil erosion of a result of vegetation cover	2.54	Soil erosion of a result of vegetation cover	1.67
	Reduction of stabilizing vegetation and plant communities in riparian areas	2.54	Reduction of stabilizing vegetation and plant communities in riparian areas	1.47
	Reduction of native vegetation and increase of invasive species	2.54	Reduction of native vegetation and increase of invasive species	1.33
Least Impact	Degradation of riparian areas and areas around water sources	2.38	Degradation of riparian areas and areas around water sources	1.27

Table 4: Advocacy respondents think that WHB have the most impact on the degradation of the floodplain, channel characteristics and streambanks, while agency respondents think that WHBs have the most impact on the ability of the landscape to capture, store, and safely release water quality.

For this question, respondents were given shown a table with the ecological impact options listed on the left hand side and the options of high degree of impact, moderate degree of impact, light degree of impact and no impact were shown across the top of the table. Respondents could

choose any of the impact options for each ecological impact so that each ecological impact was weighted evenly.

Research Question: Assuming for arguments sake, there is an overpopulation issue, what can be done to reduce the population?

This open-ended question included responses such as removal of excess animals, application of long-lasting fertility control, euthanasia of healthy unadoptable horses until AML is reached, removal of cattle grazing in HMAs, lethal control, and permanent sterilization of mares.

Perception of Management

Research Question: What percentage of public dollars should be spent on the wild horse and burro initiatives?

Advocacy	Mean	Agency	Mean
Contraception	22.08	Public Education Programs	16.07
Adoption Program	14.75	Sterilization	14.87
Public Education Programs	11.50	Contraception	14.80
Training Programs	11.33	Adoption Program	14.13
Restoration Projects on Public Lands	11.00	Restoration Projects on Public Lands	13.67
Adoption Incentive Program	6.75	Fencing HMAs	10.47
Sterilization	6.25	Adoption Incentive Program	9.60
Fencing HMAs	1.00	Training Programs	6.40

Table 5: Advocacy respondents think that public dollars should be spent on contraception, while agency respondents think that public dollars should be spent on public education programs.

Participants were asked to share ideas for modifications they have for WHB management or existing WHB programs. There were nine ideas shared from the advocacy survey and ten ideas shared from the agency survey. Of the ideas shared on the advocacy survey, the suggestions included: BLM must follow their own scientific findings and not base gathers on hearsay, place more emphasis on contraception and public education, develop a national

adoption crew, and remove slaughter restrictions within the US. In comparison, the agency survey included the following suggestions: increase public education and involvement, create an outlet for unwanted domestic horses so they do not get turned out onto public lands, increase public awareness of the benefits of sterilization of mares, and wide spread lethal control.

The Relationship of WHB Advocacy Groups and Federal Land Management Agencies

The last section of questions provided four open-ended question asking respondents about past or current collaboration efforts, as well as what each group can do differently in the future for the benefit of WHB management.

Research Question: Please provide any example(s) of a time when federal management agencies and advocacy groups worked together for the benefit of wild horses and burros and/or the on-range landscape.

From the advocacy survey, the responses were as follows: The Virginia Range, Pine Nut consortium, Salt River Wild Horse Management Group, Kiger adoptions, Cloud Foundation, Pryor Herd, Spring Creek Herd in Colorado, Red Desert Wyoming in 1980s, and two respondents wrote they work closely with BLM to maintain fence lines, water sources, counting foals, etc. as well as helping the USFS maintain a 100% adoption rate prior to 2015. Three respondents said they had no examples. The collaboration efforts and groups mentioned above are groups of individuals who volunteer their time to monitor and protect certain herds of wild horses and burros. These groups not only monitor the herd status for health issues that may arise but they also are trained on the administration of fertility control, which allows the herds to remain at sustainable levels within their HMAs. The people who are part of these collaboration efforts work closely with the BLM and USFS to maintain water sources, fences, trails, etc. within the HMAs.

From the agency survey, the responses were: The Carson National Forest collaborative effort with Jicarilla Mustang Heritage Alliance and Sky Mountain Wild Horse Sanctuary, Friends of a Legacy, BLM-California working with naval and army bases to keep animals off the bases, Mustang Heritage foundation, and volunteers helping to administer PZP.

Research Question: What could public management agencies do differently in the future?

The responses to this question from both surveys had a common theme: BLM needs to focus on their policies and mandates, and do what is best for the land. Agency respondents also stated that more field going staff are needed, as well as increasing public education on policies and implementation. Advocacy respondents stated better collaboration, more public transparency and not be pressured from advocacy groups for a particular angle.

Research Question: What could advocacy groups do differently in the future?

As with the previous question, there was a common theme across both surveys in the responses for this question: work with, not against, federal land management agencies. Agency responses included working together with BLM to find cooperative solutions, join forces and promote the adoption program, and stop stalling management processes with protests and litigation. Advocacy responses included: work together, put the herds first and not donations, accept the science as a basis for herd management, and present factual information to the public.

Discussion

This capstone project was based on personal observation of the gap between advocacy and animal welfare groups and the federal land management agencies that manage wild horses and burros on public lands. The goal of this study was to investigate if there were any management recommendations that could come from responses to the survey to increase

collaboration. The two surveys targeted wild horse and burro advocacy groups and federal land management agencies to understand viewpoints of current wild horse and burro management practices, as well as thoughts about the future of the program and rangeland ecosystem management.

Responses from both surveys indicate that respondents have similar thoughts about current management practices and the future of wild horse and burro management. For example, respondents indicated that advocacy groups and federal land management agencies believe that HMA restrictions (i.e. areas that are managed for the benefit of WHBs) and habitat overlap with wildlife are the primary causes of on-range ecological degradation. Both groups also ranked WHB management concerns in the same order from most concern to least concern starting with injury to WHBs due to increased competition among horses and burros for resources and ending with dehydration of WHBs due to lack of water sources as the least concern. These results show that there could be a possibility for increased collaboration between federal land management agencies and advocacy/animal welfare groups, as they have similar thoughts regarding management concerns for WHBs.

However, there were differences in opinion about how public dollars should be spent on WHBs initiatives and examples of collaboration efforts. Advocacy respondents believe that public dollars should be primarily spent on contraception, while agency respondents think that public dollars should be spent on public education programs. Each group of respondents indicated different collaboration efforts and no collaboration from the advocacy list was repeated on the agency list. The lack of overlap in the collaboration answer was particularly interesting as it may be that collaboration efforts are inadequately promoted or that there is a lack of public awareness. Many of the news stories that are published today discuss the perspectives of the

different groups and how many do not support the current management methods of the federal land management agencies or how the federal land management agencies are destroying the WHBs. When the public reads these publications, they one may not be getting factual information but they also are not seeing how some of the WHB advocacy groups and the federal land management agencies are working together for the benefits of the herds or how the management efforts are benefiting the herds in some areas. The federal land management agencies are restricted to how much information they can release to the public in regard to government operations. However, if collaboration efforts with advocacy groups were increased then factual and supportive information could be released in news articles that are put out by the groups. This would increase the awareness of the public to the current situation, and provide them with the information they need to well educated about the current WHB situation both on and off the range.

The last section of questions asking about the relationship of advocacy groups and land management agencies was particularly curious. Answers from both surveys were similar across questions about what advocacy groups could do better in the future and what federal land management agencies could do better in the future. Both groups have similar thoughts, so it would appear the potential exists for collaborative solutions for the betterment of wild horses and burros and the ecosystems that support them. It appears the ultimate goal of all stakeholders is to protect the wild horses and burros, and their habitat, yet they continue to work against each other. It appears that both parties are set in their particular ways and that there needs to be paradigm shift on the stakeholders' part in order to overcome the wicked issue of wild horse and burro management. Without a shift in their individual positions, the current controversy will not be overcome, and no progress will be made to solve the issue at hand.

Caveats

There were several caveats with this survey. The first was this survey was open-link and no password was required to access the it. Although the survey was distributed to a set list of participants, those people could have further distributed the survey. This would affect the calculated response rate for the survey.

The second caveat is due to privacy concerns from the federal agencies. Just a few days after the link to the survey was emailed to agency respondents, upper level managers in the federal agencies put a moratorium on response from their staff, despite an initial approval. While a compromise was discussed, time constraints for completing the capstone project prevented a compromise from being reached. Therefore, agency responses to the survey were limited.

A third caveat was a small sample size, which may not be representative sample. In order to make formal conclusions from the survey a larger sample size would be required to ensure that the results were representative of the targeted population.

Management Recommendations and Conclusion

Ten western states are home to over 200 herds (177 BLM HMAs and 53 USFS WHBs territories) of wild horses and burros. Federal agencies are legally mandated to manage herds in a sustainable manner that allows for a thriving natural ecological balance. However, populations continue to grow at an exponential rate and advocacy groups as well as the general public continue to have misconceptions about wild horses and burros. By increasing the amount of public education programs, the WHB advocacy groups and general public will be better informed about the WHB program and therefore may support the current management methods that are being used to control and potentially reduce populations. Factual and straightforward

information from all stakeholders needs to be presented, so that the public is receiving the same information.

It is apparent from the responses to the survey that both advocacy groups and federal land management agencies have similar ideas about how to manage wild horses and burros and protect the rangeland ecosystems. Therefore, increasing collaboration should be a priority. This may mean holding meetings throughout the year in which representatives from each group come together to talk about their ideas. Stakeholders must increase their collaboration efforts to lower and control the on-range population, as well as increase the adoption demand for the WHBs in off-range facilities. There are several examples of successful collaboration efforts using fertility control, and several agencies respondents stated that more field going employees are needed in order to implement fertility control or other population control measures. One solution may be to work with the advocacy groups and to train them on the administration of fertility control. These groups may be able to assist with monitoring the herds and administering fertility control as needed. As with any situation, there will always be a handful of groups that do not believe there is a problem. In the case of WHB management, this will be the group of people who do not believe there is an overpopulation of animals or that there is no rangeland degradation occurring. However, in order for the populations to reach sustainable levels, the program will have to have a forward momentum with the majority of stakeholders supporting the decisions made by the federal land management agencies. The adversarial groups that do not support the decisions will either find themselves swept up in the forward momentum or they will be left behind in irrelevancy.

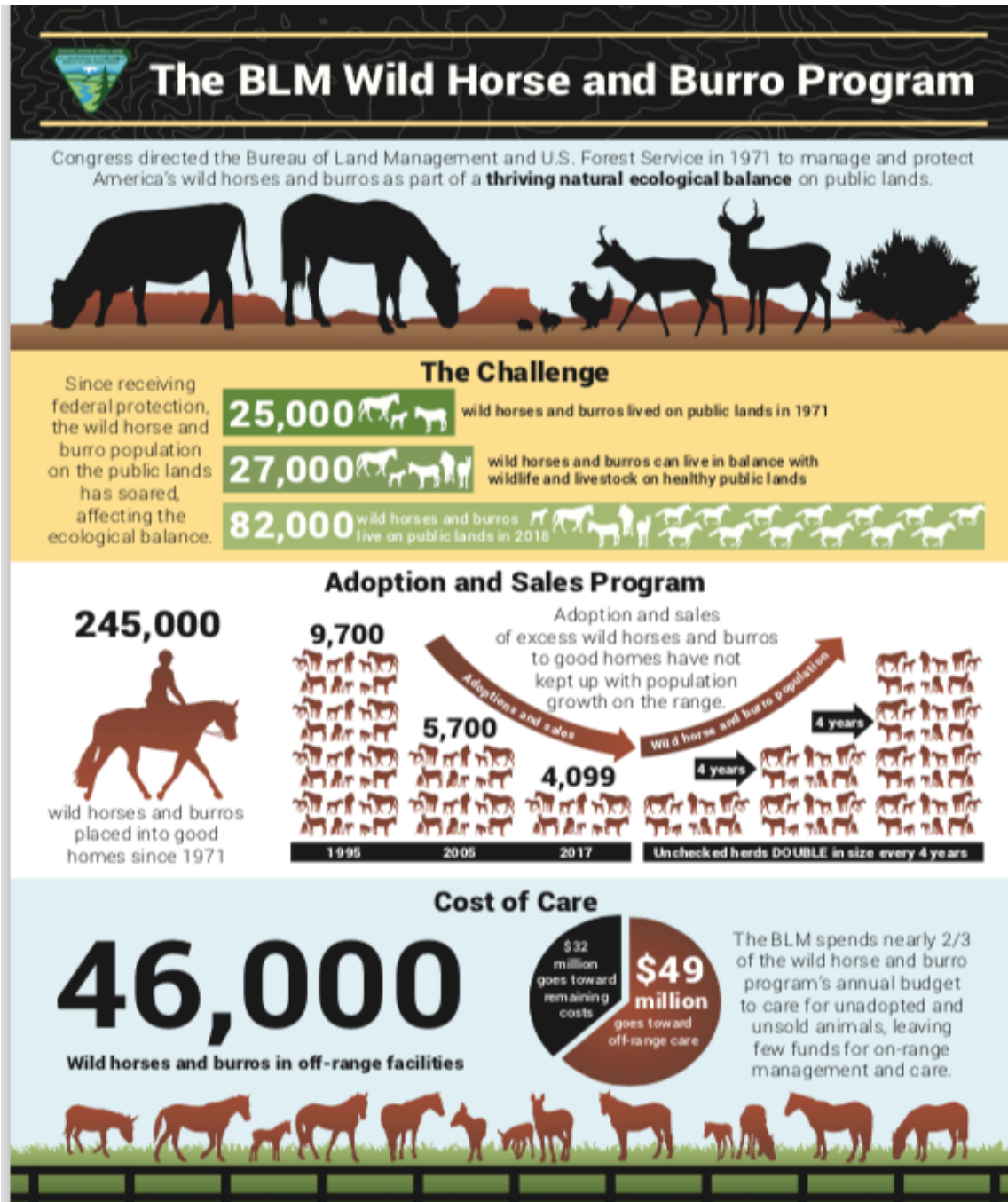
Since the passing of the WFRHBA in 1971, wild horse and burro management has been a controversial topic with many stakeholders involved, from federal land management agencies,

livestock owners, WHB advocacy groups, animal welfare organizations, and public land users. With the different stakeholders comes different views about how WHBs and the rangelands they depend on should be managed. Numerous policies, along with different management solutions have only complicated the issue of WHB management more. Yet, the results of this capstone project have shown that two of the different stakeholder groups (federal land management agencies and WHB advocacy groups) have many of the same thoughts about current and future management of WHBs. Could this be the beginning of finding a solution for a wicked issue with a long history? Maybe, maybe not. But, until a solution is found or the various stakeholders begin to collaborate in an effective manner, wild horse and burro populations will continue to grow at an exponential rate and exceed the carrying capacity of the rangelands they inhabit.

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Appendix I



Overpopulation Has Consequences

Too many horses and burros in one area can lead to overgrazing, as well as:

starvation and thirst
for horses, burros,
and other wildlife



less native vegetation
and more invasive weeds,
such as cheatgrass



more wild horses and burros
on highways and private property
in search of food and water



Solving the Challenge

No one action or tool can adequately address this urgent situation. The BLM continues to seek a variety of new management tools and effective partners who can help put the wild horse and burro program back on a sustainable track.

21

ongoing research projects
to develop better
fertility control methods
and other management tools



1,800

trained animals found homes
in 2017 thanks in part
to the work of BLM partners
and volunteers



35

off-range pastures provide
open space for unadopted
and unsold wild horses
at lower costs than corrals



The BLM is committed to working with Congress, state and local governments, partner organizations, and the public to find commonsense solutions for putting the wild horse and burro program back on a sustainable and fiscally responsible track.

[BLM.gov/WHB](https://blm.gov/WHB) | wildhorse@blm.gov | 866-468-7826

Based on data as of May 22, 2018

Appendix II

Year	Case	Issue Raised	Decision
2014	In Defense of Animals v. DOI, 751 F.3d 1054	Resolved number of issues that were being raised repeatedly	In favor of BLM
2014	Nevada Association of Counties (NACO) v. DOI, Case No. 3:12-cv-00712	Alleged that BLM failed to comply with WFRHBA to manage WH populations in NV	Lawsuit dismissed due to no specific actions identified in complaint
2014	Laura Leigh v. Salazar, 677 F.3d 892	Viewing restrictions violated her First Amendment right	9 th Circuit found that District Court applied the wrong legal test when it denied a preliminary injunction
2015	Friends of Animals v. BLM	Challenged Pine Nut HMA gather and PZP vaccine	Stay granted
2015	Friends of Animals v. BLM	Enjoin removal of 100 horses from Sulphur HMA	Voluntary dismissal
2016	Friend of Animals v. Spark & BLM	Challenged removal of 15-20 horses from Pryor Mountain WH Range	In favor of BLM <u>except</u> on issue of whether it was needed to recalculate AML.
2016	American Wild Horse Preservation Campaign v. Jewell, 847 F.3d 1174	Challenge BLMs removal of all WHs from Rock Springs District	Reversed District Court's ruling in favor of BLM
2016	Wyoming v. USDOJ, 839 F.3d 938	Claimed BLM violated its duty to remove excess horses	Ruled that DOI has no duty to immediately remove excess animals under the WFRHBA
2016	State of Utah, School and Institutional Trust Lands Administration (SITLA) v. Jewell, Case No. 2:15-cv-00076	BLM violated its duty to remove horses from state-owned school trust parcels	Parties entered into settlement
2017	Friends of Animals v. BLM	Challenged Rocky Hills HMA 5 year PZP darting	Decision vacated
2017	Friends of Animals v. BLM	Enjoin a gather to treat and release horses in Cedar Mtn HMA	Voluntary dismissal

2017	Friends of Animals v. BLM	Challenged a gather, removal and fertility control decision for Red Desert HMA	BLM prevails on all claims <u>except</u> on whether it analyzed impacts on preserving unique genetic traits
2017	American Wild Horse Preservation Campaign v. Perdue, 873 F.3d 914	USFS lawsuit involving adjustment of wild horse territory boundaries	Boundary modification was arbitrary as USFS did not adequately explain the change
2017	American Wild Horse Preservation Campaign v. Zinke, Case No. 1:16-cv-00001	Challenge to decision to manage Saylor Creek HMA as non-reproducing herd	Court ruled BLM violated NEPA and WFRHBA
2017	Beaver County, Utah v. DOI, Case No. 2:17-cv-00088	Alleged that BLM's plan to reach AML over 6-10 years does not comply with WFRHBA	Court found County lacks standing to sue and lawsuit was dismissed
2017	Western Rangeland Conservation Association (WRCA) v. Jewell, 265 F. Supp 3d 1267	Alleged phased gather to achieve AML violates WFRHBA	Court found BLM has not violated WFRHBA
2017	Colvin & Son, LLC, 189 IBLA 179	Stone Cabin HMA removal	BLM not required to immediately remove horses to AML
2018	Friends of Animals v. U.S. Bureau of Land Management, Case No. 2:16-cv-01670	Challenged emergency removal of Three Fingers HMA	Court holds that BLM's decision went beyond what was necessary to control the immediate impacts of the emergency
2018	Friends of Animals v. Silvey et al., 353 F. Supp. 3d 991	BLM failed to make an excess determination under WFRHBA and violated NEPA	BLM did not violate WFRHBA and complied with NEPA
2018	American Wild Horse Campaign v. Zinke, 353 F.Supp.3d 971	Proposal to return geldings and administer GonaCon to mares violates WFRHBA	BLM did not violate WFRHBA or NEPA
2018	Eureka Co. v. BLM, 193 IBLA 193	Appeal from a gather decision for Fish Creek HMA to reach AML	Petition denied, BLM decision affirmed on merits

2018	Ginger Kathrens v Zinke, Case No. 3:18-cv-01691	Wanted to observe wild mare sterilizations and claimed restrictions imposed by BLM violated First Amendment	District Court held Plaintiff likely to succeed on First Amendment claim and granted preliminary injunction
2020	American Wild Horse Campaign v. Zinke, Case No. 1:18-cv-01529	Challenged 10-year decision to remove all horses from Caliente Herd Area Complex	BLM did not violate WFRHBA or NEPA

Pending Litigation Cases

Year	Case	Issue Raised
2018	American Wild Horse Campaign v. Zinke, Case No. 17-cv-170-F	Alleged that BLM violated WFRHBA by removing foals that were not excess
2019	Friends of Animals v. Pendley, Case No. 1:19-cv-03506	Challenges four 10-year gather plans (2 in Utah and 2 in Nevada)
2019	Friends of Animals v. Pendley, Case No. 1:19-cv-03506	Challenges 10-year Twin Peaks HMA gather plan
2019	Bench Creek and Plouviez v. U.S.A., Case No. 1:19-cv-01331	Started sending BLM bills for water consumed by horses over AML. BLM declined to pay.