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Commentary

Managing healthy wild horses and burros on healthy rangelands: tools and the toolbox

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Abstract: The Wild and Free-Roaming Horse and Burro Act (WFRHBA) of 1971 authorized the Bureau of Land Management (BLM) and the U.S. Forest Service (USFS) to manage feral horses (*Equus ferus caballus*) and burros (*E. asinus*) on public lands in the United States. This special issue of *Human–Wildlife Interactions* has explored in-depth the ecological, policy, political, practical, and sociological issues pertinent to the BLM and USFS management of wild horses and burros. In this commentary, I summarize the pros and cons of the available contemporary policy and management options—the tools in the BLM and USFS toolbox—that can contribute to achieving the intent of the WFRHBA. Ultimately, it will be up to the U.S. Congress to choose which options are in the best interest of the American public and our natural resources.

Key words: *Equus asinus*, *E. ferus caballus*, feral burros, feral horses, management options, policy, public lands, toolbox

As you have read in this special issue of Human–Wildlife Interactions, the Wild and Free-Roaming Horse and Burro Act (WFRHBA) of 1971 gave the Bureau of Land Management (BLM) and the U.S. Forest Service (USFS) the legal responsibility to manage feral horses (*Equus ferus caballus*) and burros (*E. asinus*) in specific locations on public lands in the United States (Public Law 92-195). These agencies are legally required to manage wild horses and burros (WHBs) in concert with other legal multiple-uses and laws governing the land management agencies.

The BLM and USFS have been arguably successful in managing for multiple-uses of public lands, but implementation of the WFRHBA has proven to be among the biggest challenges to sustainable management. In 2008, the U.S. Government Accountability Office (GAO) reported that "If not controlled, off-the-range holding costs will continue to overwhelm the program." At that time, there were 30,000 horses in holding facilities (GAO 2008).

Today, the BLM alone is struggling to manage approximately 118,000 horses and burros (animals) with designated lands that will only support 27,000 (Table 1). Approximately 46,431 of the animals reside in holding facilities, costing the American taxpayer $50 million per year. In 2016, there were 45,000 excess horses in holding, and the BLM estimated the cost of holding them over the remainder of their lives would be >$1 billion without any additional horses or burros brought into the holding system. Currently, the remaining 73,000 animals are left on the range to compete with the wildlife, livestock, and vegetation for survival (Danvir 2018).

All public land uses, other than WHBs, are managed to maintain the balance between the uses and to ensure the land health standards are met. Wildlife are hunted, livestock are regulated and required to utilize rotational grazing and/or removal, recreation is permitted and restricted, and oil and gas are regulated. After the WFRHBA was passed, the federal agencies managed WHB populations through gathers and removal. The gathers now are largely contested in the courts, and the costs of holding WHBs in off-range facilities consumes most of the WHB Program budget (Garrott 2018).

The papers in this special issue synthesize the science confirming that the lack of management of WHBs is detrimental to the land, WHBs, wildlife, livestock, and rural communities. Unmanaged WHBs are now causing irreversible damage to fragile western landscapes. The way

Table 1. Wild Horse and Burro Program data obtained from the Bureau of Land Management (BLM 2018) website.

BLM Wild Horse and Burro Program quick facts	
On-range population (March 2017)	72,674
Off-range population (February 2018)	46,431
Total BLM managed populations	119,105
Ecologically-based Appropriate Management Level (AML)	26,715
Total estimated population above AML	92,390

the current WHB Program is being managed is unsustainable (Garrott 2018).

Options and potential solutions

Congress, or rather society, has tough decisions to make to address one of the most significant environmental issues threatening U.S. public lands. Will we choose to sacrifice the land, water, and native wildlife resources, and the health of the WHBs, to allow the unchecked population growth? Will we choose to accept exponential growth of WHB numbers over sustainable economies of local communities who work diligently to provide food, fiber, and energy to the American population? Or will we choose to manage WHBs in a sustainable manner that will be in balance with all the required multiple uses as well as maintain a healthy population of horses and burros on public lands? The following is an overview of the basic options, including the pros and cons, to answer the above questions.

Option #1: Status quo

We limit gathers and removals of WHBs (last 5-year average of 3,475 WHBs; BLM 2018), including multiple emergency gathers due to starvation and dehydration of horses, leaving most of the excess WHBs on the rangelands.

Pros: (1) financial burdens (of gathers and holding) are reduced; and (2) horses would remain free-roaming.

Cons: (1) animals (including horses and burros) will die of thirst and starvation because unmanaged populations double every 4–5 years, causing irreparable range degradation and desertification, which will become the norm (Garrott 2018; Figure 1); (2) excess horses negatively impact native species such as the greater sage-grouse (*Centrocercus urophasianus*, Beever and Aldridge 2011); (3) horses and burros will expand further beyond legal boundaries, negatively impacting even more rangelands; (4) single-use management of federal land and disregard for the economies of local communities will occur; and (5) there would be a violation of Congressional mandates for responsible management of public resources.

Option #2: Gather and place excess horses and burros in holding facilities for the remainder of their lives

Conduct massive roundups to remove all excess WHBs (those above the Appropriate Management Level [AML]) from the rangelands within the next 2 years and place them in short- or long-term holding facilities. Current costs are approximately $2 per day per horse in long-term holding (pastures) and $5 per day per horse in short-term holding (corrals). Current holding facility capacity is 59,748 (Figure 2). Additional capacity would likely cost more per horse due to demand.

Pros: (1) removals of excess WHBs would protect rangeland health and reduce competition and stress on wildlife and other multiple uses of the federal lands.

Cons: (1) the cost to taxpayers for feeding and caring for 90,000 excess horses until each dies of natural causes would be an average of $30,000 (lifetime) for each animal and would be approximately $2.6 billion over the next 20 years; (2) horses would have to be living in confinement rather than in their typical habitat; (3) demand for feed consumed by 90,000 excess horses could increase the cost of feed for livestock, increasing the cost of food to the American public; and (4) continued cost and stress of gathers would occur (Garrott 2018, Jakus 2018).

Option #3: Increase adoptions

The adoption demand over the past 5 years has averaged 2,700 per year.

Pros: (1) fewer horses would be in holding, saving taxpayer dollars; (2) fewer horses would be on the range, so they would not be contributing to the degradation; and (3) individuals could enjoy the animals, and most adopted animals would have a good home.

Cons: (1) demand does not meet the current and growing supply (2,700 adopted annually versus current supply of 100,000 excess WHBs);

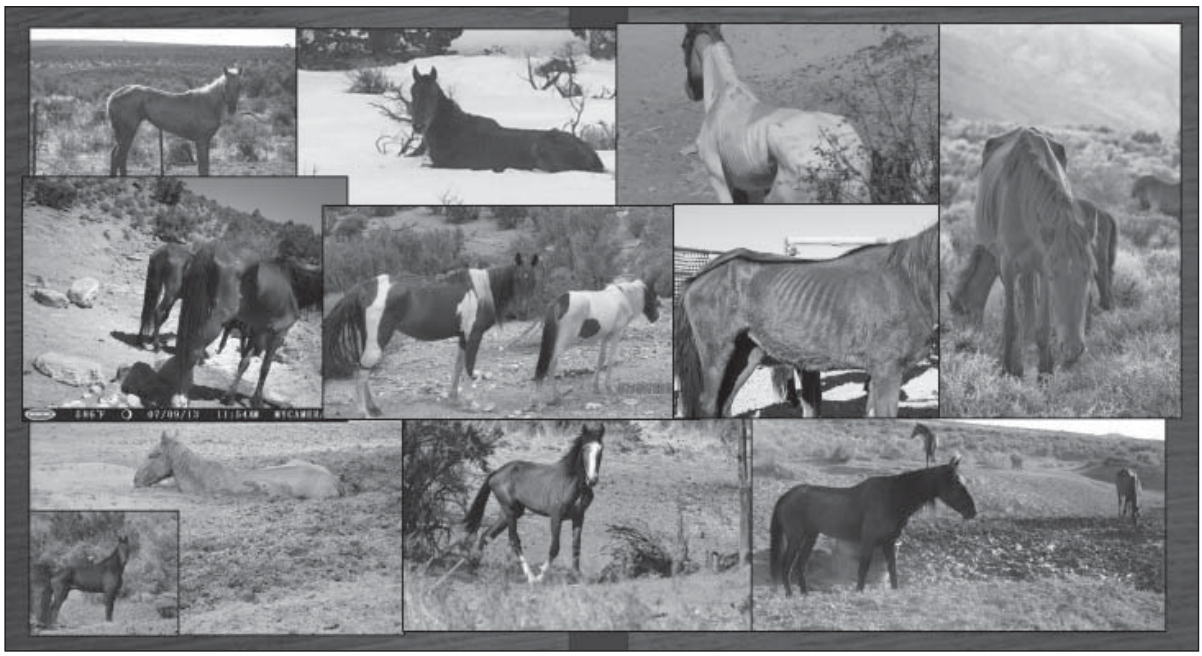

Figure 1. Animals (including horses [*Equus ferus caballus*] and burros [*E. asinas*]) will die of thirst and starvation because unmanaged populations double every 4–5 years, causing irreparable range degradation and desertification, which will become the norm (*photos courtesy of the Bureau of Land Management*).

Figure 2. Current costs are approximately $2 per day per horse (*Equus ferus caballus*) in long-term holding (pastures) and $5 per day per horse in short-term holding (corrals). Current holding facility capacity is 59,748 (Rock Springs, Wyoming Holding Facility; *photo courtesy of the Bureau of Land Management*).

(2) continued cost and stress of gathers would occur; and (3) FY16 adoption efforts cost the taxpayer $7,375,000 to adopt 2,912 animals, which is $2,532 per horse/burro (Garrott 2018, Jakus 2018).

Option #4: Fertility control

Including all short- and long-term fertility control tools would likely require significant gathers to treat animals.

Pros: (1) porcine zona pellucida (PZP) and other short-term vaccines may reduce the reproduction rate in small herds that receive treatment on an annual basis; (2) sterilization would eliminate the need for additional gathers and treatments of that animal; and (3) when a

Herd Management Area (HMA) is within the AML, fertility control will help to maintain that number (Kane 2018).

Cons: (1) the current 2-year or more vaccines are unreliable; (2) while fertility control may reduce population growth if used on the majority of mares, it does not reduce populations, which is currently required to save the ecosystem from degradation and some horses from starvation/dehydration; (3) it is impractical to administer the short-term vaccines on a meaningful scale with large land masses, elusive horses, undocumented horses, and lack of funding and manpower (Bechert and Fraker 2018, Kane 2018, Nuñez 2018); and (4) impacts to the habitat of native species continue.

Option #5: Remove livestock from the HMAs

Livestock grazing has already been curtailed in some HMAs, and emergency gathers have continued because the horses are starving (Danvir 2018).

Pros: (1) there would be forage for more horses in the short-term.

Cons: (1) in 4 years, there will be double the number of horses on the HMAs filling the void from livestock, and 4 years later, the number will have doubled again with a need for removals of a much greater number of horses; (2) yearlong (unmanaged) grazing of horses replaces managed grazing by livestock, therefore causing significant impacts on the habitat of threatened and endangered species; (3) in times of drought, the BLM will not be able to rely on reducing livestock AUMs (animal unit months) to support horses and wildlife; (4) there is significant reduction of already scarce water resources for the horses without ranchers hauling water and/or maintaining water structures at personal expense; (5) there are negative economic impacts to the rural and state economies because ranching is a primary economic driver; (6) wildlife and other multiple uses would be negatively impacted by more horses (Danvir 2018, Garrott 2018, Jakus 2018).

Option #6: The full toolbox—full implementation of the WFRHBA

Each HMA is unique and should be managed accordingly. This option would allow the agencies to utilize the most appropriate "tool in the toolbox" for each HMA, ensuring approximately 27,000 WHBs remain free-roaming on the designated rangelands with good forage and water. The full toolbox option includes removals of all excess WHBs from the range, offering excess animals for adoption, and those that are not adopted to good homes would be sold without restrictions or euthanized. Fertility control, including sterilization of mares and stallions, would continue to be researched and implemented on a larger scale once the numbers are down to the AML within the respective HMA.

Pros: (1) the number of excess horses and burros on the range would be significantly reduced, and the rangeland could begin to recover for the benefit of all uses; (2) holding costs of approximately $50 million per year would be eliminated and could be used to rehabilitate some of the degraded rangelands; (3) individuals/groups wishing to protect the horses could purchase and care for them with their personal financial resources; (4) entrepreneurial opportunities would exist for large landowners to care for privately owned WHBs; (5) the WHBs that are not purchased by those wanting to protect them could provide protein to people in need or people who choose to use them for those purposes; (6) all these tools are in accordance with and in the spirit of the WFRHBA as written; and (7) humane euthanization would replace suffering from starvation and dehydration of WHBs on the rangelands.

Cons: (1) there would be public outcry from those who do not believe in unrestricted sale and/or euthanasia; and (2) some adopted and sold horses may not receive the best of care in the hands of well-intentioned but uninformed individuals who adopt or purchase them.

Which options/tools will Congress and an informed public choose? I remain hopeful they will provide the full toolbox to honor the legacy of the WHB by ensuring they are treated humanely and with dignity, the ecosystem can thrive while supporting all the multiple uses, and tax payer dollars are prudently expended (Garrott 2018, Jakus 2018).

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