Youth Forum

Wild Horses and Rangeland in the New Millennium

By Colter Brown

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The year is 1519, and the Spanish conquistadors are coming to the Americas to hunt for gold. With them they have one amazing tool that will change North America forever. The horse! Thousands of stories and songs would be written about this amazing creature, the horse, who would carry the conquistador, the Comanche, and the cowboy to glory. How could any of these know that they were also bringing a huge challenge to public range management….the modern-day "wild" horse.

Today, some of the descendants of those early horses still graze the range, but in many cases they are causing serious problems for public rangelands across the west. This paper will discuss why wild horses impact range much differently than other species, and some of the solutions that modern range science is identifying.

To fully understand the problem that wild horses perhaps better labeled "feral" horses) create for rangeland management, one must first understand the sheer numbers. When the Wild Free-Roaming Horse and Burro Act was passed in 1971 to protect them, the national population was only about 17,000 head of wild horses and burros. Today, there are over 3 times that many, and that total of 59,000 head is a number that is growing every year.

For professional wildlife and range resource managers, the goal sounds fairly simple. It's all about managing for "healthy horses on healthy rangelands". No matter how you look at it, a big part of that management always comes down to one question: how do you keep the numbers of horses from exploding beyond the grazing capacity of the range? Wild horse populations can grow very quickly. Since they have very few natural enemies a horse herd can easily grow by 20% each year from new foals, so without careful management and proper culling, a herd can easily double in size in a little over 4 years.

Today, of our 59,000 total wild horses and burros, 31,000 roam in 201 Herd Management Areas. Another 28,000 that have been culled are being held in corrals and pasture facilities.

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1971 - Wild Free Roaming Horse and Burro Act

National Population was 17,000 head then

Today there are 59,000 head of wild horses

Without question there is a lot of emotion involved here, but there is also a great deal of science to help us address this management challenge.

Those who do know horses, and range management, will tell you how complicated this problem is. Jay D'Ewart, Wild Horse and Burro Specialist for the US Bureau of Land Management in Rock Springs, Wyoming, says horses by their very nature present some unique challenges when it comes to grazing management. The construction of their mouths and teeth allows them to graze plants much more aggressively than other species, such as cattle or buffalo. A horse's prehensile lips and long teeth let him easily bite a desired plant right down to the dirt, whereas a cow must wrap her tongue around a plant and tear away only the top (Jay D'Ewart, personal communication).

Jay has observed that wild horses are much more mobile, and can travel much further and faster than other grazing species, so they can be more selective in their grazing and then quickly move on to impact a lot more area. A big difference is that while domestic cattle will graze through an area like a comb and can be moved when forage utilization levels are reached, wild horses will more selectively graze down specific desirable forage plants and stay for prolonged periods. The less desirable plants are the ones left behind, in an ecosystem that is much less healthy.

Grazing Challenges

- **Horses are more mobile and travel further and faster than cattle**
- **Selectively grazing on desired plants**
- **Return to impact areas for prolonged periods**

In my home state of Montana, the Pryor Mountain Wild Horse Range is an excellent example of long-term impact on rangeland. The recently completed Pryor Mountain Wild Horse Range Survey and Assessment compiled data in a 3-year body of work that yields the most intensive grazing study done to date of a wild horse range.

Organized and authored by Matt Ricketts, Rangeland Management Specialist with the USDA, Natural Resources Conservation Service office in Bozeman, this exhaustive study divided the Pryor Range into 30 different dominant plant communities, in 6 inventory units. What did they find?

Similarity indexes ranged from 18% to 45%, with the lowest plant health noted in areas that had water available year-round.

The overall range trend was downward, with severe soil erosion in all 6 units. In the driest environments, plant pedestalling, such as that observed in severely grazed Indian Ricegrass, was common, with an average of 3-inch-high plant pedestals. Pedestals as high as 2 feet were documented on big sage and prickly pear cactus, and these 2-foot pedestals occurred on 20% of some units.

Every unit noted erosion pavements, in which fine particles near the soil surface were either blown or washed away, leaving cobbles and stones on the surface with little soil.

The average rangeland health rating for the Pryor Mountain Range is at 2.75, on a scale of 1 to 5. Fully half of this range is at risk for site deterioration, and half is unhealthy. At least 3 of the 6 units have crossed a threshold that they may not be able to recover from due to cumulative historical grazing impacts.

Ricketts and his team suggest that conventional wisdom of 50% utilization (the old "take half and leave half" approach), which many stockman have found successful, may not work as well when managing wild horses in arid, high mountain desert environments. Perhaps more important is to consider the concept of "grazability" of the range.

For example, if the Pryor Range could be grazed at 100% efficiency, then it may have the AUMs to support the 160 wild horses that exist there. But things like elevation, steepness of terrain, and water availability can change dramatically the actual impact on rangeland. This study suggests that when these things are considered, perhaps 35% to 45% of use may be more appropriate than 50%.

In this Pryor Mountain example, and perhaps others across the West, the dilemma seems crystal clear. On one hand, the law says these wild horses must be managed wild and free-roaming. On the other hand they must also be managed without causing impairment to the land's productivity. This appears to be a difficult, if not impossible task.

The management recommendations of this study may be valuable to other arid and semiarid wild horse Herd Management Areas. These considerations include the following:

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- Controlling water sources to deny or permit access, to mimic a type of "rest rotation" grazing program, in the wild.
- Using a recommended grazing rotation to control overgrazing and undergrazing would allow for the greatest range recovery in the shortest period of time.
- Managing a herd's numbers based on selected scenarios of "grazability" instead of considering only total AUMs available.

It will likely take ideas like these, and many more, to solve the problem of wild horses and their impact on range resources. It's important for all of us to understand how these systems work so that we can find our commonalities instead of focusing on our differences.

In summary, I think it is important that we remember the goal. The goal that it seems to me everyone agrees upon is that we should "manage for healthy horses on healthy rangelands."

The problem is that without active and innovative management, and a concerted effort to control numbers, wild horses can damage rangelands severely. Concepts like those I have discussed here, such as utilizing grazing rotations, tighter control of numbers, and considering new scenarios of grazability, could be part of the answer.

Five centuries ago Hernando Cortez brought this amazing beast to America, and when he left, the horse stayed behind.

Today we here in the west are still struggling with the issue of how to manage the wild mustang, and his impact on our rangeland.

References and Other Reading:

Bureau of Land Management. 2007. Fact sheet on BLM's management of wild horses and burros. Available at: http://www.blm.gov/nhp/spotlight/whb_authority/fact_sheet.htm. Updated January 3, 2007.

Coates-Markle, L. 2005. Billings field office to begin fertility control on Pryor Mountain wild mares. Billings, MT: BLM news release from Montana/Dakotas Wild Horse and Burro Specialist.

Faler, B. 26 May 2005. To protect mustangs, BLM imposes new rules on animal sales. *The Washington Post*.

Fort Wayne News Sentinel. 4 January 2004. Editorial: their Disneyland view of nature.

Gibson, C. 1990. Hernando Cortes. *In:* World Book Encyclopedia. p 1073–1074.

Mendoza, M., and A. Wagner. 18 July 2005. Protected wild horses and burros overwhelm federal government. Associated Press.

Miller, G. B. 2005. Is this any way to treat a friend of man? Available at: www.lasvegasweekly.com. Accessed 2 June 2005.

Ricketts, M. J. 2004. Pryor Mountain Wild Horse Range Survey and Assessment. Available at: http://www.mt.blm.gov/bifo/whb/PMWHR/survey_assessment/. Accessed April 2004.

Struglinski, S. 21 June 2005. Bill may not help wild horses after all. *Las Vegas Sun*.

United States Department of the Interior Bureau of Land Management. 2006. Wild Horse and Burro Program Briefing. 11 January 2006.

Vallentine, J. F. 1990. Grazing management. San Diego, CA: Academic Press. p 149–150.

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