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Wild or Feral? Historical and biological consideration of free roaming horses (FRH) in Alberta.

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Abstract

Free roaming horses in Alberta are labelled either as ‘wild’ (because they have been living in the wilderness for approximately 100 years), or as ‘feral or stray’ (because historically they were released or escaped from those who colonized the area, from First Nations reserves, or more recently from domesticated dwellings). Approximately 12 000 years ago the same lineage of horse that currently roams parts of western/central Alberta roamed North America, and recent DNA studies suggest those were the original wild horses that later populated other areas of the world. The free roaming horse population located west of Cochrane, Sundre and Rocky Mountain House derives, in part, from both the ancient bloodline and horses that were used to colonize North America. This horse heritage presents a number of interesting perspectives regarding the animals; their historical importance, both biologically as the ancient lineage to all horses, and culturally for the role(s) they played during colonization of the area. Free roaming horses cross into national parks and protected areas but because the Alberta government categorizes the animals as feral, regulations applicable to wildlife species do not apply to the horses. FRH occupy both federal and provincial lands but legislation concerning FRH is provincially mandated. Contemporary management of FRH requires an understanding of their history in Alberta so that policy more appropriate to their protection may be developed for the future on both federal and provincial lands. The objective here is to provide a historical overview of FRH and guidance for future policy.

Introduction

“[The] collision of cultures reintroduced horses to this continent, launching an era in which equines would play an integral role in the European settlement of North America and later in the lives of indigenous groups” (Findlay 2007, 142). The purpose of this paper is to review the history of FRH in Alberta and beyond. Understanding history, biology, past management practices, and conflicts between FRH and humans can

influence future policy decisions and promote human-horse coexistence on federal, provincial and private lands.

The proposed research area is fluid, reflecting the movement of horse herds but is roughly west of Cochrane, Sundre and Rocky Mountain House in Alberta, Canada (Figure 1) (Alberta Sustainable Resource Development 2005). It is not known how long this area has been populated with free roaming horses (FRH), but sources addressing FRH have referred to horses in Alberta as far back as the 1800s and potentially much longer (Salter and Hudson 1978). Currently the proposed research area consists of crown land, private land, outfitter companies, wilderness areas, provincial parks, development nodes, forest recreation areas, Aboriginal reserves, forestry, grazing lands and borders of Banff and Jasper National Parks.

My PhD research will involve conducting qualitative, semi-structured interviews with stakeholders who use and live on this land (Figure 2). Stakeholders will be asked about perceived problems related to FRH, whether they view FRH as wild or feral, preferred management practices, personal experiences with FRH and areas where FRH are found most often. Understanding these perspectives is crucial to creating policy and deciding the future of FRH. Any successful management program needs to include local people and their perspectives (Madden 2004).

The Alberta Government largely seems to ignore issues surrounding FRH because it is a sensitive public issue. People with cattle and grazing permits on the land argue that FRH deplete valuable forage, while proponents for FRH argue that FRH are biologically, culturally and historically significant animals that have a right to occupy the area.

Historically and culturally, free roaming horses were important to Aboriginal peoples and to the settlers of Alberta. A contentious social milieu exists over the feral/wild designation of free roaming horses. The questions concerning us today are: where will Parks Canada choose to place FRH on the continuum ranging from eradication to protection and as a result what will the future of FRH look like in Canada?

Background

Horse ancestry in North America

The original birthplace and evolution of the horse occurred on the North American continent (Simpson 1951). Archaeological evidence consisting of spearheads, horse bones and horse protein residue on the tips of spearheads found in the St. Mary Reservoir suggests that 13 000 years ago humans were hunting wild horses (Canadian Geographic 2001). Approximately, 11 000 years ago, horses disappeared from North America (Hubert and Klein 2007). Biologists suggest that before their extinction on the North American continent, horses crossed over a landmass to Asia and spread to the Middle East, Europe and Africa (Ryden 1999).

History of horse reintroduction

It is believed that barbarians first domesticated horses in about 2500 B.C (Simpson, 1951). In the Iberian Peninsula the Moors¹ had horses from wild stock as well as from Vandal² and Goth³ invaders. These mixes of horses gave rise to the Iberian breeds that the Spanish introduced to South and North America. In the 17th century two categories of horses occupied North America: 1) descendants from the Iberian horse (Andalusian, Barbary, Norse Dun, Sorraia, Arabian, Spanish-Barb) which are recognized

¹ Muslims of Iberian Peninsula and North Africa who were of Arab and Berber descent

² East Germanic tribes

³ East Germanic tribes

as some of the oldest breeds of horses in the world, and 2) breeds imported by northeastern settlers and farmers which had French, English, Irish, German and Dutch bloodlines (Bearcroft 1966; Hubert and Klein 2007; Ryden 1999). Aboriginal horses in western America originated from the first category and were known by numerous, often derogatory, names some of which included: 'Indian' horse, Cayuse pony, Spanish barb, Spanish mustang, Chickasaw pony, and Seminole pony. It appears that horses in the first category were genetically closer to wild breeds than other European breeds. Ancestors of Iberian breeds such as the Sorraia may be represented in FRH in North America. Some breeds represented in FRH in North America are rare. For example the Sorraia horse is close to becoming extinct and the surviving bloodline may be present in North American FRH (Oelke 1997).

Pressures of colonization in the 18th century forced the free roaming horses toward the Rocky Mountains where the two categories of horses interbred (Hubert and Klein 2007). While limited DNA testing has been conducted, it appears that free roaming horses represent a varied combination of the two categories in addition to strains from more recently released or escaped horses from surrounding farms, ranches, outfitters and First Nations lands (Hubert and Klein 2007). Percheron draft horses and other horses used for heavy labour, from the second category, also were used in Alberta before machinery use became wide spread (Bearcroft 1966). Presumably some of these horses escaped or were released once they were no longer needed and interbred with existing free roaming horse populations.

Historical importance of the horse

Horses played a central role in all aspects of European colonization and settlement, ranging from food production to material and food distribution, communication, road and building construction, logging, and warfare. FRH were often referred to colloquially as mustangs, a term which derives from the Spanish words *mesta* meaning cattle raisers or collectives and *mestengs* meaning without owner (Bearcroft 1966; Roe 1955). Horses, both domestic and wild, and their historical importance, continue to be celebrated in local communities through monuments, statues, museums, place names (15 in Alberta), historic sites, rodeos and through other events reminiscent of the past. Not only were horses essential to European settlers, but also Aboriginal peoples of the plains developed practical and spiritual connections to the reintroduced horses.

In 1784, and probably much sooner, horses had been fully re-introduced to the plains (Roe 1955). The horse trade resulted in some Aboriginal bands acquiring horses prior to coming in contact with European settlers. Horses were acquired through trade, from traders and explorers who left their horses with Aboriginal peoples, and by taking horses from the Spanish and from other tribes (Roe 1955). Conversely, European men also took horses from Aboriginal tribes. In 1750 wild horses were spotted on the plains (Roe 1955). Subsequently, FRH were caught and used by Aboriginal people but they preferred to acquire trained horses through trade or misappropriation.

Aboriginal people in Alberta became superior horse riders. Their skills surpassed those of the colonizers; riders often rode without saddles and without holding onto reins so that their hands could be used for fighting or hunting (Bearcroft 1966; Roe 1955). Riders could drop to the side and shoot arrows under the neck of the horse and ride, out of sight, on the side of their horses. Riders could mount and dismount at a run and pick

up a cohort without stopping the horse. The Blackfoot and Blood tribes were known as 'horse Indians' due to their superior mastery of horses which they accomplished in such a short period of time. These exceptional skills enabled Aboriginal tribes to hold the plains against colonization until repeating revolvers were introduced in battle. The revolver enabled the Europeans to penetrate the plains and also to exterminate the buffalo (Roe 1955).

Horses were an important part of Aboriginal culture. Taboos, symbols, songs, legends, religious celebrations and rites revolved around the horse. Unlike Europeans, the Aboriginal peoples preferred pinto horses and they painted and decorated their horses. Markings on horses were held in high esteem and many held special significance (Bearcroft 1966; Roe 1955). For instance, the markings of 'medicine hats' on horses, which consisted of colour covering the ears and the top of the head, were believed to protect the horse and rider from arrows (Hubert and Klein 2007).

Relevant biology

The social structure of FRH consists of harems of polygamous families. One herd (50-300 horses) consists of several harems, each protected by a stallion and led by the lead mare, and each with a hierarchical standing within the herd ranging from dominant to subordinate (Berger 1986; Hubert and Klein 2007). The social status of each harem affects the quality of pastures they use, their access to water, group cohesion and safety. Dominant groups are the first to access water and individuals drink 19-23 litres of water daily and up to 57 litres in the summer. Since subordinate harems have to give way to more dominant harems, subordinate harems are less stable and the stallions are less capable of keeping the group together and defending their mares and offspring. As a

result, the females in subordinate groups get less rest feeding time because they have to remain more vigilant than females in dominant harems where stallions protect and keep the group together (Berger 1986). Adult horses need to sleep 5-6 hours and to feed for 15 hours a day. Stallions typically spend less time resting and feed about two hours less than females. FRH will eat flowers, grasses and grains but also will resort to roots and woody plants if preferred plants are unavailable. FRH in the USA have been observed to live to 20 years of age.

The fertility period (estrus) is three weeks long and the females are in heat for 5-9 days (Berger 1986). The gestation period lasts from 10-12 months depending on the stability of the harem and on the weight and physical condition of the mare. The majority of births in FRH in the western U.S.A. occur in March and April (Hubert and Klein 2007). The foal is able to stand within one hour of birth. Generally, dominant harems produce stronger and healthier foals.

Practically, FRH are stronger and better adapted to their environment than domesticated horses. Their immune systems are much stronger and they are generally healthier and more resilient (Berger 1986; Hubert and Klein 2007; Roe 1955). Historically, FRH were often used to strengthen registered breeds such as the American Quarter horse, the Morgan and the Standardbred (Bearcroft 1966). In the future FRH may provide genetic diversity and act as breeding stock for domesticated horses.

Horses will feed farther away from water sources than cattle and will feed on lower quality plants that cattle reject. Thus, the issue of grazing competition between cattle and FRH is a human construction that is politically and economically driven. Economically ranchers want exclusive access to forage for their cattle in order to

maximize profits. Politically those who are economically influential control the outcome. Competition for land between ranchers and FRH requires implementation of policy that allocates spaces for both.

Free roaming horses around the world

Free roaming horses continue to present one of the most complicated problems to wildlife management agencies due to multiple, often highly controversial, polarized attitudes of stakeholders (Wolfe 1980). Perceptions of free roaming horses in New Zealand, Australia, the western United States and Canada are emotional and consist of opposing viewpoints from numerous interest groups ((Berger 1986; Hubert and Klein 2007; Rogers 1991; Salter and Hudson 1978; Wolfe 1980).

New Zealand has a relatively small population of FRH. The Kaimanawa horses gained legislative protection in 1978 that was comparable to protected native species. Following legislation, FRH numbers increased from 174 in 1979 to 1576 in 1994 (Dawson, Lane, and Saunders 2006). A management plan that involved complete stakeholder participation resulted in horses being removed and their numbers managed. Rogers (1991) suggests the use of the natural landscape for retaining horses in a particular area.

Colloquially referred to as a brumby, Australia has the largest population of FRH, in the world (300 000) (Dawson, Lane, and Saunders 2006). Similar to North American FRH, brumbies were introduced by colonizers and appropriated by Aboriginal peoples. Current management of brumbies varies by state and territory, but 'management' consisting of aerial shooting of FRH has resulted in public protests. The Australian government reports that FRH are a hazard to motorists, cause environmental damage and

are grazing competitors with livestock resulting in significant economic losses (Dawson, Lane, and Saunders 2006). Other reported management techniques include mustering (round ups), ground shooting, trapping, capturing and removing, and strategic use of barriers such as fences. However, “feral horse management and control is often impeded by conflicting perceptions in the community” (Dawson, Lane, and Saunders 2006, 8). Thus, the lesson learned in Australia is that successful management programs of FRH depend on good relationships with landowners, lobby groups and professionals.

In the U.S.A., FRH are protected as historical heritage animals (U.S. Department of the Interior Bureau of Land Management 2008). The Wild Free-Roaming Horse and Burro Act of 1971 states, “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 within the Nation and enrich the lives of the American people; and that these horses and burros are fast disappearing from the American scene...[free-roaming horses are an] integral part of the natural system of the public lands” (U.S. Department of the Interior Bureau of Land Management 2008).

Controversy surrounds current numbers of FRH in the U.S. A. In some areas, increased numbers of horses or decreased amount of land available to them results in competition for forage with domesticated and wild animals. Land that is in demand for recreation, development or grazing is in direct competition with FRH. As the human footprint increases, areas where horses can roam decrease. Maintaining certain numbers of FRH often requires animal control, and results in protest and disagreement among stakeholders. Some argue that FRH management is essential in areas where few predators exist.

In Canada FRH generally are not protected although one exception exists. Horses on Sable Island have been legally protected since 1961 under the Sable Island Regulations of the Canada Shipping Act⁴. Sable Island horses are federally protected and live entirely unmanaged (Bearcroft 1966; Sable Island Green Horse Society 2004). The Island is unoccupied by humans with the exception of a single weather station that is operated by Environment Canada and has been present for 200 years. The numbers of horses on the island rise and fall (between 200-350) and the horses have not depleted their resources or overpopulated.

Free roaming horses also are found in Alberta and British Columbia. There may be pockets of FRH in isolated areas observed only by local residents. There are several hundred (400) FRH in British Columbia where the Xenigwet'in people identify strongly with the horses and practice a horse culture (Friends of the Nemaiah Valley 2002). In 1994, all 1201 horses (likely the largest population of FRH in Canada) were removed from the Suffield military base in Alberta (Bakytta 1998). The next largest FRH population in Alberta resides in the proposed research area. Over 2000 horses were removed from the study area between 1962 and 1972 (Salter and Hudson 1978) and 300-420 horses have been captured since 1997, however, gaps in the data suggest this statistic underestimates the actual number captured (Alberta Sustainable Resource Development: Public lands and forests 2004). Now, fewer than 200-300 free roaming horses remain in the proposed study area (Alberta Sustainable Resource Development: Public lands and forests 2004; Whoas: The wild horses of Alberta society 2008). This is a small population that may be at risk of decreasing further or even becoming extinct. If FRH were legally

⁴ The Newfoundland pony is protected as a heritage animal but differs from FRH because most of the ponies are being bred in captivity are semi-wild or owned and domesticated (Sable Island Green Horse Society 2004).

recognized as native animals there is a strong possibility that they would be considered a Species at Risk according to guidelines informing the Species at Risk Act (SARA).

Although FRH live independently from humans, in Alberta they fall under the stray animal act (Alberta: Sustainable Resource Development 2005). Alberta's Sustainable Resources website states that "concerns" about the treatment of horses captured on public lands resulted in the creation of horse capture regulations that are appended to the Stray Animals Act (Alberta Sustainable Resource Development 2005). There appears to be some incongruity between classifying free roaming horses as stray/feral animals and public opinion.

North America is the cradle of the original bloodlines of horses that populated the rest of the world (Kirkpatrick and Fazio 2005). This makes the case that horses were at one time 'native' species to this continent. Domesticated horses have been described as animals that are shallowly domesticated because they easily return to their wild state once they escape or are released. Many domesticated horses worldwide have returned to their wild state. Do FRH need to be categorized as wildlife or do they require a unique category? Should the horses be recognized for their historical efforts of providing assistance to humans? Are FRH culturally significant animals to Aboriginal populations and to Canadians in general? It could be argued that the free roaming horses provide, in part, a behavioural and perhaps genetic record of the 'original' horses that populated the rest of the world. FRH could provide unique opportunities to those studying 'wild' horse behaviour.

Recommendations for the future

The lack of research surrounding aspects of FRH in Alberta makes educated and effective recommendations difficult. As demonstrated in Australia, attitudes toward FRH and support for policy initiatives are imperative for the success of any management plan. Furthermore, a multidisciplinary approach that includes social and biological information is necessary. Important research areas that need to be explored are whether FRH populations are sustainable and how the horses interact with contemporary species and vegetation. Predation on FRH by wolves, cougars and bears has been reported (Berger 1986; Hubert and Klein 2007; Salter and Hudson 1978). However detailed studies examining direct predator-prey relationships on free roaming horse populations in Alberta are needed. Great numbers of ruminants occupied Alberta and survived prior to European settlement so it seems plausible that FRH could be included in the landscape. Research examining competition between ruminants and varied grazing methods between species is needed to establish the precise role that FRH occupy as grazers.

If protection and inclusion of FRH in Alberta was to be considered this project could potentially contribute research to the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), which recommends species to the Species at Risk Act (SARA). COSEWIC deems a species 'wild' if it is native, has persisted in Canada for more than 50 years, and threatened if a 10% decline in population over 100 years occurs (COSEWIC 2007). Based on criteria outlined by COSEWIC, free roaming horses are wild and threatened.

In addition, SARA identifies stewardship as an important component to animal protection (Species at Risk Act: Government of Canada 2008). One effective way to

promote protection and positive awareness is through a stewardship program. Interested participants could observe, gather information and report on conditions affecting FRH. This information could be organized and used to further efforts benefiting FRH. In light of ambiguous existing policy and COSEWIC guidelines, a change in policy may be needed for these animals. It is my hope that this research will educate, protect, increase understanding of, and foster interest in Alberta's small free roaming horse population.

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Figure 1: Research Area

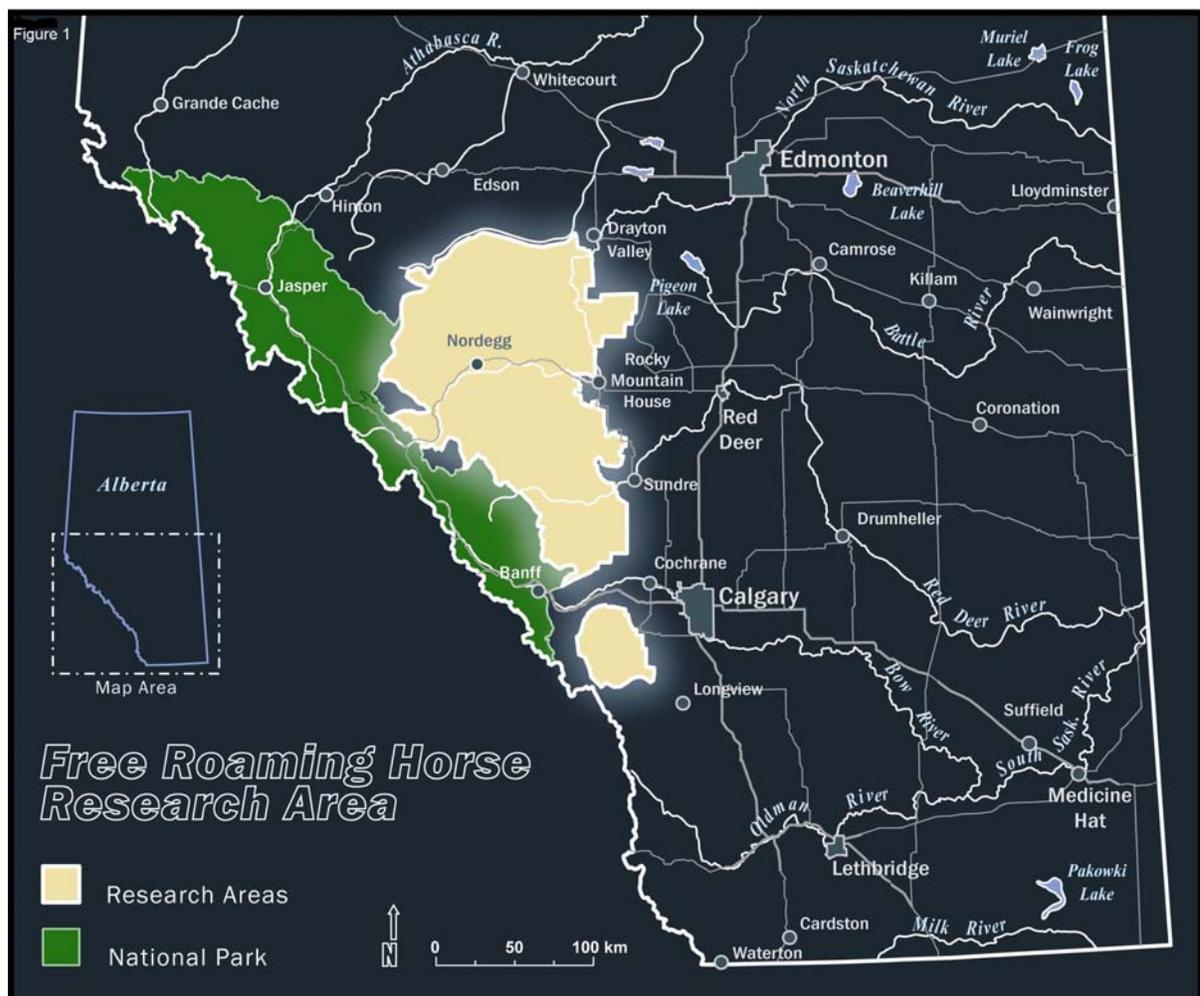


Figure 2: Stakeholders

