# Bison on the Plains

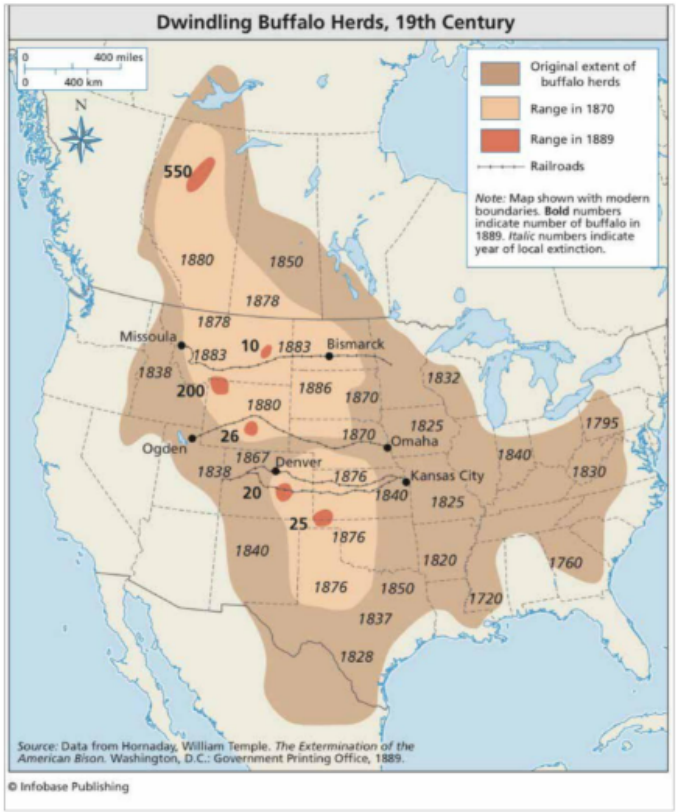
Shirley Bartz



Bison on the landscape at Glacier National Park
Photo courtesy of: Caitlin Mroz-Sailer, SK PCAP

Earlier this year, I was asked to visit a class of eleventh-grade students to talk with them about agricultural sustainability and cattle ranching. I was thrilled at the opportunity to speak about Saskatchewan Prairie Conservation Action Plan's (SK PCAP) central focus on the ecological importance of grazers in our native prairies and the way herds of 60 million bison shaped the grasslands in North America's Great Plains across millennia.

The students' surprise at the grisly details of the way bison were removed from the Plains made me wonder about people's knowledge of this history and motivated me to write this brief account of bison in our prairies and the Great Plains.




Map of bison herds from 1720 through 1889 (based on information from Hornaday 1889). Note that the 4-digit numbers in italics are "dates of local extinction," and do not represent herd numbers in that location. Bolded numbers do represent remaining bison estimates in 1889.
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The origins of the bison lie in the deep geologic history of North America and its periodic linkages to Eurasia and Africa, where ancestors of all bovine species arose. The ancestors of the modern bison are thought to have arrived in North America between 195,000 and 200,000 years ago when glacial activity dropped sea levels sufficiently to open the Berring Land Bridge (Lewis 2021).

Our current Holocene epoch began 11,700 years ago and is marked by the retreat of the Wisconsin ice about 8,000 years ago, and a warming period that brought widespread drought and fires to North America. This change in climate altered vegetation communities, leading the ancient bison species to branch into plains bison (*Bison bison bison*) and wood bison (*Bison bison athabasca*).

By the early 1500s, as the Conquistadors were invading the Americas, the plains bison population was estimated at 30 to 60 million animals. Early Spanish expeditions, along with later explorers and fur traders, all described being amazed by how many bison covered the Plains.

If these observations of huge bison herds were awe inspiring, it is even more incredible to think of how bison and prairie plants and animals evolved together across millennia. Bison are recognized as keystone species because they affect grassland species richness and vegetation structure by wallowing, churning soil and vegetation with their hooves, grazing and redistributing seeds and nutrients in their dung (McMillan et al., 2019).

One of the beneficiaries of bison in North America were Indigenous peoples of the Plains. For thousands of years, bison supplied them with food, homes, clothing, fuel, tools and toys. Bison organized Plains Peoples' economies, spiritual, political, and social lives. With the arrival of the horse in the mid-1700s, the lifestyle and hunting strategies of the Plains people changed significantly. Although some commentators criticized First Nations people as wasteful, bison was central to their existence and were treated with deep respect.

With the arrival of European fur trade economies, the traditional relationship between bison and Plains Peoples began to unravel. Bison became a commodity providing beaver trappers the calories in fat and protein needed to expand across the boreal forest (Colpitts 2014). Historians, such as Hornaday (1889), Roe (1934), and Smits (1994) later used firsthand sources to show that deliberate U.S. military actions and private profiteers were directly linked to the rapid destruction of the bison herds.

Between 1870 and 1885, the U.S. military led efforts by hide hunters and "sportsmen" to destroy "the commissary" of the Plains People and force them onto reservations (Smits 1994). By the late 1870s, their efforts had decimated southern bison herds. When seasonal migration of herds in northern Alberta and Saskatchewan brought these remaining bison south, they were slaughtered in North Dakota and Montana (Roe 1934, Smits 1994). By the close of the 1800s, the numbers of bison were estimated at fewer than 1,000 (Hornaday 1889). [MAP]

The destruction of the bison and the conversion of the prairies are both part of the colonization of the Great Plains. Many remaining native grasslands are carefully managed by cattle ranchers and land managers who are aware of the evolution and history of grazers on these lands. These stewards are working to maintain ecosystem health through rotational grazing, regenerative agriculture and other strategies that work with livestock grazing as a key factor in restoring and maintaining the health of prairie landscapes.

There are several important differences between bison and cattle grazing behaviour. Bison prefer to feed on grasses and sedges where cattle are known to eat a wider variety of forages, including more forbs. Bison spend less time grazing than cattle but with greater intensity over shorter durations. Bison will roam farther from and drink less water than cattle, but their tendency to congregate makes larger water sources necessary. Bison are strongly attracted to open landscapes during the growing season (Steuter and Hidinger 1999).

Although the history of bison on the Great Plains of North America is both grand and tragic, the outlook is hopeful. Today, more than 500,000 bison live in parks, on reserves and under private ownership in North America—their highest numbers in 150 years—supporting both Indigenous and settler communities.

Sharing this information can inspire discussions and promote healthy paths forward in our prairie grasslands. I close with deep appreciation for those stewarding today's herds and the native prairie beneath their feet.

## REFERENCES

Colpitts, George. 2014. Pemmican Empire: Food, Trade and the Last Buffalo Hunts in North American Plains 1780-1882. Cambridge University Press. P. 318.

Hornaday, William T. 1889. "The Extermination of the American Bison, with a Sketch of its Discovery and Life History", Smithsonian Report, 1887 (Washington, DC, 1889), 403.

Lewis, C.W. 2021. The History and Prehistory of the North American Buffalo. Heritage Calgary. https://www.heritagecalgary.ca/heritage-calgary-blog/northamericanbuffalo

McMillan,N. A.,Kunkel, K. E.,Hagan,D. L., and Jachowski,D. S. (2019). Plant community responses to bison reintroduction on the Northern Great Plains, United States: a test of the keystone species concept. Restoration Ecology 27, 379–388. doi: 10.1111/rec.12856

Roe, Frank G. 1934. The Extermination of the Buffalo in Western Canada. Canadian Historical Review 15 (1), 1-23.

Smits, David D. 1994. The Frontier Army and the Destruction of the Buffalo: 1865-1883. The Western Historical Quarterly, Vol. 25, No. 3., pp. 312-338. www.buffalofieldcampaign.org/images/get-involved/students-resource-about-bison/bison-conservation-papers/Smits-The-Frontier-Army-and-the-Destruction-of-the-Buffalo-1865-1883-Autumn-1994.pdf

Steuter, Allen and Hidinger, Lori 1999. Comparative Ecology of Bison and Cattle on Mixed-Grass Prairie. Great Plains Research: A Journal of Natural and Social Sciences 9 (Fall). 467.

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