

# American Plains Bison Rewilding An Icon



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- 10.1 Stockmen's opposition to bison restoration is intense.
- 10.2 Environments for commercial bison herds vary considerably among operators, sometimes approaching feedlot conditions.
- 11.1 Bison feeders in display pen at Caprock State Park, Texas.
- 11.2 Facilities for handling "wild" bison inside Yellowstone National Park.
- 11.3 Bison leaving Yellowstone National Park are rounded up and driven back into the Park each May.
- 12.1 Some fences used to contain bison herds are quite modest, however most bison managers use tall fences.
- 12.2 This 7-foot fence keeps bison from an interstate highway.
- 12.3 In bison country, barriers at road crossings are usually more elaborate, and often longer than this or the standard "cattle guards".

## Introduction

There are two kinds of American bison. Wood bison were originally in the north and plains bison, subject of this book, occupied much of southern Canada, the contiguous United States and a little of Mexico. Plains bison is something of a misnomer, as the former range of these animals included far more than the Great Plains. However, written history emphasizes the saga of bison on the Plains to an extent that few Americans think of bison anywhere else. The danger is that a narrow view of bison history, and the name "plains" bison, may constrain our vision of where bison could or should be restored as wild animals. (Much the same is true for "Rocky Mountain" elk and for wild "mountain" sheep.)

A lot has been written about the past of wild bison in North America, and a fair amount has been written about the present status of bison. However, too little has been written about the future of wild bison. In my reading, three authors have shown the way:

*No matter how good the intentions are, holding more bison behind more fences is a stopgap measure at best and not a lasting answer to conservation. Large herds on large tracts of land and little hindered by fences are more likely to remain close to the native genotype of bison.*<sup>1</sup>

Valerius Geist

*Bison domestication will strip out the genes that make for good domestic bison and discard the genes that make wild bison wild. To keep bison wild you must be willing to lose money on them – or at least leave money on the table. Only the public can afford to do that, and only as publicly owned animals do wild bison have a future.*<sup>2</sup>

Dale Lott

In addition, in writing mostly about the bison of Yellowstone National Park, Mary Ann Franke wrote:

*The bison that now roams Yellowstone has a life on the edge – the edge between the wild animal it still is and the zoolike exhibit it could become if subjected to the kind of livestock management practices*



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typically applied to bison herds.<sup>3</sup>

And Dale Lott wrote: Plains bison are *"the only wild animal in the United States that is not allowed to live as a wild animal – live outside parks and refuges – anywhere in its original range."*<sup>2</sup>

More than a decade ago, Ernest Callenbach<sup>4</sup> wrote of bison restoration on the Great Plains. However, loss of genetic integrity and domestication of bison had not yet been widely discussed as threats to the future of wild bison.

More recently, bison biologists wrote: "In the absence of intentional policies and actions to conserve the wild character and genome of bison, captivity and commercialization can lead inadvertently or intentionally to a variety of effects that may be deleterious to bison as a wildlife species in the intermediate or long term."<sup>5</sup>

Today, we have scientists debating how large a bison population is needed to retain all or most of its diversity of genetic material. Genetic diversity is necessary for a species to continue to evolve and adapt to future environments. There is debate over how much genetic diversity will be needed; and over how to reduce the need for large gene pools by moving animals among herds. In contrast, there is too little thought given to what the future environments of bison will be. These environments will include both natural and human-caused selection that will determine the future of the bison genome.

We do not leave bison to future generations of Americans. We leave the bison genome. Bison die, but their genes persist across generations. Thus the complex and somewhat technical concepts of conservation genetics must be addressed. What selective forces will shape the bison we leave to succeeding generations? For what purpose are we saving genetic diversity of bison?

Aside from commercial bison producers, bison are most valuable to the public as wild animals. Wild bison have historical, recreational, aesthetic, economic, ecologic, social and cultural values that depend upon their most unique characteristic – wildness. So I write about the future of wildness in bison.

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My intention is to describe some details of the breadth and depth of wildness in American plains bison, and to show how bison wildness is threatened by creeping domestication. Even in the so-called "conservation herds", bison are being sidetracked away from numerical extinction, but into domestication. However, domestication is extinction of the wild form. It is my hope that this book will accelerate public debate on the future of American plains bison toward having a few wild landscapes with wild bison. A nation as rich as ours can do this. We need only to generate sufficient knowledge of the issues, and sufficient perception of our obligation to future generations to save some examples of wild bison.

Humans have already domesticated many species of wild hoofed animals. These are models of what can happen to plains bison. Species of horses, pigs, sheep, goats, camels, and reindeer have been domesticated. For several of these, the progenitor species are now uncommon, rare or extinct in the wild.

True, it has taken centuries to replace most or all the wild yak, water buffalo, gaur, aurachs and banteng - progenitors of domestic forms of cattle. But these domestications must have started slowly, as we are starting now with bison. Most of our plains bison live in captivity, and all have lived under some form of human management for over a century.

Domestication is the predominant threat to persistence of wild plains bison. If wild plains bison are to persist, we must retain the wild genome in a wild environment. In an "artificial" environment with abundant human controls, the wild genome will deteriorate into something else.

I do not write for scientists, many of whom know more of bison ecology and genetics than I. Wild bison have no adequate constituency because most people think that having many herds behind fences is sufficient for all time. So I write for concerned and interested laypersons, hoping to develop a constituency for wild bison.

In some chapters, I deviate from biogeography and emphasize state



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boundaries – and state laws and policies affecting bison. As long as state laws and policies are the major factors limiting restoration of wild plains bison in the USA, active coalitions of state citizens will be necessary to initiate bison restoration. In that sense, this quasi-scientific document might be used as a handbook for in-state bison advocates. For more on the science of bison, they should consult the IUCN 2010 status survey of American Bison.<sup>5</sup>

Much of what I write has been said elsewhere in scattered books, reports and articles. I believe there is a need to put this information together in one place; to demonstrate the magnitude and complexity of the problem of creeping domestication of plains bison in the USA and to provide a focus for real restoration of wild bison.

My writing on the prehistory and history of plains bison is much abbreviated. Those interested in these subjects should see the original works. I am not a historian. But I have included enough of the grand, yet sometimes inglorious, history of bison to provide needed background for, and appreciation of, the plight of wild plains bison today.

This is not an “Oh wow!” book about bison. Such books describe the unique, intriguing and wondrous attributes of wild bison. They are important for public appreciation of why we should save wild bison. Many authors have done a superlative job in this regard. This is a book about why and how to retain wildness in bison for future generations. It is a large and complex subject, involving many states, several federal agencies and private organizations, history and prehistory, conservation philosophy and biopolitics, and the always incomplete and expanding subjects of bison biology, ecology and genetics. You may have to be very interested to plow through all of it. I have done my best to present the sometimes abstruse concepts and intermingled issues in a readable format. Redundancy is sometimes necessary with so many interrelated topics. But, I hope it is still “a good read”; and you will be the judge of that.

I have used modern place names to designate historic locations of bison. While these places, including states, often did not exist at the

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time of some bison observations, communication is best served by this simple approach. In deference to our friends in other nations of North and South America, I usually refer to the United States simply as the “USA”, not as “America”. Yet, I must apologize for continuing to refer to our people as “Americans”. “United Statesians” is just too clumsy! Sometimes I refer to these people simply as “us”, for we Americans all share this obligation to restore some wild bison for the sake of future generations of us.

### Footnotes:

<sup>1</sup> Geist (1996)

<sup>2</sup> Lott (2002)

<sup>3</sup> Franke (2005)

<sup>4</sup> Callenbach (1996)

<sup>5</sup> Gates et al. (2010)

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## Part I

### Origins

*The prehistoric bison lineage is long, diverse and magnificent. It is a gift from thousands of years of evolution, with bison living and dying.*

*Few Americans know that plains bison recently occurred in at least 40 of the 48 contiguous states.*