

## Bison

“This senery already rich pleasing and beautiful was still farther hightened by immense herds of Buffaloe deer Elk and Antelopes which we saw in every direction feeding on the hills and plains. I do not think I exagerate when I estimate the number of Buffaloe which could be comprehended at one view to amount to 3,000.” (Meriweather Lewis (on the Lewis and Clark expedition), South Dakota, September 17, 1804)

Bison had survived for 2 million years until humans arrived. In the 1500s, an estimated 30-60 million of these shaggy brown beasts roamed widely across the interior of Canada, the United States, and far Northern Mexico. (BBC, Ogden)

Scientists and historians estimate that there were at least 30 million bison roaming the country before Euro-American settlement of the West. (NPS, McAfee)

Teddy Roosevelt tells us,

The former range of the buffalo has been worked out with painstaking care by Dr. Allen, to whom we owe an admirable monograph on this species.

He concludes that the northern limit of this range was north of the Great Slave Lake, in latitude about 63° N.; while to the south it extended into Mexico as far as latitude 25° N.

To the west it ranged at least as far as the Blue Mountains of Oregon, while on the east it was abundant in the western portions of New York, Pennsylvania, Virginia, North and South Carolinas, and Georgia.

In the interior the buffalo were very abundant, and occupied Ohio, Kentucky, West Virginia, Tennessee, West Georgia, Illinois, Indiana, and Iowa, parts of Michigan, Wisconsin, and Minnesota, the whole of the great plains, from southern Texas north to their northern limit, and much of the Rocky Mountains.

In Montana, Idaho, Wyoming, and most of New Mexico they were abundant, and probably common over a large part of Utah, and perhaps in northern Nevada. So far as now known, their western limit was. the Blue Mountains of Oregon and the eastern foot-hills of the Sierra Nevada.

Thus it will be seen that the buffalo once ranged over a large part of the American continent, - Dr. Allen says one third of it, - but it must not be imagined that they were always present at the same time in every part of their range.

They were a wandering race, sometimes leaving a district and being long absent, and again returning and occupying it for a considerable period.

What laws or what impulses governed these movements we cannot know. Their wandering habits were well understood by the Indians of the Western plains, who depended upon the buffalo for food. It was their custom to follow the herds about, and when, as sometimes occurred, these



## Then, Buffalo Started to Disappear

The 1849 discovery of gold in California initiated a relentless stream of prospectors and other settlers through the Platte River Valley. Heavy subsistence hunting along the trail divided the existing bison herd into separate Southern and Northern herds. (PERC)

The change in the Nebraska landscape was dramatic. In just a few short years, cattle replaced the American bison as the leading, cloven-hoofed, grass-eating mammal on the Great Plains. In 1850, millions of bison ranged the grasslands and were the main natural resource for the region's American Indians.

By 1850, subsistence hunting and habitat destruction had removed all of the bison east of the Mississippi, leaving perhaps 15 million on the Great Plains. (PERC)

"Buffaloes travel in a straight line. When they were moving and encountered a herd of Texas cattle they invariably bored right through the herd, turning neither to right nor left. It was just the same if but one or a dozen buffaloes were on the move - they walked straight through." (James H. Cook as told to Eli S. Ricker, May 23, 1907)

In 1868, the steel rails of the transcontinental railroad created a barrier that bison did not like to cross. (Nebraska Studies) Construction of the Union Pacific through the valley made the division of the herd permanent, as the wary bison simply evacuated the railroad corridor. (PERC)

Prior to 1870, hunting pressure on bison west of the Mississippi was modest. Plains Indians effectively managed bison herds as common property, engaging in subsistence hunting and in harvesting the vaunted "buffalo robe" (used for carriage throws and heavy fur coats) for sale to eastern markets.



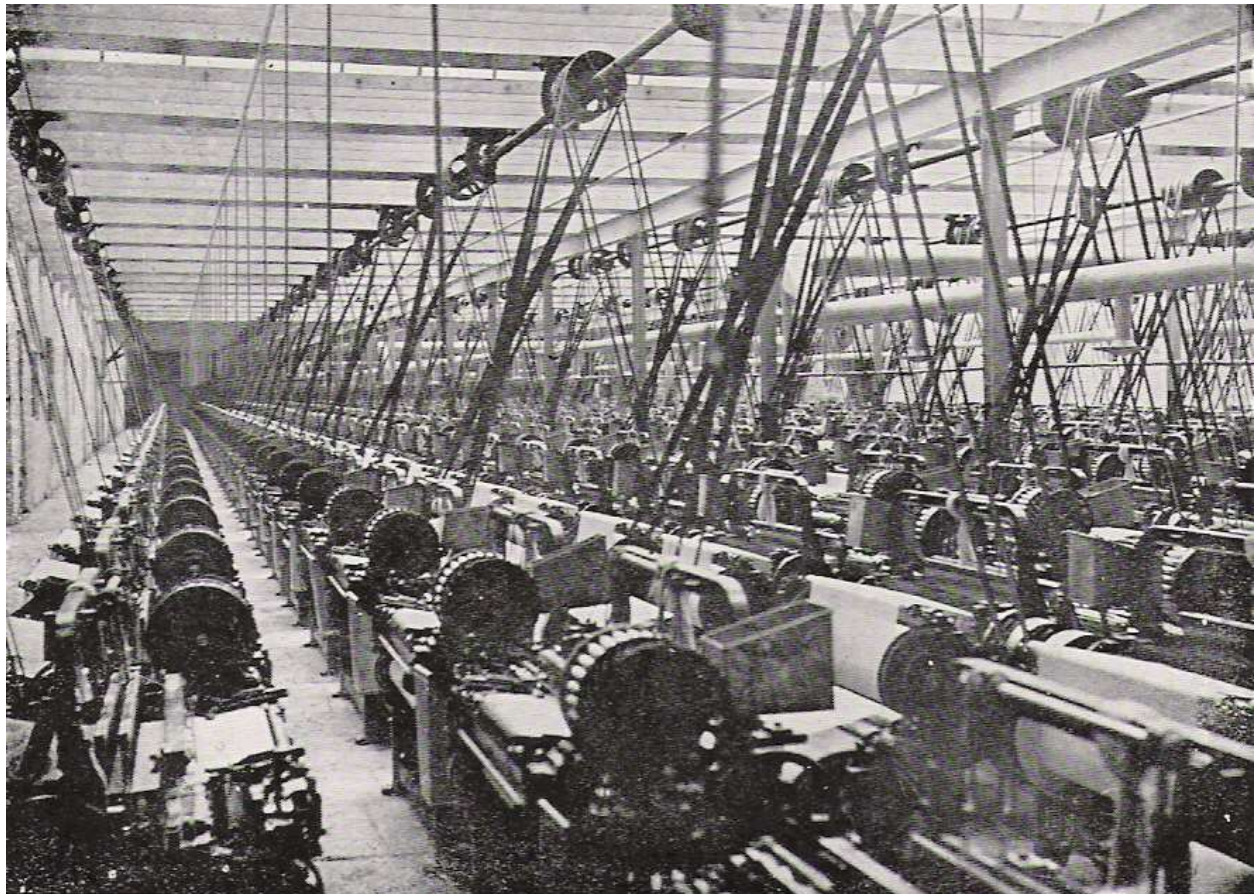
Though the robes were valuable, they could be harvested only in the winter and only from bison living in high northern latitudes—an arduous and risky undertaking at best. Hence, the western bison continued to thrive. (PERC)

Then in 1870, a process was developed that so bison hides could be commercially tanned into soft, flexible leather. This happened at the same time there was a high demand for leather to make the belts that powered machines in the Industrial Revolution. There were huge markets in England, France, and Germany. Bison hunters poured onto the Great Plains. (Nebraska Studies)

Bison hides from which the hair had been removed (called flint hides) were superb for making the soles of boots and industrial belts. European armies and factories were a huge market, and within months of the tanning innovation, orders for bison hides poured into America. (PERC)

Most people tend to think the hides were valued because they made fine robes or coats. But that wasn't really the case. During the 1870s, industrial growth skyrocketed in the US and Europe, and demand for leather industrial belts expanded.

Cowhide tended to stretch and factory workers would have to occasionally stop production to tighten belts by cutting out sections. The epidermal layer in buffalo hide is up to three times thicker than that of cattle and has wider spaced sub-dermal collagen fibers making it more durable and flexible, and better suited for use in industrial conveyor and drive belts. (Bell, Dodge City Daily Globe)



The price that hunters received for a flint hide jumped from \$0 in 1870 to about \$2.80 in 1871, and stayed in the range of roughly \$2.30 - \$2.80 for the next 15 years.

A good hunter could bring several thousand hides to market in a season, but could expect pay of only about \$50 per month as a ranch hand. It is little surprise then, that many hundreds of men quickly entered the business of hunting bison. (PERC)



Teddy Roosevelt notes,

On the last day of September, 1871, I joined my regiment, then in camp near Fort Hays, Kansas. ... We made our camp at the mouth of a small ravine that led down to the stream through the bluffs, which there form its banks.

Millions of buffalo were driven before the storm, and, being prevented by the high banks of the river from crossing either above or below this point, were huddled together in a dense mass which threatened to overwhelm our little command. By placing our camp a little to one side of this living tide, and under the friendly shelter of the bluff, we passed the night in security, while the countless horde kept up its ceaseless tramp.

For six days we continued our way through this enormous herd, during the last three of which it was in constant motion across our path. I am safe in calling this a single herd, and it is impossible to approximate the millions that composed it.

At times they pressed before us in such numbers as to delay the progress of our column, and often a belligerent bull would lower and shake his shaggy head at us as we passed him a few feet distant. Of course our fare was principally buffalo meat during this trip, and killing them soon ceased to be a sport.

The next year - the winter of '72 and '73 - this herd, during its southward migration, extended as far west as Fort Lyon, or some seventy miles farther west than its route of previous years. It was probably driven to this course by the extension westward of settlements in Kansas and Nebraska. This was the last great migration of the southern herd of buffalo.

Millions and millions were killed this season, and their hides and tongues shipped east over the Union Pacific, Kansas Pacific, and Atchison, Topeka and Santa Fé railroads. (Big Game Hunting, Teddy Roosevelt)

Over the years 1871 - 1884 this population was slaughtered, with most of the carnage occurring by 1879. 15 million bison were slaughtered on the Great Plains. (PERC)

“The nomadic nature of bison may have temporarily masked the decline of the herds; however, by the late 1800s it was clear that the North American bison population had been decimated.” (Isenberg)

There were an estimated 325 wild bison left in the country by 1884. (NPS, McAfee)



Roosevelt noted,

So the buffalo passed into history. Once an inhabitant of this continent from the Arctic slope to Mexico, and from Virginia to Oregon, and, within the memory of men yet young, roaming the plains in such numbers that it seemed as if it could never be exterminated, it has now disappeared as utterly as has the bison from Europe. (Big Game Hunting, Teddy Roosevelt)

Much has been written about their enormous abundance in the old days, but I have never read anything that I thought an exaggeration of their numbers as I have seen them. Only one who has actually spent months in traveling among them in those old days can credit the stories told about them.

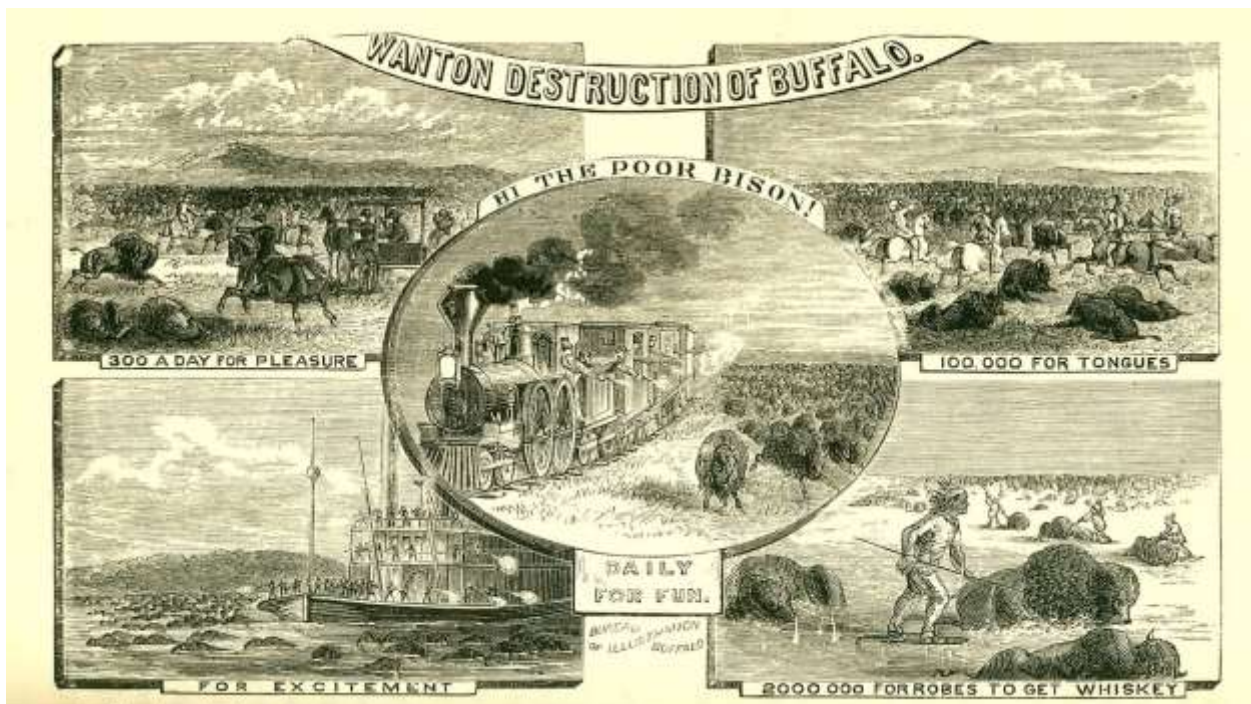
The trains of the Kansas Pacific Railroad used frequently to be detained by herds which were crossing the tracks in front of the engines; and in 1870, trains on which I was traveling were twice so held, in one case for three hours.

When railroad travel first began on this road, the engineers tried the experiment of running through these passing herds; but after their engines had been thrown from the tracks they learned wisdom, and gave the buffalo the right of way.

Two or three years later, in the country between the Platte and Republican rivers, I saw a closely massed herd of buffalo so vast that I dared not hazard a guess as to its numbers; and in later years I have traveled, for weeks at a time, in northern Montana without ever being out of sight of buffalo. (Big Game Hunting, Teddy Roosevelt)

“Commercial hunting by North American aboriginals and Euroamericans for meat and hides was the primary cause of the decline. Other contributing factors included subsistence hunting, indiscriminate slaughter for sport, and transection of the plains by railroads.” (Isenberg)

“Environmental factors such as regional drought, introduced bovine diseases, and competition from domestic livestock and domestic and wild horses also played a role. Additionally, because bison provided sustenance for North American aboriginals and commodities for their barter economy, the elimination of bison was viewed by Euroamericans as an efficient method to force the aboriginal population onto reserves and allow for continued western development.” (Isenberg)



## **Development of Industrial United States (1870 - 1900)**

After the Civil War, the United States rapidly transformed into an industrial, urbanized nation. Technological innovation, economic growth, development of large-scale agriculture, and the expansion of the federal government characterized the era, as did the social tensions brought about by immigration, financial turmoil, federal Indian policy, and increasing demands for rights by workers, women, and minorities.

In the decades following the Civil War, the United States emerged as an industrial giant. Old industries expanded and many new ones, including petroleum refining, steel manufacturing, and electrical power, emerged. Railroads expanded significantly, bringing even remote parts of the country into a national market economy

Many inventions in the late 1880s helped speed urban growth, allowing for taller buildings, more efficient factories, and better transportation. One of the most dramatic improvements occurred in artificial lighting. Thomas Edison's development of an electric lamp that did not rely on open flames made lighting more practical for factories, offices, and homes, and transformed city life.

The late 19th-century United States is probably best known for the vast expansion of its industrial plant and output. At the heart of these huge increases was the mass production of goods by machines. This process was first introduced and perfected by British textile manufacturers.

In the century since such mechanization had begun, machines had replaced highly skilled craftspeople in one industry after another. By the 1870s, machines were knitting stockings and stitching shirts and dresses, cutting and stitching leather for shoes, and producing nails by the millions.

By reducing labor costs, such machines not only reduced manufacturing costs but lowered prices manufacturers charged consumers. In short, machine production created a growing abundance of products at cheaper prices.

### **In the Islands at this Time - 'A City in a Grove'**

"When the whalers began to frequent (Honolulu Harbor) place in numbers, a town soon sprung up, and by the year 1820, Honolulu contained some six or seven thousand inhabitants. To-day its population is reckoned at 17,000, a larger number than the capital of the important British Colony of New Zealand could recently boast."

"The First view of Honolulu, on approaching it from the sea, has been variously described by visitors, some of whom have expressed great disappointment, whilst others have gone into raptures over the scene.

"Unless, however, from exaggerated descriptions the traveler has been led to expect something extremely wonderful and unusual, I do not understand how anyone can fail to be charmed with the view of Honolulu and its surrounding scenery as seen from the deck of an approaching vessel, especially after many days' confinement on shipboard, with nothing but the waste of waters around him."

"It is true that the hills of Oahu have not the same luxurious clothing of vegetation that is common in many of the island groups of the Southern Pacific. It is true also that the town has no characteristic buildings of a striking nature to arrest attention."



“Nevertheless, Honolulu is a prettier place to look at from the sea than nineteen out of twenty port tropics or elsewhere. It has rightly been called ‘a city in a grove.’”

“Until trees were planted it cannot have been an inviting-looking place. No visitor of former days, up to five and twenty years ago, has anything to say in praise of the city, however delighted with the surrounding scenery.”

“Dusty streets, insignificant houses irregularly built and located, with hardly a tree to be seen anywhere, presented no feature worth a second thought.”

“All this is now changed, and by nothing more so than by the growth of the trees, now universally to be found throughout town and suburbs. A few of the more important building tower above the trees; but for the most part the houses and stores are completely hidden by rich evergreen foliage.”

“This alone gives a character of its own to Honolulu which, charming as seen from the sea, is still more delightful when its cool shade is experienced in the streets and gardens of the town.”

“The first evidence of the commercial activity of the port to which the visitor is introduced is the large and substantial wharf or dock, as (according to an imported custom) it is usually called. Here the large steamers of the Mail Service can lie alongside with ease. On the wharf is a huge landing shed, and behind this a large building of stone, occupied as a warehouse for bonded goods.”



“Facing the Esplanade Wharf are the Custom-house buildings, the entrance to the Custom-house itself is on Fort street. The department occupies half the upper floor of one of the buildings. They are all solid-

looking erections of stone, and form a block by themselves, having open ground around them on three sides and a wide street on the other.”

“Of these the first was built in 1860, a two-story, fireproof building, sixty feet by sixty. It is here that Customs Department are located, and hence the building is usually known as the Custom-house”

“Immediately alongside of this a similar warehouse was erected in 1867, and quite lately, in 1878, it has been found necessary to add another large bonding store, 200 feet in length by a width of 50 feet. This latter building has, however, but one story.”

“The isolated position of these warehouses and the substantial manner in which they have been built of stone, with slate or corrugated iron for roofing, renders them the safest stores in the town, and they are recognized as such by all the insurance companies, who take risks on their contents at lower rates than on any other stores.”

“Outside the shed I found quite a crowd of vehicles with their chattering Kanaka drivers looking for a fare. I chartered one, and I and my belongings were quickly bowled over the level streets to my destination.”

“Of course, I went to the Hawaiian Hotel, that pride of all the white inhabitants of Honolulu. It used, I hear, not to be so highly esteemed by a dissatisfied section of the natives, because it was built by the Government and cost a considerable sum of money, (\$120,000 or so), to raise which the Government of the day ran the country into debt.”

“Next day I undertook a voyage of discovery through the town and found out the Government Buildings, and the King’s palace, and many other places of more or less interest. A new palace is in course of erection, and it is estimated that it will be completed before the beginning of 1881.”

“From the palace I went to the Government buildings. This is a plain structure, but of handsome proportions, and a decided credit to the Kingdom.”

“The great central hall and staircase of the buildings is lighted by a lantern tower, which is one of the most conspicuous objects in any view of the town from sea or shore, and is a relieving feature in a design otherwise rather homely in its character.”

“The Library is a highly creditable one. As might naturally have been expected, it is particularly rich in works upon the Hawaiian Islands or in which descriptions of the Islands, their people, language, fauna and flora, or anything relating to their history, are to be found.”

“I closed my afternoon’s excursion with a visit to the O’ahu Prison. This is situated at the west side of the town and immediately at the mouth of the Nu’uanu Valley. Its position for healthiness cannot be surpassed, subject as it is to every breath of the trade winds.”

“Built in 1857 of coral stone, cut from the various reefs by the prisoners themselves, and modeled after the Charlestown prison, near Boston, it so far has proved large enough for the criminal population of the country.”

“All prisoners whose sentences are over three months are sent here; also prisoners committed for trial to the various terms of the Supreme and Circuit Courts. There is cell accommodation for 170, and the usual average of prisoners is 150 to 155, one half of whom are natives, the other half foreigners and Chinese...”

“Prisoners are employed making roads, wharves, bridges, in fact any public work which may be going on at the time. In consequence of prisoners being thus employed, with the exception of such as are kept inside as servants, or on the sick list, or awaiting trial ...”

“... no one, to look at the prison in the day time, would suspect that at night every cell was occupied, as from 6 A.M. to 5:50 P.M. all that can work are at work.”

“Looking seaward from the prison I noticed a building which had been erected upon the reef, and on enquiry found it to be a Quarantine Station. This building had been erected by the Government in the anticipation of its being required for purposes of quarantine, but it was not until the 28th of March, this year, that occasion occurred to put it to use for its proper purposes.”

“On the next day, on which I had leisure to pursue my examination of the town, I visited some of its educational establishments. There are plenty of native schools everywhere in this Kingdom.”



“Is it not the proud boast of the Kanaka race and of its teachers that it is ahead of all those nations which pride themselves on their advances in what we call western civilization in the proportion to the total population of those who can read and write their own language ...”

“I never saw any theatrical representation in Honolulu. Neither tragedy nor comedy, burlesque nor opera can be said to be naturalized here yet. Nevertheless there is a theatre Royal, where occasionally a passing company angles for a few dollars with various results.”

“There is another public institution in Honolulu which does credit to the country, but which I did not visit. This is known as Queen Emma’s Hospital, having been named after his Queen by Kamehameha IV.”

“There is in Merchant Street another valuable public institution not supported by Government. This is the Sailors’ Home, which is maintained by a society organized in 1853, called the Sailors’ Home Society.”

“There is one public institution which every town ought to be able to boast of, more especially every tropical town, which I miss in Honolulu. There is no public park in or about the town.”

“The only open spaces in the town are Emma Square and the ground around the Government buildings. Emma Square is of no great extent.”

“The last, perhaps the most important place I have to mention is the bank. Messrs. Bishop & Co.’s premises are of stone, and handsome building at the corner of Merchant and Kaahumanu streets. This is the only bank on the islands.”

“On the first Saturday afternoon after my arrival in Honolulu I went, as every stranger does, and as a very large number of the residents do also, to the fish market. The place is on Queen street, just beyond Messrs. Brewer & Co.’s premises, and covers a considerable area between that place and the wharf which goes by its name.”

“This is the market of Honolulu. Not only fish, but fruit and vegetables and butchers’ meat, are to be purchased here. On Saturday all the country people come into town who can, and on the afternoon of that day the place is so crowded by pedestrians, that it is almost impossible to move about in it.”

“And now, before quitting Honolulu, I must not forget to mention two facts which do credit to the paternal Government which takes its municipal affairs under its wing. Water is laid on over almost all the town, and the streets are lighted with gas.” (Bowser, 1880)

Information here is primarily from Isenberg, *The Destruction of the Bison: An Environmental History, 1750–1920*; Bison had survived for 2 million years until humans arrived. BBC Ogden; *Bison, Buffalo, Tatanka - Bovids of the Badlands*. NPS, McAfee; *Bison Hunting, North Dakota Studies*; *The End of the Bison, NebraskaStudies*; *Bye, bye bison*. PERC; *The demise of the buffalo*, Bell; *Buffalo Hunt-International Trade And The Virtual Extinction Of The North American Bison*, Taylor; *Teddy Roosevelt; Bowser*

In an effort to provide a brief, informal background summary of various people, places and events related to the *Mayflower*, I made this informal compilation from a variety of sources. This is not intended to be a technical reference document, nor an exhaustive review of the subject. Rather, it is an assemblage of information and images from various sources on basic background information. For ease in informal reading, in many cases, specific quotations and citations and attributions are often not included – however, sources are noted in the summary. The images and text are from various sources and are presented for personal, noncommercial and/or educational purposes. Thanks, Peter T. Young