

The American buffalo

U.S. Fish and Wildlife Service

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UNIVERSITY OF CALIFORNIA, SAN DIEGO



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CONSERVATION NOTE 12

THE AMERICAN BUFFALO

The buffalo (bison to the biologist and in scientific literature) came to the North American continent from Asia, we are told, crossing over the land bridge that once connected the two continents. It is believed these ancestors of our buffalo arrived during the warm periods between the great glaciers that periodically covered a large part of North America. Some of these early arrivals had horns with a spread of 5 feet or more; some had flat horns like those of the gayal of India; and some had short horns like our present-day animal.

Through the centuries the buffalo slowly moved southward, retaining their heavy fur covering. When the Europeans discovered America, the buffalo ranged over a great portion of the continent. They had penetrated as far south as Old Mexico and as far east as the present States of New York, Pennsylvania, Maryland, Georgia, and Florida. They apparently followed the river valleys and mountain passes to the Pacific Northwest. Buffalo were found in greatest numbers, however, in the plains and prairies from the Rockies to the Mississippi River, and from Great Slave Lake to Texas. At their peak (probably before the discovery of America) it is thought that they may have numbered 60 or 70 millions. Probably no other continent--not even Africa--has ever produced a wild game animal in such great numbers.

No doubt you know that the American buffalo is not a buffalo, but a bison. Our buffalo is related to the European buffalo or wisent, not to the hard-working Asian buffalo or the ferocious Cape buffalo of Africa. Early settlers called it the "buffelo," and it has been a buffalo to Americans ever since.

Since buffalo in different sections of the country varied in size and color, some people thought there were three kinds: the larger, darker wood buffalo, the paler, smaller prairie form, and the still smaller mountain buffalo. The experts generally agree that all American buffalo belong to the same species, Bison bison. The difference in appearance probably results from differences in living conditions.

The Ways of the Buffalo

Buffalo belong to the cattle family. Like their close relatives, domestic cattle and sheep, they chew their cud and are cloven-hoofed. Both sexes have but a single set of hollow, curved horns. The bulls are immense, often weighing a ton or more and standing 5 to 6 feet high at the shoulders. The huge head and great hump covered with a dark brown woolly hair contrast sharply with the small hips. The cows are smaller and less striking. Despite their great size and bulkiness, buffalo can wheel and charge quickly. They have amazing mobility, speed, and agility: in deep snow they can outdistance a man on snowshoes; in powdery snow they can outrun a dog team. Their bones have been found with those of mountain sheep on mountain summits where horses could not find a footing and which man could reach only by climbing.



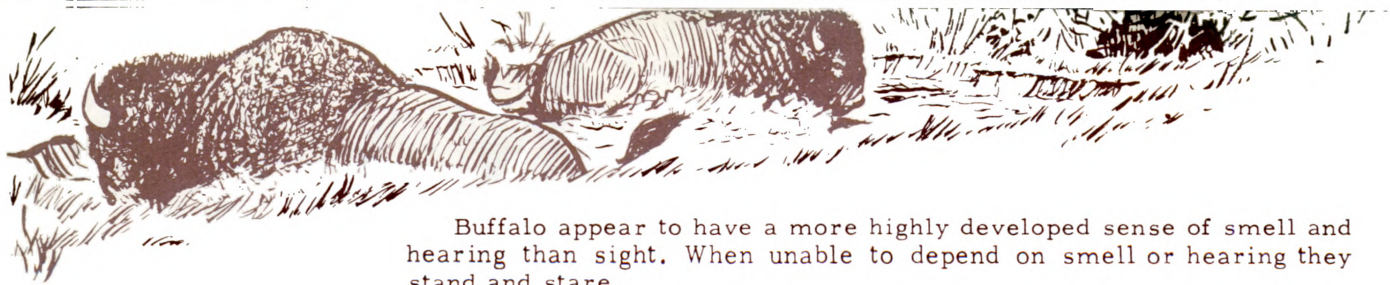
UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE



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Buffalo appear to have a more highly developed sense of smell and hearing than sight. When unable to depend on smell or hearing they stand and stare.

In spring the buffalo begin to shed their heavy winter coats; soon the hair hangs about them in tatters. To hasten the shedding and possibly relieve their itching skin, they rub against large stones and trees. Travelers in the eighties wrote of the highly polished stones they saw and of the rubbing trees with the bark stripped 6 to 7 feet above the ground. By late spring only the long hair on head, forelegs, and hump remain. The animals now are especially vulnerable to the attacks of insects filling the summer air. To escape their tormentors, the buffalo wallow in dust or sand--a not uncommon sight on National Refuges at this time of year. Early travelers on the Plains wrote of the "buffalo wallows" they found, often a foot or more deep and 15 feet across. Some of these old buffalo wallows still can be seen on the Plains, their circular outlines marked by the difference in the vegetation growing on them and on the surrounding areas.

The Indians would organize hunting parties to take the animals while they had little hair on their backs and hind quarters. Indian clothing was made from the tanned, more workable skins of the cows; their lodges and shields from the thick, tanned hide of the bulls.

Late summer with its golden days was a time of relaxation for the wild buffalo. The pestering insects were gone. Sleek in their new coats they fed and lolled in the luxuriant grasses.

Being a gregarious animal, the wild buffalo was seldom seen alone except for an occasional old warrior that could no longer compete with the younger bulls. Then he wandered off to spend his days in solitude or with other bulls like himself.

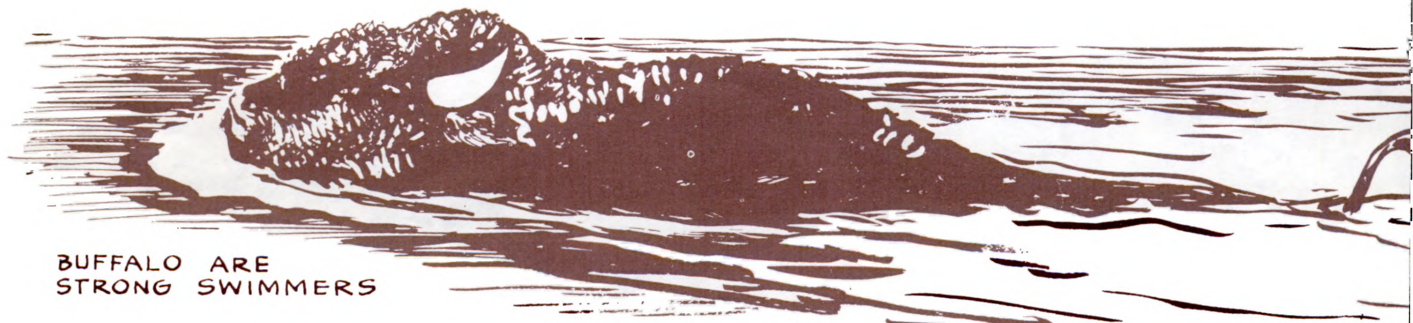
We know now that the great north-south migrations once ascribed to the buffalo never occurred. The treks probably were not more than 300 or 400 miles long. The herds moved in various directions in their search for food and water, as well as to escape hot weather on the southern plains. The great herds were actually made up of smaller groups or herds. Only when panicked did these smaller groups appear to lose their identity. It is questionable whether the original small herds ever re-formed after a stampede.

Buffalo are good swimmers and will often cross a lake or river merely to graze on the other side. They swim with the nose, forehead, and hump above water. The tip of the tail with its bunch of hairs is held high. In stormy weather the herd stops and the hardy animals stand or lie facing into the wind.

Since early days when the first ranchers noted the extreme hardness of the buffalo, men have wanted to breed this hardness into their cattle. The hybrid resulting from crossing cattle and buffalo is known as a cattalo. With few exceptions such attempts have failed, as the hybrid usually is not able to reproduce.



AN OLD
BULL



BUFFALO ARE
STRONG SWIMMERS

PRAIRIE DOGS

Buffalograss was an important food of the wild buffalo herds. It once covered the central part of this continent from Mexico to Montana, giving the land a parklike appearance. Buffalograss tolerates severe winters, long dry spells, and excessive trampling. With the disappearance of the buffalo the taller grasses, reduced by the heavy grazing pressure of the great herds, began to reappear. Buffalograss disappeared from extensive areas soon after the last wild herds were destroyed. On the National refuges, buffalo feed largely on buffalograss, grammas, bluegrass, bluestems, wheatgrass, and fescues.

When snow covers the range the buffalo root through the snow with their muzzles and heads. Students of the buffalo question that the animals ever use their feet to uncover the grasses.

With arrival of the breeding season in mid to late summer, the herd becomes restless and may be dangerous. The bulls, aloof most of the year, now drift among the cows and calves. Noticeably quiet at other times, the bulls bellow hoarsely and become quarrelsome. Many fights occur; the combatants, with lowered head, paw the earth defiantly. But the battle soon ends, the defeated bull retreating to a safe distance. The cautious horseman, meeting a belligerent bull along a narrow trail at this time, will wait for the animal to move on.

The following spring the bright tawny to buff-colored calves appear. Most of the calves are born between the middle of April and end of May; but some arrive as late as October. At birth, the calves have only a faint suggestion of the hump they will develop later. The cow and new calf soon rejoin the herd, and the youngsters begin grazing very young, although some may still nurse when nearly a year old. At first the calves are playful and easily handled. Later they become suspicious and wary; eventually they are as treacherous and unpredictable as their elders. Many a person has been gored or killed by a buffalo he raised from a calf and thought tame. The men who know them best trust buffalo the least.

Occasionally, a white or an albino calf is born in a herd. The Indians believed the white animals belonged to the Sun God. One of these, Big Medicine, lived on the National Bison Range in Montana for 26 years. He sired a true albino son that lived many years in the National Zoological Gardens, Washington, D. C.

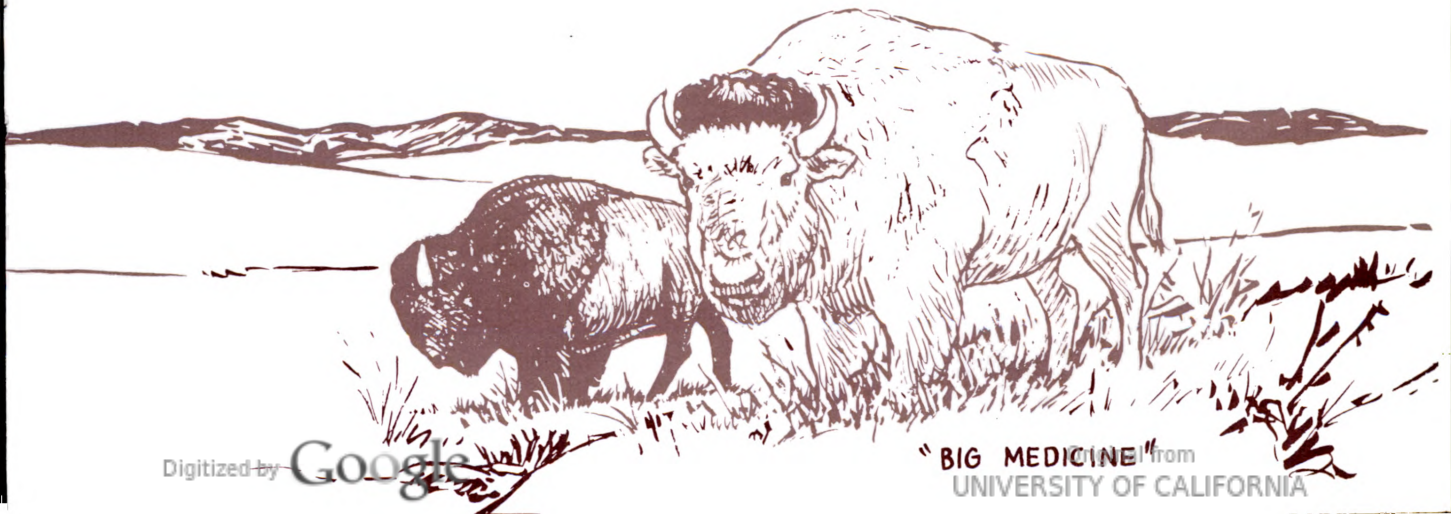
Buffalo mature at 7 to 8 years and may live to be 25 to 30 years old. With advancing age the gait becomes ponderous, the horns roughen and show greater curvature, and the coat becomes increasingly hoary.



WESTERN MEADOWLARK



BUFFALO CALVES



Destruction of the Great Herds

Much has been written about the destruction of the great herds that once ranged through the plains and prairies of this continent. Certain basic facts must be remembered when we consider the disappearance of the buffalo as a wild animal. The needs of a developing country and a growing population cannot be ignored. Men cannot live in close association with the wild buffalo. Wild buffalo just do not mix with farmlands, grazing livestock, communities of homes and playing children. The reasons behind the destruction of the buffalo and the manner in which the herds were destroyed, almost to the extermination of the species, are less easily defended.

We will never know just how many buffalo once lived on this continent. The great herds were nearly gone before any systematic attempts were made to determine their numbers. Ernest Thompson Seton estimated that there may have been 60 millions of these huge animals about 1800. A reasonable estimate places their numbers at 40 millions in 1830, when systematic destruction of the buffalo began. By 1870-71 not more than $5\frac{1}{2}$ millions remained, and by 1879 only stragglers were seen drifting northward along their old trails. The day of the buffalo was over. The Indians continued to hunt for them believing that with the coming of the white man the buffalo had slipped into a hole in the center of a lake in the North, one day to reappear.

Historians say that impetus to the slaughter was given by the U. S. Army. As the stream of white settlers moving westward increased, the Indians began to fear for their traditional hunting grounds. Too, the Indian hunters found it increasingly difficult to find enough buffalo to supply their tribes with meat. All of this led to raids on white settlements and massacres of the settlers. Destroying the buffalo seemed the only way the Indians ever could be subdued.

Many books have been written on the destruction of the buffalo; let us consider only the milestones in that destruction:

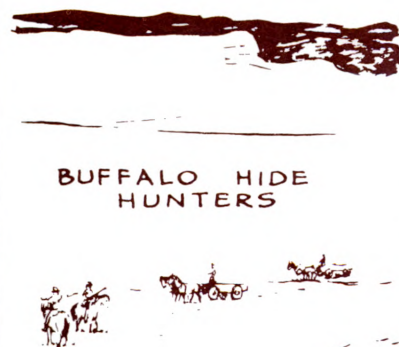
I. Between 1730 and 1830 some reduction of the buffalo took place as the natural result of the westward expansion of the country. With bow and arrow, the Indians took only such animals as they needed for their food, clothing, and shelter. By 1800 the small herds east of the Mississippi River were gone.

II. Systematic reduction of the Plains herds began in 1830, and between 1830 and 1874 the southern herd was destroyed. Hunts were organized, the hunters using carts to bring back the great loads of hides, robes, and meat, mostly tongues. In one such hunt, the famous Red River hunt of 1850, from 800 to 1,000 carts and more than 1,000 men, women, and children took part. A good hunter could kill the animals far faster than a skinner could remove the hides, yet skinners boasted they could remove a buffalo skin in about 5 minutes. Hunters often killed 250 buffalo a day and many said that they killed from 2,500 to 3,000 a year. Company records of sales of hides and tongues handled give us some idea of the massacre that was taking place on the Plains in those years. In 1848, records of the American Fur Company show that the firm sent 110,000 robes and 25,000 tongues to St. Louis, and it was said that for every buffalo skin kept at least 4 or 5 animals died. We must remember that there were many such trading posts.

BUFFALO
RIFLE



BUFFALO HIDE
HUNTERS



BULLY



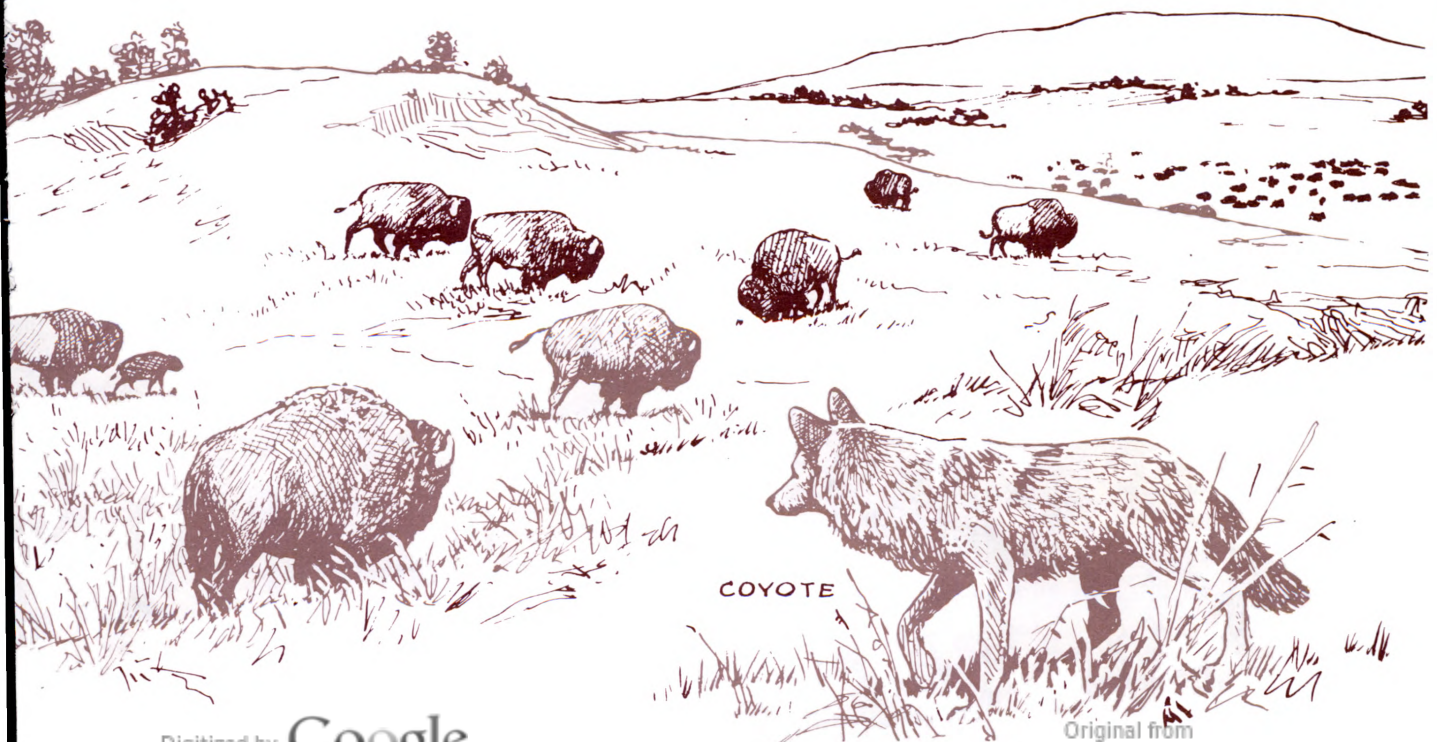
By 1870 trading in buffalo hides and tongues reached vast numbers, and buffalo hunting was the chief industry of the Plains. A single firm in St. Louis bought 250,000 hides in 1871. In 1873-74, auctions in Fort Worth, Texas, were moving 200,000 hides in a day or two.

Doubtless, construction of the railroads across the Plains hastened destruction of the buffalo as a wild species. Large sheds filled with dried hides were common at railway stations in all big towns of Kansas, Nebraska, and Texas. Thousands of animals were shot to supply construction camps with meat. Historians assert the destruction of the great herds would have been delayed only about 20 years had the railroads not been built. Buffalo hunting now became very popular. Hunting from train windows was advertised widely and passengers engaged in the "sport" of shooting from the open windows as the buffalo raced beside the train. By 1874, the southern herd was gone.

III. With the southern herd gone, the buffalo hunters turned to the northern herd, and between 1876 and 1883 destroyed it. Those who knew the buffalo country said that at least 5,000 hunters and skinners were on the northern range in 1882. The hunting season of 1882-83 completed the annihilation of the northern herd. The hunters apparently did not realize the buffalo was gone, for many insisted that the herds had gone into Canada and would return.

The year 1900 marked the all-time "low" in buffalo numbers: less than 300 wild animals remained on the North American Continent of the millions that once lived here.

Fortunately, during the time the wild buffalo herds were being destroyed, a number of people were developing small captive herds. Some of the better-known of them were the famous Goodnight herd of Texas, the Pablo-Allard herd of Montana, and the Blue Mountain Forest Association herd of New Hampshire. It was largely from these three herds that the buffalo on National refuges and parks have come.



Conservation of the Buffalo

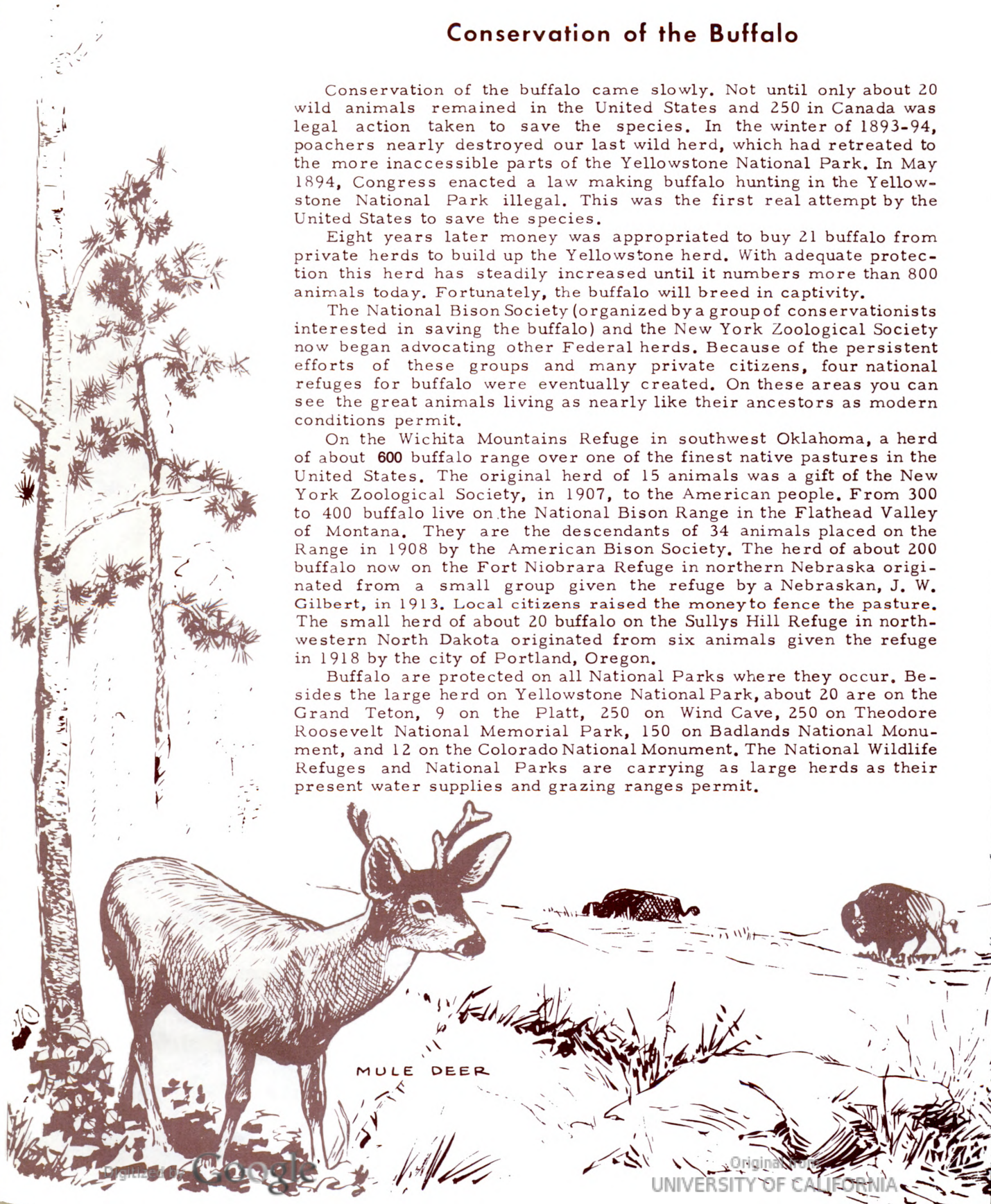
Conservation of the buffalo came slowly. Not until only about 20 wild animals remained in the United States and 250 in Canada was legal action taken to save the species. In the winter of 1893-94, poachers nearly destroyed our last wild herd, which had retreated to the more inaccessible parts of the Yellowstone National Park. In May 1894, Congress enacted a law making buffalo hunting in the Yellowstone National Park illegal. This was the first real attempt by the United States to save the species.

Eight years later money was appropriated to buy 21 buffalo from private herds to build up the Yellowstone herd. With adequate protection this herd has steadily increased until it numbers more than 800 animals today. Fortunately, the buffalo will breed in captivity.

The National Bison Society (organized by a group of conservationists interested in saving the buffalo) and the New York Zoological Society now began advocating other Federal herds. Because of the persistent efforts of these groups and many private citizens, four national refuges for buffalo were eventually created. On these areas you can see the great animals living as nearly like their ancestors as modern conditions permit.

On the Wichita Mountains Refuge in southwest Oklahoma, a herd of about 600 buffalo range over one of the finest native pastures in the United States. The original herd of 15 animals was a gift of the New York Zoological Society, in 1907, to the American people. From 300 to 400 buffalo live on the National Bison Range in the Flathead Valley of Montana. They are the descendants of 34 animals placed on the Range in 1908 by the American Bison Society. The herd of about 200 buffalo now on the Fort Niobrara Refuge in northern Nebraska originated from a small group given the refuge by a Nebraskan, J. W. Gilbert, in 1913. Local citizens raised the money to fence the pasture. The small herd of about 20 buffalo on the Sullys Hill Refuge in northwestern North Dakota originated from six animals given the refuge in 1918 by the city of Portland, Oregon.

Buffalo are protected on all National Parks where they occur. Besides the large herd on Yellowstone National Park, about 20 are on the Grand Teton, 9 on the Platt, 250 on Wind Cave, 250 on Theodore Roosevelt National Memorial Park, 150 on Badlands National Monument, and 12 on the Colorado National Monument. The National Wildlife Refuges and National Parks are carrying as large herds as their present water supplies and grazing ranges permit.



Buffalo also are found today in numerous private and State herds. One of the largest herds--numbering about 1,300 animals--in the United States is on the Custer State Park in South Dakota.

Early history of the conservation of the buffalo in Canada nearly parallels that in the United States. The 250 wild buffalo left in Canada were placed under the protection of the Mounted Police in 1893. By 1922, with rigid protection, the herd had increased to 1,500 animals. Need for additional range led to the establishment of the 11-million-acre Wood Buffalo National Park near Great Slave Lake in 1922. A herd of 14,000 to 16,000 now ranges the immense area of boreal forest, muskeg, and grassy plains.

Surveys of the buffalo herds in the United States and Canada in recent years show a continental population of 30,000 to 35,000 animals. While this is a small number when compared with the great herds that once ranged the North American Continent, it is large enough to assure the well-being of the American buffalo in the foreseeable future.



The following publications are suggested for those wanting to learn more about the buffalo:

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| <p>1964. Big game inventory. U.S. Fish and Wildlife Service, Washington, D.C. Wildlife Leaflet 492, 4 p.</p> <p>1955. Management of buffalo herds. U.S. Fish and Wildlife Service, Washington, D.C., Wildlife Leaflet 212, 8 p.</p> <p>1951. The North American buffalo; a critical study of the species in its wild state, by Frank Gilbert Roe. University of Toronto Press, Toronto, Canada, 957 p.</p> <p>1941. History, range, and home life of the northern bison, by J. Dewey Soper. Ecological Monographs, vol. 2, no. 4, p. 347-412. Department of Mines and Resources, Ottawa, Canada.</p> | <p>1939. North American big game; a book of the Boone and Crockett Club. Compiled by Alfred Ely, H. E. Anthony, and R. R. M. Carpenter. C. Scribner's Sons, New York and London, 533 p.</p> <p>1938. The American bison; story of its extermination and its restoration under federal protection, by Martin S. Garretson. New York Zoological Society, 254 p.</p> <p>1887. The extermination of the American bison, with a sketch of its discovery and life history, by William T. Hornaday. Annual Report U.S. National Museum (1889), Washington, D.C., p. 367-548.</p> |
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The Department of the Interior adopted the buffalo seal you see here in November 1929, "as being more significant of the early settlement of the West."

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As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.