

Theodore Roosevelt

Administrative History



PART 3: RESOURCE MANAGEMENT

CHAPTER 9: WILDLIFE MANAGEMENT

One of the pleasures of visiting Theodore Roosevelt today is to see the uncommon community of animals who make the park their home. Majesty and understatement live next to one another, as is readily apparent when one happens upon a bison wallow in a prairie dog town. In the North Unit, creatures both wild and secretive, such as the coyote, inhabit the same area as semi-domesticated long horn cattle.

These unexpected contrasts are the stuff of insight. One cannot fully know the badlands—and what being in the badlands can do for a man—without knowing how it is that seemingly incompatible animals can live together. Roosevelt had a keen sense of the unexpected and the meaning it holds. Some of the most revealing turns in his western narrative were occasioned by a chance crossing of the ways with wild creatures:

In the hot noontide hours of midsummer, the broad ranch veranda, always in the shade, is almost the only spot where a man can be comfortable; but here he can sit for hours at a time, leaning back in his rocking-chair, as he reads or smokes, or with half-closed, dreamy eyes gazes across the shallow, nearly dry river-bed to the wooded bottoms opposite, and to the plateaus lying back of them. Against the sheer white faces of the cliffs, that come down with out a break, the dark green tree-tops stand out in bold relief. In the hot, lifeless air all objects that are not nearby seem to sway and waver. There are few sounds to break the stillness. From the upper branches of the cottonwood trees overhead, whose shimmering, tremulous leaves are hardly ever quiet, but if the wind stirs at all, rustle and quiver and sigh all day long, comes every now and then the soft, melancholy cooing of the mourning-dove, whose voice always seems far away and expresses more than any other sound in nature the sadness of gentle, hopeless, never-ending grief. [1]

This passage, one of the most beautiful Roosevelt ever wrote, distills his Dakota experience: the repose he sought at the Elkhorn seeming at one moment so clear, only to shimmer away at the

calling of a bird. The recent loss of his mother and wife was never far from him.

It is a pity, then, that the biotic community he knew in the 1880s is incomplete today. Even as his own well known hunts of buffalo and bear played a bit role in its demise, his actions never struck him as sordid or a contradiction of his basic conservationist bent. [2] In any estimation, Roosevelt's days in the badlands came toward the end of the decimation of its native fauna, not the beginning—although the time separating the two was disgracefully short.

Of the large game animals existing in the 19th-century badlands only white-tailed deer, mule deer, and pronghorns (also misleadingly known as "pronghorn antelope") were in the immediate vicinity of the park at the time of its creation in the 1940s. The others now there have been reintroduced. Three—the grizzly bear, gray wolf, and Audubon mountain sheep—are still missing, the last being completely extinct.

Large-scale hunting depredations were only part of the reason for the end of the indigenous living community. Open range ranching, and later fenced ranching and homesteading, put more and more habitat in grazing or under the plow, forcing what big game was left into marginal areas such as the rugged river breaks. It was not long before some species populations became inviable. By the 1920s there was no doubt that a number of species were no longer present locally. This was hinted at in the article on North Dakota in the Ecological Society of America's 1926 report on all preserved and preservable areas in North America in which natural conditions persist," in which it was declared that "the proposed national park in the heart of the Badlands near Medora should have the generous encouragement of every one who is interested in the preservation of the native life of the state." Writing in 1935, Nate Halliday, the state game warden for the Medora District, was more explicit:

In those days which were the latter part of the last century a great many species of wild game roamed this section of our state among them being the Bear, Elk, Mountain Sheep, Mountain Lions, Buffalo and many others as well as all species of game birds. Today is a great contrast to those old days. practically all we see in this area today is the deer and antelope and the upland game consisting of partridge, Grouse and pheasant. During the last 40 years that I have lived along the Little Missouri River, which was always known as an ideal game sanctuary, truthfully I am at a loss to understand the disappearance of the game unless it was thru the carelessness of the hunters during the past ten or twelve years. During the season just past my territory had very little game in it. . . .

Once upon a time Indians had traveled great distances solely to partake of the rich game in the badlands. [3]

The dearth of big game was confirmed two years later by Thomas Osmer's informal but extensive survey of the wildlife of the north part of the Roosevelt Recreational Demonstration Area. Osmer made exactly five sightings of game animals, all white-tailed deer. "Successive surveys made of game, fur bearers, and their known predators, revealed low census figures, both in numbers of species and individuals," he reported.

This condition should, perhaps, be expected due to the natural limitations caused by the climatic and other environmental factors of the country. However, in addition, the past years of drought, over-grazing, and the common mistake of trying to farm a cattle country, plus excessive hunting and trapping, legal and other-wise, have greatly interfered with the above classes of animals and their natural habitats, and has reduced their numbers well below average figures. Many years must pass before the environment for animal wildlife will approach a return to natural conditions. Even then some species of valuable forage plants will not return because they are as extinct as the Audubon mountain sheep. [4]

A systematic professional wildlife survey of the park (Osmer was a student) was not undertaken until 1949, when FWS and NPS personnel trooped the area with big game reintroduction in mind. [5] Yet for a long time wildlife management remained haphazard, hindered by the administrative emphasis on cultural resources and by a lack of basic field data (for example, no records of wildlife sightings in the North Unit during the 1950s are extant). Only in the last few years have some much-needed baseline studies and censuses been finished, the capstone being the final Natural Resources Management Plan of 1984. [6]

Reintroduced species

In 1951 the Service began a program of big game replenishment—twelve years in advance of the Leopold Report, which is now accepted as a seminal statement of what NPS wildlife management policy should be, and which also was the first really influential expression of the idea that biotic communities might and ought to be re-created in the national parks. [7] Is this a suggestion that Theodore Roosevelt was somehow ahead of the vanguard in wildlife management? In a very limited way, yes; for it appears that the park's reintroduction program was begun under the influence (if not at the instigation) of Olaus Murie, the wildlife biologist. Murie toured the park in late 1949 with, among others, Superintendent Allyn Hanks, and in a brief memoir of the visit he wrote that they had discussed concepts such as biological units; the effects of reintroducing elk and bighorn sheep and bison on each other, on vegetation, and on other species; and carrying capacities. His aim, however, if we are to judge from the context of the complete memoir ([Appendix F](#)), was to recreate, not the biotic community of Roosevelt's time, but those elements of the biotic community that Roosevelt would have been most interested in—the big game animals, the game birds, the "look" of the badlands before

overgrazing. [8] The Leopold Committee's conception of biotic re-creation went deeper than Murie's valuable, but ultimately anthropocentric, prescription for the park.

Though the rationale behind the reintroductions has never been fully debated, NPS has gone ahead and tried to re-create the biotic community that existed before Roosevelt arrived in the badlands—up to a point. There is not now nor has there ever been serious thought given to bringing back grizzlies or wolves, for instance.

It can be little surprise that the park authorities chose a relatively innocuous species, the pronghorn (*Antilocapra americana*), for the first reintroduction. Extensively hunted in the early years of this century, pronghorns were never totally exterminated from southwestern North Dakota; however, by the 1950s there were still too few in the region to hope for a natural recolonization of the park. So in January 1951 seventy-five pronghorns were captured in Yellowstone National Park by using air planes to herd them into corrals. After transport to Theodore Roosevelt they were released about a mile north west of park headquarters at Peaceful Valley. The seed herd comprised seventeen mature bucks, thirty-nine mature does, ten buck kids, and nine doe kids. They immediately went up onto the Big and Petrified Forest plateaus. [9] The size of the herd varies as the animals move into and out of the park; indeed, Theodore Roosevelt has no population as such, with park merely serving as one portion of the herd's range (which itself is centered in that area of the Lindbo Flats located outside the park). [10] These nimble animals, seldom seen by the casual summertime visitor, demand little time from the park's resource management staff. [11]

The same does not hold for two of the other species reintroduced to Theodore Roosevelt.

Bison are the creatures most closely identified with the Great Plains and remain the single most popular subject of wildlife watching in the park. The gregarious nature of buffalo—surely a contributing factor to their near-extinction (whether by indiscriminate slaughter or, as has been suggested lately, by contagion)—is today a source of delight to visitors of both the North and South Units. The sight of a hundred buffalo running across the Little Missouri River, the agonic rise and fall of their backs making a low, dark, off-the-beat wave in the thick, still air, trailing calves and puffs of dust of nearly equal size and color—this is a memory many visitors to Theodore Roosevelt carry down the years.

But the other side of the coin is the cost of maintaining bison. They are the most intensely managed species at Theodore Roosevelt. [12] Large sums have been spent in trying to keep them in the park, getting them back after they get out, and rounding them up so a few can be taken someplace else. It is patently true that "the question of how the park should manage large ungulate populations to simulate natural conditions remains unanswered. . . ." [13]

Reintroduction of bison was delayed until the South Unit could be fenced to inhibit free movement of a herd onto adjacent ranch and crop land. The first release was in December 1956 when twelve yearling heifers, twelve mature cows, and five young bulls were brought from the Fort Niobrara National Wildlife Refuge near Valentine, Nebraska. Although buffalo had probably not lived in the North Dakota badlands for nearly seventy-five years (it took Roosevelt two weeks to find and shoot a poor specimen in 1883), many relict wallows were reported at the time of the initial release. [14] The park's herd is likely a cross between American bison (*Bison bison bison*) and Wood bison (*B. b. athabasca*). [15] Entrance road construction and the high number of inholdings delayed release in the North Unit until November 1962, when twenty from the South Unit herd were transferred. [16] The present estimated management capacity is 300-500 for the entire park. [17]

The problem with buffalo has been that the size of the herd has repeatedly risen above that capacity. Not only does this necessitate periodic reductions, but as their numbers increase so do escapes from the park. The boundary was originally fenced with four-strand barbed wire, which is little more than an admonishment to a charging buffalo. [18] On many occasions the entire North Unit herd escaped, sometimes roaming as far away as Grassy Butte, fifteen miles to the south. [19] After one such fiasco, in which the entire ranger staff spent a week recapturing the herd, Superintendent Arthur Sullivan had a proposition for the regional director. "We understand the Crow Indians in Montana are attempting to acquire buffalo, and we would be only too happy to make a donation of the entire herd," he wrote in exasperation. "With the removal of the buffalo, we could then concentrate our efforts in the North Unit on the management and interpretation of the Longhorn cattle." [20]

Ranchers too have learned to their dismay what damage a group of half-ton animals can do. Claims against the park in the thousands of dollars have been upheld in court. Between 1974 and 1977, for example, four out of six claims were allowed, costing the Service \$8687.00. Even leaving out the cost of lawsuits, recent figures show that it costs the government \$65.00 per escape. [21]

Setting aside Sullivan's remarks, a partial reduction of the herd was the obvious management response. How to go about it was less readily apparent. The earliest plans called for scheduled distribution of bison among Indian tribes "to avoid the need for slaughtering animals and handling carcasses in the park." [22] Still, for a few years buffalo were on occasion rounded up and slaughtered "to order," usually to provide meat for tribal ceremonies. Eventually the practice became too "difficult, expensive, and dangerous to both participant riders in the round-up and to the herd as well" and was discontinued after 1970. [23] Free distribution of excess animals is still the preferred method of herd reduction, but now it takes place exclusively through live shipping after a general round-up (see [Table 9.1](#)). [24]

A veteran park wildlife manager gives us this description of a buffalo round-up at Theodore Roosevelt.

The roundup and shipment of buffalo is in theory a relatively simple straightforward wildlife management project. Buffalo are gregarious herd animals and it would seem from their bovine-like appearance and general tranquil nature that it would be a simple matter to herd them into confinement and then load and ship. Not so. Buffalo are wild animals: swift, powerful, quick to frighten or anger and totally unpredictable. A buffalo or herd of buffalo will go where they want to go. . .

The roundup effort generally consists of an airborne spotter plane to locate the herds, from 15-20 mounted riders to move the buffalo to the corral, and the accompanying support forces of vehicle operators, communicators, and remounts.

The plan developed for each drive is generally finalized after a herd is located. Best results in moving animals have been obtained when the herd can be pushed to the boundary fence and then herded along it to the corral. In the north unit of the park, this is impractical as the corral is not located at a junction with the boundary fence. In instances such as this, an attempt is made to drive the animals along drainages or other topographical features in the direction of the corral. Drives of this nature leave the buffalo escape routes either to the right or left of the line of drive. With the boundary fence along one flank, the buffalo can generally only escape in one direction. One other escape exists in either case and that is to escape straight ahead along the line of the drive by simply outrunning the riders. This happens most frequently in the more broken terrain. Attempts to gather and again move animals that have broken and escaped, generally prove fruitless until they settle down and gather together again. If all goes well and the herd does not escape the riders, they are driven into the corral holding pasture.

At this point, the actual corral work of culling, ear tagging and loading takes place. Much innovation and many improvements have been made in the corrals since they were first constructed in the early 1960s. Although still somewhat hazardous and at times exasperating, animals can generally be moved from the holding pastures, into the corrals, through the chutes and onto the waiting trucks. The corral operation requires a crew of at least 8-9 men plus the veterinarian and truck driver. If all goes well and the crew has some experience, 100 animals can be loaded out in a day's time.

This description of a roundup is quite simplistic. In actuality, it can become quite complicated. Should, as has happened, a herd be driven several miles to the corral

location and then at the final moment break and escape, many of the horses will be beat. Replacement mounts must then be available or else the roundup efforts must cease until the horses can be adequately rested. In the corral operation, if a piece of equipment such as a gate or a chute be broken, all culling and loading operations must wait until repairs or a replacement can be made. [25]

Despite all the problems inherent in capture and live-shipping, it appears that the park will continue to rely upon this method, [26] for round-ups have controlled the bison population. However, an important secondary goal has not been met. It had been hoped that buffalo donated to Indians would form the basis of self-sustaining herds for their tribes. This was the intent of an agreement signed in 1965 with the Bureau of Indian Affairs. Hopes were especially high because Theodore Roosevelt's herd was (and is) one of the only ones in the country free from brucellosis, an infectious bacterial disease. Unfortunately, some of the tribes accepted shipments of buffalo without having prepared for their care, and, in one case, without even knowing what to feed them. [27]

Replacing the boundary fence has facilitated bison management. Flimsy four-strand barbed wire, five feet in height, is now giving way to seven-foot-high woven wire. The latter was first used in the park in the late 1960s along the right-of-way of Interstate 94; complete refencing was begun in 1977. Nearly all of the park is now bounded by woven wire. It is tall enough and strong enough to foil charging and jumping buffalo, yet requires less maintenance than barbed wire—an important consideration when all repair work in the wilderness areas must be done by horse or foot access. The woven wire fence has special panels designed to allow pronghorns, deer, and other migratory species to move into and out of the park. [28]

Bighorn sheep, the most recent species reintroduced, has in a different way proven to be as vexing a management problem as the bison. Whereas buffalo have been engagingly prolific, bighorns have never been able to sustain a regenerative population within Theodore Roosevelt.

With the bighorn, the park has had to deviate slightly from its policy of reintroducing only indigenous fauna. By the time Roosevelt arrived in the badlands in 1883, Audubon mountain sheep (*Ovis canadensis auduboni*) were well on their way to being routed from Dakota by the impinging cattle industry. None, anywhere, survived the end of Roosevelt's presidency. [29] Even if bighorn sheep did not figure prominently in his writings, their importance to a simulation of a 19th-century ecosystem, their desirability as a game animal, and, one imagines, their nobility and beauty of movement made it incumbent upon the Park to try to re-establish a herd. Since Audubons had gone completely extinct, California bighorn sheep (*Ovis canadensis californiana*) were chosen instead.

Bighorn reintroduction started out as a joint venture of the Service and the North Dakota State Game and Fish Department, which had already built two breeding enclosures, one south of

Medora and another on Magpie Creek west of Grassy Butte. [30] The park followed suit, constructing pens in both the North and South units during 1959 and early 1960 in anticipation of the project. [31] In fact, the Game and Fish Department donated five rams to NPS which were released in 1959 before the park's enclosures had been stocked with ewes. The next year the two agencies made a formal agreement: for each bighorn provided by North Dakota, the federal government would pay back two from the animals born in its breeding pens, with any surplus to be retained by the park. [32]

Most of the park's initial stock was trapped near Williams Lake, British Columbia, and transported to the South Unit by the Game and Fish Department (there were never any significantly large releases of sheep within the North Unit). Close tabs were kept on them, including forage and browse studies within the pens, but the plan soon went awry. Hopes for controlled breeding were ruined when it was discovered that mature rams could leap into the enclosure over the seven-foot-high fence at will. The fence also proved to be no deterrent to coyotes, and all lambs were lost for the first three seasons. [33]

From this bad start came only more disappointment. By 1965 the total population was still less than twenty, and the cooperative agreement was dissolved. A year later the enclosures were written off as useless, and dismantled. [34] This admission was all the more galling because of the state's success with its own bighorn breeding program in the badlands outside the park, so much so that a special twelve-ram hunting season was put on in 1975. [35]

The disparity is puzzling, for it would seem that the textbook sheep range conditions to be found within the park would more than offset the relatively higher incidence of natural predation that one might expect there. But Theodore Roosevelt's bighorn population never recovered from its early setbacks, reaching a peak of perhaps thirty-six in 1975 and 1976. It has since dropped precipitously. As of 1982, two rams and four ewes were all that were left. [36]

Researchers from the park staff, the Game and Fish Department, and North Dakota State University have tried everything from radio collars to medication in an attempt to pinpoint the reasons for the general mortality, but "no concrete explanations" have been uncovered. [37] The actual cause of death is known—pneumonia in association with lungworm infestation of the bronchial system [38]—but why state herds are surviving similar infestations is not. The Theodore Roosevelt staff is now planning for another bighorn restoration. [39]

The original reintroduction of bighorns left one last viable candidate for such projects among the larger mammals: elk (*Cervus elaphus canadensis*), also known to Roosevelt by its original Indian name, "wapiti." For reintroduction purposes, elk had the inestimable advantage over bear and wolves of preferring plants to flesh. Yet even though elk are no direct threat to livestock, the Park Service was aware that, if they were reintroduced, only to escape the park's boundaries, they could conceivably compete with cattle for range cover or damage crops in the

field. Nevertheless, elk were experimentally reintroduced to Theodore Roosevelt in early 1985 when forty-seven head (eight bulls, thirty-nine cows) were transferred from Wind Cave National Park in South Dakota. Thirteen were born in the first season. A contract has already been let to study the new herd. [40]

The missing animals

These reintroductions encompass only a few of the species which have the northern badlands as part of their historical range. As was said before, while the general principle governing reintroductions has been to restore the faunal community of the last century, the program has been necessarily selective.

For example, two important carnivores once present in the region stand almost no chance of making a reappearance. One, the grizzly bear (*Ursus horribilus*), is some what abundant elsewhere, although its status, like all large wild carnivores, is precarious. The second, however, is a bona fide endangered species in this country. The gray wolf (*Canis lupus*) is now limited to Alaska and very small parts of four other states, none Providing a badlands habitat. [41] In terms of the choices the Park Service must make it is a bad turn of fortune that the two are pitted against the local ranching economy. Bears, wolves, and livestock are not a happy mix.

Where badlands and relict prairie come together a possible refuge for a few other rare species is formed. Two are of outstanding interest. Whether the extremely rare blackfooted ferret (*Mustela nigripes*) lives in the park is not confirmed, but they favor prairie dog towns, of which Theodore Roosevelt has an abundance. The discovery in October 1981 of a colony of blackfooted ferrets near Meeteetse, Wyoming, has rekindled hope that they may also be somewhere in the North Dakota badlands. [42]

The presence of peregrine falcons (*Falco peregrinus*) is also uncertain. Both in 1981 and 1982 a single peregrine was spotted during the Audubon Society's annual Christmas bird count but there has been no confirmation of a nesting pair in western North Dakota for thirty years. Rough terrain offers fine nesting to falcons, so perhaps peregrines will soon be found in Theodore Roosevelt. Increased censusing of such endangered and rare species is an important wildlife management objective for the park. [43]

Other Wildlife

Unlike Wind Cave National Park (representing a somewhat similar ecosystem in South Dakota), Theodore Roosevelt has had no problems with a population explosion of blacktailed prairie dogs (*Cynomys ludovicianus*). Still, the park does have one of the largest concentrations of them anywhere, for prairie dogs are routinely exterminated outside of protected areas since

they are hardly more than yipping pests to ranchers, who like neither the amount of grass they consume nor the injuries their burrows can cause to roaming stock. Somewhere between four hundred and five hundred acres of park land is taken up with active prairie dog towns, an extent which has remained steady over the last decade. [44] Measuring the size of these towns and repairing damage to undercut asphalt roadbeds is all the attention they now require.

The only other small mammals which have been managed are porcupine and beaver. Concentrated along the Little Missouri River's wooded bottomland, they feed there upon the cambium of trees (a thin organic layer between the bark and the interior vascular system). Cambium gives rise to new cells; if destroyed, further secondary growth is halted. So it is that visitors to Squaw Creek or Cottonwood campgrounds encounter places where the crowns of the trees look like they have been stripped of their leaves. In response, the park has tried all sorts of controls ranging from trapping and relocation to outright shooting; each has proven undesirable. Future control of porcupine and beaver will likely depend upon the use of repellents. [45]

Little direct avian management has been done at Theodore Roosevelt. Golden eagles (*Aquila chrysaetos*) are a case in point. In the late 1950s and early 1960s the park engaged in the construction of observation blinds and specimen banding, [46] but recently the accent has been placed on aerial surveys along with a conscious decision to depublicize locations of eagle nests within the park. [47]

Sharp-tailed grouse (*Pedioecetes phasinaellus*) and ring-necked pheasant (*Phasianus colchicus*) are given separate treatment in the Natural Resources Management Plan, the former by virtue of their ritual dancing grounds and the latter because they are the most prominent of the three exotic bird species in the park. [48] In general, the park's bird population is healthy and self-regulating.

It is likewise with Theodore Roosevelt's amphibian, insect, reptile, and fish life. While acknowledging that their role in badlands ecology "may not be fully understood," [49] the Natural Resources Management Plan concludes that these communities are sustaining themselves without human help—the best management of all.

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