

**TESTIMONY BEFORE THE U.S HOUSE OF
REPRESENTAIVES SUBCOMMITTEE ON NATIONAL
PARKS, FORESTS, AND PUBLIC LANDS OVERSIGHT
HEARING ON YELLOWSTONE NATIONAL PARK BISON**

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I would first like to thank the Chairman and the Subcommittee for inviting me to testify here today. I have a B.S. in Wildlife Biology and a M.S. in Environmental Studies both from the University of Montana, and a Ph.D. in Wildlife Ecology from Utah State University. I am presently an Adjunct Associate Professor in the Department of Political Science and a Senior Research Scientist at that University's Institute of Political Economy. I am the only independently funded scientist to have conducted a detailed evaluation of Yellowstone Park's "natural regulation" program. Not only have I conducted scientific research on the overgrazing question, but I have also studied the bison problem, wolf recovery, grizzly bear management, and other key issues in that ecosystem. I have also traveled widely throughout the West and am familiar with similar resource management problems in other national parks. For instance, I have conducted extensive research in the southern Canadian Rockies for Parks Canada. This included work in Banff National Park on bison reintroduction. I am also one of the leading experts on aboriginal influences and the original state of nature.

My research in Yellowstone and Canada has been widely published in books and scientific journals and I have submitted copies of those papers to the committee's staff. I have previously testified before this Subcommittee on "Science and Resource Management in the National Park System" and I have testified before the House Subcommittee on Forests and Forest Health on "The Decline of Aspen in the Western United States."

Yellowstone is a great national treasure, but as the Subcommittee that oversees national parks, you face many difficult issues -- such as, Why are bison leaving Yellowstone Park? Will giving bison additional land outside Yellowstone

solve the problem? and, Is there a solution to the brucellosis issue? I will address each of these, in turn, but first some background information.

Yellowstone is presently managed under what is termed “natural regulation.” This, though, is more than simply letting nature take its course for it entails a specific view of how nature operates. According to the Park Service, predation is an assisting but nonessential adjunct to the regulation of bison and elk populations. Instead, ungulates are limited by their available forage supply - termed resource or food-limited. The Park Service contends that ungulate populations will self-regulate without overgrazing the range. This means that wolves and other predators only kill animals slated by nature to die from other causes and thus, predation has no effect on bison or elk numbers. In the debate over reintroducing wolves, the Park Service has denied that wolves are needed to control elk or bison populations in Yellowstone Park. Moreover in the current effort to remove wolves from the Endangered Species List, the Park Service and the U.S. Fish and Wildlife Service deny that wolves have had or are having any major impact on ungulate populations anywhere in the West, including Yellowstone. Thus, if you think predators limit ungulate numbers, then by definition, you do not believe in “natural regulation.”

Under “natural regulation”, the Park Service claims that thousands of bison and elk have always inhabited Yellowstone. The Park Service also contends that present conditions in Yellowstone are similar to those in the past. Now if this was true, then early explorers should have found Yellowstone teeming with wildlife, and the range should have been as overgrazed in the past as it is today. Historical data, however, paint an entirely different picture.

As part of my research, I have conducted the only systematic, continuous-time analysis of first-person journal accounts of Yellowstone exploration. Between 1835 and 1876, 20 different expeditions spent a total of 765 days in the Yellowstone ecosystem on foot or horseback, but they reported seeing bison only three times, none of which were in Yellowstone Park itself. Today there are over 4,000 bison in the park, as well as an estimated 100,000 elk in the ecosystem. Yet those same explorers reported seeing elk only once every 18 days and their journals contain 45 references to a lack of game or shortage of food. In addition, none of the early explorers reported seeing or killing a single wolf -- another indication that ungulates were rare and that present conditions are entirely outside the range of historical variability. Similarly, archeological data indicate that there are more bison and elk in Yellowstone today than at any point in the last 10,000 years.

Why are bison leaving Yellowstone Park?

According to the Park Service, bison that leave the park today are simply following historic migration routes down the Madison River to the west and the Yellowstone River Valley to the north. Interestingly, however, that is not what the Park Service said in 1973 when the agency formulated its “natural regulation” program. Instead, after reviewing the historical evidence, the Park Service concluded that bison had *not* historically left Yellowstone Park to the west or

north -- I refer the Subcommittee to Figure 11 in the Park Service's Scientific Monograph on "The Bison of Yellowstone National Park" -- see Attachment A. No new, first-person historical journals have been discovered since the Park Service conducted its original analysis. In early documents, the Park Service also stated that Yellowstone's bison population would "naturally regulate" at 1,000 to 2,000 animals. And as we all know, that has not proven to be the case.

The Park Service has since suggested that the reason the bison population has grown beyond the numbers the agency originally predicted was because park roads have been groomed to facilitate use by over-the-snow vehicles during winter. It has been hypothesized that use of snow-packed roads reduced the energetic cost of moving through deep snow and opened new areas to bison foraging during winter, which in turn, allowed bison numbers to increase. Recent research, however, has shown that hypothesis to be false and the National Academy of Sciences has concluded that grooming park roads has had nothing to do with the increase of bison above earlier predictions.

As bison numbers have grown, the animals have steadily overgrazed the range. It should come as no surprise then that bison are simply leaving Yellowstone because the animals are looking for something to eat. The Park Service has admitted that bison are at what is termed "ecological carrying capacity." By definition this means the animals are short of food and that grazing has altered the park's vegetation. As explained in a recent book, "**Yellowstone's Destabilized Ecosystem**" published by Oxford University Press, Yellowstone is seriously overgrazed and "natural regulation" is a failed management philosophy.

My own research has shown that Yellowstone contains some of the worst overgrazed riparian areas in the West. Early photographs show that historically Yellowstone's aspen and willow communities were ungrazed. Based on 120 repeat photosets that I have made, dating to as early as 1871, tall willows and aspen have declined by more than 95%, since Yellowstone National Park was established, due to excessive ungulate browsing by unnatural concentrations of elk and bison. Not only has Yellowstone's bison population *not* self-regulated, as originally predicted by the Park Service, but no ungulate population anywhere in the world has been shown to self-regulate without first causing extensive resource damage.

Instead, the natural state of the Yellowstone ecosystem included native hunters, who kept bison and other ungulate populations at very low levels, and thus maintained biodiversity. Native people, not wolves, were the system's keystone predator. It was not until native populations were decimated by European-introduced diseases and the survivors banished from Yellowstone that bison and elk populations irrupted to unnatural levels. It is important to remember that after the Nez Perce incident in 1877, Yellowstone's second superintendent had the park's original inhabitants forcefully removed and then created the myth that native people never lived in the park -- all in the name of promoting tourism. Unfortunately, the Park Service has done nothing in the last 90 years to correct that situation.

So what then is the solution to the bison over-population problem? I suggest that Congress and the Park Service revisit the Treaties of 1851 and

1868, which predate the establishment of Yellowstone National Park, and under which various tribes already claim hunting rights in Yellowstone. Thus, one way to reduce overgrazing and to keep bison from leaving the park would be to honor the United States' previous commitment to Yellowstone's original owners and allow them to hunt in the park. After all, aboriginal hunting has been a natural ecosystem process for more than 12,000 years and as such is in keeping with the Park Organic Act and subsequent regulations to maintain natural conditions. For how this might be accomplished, I suggest we look to our northern neighbors.

Parks Canada has the most stringent environmental protection statutes of any Park Service in the world for they added an amendment to their Organic Act which says that ecological integrity shall be given first priority in all management decisions -- shall, unlike will or may, mandates compliance. So based on extensive archival and ecological research, including my Parks Canada publication on "Long-term Ecosystem States and Processes in the Central Canadian Rockies," Parks Canada has developed ecological integrity standards that include both native hunting and native burning. First Nations already are allowed to hunt in various Canadian National Parks and under the bison restoration program that is being planned for Banff National Park, First Nations will be allowed to hunt bison in the park to maintain ecological integrity. Native hunting will be used to prevent bison from leaving the park, as well as to prevent overgrazing. Parks Canada is also working on a directive to allow First Nations to hunt elk and other animals in national parks to prevent resource damage from unnaturally high ungulate populations. Again, we must remember that parks with native hunting are natural, while parks without native hunting, like Yellowstone, *are entirely unnatural and totally outside the range of historical variability.*

Wouldn't giving bison additional land outside Yellowstone solve the problem?

Unfortunately, inadequate land has never been the problem. Instead, the present situation is a direct result of "natural regulation" management under which the Park Service assumes that bison will self-regulate, and that predation, including that by native people, is unimportant in limiting ungulate numbers. No matter where the line is drawn, under "natural regulation" bison will continue to increase until they are forced by overgrazing and starvation to again cross that line. In fact, giving the bison more land will only make the situation *worse.*

For the sake of argument say that bison are given all the land west of Yellowstone Park in the Madison drainage from the Continental Divide down to Quake Lake. While to the north, bison are given all the land along the Yellowstone River down to Yankee Jim Canyon. Would that not solve the bison problem? It might for a few years but during some future winter, instead of 5,000 bison coming out of the park, we would have 10,000 or 15,000 bison heading for Ennis, Livingston, and Helena -- bison that would still be infected with brucellosis. This would mean killing even larger numbers of bison or never ending calls for additional land.

Moreover, this option has already been tried and has been a dismal failure. In 1932, land was added to Yellowstone Park in an attempt to solve the elk over-population problem. This is called the Boundary Line Addition, or BLA, and is now one of the most overgrazed areas in the park. It did not work then, and it will not work now. It is also likely that bison will start summering on any new range, as has happened in other bison population build-ups. After all, bison once summered on the northern Great Plains, so there is no biological reason for them to move back into Yellowstone. Ecologically, it would be much better and more natural to simply let Native Americans hunt bison in Yellowstone National Park.

Is there a solution to the brucellosis issue?

First, it is important to note that bison in Yellowstone Park are heavily infected, while the elk in the northern part of the park are not. That is to say, the disease can be maintained in free-ranging bison but apparently *not* in free-ranging elk. This is why elk migrating north of the park are not a problem. Second, there is a separate bison herd south of the park in Jackson Hole, which also is heavily infected with brucellosis. In addition, elk on the one federal and 22 state feedgrounds in northwest Wyoming are infected with brucellosis. So we have two infected bison herds and one larger infected elk population, but *only* where elk are artificially fed during winter south of the park -- some of those elk, though, do summer in Yellowstone.

Based on the available scientific literature, the only proven way to eliminate brucellosis from an ungulate population is test and slaughter. It must be remembered that the elimination of brucellosis from the United States is national policy. Thus, the only known way to comply with this national directive is test and slaughter. In fact, the State of Wyoming is now running an experimental test and slaughter program on one of its elk feedgrounds because previous attempts at vaccinating elk have not eliminated the disease. In the coming years, Wyoming plans to extend its test and slaughter program to two additional elk feedgrounds. Test and slaughter have also been successfully used to eliminate brucellosis from bison in various other national and state parks, including Elk Island in Alberta and Custer in South Dakota. Test and slaughter were also used to eliminate brucellosis from the National Bison Range in Montana.

If test and slaughter had been instituted in Yellowstone 20 years ago, we now most likely would have disease-free bison and elk herds -- and the problem would be solved. Instead, the problem has gotten worse, while millions of tax dollars have been wasted. I suggest it is time to stop squandering the public's money and solve the problem. The solution has been known for many years, only the will has been lacking.

In closing, I thank the Chairman and Subcommittee for your time and consideration.

Attachement A – Figure 11 from Meagher, M.M. 1973. The bison of Yellowstone National Park. National Park Service Scientific Monograph Series Number One. 161 pp.

Attachement B – Kay, C. E. 1998. Are ecosystems structured from the top-down or the bottom-up: A new look at an old debate. Wildlife Society Bulletin 26:484-498.