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March 20, 2007, Hearing on Yellowstone National Park Bison

Subcommittee on National Parks, Forests, and Public Lands

House Committee on Natural Resources

Mr. Chairman and Members of the Subcommittee:

Thank you for the opportunity to address the subcommittee on this issue of great importance to the American people.

A Brief History of the Yellowstone Herd

The bison of Yellowstone National Park are unique among herds in the United States, being members of the country's only continuously wild herd. Bison once ranged from the northeastern United States to Oregon and California and from northern Mexico and Florida to northern Canada. Freely migrating in response to natural conditions, North America's bison comprised the largest concentration of mammals ever known to exist. While no one will ever know exactly how many bison the continent once supported, scientific estimates place the figure between twenty-five and forty million animals.

North America's native bison gave rise to and supported diverse Native American cultures. For many tribes of the Great Plains and surrounding regions, the bison was essential to life. John Fire Lame Deer eloquently expresses the depth of the connection between the Lakota Nation and the Buffalo Nation: "The buffalo was part of us, his flesh and blood being absorbed by us until it became our own flesh and blood. Our clothing, our tipis, everything we needed for life came from the buffalo's body. It was hard to say where the animal ended and the man began." **John Fire Lame Deer and Richard Erdoes, Lame Deer: Seeker of Visions, Simon and Schuster, New York, 1972, p244**

The mass eradication of wild bison from the plains, an episode in our history with which we are all familiar, forever altered the balance of life in North America. By the early 20th century all but one of the wild herds had been killed and virtually every Native American tribe had been eradicated or forced into a sedentary lifestyle on a reservation. When the last great bison herds were decimated in the West, a few hearty individuals holed up in Yellowstone's Pelican Valley, one of the country's coldest and most snowy valleys, barely avoiding extinction.

Fearing that the wild herd would die off, park managers purchased 18 captive cow bison from Montana's Flathead Valley and three bulls from the Texas Panhandle to establish a herd on Yellowstone's northern range. Over time, members of the Lamar herd mingled with members of Yellowstone's indigenous Pelican Valley herd. While the extent of interbreeding isn't known, the bison we see today in Yellowstone National Park are directly descended from these herds. Members of the only herd in America never confined by a fence, these bison carry a direct genetic link to Yellowstone's original population.

Yellowstone's approach to bison management in the 20th century tended toward the heavy-handed. Animals were sometimes ear-tagged and branded, confined in pens as tourist attractions, and fed at cattle-like feed-lines. Bison calves from the wild Pelican Valley herd were captured and nursed on domestic cow's milk, a practice that likely resulted in the Yellowstone bison becoming infected with the livestock disease brucellosis. The Department of Agriculture and the Montana and Wyoming livestock industries, fearing a transmission back to cattle, pressured Yellowstone officials to capture, test, vaccinate, and slaughter Yellowstone bison within the park, which they did periodically between the 1920s and 1967, when Yellowstone adopted a more hands off "natural regulation" approach to wildlife management. The bison were largely left alone inside the park

between the late 1960s and the early 1980s, a result of this new management paradigm and a period of mild winters in which bison stayed deep within the park.

Harsh winters are another story. Snow and ice obscure the grass in the park and hunger pushes the bison to lower elevations, which happen to lie across the Montana border. When they cross this invisible line, bison change political jurisdictions and step into a conflict zone. Montana held a hunt for migrating Yellowstone bison between 1982 and 1989, when a national public outcry forced the state to call it off. Montana game wardens took up where the hunters left off, shooting any bison that left the park. In 1995 the Montana legislature turned bison management authority over to the Department of Livestock (DOL), an agency mandated with protecting the interests of the state's livestock industry, where it remains to this day.

Although there has never been a documented case of brucellosis being transmitted from wild bison to livestock, the DOL and, in recent years the NPS, use the disease to justify the harassment and slaughter of bison when they leave or approach the boundary of the park. Since 1985 the DOL and Yellowstone National Park have killed more than 5,000 Yellowstone bison. While elk and other wildlife also carry the disease, only bison are routinely hazed, captured, and slaughtered, indicating that the agencies are more concerned with controlling bison than with controlling brucellosis.

More bison were killed during the winter of 1996-1997 than in any single year since the 19th century. That winter and spring the National Park Service and the State of Montana killed 1,084 Yellowstone bison. Starvation was common as well, as early winter rains turned the snowpack to mush. Record freezing temperatures locked the grass away beneath a thick slab of ice, and heavy snows followed. Bison, braced against blizzard, nuzzled heavy snow aside only to scrape their noses on diamond-hard ice. Between the human slaughter and natural deaths, over two thousand animals, more than half the herd, were killed in a matter of months.

Under the Interagency Bison Management Plan (IBMP), an agreement forced upon Montana and the U.S. Government by court order, America's only continuously wild bison are still not tolerated in Montana. Chased with snowmobiles, helicopters, and ATVs; trapped and confined in cattle pens and quarantine facilities; and shot on their native habitat, Yellowstone bison are in serious trouble. The National Park Service and the Montana Department of Livestock killed more than 1,000 Yellowstone bison in 2006. The Park Service alone was responsible for the death of more than 900 animals, the most killed by the agency in its 90-year history.

Today's Yellowstone herd faces a situation perilously similar to that of its ancestors of a century ago. Wild bison are considered ecologically extinct everywhere outside Yellowstone. If history continues on its present course, the Yellowstone herd will become just another intensively managed, domesticated herd, and the thin thread so tenuously linking our present century to the wild and fertile past will be forever severed.

In 1872 the U.S. Congress played an instrumental role in the creation of Yellowstone National Park and the protection of the American bison from hunters and poachers. In 2007 Congress can play an equally important role in the protection of the Yellowstone bison from state and federal agencies operating under an inherently flawed management plan.

What is the Interagency Bison Management Plan (IBMP)?

The IBMP, and the Modified Preferred Alternative of the Final Environmental Impact Statement (FEIS) that it represents is the product of court ordered mediation resulting from a Federal lawsuit. 95 percent of the public comments on the FEIS were opposed to the agencies' Preferred Alternative, yet the Plan was approved in the state and federal Records of Decision in December, 2000.

The IBMP's stated purpose of action is, "to maintain a wild, free-ranging population of bison and address that risk of brucellosis transmission to protect the economic interest and viability of the livestock industry in the state of Montana." **FEIS, Vol. 1, p. 14.** The FEIS continues to state in the "Need for Action" section, "Bison are an essential component of Yellowstone National Park and the Gallatin National Forest because they contribute to the biological, ecological, cultural, and aesthetic purposes of the park. However, Yellowstone National Park is not a self-contained ecosystem for bison, and periodic migrations into Montana are natural events." **FEIS, Vol 1, p. 14.** This analysis continues in the FEIS in the "Objectives In Taking Action" section,

“Lower elevation range could provide areas for bison to winter adjacent to the park as well as additional management options ... and the modified preferred alternative already includes acquisition of lands to the north of the Reese Creek boundary on the Royal Teton Ranch.” **FEIS, Vol. 1, p. 45**

Furthermore, the IBMP is designed as an *adaptive* management plan. “Professionals in the fields of wildlife science, livestock disease, wildlife disease, livestock management, and wildlife management do not agree on the central issues relating to brucellosis in Yellowstone bison. The agencies have agreed to support research on these issues and will update the bison management plan as new information becomes available.” **FEIS, Vol. 1, p. 45.**

Is the IBMP living up to it's stated goals?

In the six-year history of the IBMP, nearly 2000 Yellowstone bison have been killed as a result of agency management actions. The National Park Service alone is responsible for the slaughter of nearly 1,500 bison under the IBMP. The plan was originally developed in three phases. According to the timeline provided in the FEIS, the plan should have entered step 3 during the winter of 2003/4 in the western boundary area and by the winter of 2004/5 in the northern boundary area. However, to date, the plan is still mired in step 1 with no established or updated time line as to when the plan will advance to steps 2 and 3. Under step 3, untested bison would be allowed to utilize habitat outside of Yellowstone National Park.

One primary assumption made in the FEIS that enables progression to steps 2 and 3 in the Northern Boundary area is the elimination of livestock grazing on the Royal Teton Ranch (expected in 2002) and the development of a bison plan for the federally acquired and easement lands north of Reese Creek. As of today, cattle still graze on the Royal Teton Ranch and there is no bison plan for the federally acquired lands. Therefore, bison are still being hazed, captured and slaughtered by the National Park Service for attempting to access this essential winter range habitat. Last winter alone, Yellowstone National Park captured nearly 1,200 bison and sent almost 900 to slaughter.

No transmissions of brucellosis between wild bison and domestic cattle have occurred under the IBMP. Montana still firmly holds its class-free brucellosis status. The viability of Montana's livestock industry has not been compromised in any way by the Yellowstone bison herd. However, **there has never been a documented case of brucellosis transmission between wild bison and domestic cattle.** Therefore, it is inaccurate to characterize the IBMP as having protected Montana's livestock industry from brucellosis transmission and the loss of class free status. In fact, the implementation of the IBMP's methods for providing temporal and spatial separation between bison and cattle, particularly hazing of bison back into Yellowstone National Park, may add to the risk of infected birthing materials in the environment as pregnant female bison are highly stressed prior to calving. The simple truth is that brucellosis transmission between wild bison and cattle is a highly unlikely event. Sensible risk management practices that incorporate the best available science could easily prevent transmission from occurring without the excessive cost and harsh practices of the current IBMP.

In terms of ensuring a viable, free-ranging population of wild bison, the IBMP is failing in it's stated goals. The bison are unable to access vital winter range habitat outside of park borders. Thousands of bison have been killed for attempting to access lands that were expected to be available several years ago. Additionally, recent research in the genetic makeup of Yellowstone bison indicate a high probability that there are at least two and likely three unique and distinct subpopulations of bison that make up the Yellowstone herd. **Natalie Dierschke Halbert, The Utilization of Genetic Markers to Resolve Modern Management Issues in Historic Bison Populations: Implications for Species Conservation, December 2003, pages 137-140.** Therefore, management removals of large groups of bison migrating to the boundary areas, as was the case last winter, could have significant detrimental impacts on the genetic viability of one or more subpopulations. The IBMP has not adapted management protocols to reflect these findings, leaving the future of the bison in jeopardy.

How is the IBMP implemented?

Hazing

Spatial and temporal separation of bison and cattle is the primary risk management strategy of the IBMP. This is currently accomplished by “hazing” bison back into Yellowstone National Park. Hazing is the term the agencies use to describe the forced movement of bison. The Montana Department of Livestock, the lead agency on the park's western boundary, uses a variety of means to haze bison. These include helicopters, snowmobiles, ATV's and horses. Oftentimes, bison are chased ten miles or more to the park border or the capture facility. The bison, desiring to access their chosen spring calving grounds on the Gallatin National Forest's Horse Butte Peninsula, will return the next day only to be chased back again. Newborn calves and pregnant females suffer greatly from the stress of these repeated hazing operations.

Hazing operations, by the very nature of the implements used, not only impact the bison, but are highly detrimental to the multitude of other species that occupy this magnificent wildlife migration corridor. Displaced species include bald eagles, trumpeter swans, elk, moose, wolves, grizzly bears and a myriad of other species. This type of hazing is also very costly, requiring large numbers of personnel and expensive equipment.

Capture

The protocols of the IBMP allow the agencies to capture bison that are deemed “unhazeable.” The Montana Department of Livestock operates one permanent capture facility within ¼ mile of the park border at Duck Creek and one temporary capture facility on the Horse Butte Peninsula through a special use permit granted by the Gallatin National Forest. The National Park Service operates one capture facility, Stephens Creek, located within park borders near the northern boundary. These facilities are all modeled after livestock handling facilities. It is important to remember that wild bison are not domestic cattle. The nature of the bison and the facility design create a circumstance where bison are often injured or even killed in the trapping, sorting and transporting process.

Testing

Once captured, the bison may be tested for exposure to brucellosis bacteria. All bison that test positive for exposure on the standard blood test are immediately shipped to slaughter. Bison that test negative may be tagged and released or held for future release. Negative testing bison calves and yearlings may also be shipped to an experimental quarantine facility located near the park's northern border. Often times, tagged bison will be recaptured and retested or sent to slaughter at the discretion of the agency. The process of testing bison at the capture facilities is both cruel and inhumane. The animals are highly stressed, the agency handlers are often aggressive and unforgiving, and the facility design is inappropriate for wild bison.

However, not all captured bison are tested for brucellosis exposure. The IBMP allows for the slaughter of all captured bison without testing if the late winter / early spring population is estimated to be above 3000. Last winter, the National Park Service sent nearly all of the adult bison captured at Stephens Creek to slaughter without prior brucellosis testing. Only the calves were tested with negatives being sent to quarantine. Calves that tested positive were sent to slaughter.

The tests used to determine whether an animal has brucellosis are highly controversial. The standard blood tests (serological tests) only identify long-term antibodies to brucellosis. These tests were designed for cattle, not bison or other wildlife. Other bacterias, particularly yersenia, can cross-react with brucellosis and show a positive test result. Additionally, when compared to culture tests of tissues sampled from slaughtered bison, considered the gold standard in brucellosis testing, studies show that the correlation between seropositive bison and culture positive bison is very weak. Many bison test seropositive simply because they were once exposed to brucellosis bacteria in a strong enough concentration to produce an immune response. These bison may have already cleared the bacteria but still retain antibodies. Essentially, the bison selected for slaughter may, in fact, often be those that have developed resistance to the bacteria.

Slaughter

Since 1985, more than 5,000 wild bison from Yellowstone National Park have been killed through a combination of agency management actions and state-sponsored hunting. The majority of these animals, particularly since the inception of the IBMP, were sent to slaughterhouses throughout the region. Yellowstone bison are wild animals. The procedures involved in sending bison to slaughter include sorting in the capture

facility, loading onto trucks, hours of transport to the slaughter facility, and finally the taking of their lives on the slaughterhouse floor. This process sometimes takes days and hundreds of miles of transport. The bison are often not fed or given water during this time. They are highly stressed and often arrive at the slaughterhouse in terrible condition. Some are so badly injured and bruised that the meat and hides are not in usable condition.

Quarantine

The IBMP made provisions for the addition of quarantine as a management tool when such facilities were established. The agencies view quarantine as a management option that would provide more flexibility in handling bison that test negative. Currently, USDA's Animal and Plant Health Inspection Service and the Montana Department of Fish, Wildlife & Parks are conducting a quarantine feasibility study at two facilities located just outside the park's northern border in the heart of a critical wildlife migration corridor. The study is a multi-year program whereby two groups of 100 test-negative bison calves or yearlings will be held for a total of four years, undergo multiple rounds of testing and be bred twice before being released to unnamed public and tribal lands. One half of the bison are slaughtered under the protocol with their tissues being culture tested for the bacteria.

The facilities the agencies chose for quarantine are very small. The young bison are kept behind tall double fencing right along State Highway 89. They are fed hay and drink water from troughs. They are quickly becoming domestic animals and losing their wild instincts. They no longer have the benefit of experience passed on from their family groups. Each day, they are one step farther from being the wild Yellowstone bison they were before capture.

Vaccination

A key component of the IBMP is the addition of bison vaccination. Subcutaneous vaccination of bison calves and yearlings has already been incorporated into the plan for captured bison on both the north and west boundaries. The National Park Service is still in the process of developing an Environmental Impact Statement for remote delivery of vaccine within the park. The vaccine currently approved for use in bison calves and yearlings is RB51. However, the efficacy of RB51 for bison is highly controversial. A report to the United States Animal Health Association in 2002 on the efficacy of RB51 as a calfhood vaccine concludes, "based on the high number of abortions/weak calves, high percentage of colonized calves, and due to the high number of cow/calf pairs that will still be infected with virulent brucellae, *B. abortus* RB51 can not be considered an efficacious calfhood vaccine in bison." **Elzer, et. al., 2002.** This study, unlike many other vaccine trials, attempted to mimic field conditions in the GYA.

Additionally, RB51 is not considered a safe vaccine for adult bison. Therefore it could only be used on calves and yearlings. One study examining the use of vaccination as an eradication tool concludes that the focus would need to be on adult female bison with a vaccine that is at least 50 percent efficacious. **Dobson, unpublished.** This type of vaccine simply does not exist. Time and energy would be better spent in the development of a more efficacious vaccine for domestic cattle. Cattle are already regularly vaccinated for many livestock diseases. Additionally, there is a need for a better brucellosis vaccine for cattle throughout the world. RB51 has been widely criticized for its low efficacy in cattle, particularly in countries where brucellosis is widely present.

Can Brucellosis be Eradicated from Yellowstone Bison?

Eradication of brucellosis as an eventual goal is a concept that is easy to support in theory. If brucellosis were not found in Yellowstone's bison, sound wildlife management might be much easier to develop and implement. However, brucellosis is endemic in the Greater Yellowstone Ecosystem (GYE). Bison are not the only affected species. Tens of thousands of elk in the GYE also potentially carry brucellosis, particularly in Wyoming where elk are fed throughout the winter. Some of these elk also migrate into Yellowstone in the summer months leading to the potential for transmission to bison and other species. Additionally, many other species have been known to carry brucellosis including grizzly bears, black bears, wolves, coyotes, foxes, moose, bighorn sheep, beavers, and even muskrats. Therefore, any efforts that focus specifically on bison without addressing the

disease in the ecosystem as a whole will not provide a long-term solution to this issue. Even if brucellosis were eradicated from Yellowstone bison, there is a high probability that they would be reinfected in the future.

The tools of brucellosis eradication are highly limited and would result in the decimation of the Yellowstone bison herd. The primary tool for eradication is test and slaughter. Based on the inaccuracy of the current blood tests, it has been estimated that test and slaughter could reduce the bison herd to as few as 10 animals. **Dobson, Unpublished.** Test and slaughter would also require handling nearly every bison in Yellowstone. Capture facilities would have to be set up throughout the park and maintained for many years. This type of program was attempted in Yellowstone in the early 1960s, reducing the herd to fewer than 200 animals. In 1967, the National Park Service instituted a policy of “natural regulation” and ended the test and slaughter program. The costs to the bison and to the natural resources of the park were considered too high to continue this program. The tools of eradication have not significantly changed since this time.

Vaccination, as discussed earlier, is another tool of brucellosis eradication. However, vaccination alone, using the currently available vaccines, will not result in the eradication of brucellosis. Neither was vaccination ever a stand alone tool to eradicate brucellosis in domestic cattle. Test and slaughter has always been the primary mechanism because of the limitations of the available vaccines.

Given all of the constraints, particularly the social/cultural consequences of aggressively handling all of the bison inside Yellowstone National Park, eradication of brucellosis utilizing the tools currently available is not a realistic goal. Sensible risk-management policies are a much more effective means of protecting Montana's livestock industry and the viability of Yellowstone bison. Risk management, however, does not preclude efforts to develop alternative methods to eradicate brucellosis in the long run. Research into more effective vaccines for livestock and a potential cure for brucellosis can be conducted, but in the meantime, habitat-based risk management polices must be instituted to protect the bison and Montana's livestock industry.

Winter Range Habitat

The provision of lower elevation winter range habitat is essential to resolve the current conflicts at the park border regions. Yellowstone National Park simply does not have sufficient winter range habitat for any of the ungulant species within its boundaries. Regardless of the population of bison in the park, animals will always move to the boundary areas in search of better winter habitat. During winters when the snow conditions make it difficult to access food within the park, large migrations are likely. The current management plan does not provide for access beyond park border to winter range habitat. This circumstance has led to the slaughter of thousands of migrating bison throughout the years, underscoring the failure of the IBMP to protect wild, free-roaming bison.

The necessary winter range habitat on the west side of the park lies beyond the current zones of the IBMP. The primary winter range habitat is located in the Madison Valley. This area is comprised mostly of large tracts of private and public land. Some of the landowners in the Madison Valley lease their land for livestock grazing in the summer. However, the climactic conditions of this region preclude winter grazing of cattle. The nearest cattle present in the valley during the winter are more than 35 miles from the park border. Much of the public land is leased for livestock grazing, but the stocking dates are typically not until late June or July. Therefore, most of the valley is cattle-free during the winter months when bison would utilize this area as winter range. The latest research on the disappearance and persistence of brucellosis bacteria suggests that the bacteria would not remain in the environment after early June. If cattle stocking dates are designed to reflect this science, brucellosis transmission between bison and cattle could be easily prevented.

On the north side of the park, the primary winter range occurs outside park boundaries along the Yellowstone River corridor. Much of this land is owned by the Church Universal and Triumphant (CUT). In the late 1990s Congress appropriated \$13,000,000 for conservation easements and land exchanges that were supposed to provide winter range habitat for bison. However, these lands are still not available to bison and are the primary factor influencing the Park Service's decisions to capture and slaughter bison that attempt to migrate onto CUT lands.

What can Congress Do?

The primary needs to address the concerns about brucellosis transmission and the long term viability of Yellowstone bison involve the acquisition of winter range habitat for bison and the modification of the classification system for brucellosis in the Greater Yellowstone Area.

Congress can facilitate the resolution of grazing issues associated with the Royal Teton Ranch.

Congress can direct the Animal and Plant Health Inspection Service to develop a brucellosis-management zone whereby livestock producers within the zone will institute brucellosis proof management practices. This might include booster vaccination of cattle, wildlife-proof fencing of cattle feed-lines, individual herd certification for brucellosis, and a reorganization of stocking dates consistent with the best available science about brucellosis persistence and disappearance. The costs of this program could be recovered using the monies saved from the reorganization of the IBMP.

Congress can direct the Gallatin National Forest to establish a wild bison recovery zone within which the needs of habitat for bison and other species are taken as a primary consideration in all multiple use decisions.