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**RE: Docket No. FWS–R6–NWRS–2023–0062 Intent to Prepare an Updated Bison and Elk Management Plan for the National Elk Refuge in Wyoming; Environmental Impact Statement**

Dear Director Hogan and Manager Durbian,

Thank you for the opportunity to provide scoping comments in response to the proposed environmental impact statement to analyze the impacts of the updated Bison and Elk Management Plan.

Our organization has long-standing, grave, and ever-increasing concerns about the effects of diseases (namely chronic wasting disease (CWD)) on the Jackson and Pinedale elk herds. Individuals from both herds can spend time on the National Elk Refuge in the winter and both herds have had individuals identified that have contracted CWD. We would request that the U.S. Fish and Wildlife Service (USFWS) does a thorough and complete analysis of the potential impacts of CWD on the elk that winter on the refuge and how that might affect other species that rely on elk as a food source. We recommend a phasing out of feeding of both elk and bison as this practice is known to increase prevalence rates of disease among animals as densities are much higher than free-ranging elk. We would ask that an alternative be included in the draft EIS that would end supplemental feeding, end watering of grasses in the summer, and the return of more natural conditions on the National Elk Refuge.

**Stated Goal of the Bison and Elk Management Plan (BEMP): The BEMP describes the Service's proposal for the management of the Jackson bison and elk populations within their respective jurisdictions with the goal of ensuring sustainable and healthy herds.**

If the goal is to provide for sustainable and healthy herds of both elk and bison of the Jackson region, then the USFWS must consider continuing to work toward phasing out feeding on the National Elk Refuge as quickly as possible. Simply reducing the number of days fed and/or spreading out the feed is not going to reduce densities enough to allow for a reduction in disease transmission. Chronic wasting disease is a 100% fatal disease that has been shown to reach high concentrations (80-100%) in captive deer and elk breeding facilities. In order to keep elk and bison healthy, feeding must be discontinued to allow for more natural dispersal of herds and to keep prevalence rates of CWD and other diseases low. Below are our comments pertaining to information the USFWS would like input on in the creation of a draft EIS.

## **1. The alternatives for managing bison and elk on the NER.**

Because of the existing conditions on the National Elk Refuge (NER) such as disease transmission, The immediate (or near immediate) cessation of feeding and rehabilitation of the land would minimize the detrimental effects of the artificial feeding of wildlife on the NER. Allowing bison and elk to utilize the natural forage that exists on the NER but do so as they also disperse to native winter range instead of relying upon artificial feeding would also allow the number of elk and bison to return to the carrying capacity of the land instead of keeping the numbers at artificially high levels. This would, in turn, eliminate the need for the elk reduction hunt in Grand Teton National Park which would save the Department of Interior and Grand Teton National Park resources and staff. Ending feeding of bison and elk on the NER would save a considerable amount of money and resources for the USFWS and still allow for wildlife viewing on this special piece of land.

The Wyoming Game and Fish Department (WGFD) designated winter range totals 84,563 acres, last updated in 1987. This designation leaves out the Bacon Creek-Fish Creek area where elk typically winter and an area that will be included on the WGFD seasonal range overlay map in the next update. Including this area, there are an estimated 106,581 acres available for elk to winter on in the Gros Ventre drainage adjacent to the NER. Plentiful natural forage exists to accommodate elk that winter in the Gros Ventre. Elk that cannot find food in the Gros Ventre can travel further south along historic migration routes to areas with less snowpack and more snow-free slopes. As has been demonstrated by other efforts to phase out areas of feeding in other states, this goal is realistic and achievable. One notable example is provided by the Deseret Land and Livestock Company in Rich County, UT in the early 2000s. A combination of positive and negative reinforcements were used successfully to modify elk behavior and achieve the goal of either not feeding elk at all on the ranch or only feeding in emergency situations (Magnus, 2011).

Positive reinforcements to encourage elk to return to natural winter range included:

1. Range Improvements
2. Strategic Livestock Grazing

3. Dispersed Supplemental Feed (aka Spot Feeding) - supplemental not replacement feed
4. Sanctuary or 'Safe Zones'

Negative reinforcements to encourage elk to return to natural winter range were:

1. Hunting
2. Herding and Hazing

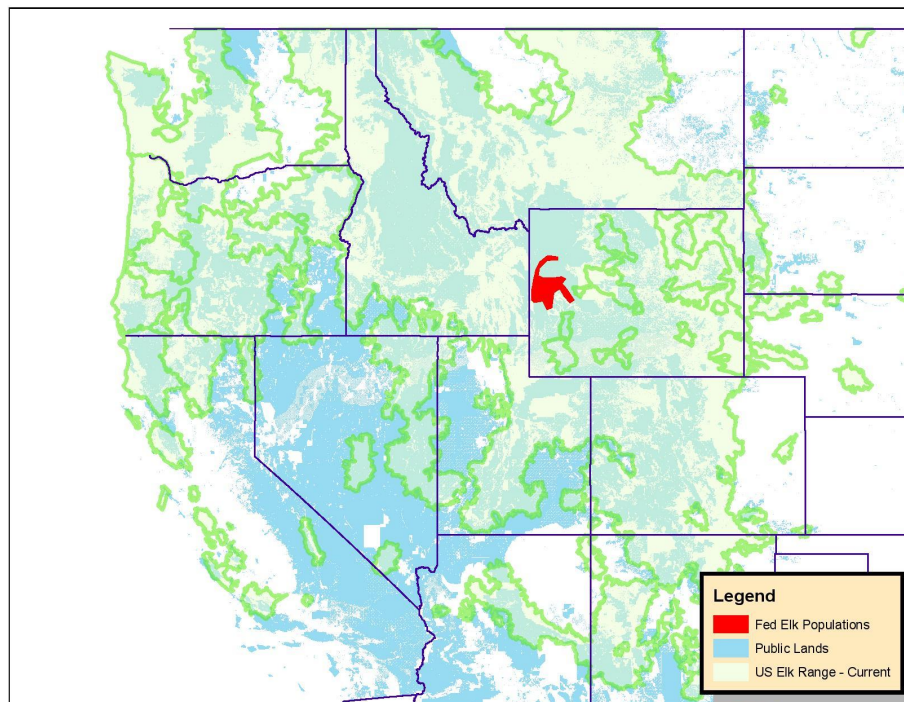
Positive reinforcements were better at changing elk behavior than negative reinforcements. In comparison to the Afton and Big Piney herds that were used as a control, no elk were fed in the 2005-2006 or 2006-2007 winters at Deseret Land and Livestock Company, while 73% and 76% of elk were fed in the Afton and Big Piney herds respectively during the same years. Perhaps the most prudent lesson learned from the Magnus (2011) study is, "When managers wish to reduce the occurrence of undesired behaviors and/or increase desired behaviors, the most effective method is to modify the consequences of those behaviors through management. Unfortunately, managers have not been trained to think in terms of behavior principles and their application in management. We simply assume animals behave by —instinct without appreciating the roles of learning in culture in everything they do. Critically, we must come to realize animals are not machines and genes are not destiny." Using the lessons learned from this study, it seems reasonable to assume that elk elsewhere can be retrained to move to different areas and avoid conflict with humans if we apply pressure and positive reinforcement effectively. Elk on the NER can be "retrained" with these same principles and techniques.

There is no reason that elk in Wyoming accustomed to wintering on the NER cannot be retrained the way the Deseret Land and Livestock elk were. Knowing the harmful effects to elk, cost of feeding, and impacts to the land, feeding at the NER should be phased out as expeditiously as possible with full cessation after a maximum of three years from starting phase out.

As Bruce Smith wrote back in 2013, "I'm among those who argue that winter feeding serves neither the long-term health nor conservation of wildlife, and therefore is not in the public's best interests. As CWD has recently infected cervids within 50 miles of several elk feedgrounds, two fundamental questions arise: "What happens when CWD reaches those feedgrounds, and should something be done now to address this threat?" (Smith, 2013). Considering that Bruce Smith wrote this back in 2013 and chronic wasting disease (CWD) is now found in the Jackson elk herd at a prevalence rate of around 1%, we cannot afford to wait another five or ten years to phase out feeding. If we want prevalence rates of CWD to remain low in populations of elk, we cannot continue to provide the living petri dish of perfect conditions to allow the disease to spread. A reasonable phase out alternative would be no more than three years, with the number of days of feeding to decrease each year.

## The Bigger Picture of Elk Management in the Western U.S

First, let's examine occupied elk habitat in the United States. Figure 1 shows current elk habitat in green. The blue polygons are public lands that generally could offer less fragmented habitat and far lower potential for conflicts, while private lands, shown in white, would have more fragmented habitat and more potential conflicts. The areas where elk are artificially fed are in red. As is immediately evident from this map, there is only one area in the United States where significant numbers of elk are artificially fed. The few feeding operations run by other states are so small as to be invisible at this scale. This information is from the WGFD's document titled Western State Management of Wintering Elk, dated December, 2021 (Attachment 2).



**Figure 1.** This map visualizes current elk range in the Western United States, and the small amount of elk that are artificially fed hay in Western Wyoming.

An estimated 1.2 million elk live in the United States today. Of that 1.2 million, approximately 27,000 or 2% are artificially fed, almost all of these within the 22 elk feedlots in west-central Wyoming and on the NER. The artificial feeding of elk does not make sense in the larger scope of elk populations in the United States. Below we compare the differences between the 2% of elk habitat where the network of elk feedlots has been established versus the 98% of elk habitat where elk populations are not artificially fed.

1. There is no difference in elk-livestock conflicts between the habitats. States, like Colorado and Montana, and other areas of Wyoming have mitigated conflicts with

livestock operations with proper fencing, other conflict mitigation strategies, and a plan to reduce conflicts between elk and bison and livestock.

2. In general, road density is significantly lower in the 2% of elk habitat in the network of feedlots and NER than in the 98% of elk habitat where populations are not artificially fed, such as the far higher population states like Colorado. So, are elk-based vehicle accidents significantly higher in the 98% of elk habitat without artificial feeding? The short answer is no. Colorado has nearly triple the elk density of Wyoming. Colorado is far more fragmented, with far higher road density, far higher human population density and the same amount of livestock production. However, Colorado does not artificially feed their elk populations. Montana has nearly 50% more elk than Wyoming and is far more fragmented, far higher road and population density and has double the livestock density of Wyoming but none of Montana's elk are artificially fed.

If it was true that feeding elk were the only way to ensure elk herds exist, then we should see starving elk across the western U.S., high numbers of elk collisions and few hunting opportunities in the 98% of elk range where artificial feeding does not occur. However, robust data shows this is not the case.

Elk have existed for thousands of years in what is now the western United States, migrating between summer ranges in the high country to lower elevation winter ranges in the basins and valleys. Colorado, New Mexico, Utah, and Idaho all have elk herds with healthy populations and natural migration patterns and low elk/cattle conflict rates. The behavior of migrating is innate to elk and they readily make these choices to move from harsh climates to less harsh environments. Protected lands in Wyoming are vast and connected. That means elk and other migratory wildlife can disperse across seasonal ranges if we allow it.

See also Attachment 1 that is a report compiled by Wyoming Wildlife Advocates and the Sierra Club Wyoming Chapter in the spring of 2023 that shows that other surrounding states have more elk than Wyoming and they do not feed them on the scale that is present at the state-run feedgrounds and NER in Wyoming.

### **Court Rulings and Their Impact on the USFWS's Elk and Bison Management Plan**

On September 21, 2021, U.S. District of Wyoming Judge Nancy Freudenthal ruled that the permit authorizing the Wyoming Game and Fish Commission's use of the Dell Creek feedground expired in 2016, and that annual feeding allowed since has been without a valid permit. Since feeding at the NER is very similar (if not worse because of higher numbers of elk present in the winter on the NER) to feeding on a state run feedground, these findings can reasonably be transferred to the NER. In this recent ruling, the court found:

CWD is an incurable and invariably fatal disease caused by an abnormal protein that affects the central nervous system of ungulates, including elk, mule and white-tailed deer, and moose. AR3549. Its effects are devastating; the onset of disease is slow, and

those infected “show weight loss, reluctance to move, excessive salivation, droopy ears, increased drinking and urinating, lethargy, and eventually death.” Id.

Further, “CWD is highly transmissible via multiple direct and indirect pathways between and among cervid species.” AR486. It is transmitted through contact with infected animals or carcasses, and through contact with soil, plants, or feed contaminated with urine, feces, and/or saliva from infected animals. Id. CWD exhibits a long latency period (twelve to thirty-six months), during which an infected animal is asymptomatic yet still capable of passing the infectious prions to others. AR487; AR1802. Thus, a single infected animal can transmit the disease to a substantial portion of the population before its presence is detected. AR1798.

Moreover, recent research has shown that CWD, which is “resistant to most general disinfectants,” can contaminate soil and remain infective in the environment “for years to decades.” AR1802-03 (CWD “prions bound to soil are more infective than free prions, so soil may serve both as an environmental reservoir and a facilitator of CWD prion transmission.”). Hence, uninfected animals are at risk of contracting CWD from the environment long after an infected individual has visited the area or died. Id.; AR489-90. Once introduced into a population, CWD “by itself can exceed natural rates of mortality,” reduce survival of adult females, and decrease population growth of elk herds. AR492-93.

There is no dispute that “congregating elk at very high densities at feedgrounds is likely to increase the spread of disease because of an increased number and rate of potential infectious contacts with infected individuals and an infected environment.” AR486; see also AR1803 (Feedgrounds “increase the risk of [CWD] transmission” by “exacerbating [] densities, increasing contact rates, altering normal behavior, and prolonging exposure to potentially contaminated areas.”)

We provide a few items of note from the September 2018 ruling by the same judge that need to be kept in mind during this process.

As discussed in more detail in a later under the NEPA section, the judge stated:

An EIS must also assess the direct, indirect, and cumulative impacts of the proposed action, including unavoidable adverse environmental effects. 30 CFR § 1508.25.

Those “unavoidable adverse” effects have to include the contamination of soils, water and plants as a result of the proposed action.

The judge stated:

NEPA requires an agency to take a "hard look" at environmental consequences of its actions and to adequately disclose those impacts to the public. *Baltimore Gas*, 462 U.S. at 97-98; *Middle Rio Grande Conservancy Dist.*, 294 F.3d 1220, 1225 (10th Cir. 2002).

The ruling summarized the issue of CWD:

CWD, the equivalent of "mad cow disease," is a fatal prion disease of cervids, which include elk, white-tailed deer, mule deer, and moose. AR29034; AR10283. The disease is easily transmitted," the prion (TSE) agent can contaminate the environment for long periods,"^ and management strategies have failed to stop its spread. Id\ AR28854; AR28876. As additional challenges, clinical signs of CWD are not diagnostic, there is a long incubation period, there is no treatment, there is no prevention in the sense of vaccination, and CWD is invariably fatal once clinical signs develop. AR18430. These challenges make surveillance difficult and expensive; hence the emphasis on preventing its introduction into the region. AR18431. Once this chronic disease is introduced into a population, "CWD can exceed natural rates of mortality, reduce survival of adult females, and decrease population growth of elk herds."

It continued:

CM/ECF Document ("Doc.") 43, p. 16; AR17781 (seasonal concentrations of elk create "an unnatural situation that has contributed to . . . an increased risk of potentially major outbreaks of exotic diseases," and "damage to and loss of habitat"). Further, at least one expert with the USDA Animal and Plant Health Inspection Service ("APHIS") thinks "long-term feedgrounds are detrimental to the health of the wildlife." AR26800. The Service itself recognizes "that the WGFC action of feeding elk results in the artificial concentration of elk during winter and early spring that increases risk of disease transmission" (AR11108), and that prevalence of CWD is likely "functionally related to ungulate density" (AR28876). Indeed, in its brief the Service states, "the practice [of supplemental feeding] concentrates elk during the winter months and contributes to the spread of diseases such as brucellosis and CWD." Doc. 62, p.II.

Also, the Brief of Amici Curiae Scientists discusses the very high population density estimates of elk at Alkali Creek Feedground, the behavior changes that occur as elk population densities grow (higher frequency and duration of contact), and the corresponding significant risk of disease transmission, both directly between animals and indirectly through the environment. Doc. 55, p.15; AR26284; 24695.

Further, both the NFS and NFWS [USFWS] agree that "elk concentrated on feedgrounds is likely to facilitate the spread of [CWD] when it reaches [the GTNP and Refuge]. As such, an overarching strategy to achieve the goals of the 2007 BEMP is to reduce reliance on winter supplemental feeding of bison and elk, and to transition to complete reliance on natural standing forage at an undetermined time in the future." AR28174.

Finally, one court found that the 2007 BEMP for the Refuge "might well have been unreasonable had the agencies categorically refused to phase out the winter feeding program in spite of all the evidence in the record about the dangers of supplemental feeding." *Defs. Of Wildlife v. Salazar*, 698 F.Supp.2d 141, 148 (D.C.D.C. 2010), *affd* 651 F.3d 112, 118 (D.C.Cir. 2011) ("There is no doubt that unmitigated continuation of supplemental feeding would undermine the conservation purpose of the National Wildlife Refuge System").

Regarding irreversible commitments, the court stated:

There is no question that Alkali Creek Feedground could become a reservoir for CWD infection if it becomes established in elk populations in northwest Wyoming. That potential is increased with the concentration of elk at feedgrounds. If infected animals congregate, the environment will eventually be contaminated. This will significantly affect vegetation and soils, thus productivity, over a very long term (if not indefinitely) and may result in an irreversible and irretrievable loss of wildlife and habitat.

Regarding cumulative impacts, the court ruled:

Petitioners argue the [Forest] Service failed to meaningfully analyze the cumulative impacts of the region's feedgrounds on wildlife resources, in violation of NEPA. Specifically, Petitioners complain that the Service refused to examine the impacts of Alkali Creek Feedground in conjunction with the other feedgrounds located in the BTNF, or the artificial feeding program conducted by the NFWS on the Refuge. Rather, the Service restricted its evaluation of cumulative impacts to include effects only from Alkali Creek and the other feedgrounds in the Gros Ventre drainage (Fish Creek and Patrol Cabin), thereby severing analysis of this action's impacts from the effects of other nearby feedground operations impacting the same elk herd, as well as the effect of the 2007 BEMP on the Refuge which anticipates a step-down approach to phase out artificial feeding.

Petitioners argue these feedgrounds are all part of an integrated program which cumulatively impacts the Jackson elk herd, and the restricted analysis by the Service violates NEPA.... As to cumulative impacts, the Court again agrees with Petitioners. The finality of the 2008 FEIS does not eliminate the need for the Service to consider cumulative impacts from the integrated feedground program considering the best and currently available science that has advanced the understanding of CWD risk, transmission and mitigation since the 2008 analysis.

We provide both rulings, in their entirety, for your review as Attachment 3.

### **Concern over the risk of CWD concentration on the NER.**

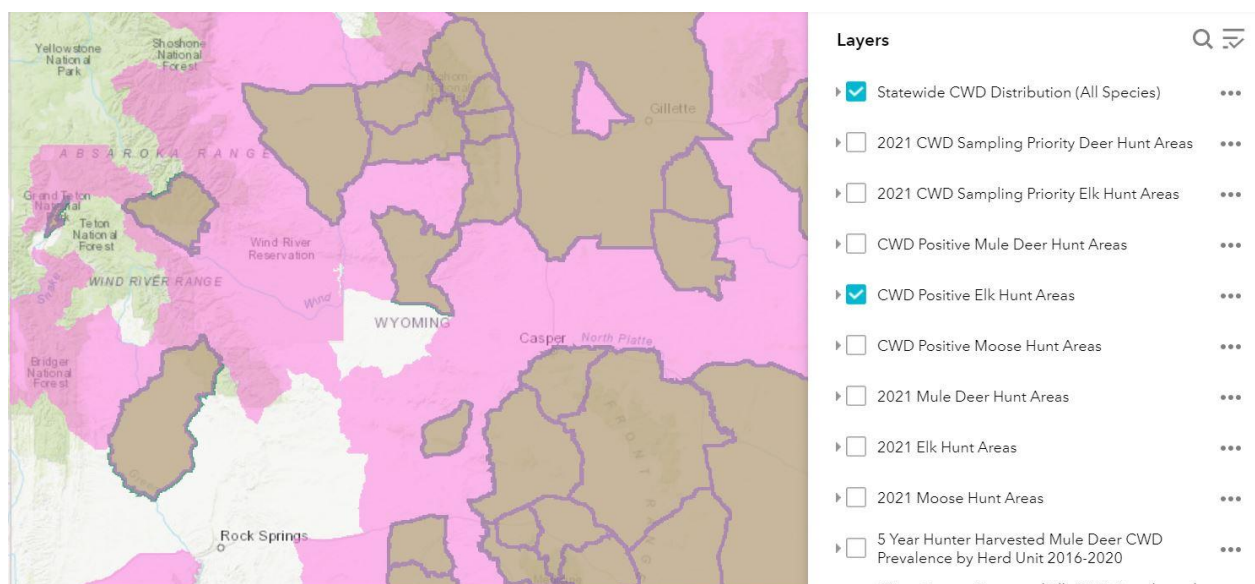
The inherent and unavoidable concentration of elk during artificial winter feeding increases the



risk of CWD and has a significant effect on the environment; winter feeding of elk and bison also increases the prevalence of brucellosis and many other transmissible diseases in both herds. Winter elk feeding is highly controversial, with many scientists and members of the public fully aware of its detrimental impacts. It certainly has effects that pose unique risks to the Greater Yellowstone ecosystem's elk herds. The Greater Yellowstone ecosystem is an ecologically critical area; and continued winter feeding of elk may cause the loss or destruction of significant wildlife resources within that ecosystem. These risks are not speculative: rather, they are known, imminent, and rapidly increasing, with documented cases of chronic wasting disease discovered every year in elk and mule deer, now literally adjacent to elk feedgrounds and the NER.

The USFWS's present scoping analysis should consider how its decision to authorize further artificial feeding on the NER will contribute to the spread of CWD and other diseases within and between elk herds that use habitat on the NER and the adjacent Bridger-Teton National Forest and Grand Teton National Park. Because feeding elk and bison and artificially concentrating individuals have such profound effects (significant by any rational evaluation), the practice of artificial winter feeding is highly controversial, artificial feeding significantly impacts ecologically critical areas, and continuing to allow artificial winter feeding may cause significant losses of wildlife resources (Galloway et al., 2021). All this should be investigated thoroughly in the draft EIS.

To dispel any doubt about the risk of CWD becoming established on the NER, review the WGFD's map of CWD positive areas, which clearly shows that the disease now surrounds the NER and is further spreading toward Northwest Wyoming (See Figure 2).



**Figure 2:** WGFD's map of CWD positive areas.

(<https://wgfd.wyo.gov/Wildlife-in-Wyoming/More-Wildlife/Wildlife-Disease/CWD-in-Wyoming-Wildlife-CWD-Map>)

Given the proximity of the disease to the NER (on the border in both deer and elk species) and in proximity to state-run feedgrounds, the catastrophic risk of intraspecific and cross-species

CWD transmission in and between herds of elk, deer, and moose, the long-term persistence of infectious prions in the environment, and the known harmful effects of concentrating thousands of elk for months each winter in the face of the highly infectious and 100% fatal CWD and several other contagious diseases, the USFWS should consider the preparation of this EIS as a golden opportunity to fully evaluate the effects of artificially feeding elk and bison and begin the process of phasing out all feeding now. In the absence of feeding, mortality rate from CWD will likely be low initially and increase slowly (or stabilize) (Galloway, 2021). Mortality rates could be high with supplemental feeding and CWD rates could be irreversible with sufficient environmental contamination/transmission (Galloway, 2021).

Disease experts, such as Wyoming state veterinarian Sam Allen, fear that CWD will significantly decrease elk populations and that feedgrounds will become “hotspots.” Recently retired Laboratory Supervisor for the Wyoming Game and Fish Department Hank Edwards was quoted in a recent WGFD Commission meeting saying, “Over the past 10 years, statewide CWD prevalence in mule deer has increased 13% each year, 22% in white-tailed deer, and 11% in elk (only in the Iron Mountain herd). We always thought that prevalence rates of CWD would reach an equilibrium of about 30-50% because we see that with many other diseases, but this year Saskatchewan reported prevalence rates of over 85% in some of their herds and when I look at this and I look at where we are in our project herd unit in Pavilion and I look at how much CWD has increased every year for the last 10 years, it is hard to picture just where that equilibrium is. I'm sure it all varies from herd to herd, but nonetheless, it's worrisome to me that we are this high. You can just about take that prevalence rate in the project herd unit at 65% and divide it by 2, so 32% of male mule deer are going to die each year. They live two years with the disease, so they may not die directly, they may die indirectly, whether it be roadkills, predation, or hunter kills, but all this, CWD is going to contribute to the mortality factors that are affecting these herds. CWD slowly changes deer herds and primarily affects prime age animals, but slowly affects younger animals. Obviously since females are the foundation of the herd, more females become infected, the reproduction, growth, and resilience of the herd is constrained. And of course that population declines over time. It's worrisome, because as more and more prions get deposited, our ability to control this disease is going to become really constrained. Because then it's the environment driving the show, not animal to animal. So that is my biggest worry, is as we let this continue on, it's going to get to the point that it could be impossible.”

### **Concern for the welfare of elk and bison from diseases exacerbated by feeding**

#### **Hoof rot**

Elk hoof disease, now referred to as Treponeme associated hoof disease (TAHD), is a bacterial-associated syndrome causing severe lameness in elk and livestock. Elk with the disease can have deformed, overgrown, broken, or sloughed hooves. These lesions can be painful and cause limping or lameness when walking. Elk that show these signs do not necessarily have elk hoof disease, as there are many other potential diseases or injuries that could cause similar abnormalities to elk hooves. Some bull elk also have deformities of the opposite antler depending on the timing of the hoof infection with antler growth. Treatment of any disease in free-living wildlife is difficult. In livestock, hoof diseases are often treated with

repeated antibiotics and foot baths and managed by keeping their pens clean. Similar actions to treat wild elk are not practical. New research by Washington State University (2021) shows healthy elk can contract the rapidly spreading disease, known formally as Treponeme-associated hoof disease (TAHD), by simply walking on soil contaminated previously by infected hooves. The trampled and moist areas of elk feedgrounds will very much exacerbate hoof rot and this should be another consideration of phasing out feeding of elk in unnaturally high concentrations quickly before both wildlife and livestock are affected.

### **Brucellosis**

Brucellosis is a bacterial disease primarily of Rocky Mountain elk and bison. The disease is limited to northwestern Wyoming and adjoining portions of Montana and Idaho. Cows often abort their first fetus after becoming infected. Abortions may occur in subsequent pregnancies but diminish over time. Brucellosis also infects domestic cattle. A state/federal eradication program has almost eliminated the disease in cattle, but infected elk and bison pose a continuing threat. In the wild where there is no supplemental feeding, Wyoming elk are virtually brucellosis-free. In concentrated areas where elk are fed, however, elk test from 8% to 54% seropositive for exposure to brucellosis. As long as there are feedgrounds, there will be high percentages of seroprevalence in elk, and Wyoming's brucellosis-free status for livestock will be in continued jeopardy. The *Brucella* bacteria can survive in the environment for more than 180 days in cool and moist conditions. Like hoof rot and CWD, brucellosis is exacerbated by the use of artificial feeding in Wyoming.

### **Bovine Tuberculosis**

Bovine tuberculosis (bovine TB) is a disease found in mammals caused by the bacteria *Mycobacterium bovis* (*M. bovis*). In North America, bovine TB is most commonly found in domestic cattle and captive and wild cervids such as white-tailed deer, mule deer and elk with bison also susceptible to the disease. Bovine TB is spread primarily through the exchange of respiratory secretions between infected and uninfected animals. This transmission usually happens when animals are in close contact with each other. Thus, animal density is a major factor in the transmission of *M. Bovis*. Bacteria released into the air through coughing and sneezing can spread the disease to uninfected animals. Research suggests that bovine TB can also be contracted from ingesting contaminated feed. Survival of *M. Bovis* in the environment is primarily affected by exposure to sunlight. Reports on the length of survival of *M. bovis* vary from 18-332 days at temperatures ranging from 54-75 F. In a number of studies under laboratory conditions, *M. Bovis* has been isolated for up to 8 weeks from various feeds kept at 75 F and 14 weeks from various feeds kept at 32 F. However, under field conditions, it is difficult to isolate *M. bovis* from pastures grazed by animals known to be infected with bovine TB (Michigan DoG, 2022). Non-cervid animals most likely contract TB from feeding on infected tissues from deer carcasses.

Bovine TB is a chronic disease, and it can take years to develop. *M. Bovis* grows very slowly and only replicates every 12-20 hours. The lymph nodes in the animal's head usually show infection first and as the disease progresses lesions will begin to develop on the surface of the lungs and chest cavity. In severely infected deer, lesions can usually be found throughout the

animal's entire body. Non-cervid animals on the other hand do not develop the disease as extensively and lesions are usually not found in lungs or other tissues.

Bovine TB has been greatly reduced in the cattle industry since the National Cooperative State-Federal Bovine Tuberculosis eradication program began in 1917. Currently, most states are accredited as "Bovine Tuberculosis-Free" by the United States Department of Agriculture, however, sporadic outbreaks do still occur throughout the United States. Continuing to feed elk and bison on the NER could be a major risk to the cattle industry in Wyoming, if Bovine TB gains prevalence.

### **Scabies aka psoroptic mange**

Psoroptic mange, or the disease known as scabies is prevalent in many mammals. Scabies results in hair, fluid, and heat loss and ear canal occlusions. Secondary infections include decreased weight gain and mortality in domestic and wild animals. Like many other diseases, scabies is more common where elk are fed.

"Scabies isn't rare, but it seems to be more common in higher density herds like those found in the [National Elk Refuge]," - Eric Maichak (2019), habitat biologist for the Wyoming Game and Fish Department.

The risk of all the diseases listed above, and many more, remain a great threat to wildlife and livestock both. As long as wildlife is artificially fed, which concentrates them unnaturally and spreads bacteria and diseases with ease, the threat will only continue to increase and become worse over time. This puts populations of bison and elk in Northwest Wyoming at risk of severely decreasing as these diseases work their way through the herds and are deposited at higher rates in the environment.

### **Purpose and Need**

The purpose and need as described by the USFWS for this EIS process is to "set updated desired conditions, management goals, objectives, and strategies to guide the management of bison and elk on the NER and work towards a goal of a healthy sustainable population of bison and elk on NER.

Due to the aforementioned adverse effects of feedgrounds on the health of elk and bison, and the presence of diseases that may last for decades on feedgrounds, it's clear that the best management plan for the USFWS to follow is to allow free-ranging elk and bison herds on the Refuge with no supplemental feeding. Hunting may be used on a limited basis to reduce elk populations to the carrying capacity of the land. However, there is sufficient natural forage available on the refuge and adjacent public lands of the Bridger-Teton National Forest and Grand Teton National Park to provide for enough habitat for bison and elk to survive without feeding. Bison are adapted to living in the harsh winters of Wyoming and without feeding would sustain themselves at the carrying capacity of the land. Hunting of bison should no longer be necessary. Without feeding, elk herds will migrate to the Refuge, eat what is available and then

return to native winter range or migrate out of the valley. Reestablishing migration routes for elk to winter in the Red Desert or further south should be a tool considered to reduce the number of elk on the NER. Hunting may also be used to reduce numbers of elk that winter on the NER.

### **National Environmental Policy Act (NEPA) compliance**

NEPA Section 102(2)(C) states that an EIS must be a detailed statement on

“(i) the environmental impact of the Proposed action,

“(ii) any adverse environmental effects which cannot be avoided should the Proposal be implemented,

“(iii) alternatives to the Proposed action,

“(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of

long-term productivity, and

“(v) any irreversible and irretrievable commitments of resources which would be involved in the Proposed action should it be implemented.” (Emphasis added.)

There are many irreversible commitments that could happen if feeding is continued for bison and elk on the NER. Given the scientific certainty of CWD already on the NER or arriving shortly, given the 100% infection rate on exposure to prions, given the 100% mortality rate for infected individuals, given high levels of infectious materials deposited on the environment and given the essentially permanent contamination that results due to prions remaining infectious for decades, continuing feeding elk and bison is an irretrievable commitment of resources.

In addition to these obvious direct impacts, there are a range of indirect impacts which must be considered.

Elk consume approximately 11 pounds of forage per day, so 5,000 elk produce approximately 55,000 tons of waste per day. During the peak spring run off period, large quantities of that waste matter wash into Flat Creek which is the town's water source. Prions could be ingested by the residents of the town of Jackson. While human transmission of CWD hasn't been confirmed yet, scientists at the Center for Infectious Disease Research and Policy (CIDRAP) at the University of Minnesota continue to sound the alarm that CWD has the very real potential to cross species barriers. A statement on the CIDRAP [website](#) says, “the public should use precautions and take steps to avoid exposure to CWD prions whenever possible.” Human risk of exposure to CWD must be analyzed in the EIS.

What is the liability to the USFWS should downstream residents sue for the damages to their health from ingestion of prions due to the contamination of city water supplies by prions? These impacts must be analyzed.

## Changed conditions and newer scientific findings

The USFWS should be aware of the changed conditions and newer scientific findings during the years since the first BEMP was created in 2007. See in particular BTNF employee Tyler Johnson's June 2014 Chronic Wasting Disease Literature Review Technical Report (Attachment 5) to the Final Supplement to the Environmental Impact Statement Long Term Special Use Authorization for the Wyoming Game and Fish Commission to Use National Forest System Land for their Winter Elk Management Activities at Alkali Creek Feedground, 2015. Some of the many important findings described in that June 2014 review by Johnson include:

"Owing to highly efficient direct transmission of CWD among cervids, the number, duration, and frequency with which infectious individuals encounter susceptible ones is likely to drive early density dependent transmission of CWD (p .5)."

Cross et al. 2013 demonstrated that "in areas where elk are artificially congregated at feedgrounds per capita rates of contact and duration of contact were more than twice as high as groups not receiving supplemental feed (p. 6)." (E)lk feedgrounds attract elk from large catchments and congregate elk that might not otherwise contact each other, thereby increasing the chance that an infected elk from a distant locale would be the one to introduce the disease to a new herd area. (p. 6)"

"(S)tudies on free-ranging and farmed elk and deer are clear in showing that population level impacts are to be expected from the introduction and spread of CWD in elk on the Bridger-Teton National forest and nearby areas (p. 7)."

Naturally occurring populations of elk have shown that mortality from chronic wasting disease by itself can exceed natural rates of mortality and reduce the overall survival of free roaming cow elk below 85% (Monello et al. 2014)." p.7

"Free-ranging elk herds in Wyoming (Cross et al. 2013, Williams et al. 2014) and Canada (Vander Wal et al. 2013, 2014) have herd densities ranging from .21 to 1.2 elk/km<sup>2</sup> . . . . Elk density at the average state feedground in Wyoming is 1976.6 elk/km<sup>2</sup>, based on the reported average of 600 elk on 75 acres." p.8

"I clearly understand and acknowledge that the Commission's action of feeding results in artificially high concentrations of elk during winter and early spring which increases disease transmission (Johnson, 2014; Attachment 5; and in the 2015 Final SEIS)." (Id.:6)  
"When chronic wasting disease becomes established on the Bridger-Teton National Forest, there is a moderate to strong likelihood that the population limiting effects of chronic wasting disease to elk, mule deer, and moose may be hastened by supplemental feeding." (Id.:6)

Former BTNF Supervisor Patricia O'Connor, has also acknowledged that elk feedgrounds should cease on USFS lands stating:

“The continued westward expansion of chronic wasting disease detected during the 2015 hunting season punctuates the need for exploring opportunities for change. In making this decision, I am recommending that the WGFC/WGFD transition away from the need for supplemental feeding for elk.” (O’Connor 2015:5 in Final Record of Decision for the Alkali Creek elk feedground SEIS)

CWD exists in western Wyoming in the elk feedgrounds region which includes the NER. It is indisputable that CWD is now in western Wyoming in the region where the WGFD and the USFWS feed some 22,000 densely concentrated elk at 23 locations each winter. A moose tested positive for CWD in Star Valley in 2008 (Moose Hunt Area 23). Three doe mule deer tested positive for CWD in Green River, Wyoming, in late 2012 (Deer Hunt Area 132). A dead doe mule deer positive for CWD was discovered in Star Valley early summer of 2016 (Deer Hunt Area 145). A buck mule deer harvested by a hunter near Dubois, Wyoming, tested positive for CWD (Deer Hunt Area 128). More recently, a buck mule deer in Grand Teton National Park tested positive for CWD in November of 2018 and an elk in the park tested positive for CWD in December, 2020. A buck mule deer was confirmed positive for CWD in February of 2022 (Deer Hunt Area 143).

All these CWD endemic areas are either west of the Continental Divide in Wyoming, or adjacent to the Continental Divide; all are near- or are connected via cervid migrations to- elk feedgrounds and the NER.

Elk, deer, and moose are known to share habitats throughout this region; it is virtually assured that elk, deer, and moose move from CWD endemic areas to currently non-endemic areas every year. The risk is significant that elk that attend the NER will be or already are exposed to CWD. Given the proximity of the disease, the catastrophic risk of intraspecific and cross-species infection to herds of elk, deer and moose from CWD, the persistence of the infectious prions in soil and plants, and the known harmful effects of concentrating hundreds and thousands of elk for months each winter in the face of this infectious and fatal disease, the USFWS must consider and thoroughly analyze alternatives to feeding. Merely “monitoring” the NER for symptomatic elk or other cervids is not sufficient and does virtually nothing to mitigate the risk to elk, nor does removing symptomatic elk or other cervids. Additionally, the USFWS must not allow alfalfa or hay harvested from CWD endemic areas to come onto NER lands.

- **Contamination of lands in and around feedgrounds - Soil, water, plants, feces, and urine**

Scientists believe CWD proteins (prions) likely spread between animals through body fluids like feces, saliva, blood, or urine, either through direct contact or indirectly through environmental contamination of soil, food, or water. Once introduced into an area or farm, the CWD protein is contagious within deer and elk populations and can spread quickly (CDC, 2021). Experimental studies have also shown that prions can be taken up by certain plants, including alfalfa, corn, tomatoes, and wheat, and remain infectious (CIDRAP, 2020). Knowing these factors and

continuing to expose elk to the prions that cause CWD and potentially make it worse is ignoring the science.

“Scientists searched for prions at Mineral licks – areas where deer seek out essential nutrients and minerals – in the CWD endemic area across south-central Wisconsin. Out of 11 sites, nine had detectable levels of the disease-causing misfolded proteins. Prions were found both in soil and in water from the sites, as well as in nearby fecal samples from one site” (*Outbreak News Today*, 2018).

Given the reality that infectious CWD prions can be in soil, plants, water, feces and minerals, *and, when ingested, may be infectious for mammals*, the USFWS must analyze the potential effects of alfalfa grown and harvested in CWD endemic areas being fed to NER elk and bison. The USFWS must also consider the effects on wildlife *and human health* given the potential for infectious prions to be in plants, water, and soil, and the potential of feeding to amplify the distribution and prevalence of CWD in deer and elk, and consider the effects to wildlife *and people* of increased exposure to CWD prions.

Deer and elk holding pens in Sybille, CO, were left empty for six months to one year after all animals were removed and killed. New animals were introduced that had no previous contact with infected deer and elk. Elk in the pens came down with CWD within five years after the attempt at facility sterilization (Forester media et al, 2003). Prions that will be found on the NER will not only infect elk today, but have the potential to infect animals for years, even decades, to come. We applaud the USFWS for acquiring an incinerator for carcasses and would encourage continuation of proper exposure for all animals that test positive for CWD or other fatal diseases.

- **Human health concerns**

In addition to the risk of CWD to elk, deer, and moose, there also exists a human health risk (Waddel et al., 2018; Osterholm et al., 2019). Since 1997, the Centers for Disease Control and the World Health Organization have recommended that agents of any prion disease should not enter the human food chain. Bovine spongiform encephalopathy (mad cow disease), a prion disease, became epidemic in the United Kingdom in the 1980s and 1990s after infected beef was consumed by humans causing significant social and economic disruption. Teton County, Wyoming, Health Officer, Dr. Travis Riddell, M.D., penned a column (2019) in the health section of the Jackson Hole News and Guide warning, “the situation with wild game in Wyoming is eerily similar to that of mad cow disease in the U.K. 20 years ago, and things didn’t turn out so well for humans there.”

Leading researchers are highly concerned about the risk of transmission of CWD to humans concluding that “[t]he past century has provided compelling evidence that effective public health interventions are needed to prevent the transmission of prion-related transmissible spongiform encephalopathies (TSEs) between animals and humans and between humans...Available data indicate that the incidence of CWD in cervids is increasing and that the potential exists for transmission to humans and subsequent human disease” (Osterholm et al., 2019). A human health epidemic could cause similar disruptions with resulting economic consequences for the



economy of Wyoming and neighboring states dependent on wildlife-related recreation (Peterson, M.J., 2003; Local News 8, 2019).

### **Carnivore tolerance can benefit healthy elk herds**

Increasing tolerance for wolves in CWD-infected areas can be a strategy for containing this disease. Human/predator interactions are often viewed through the lens of 'conflict' or 'risk' to human communities, such as livestock depredation, impacts on abundances of game species, and threats to human safety. However, carnivores can also benefit humans by pest control, waste and carcass disposal, and nature tourism. On the topic of elk and bison management on the NER, carnivores are especially helpful when it comes to culling sick animals out of the population and keeping both bison and elk herds healthier. A recent study finds that “predators may create healthier prey populations by selectively removing diseased individuals (Brandell, et al., 3).” *Examination of the interaction between age-specific predation and chronic disease in the Greater Yellowstone Ecosystem*, published in the *Journal of Animal Ecology*, in 2022 shows that wolves selectively remove animals that are infected years before humans can detect that an animal is infected with CWD. Ungulates that are infected are likely to have symptoms which, even in the early stages of illness, make them less wary, and less able to avoid predators, long before the disease progresses to the point of death. So, wolves, by the way they hunt, are likely to single out these animals and remove them long before they would have succumbed to the illness. If they take the infected animal out six months or a year earlier than they would have died, it can reduce all those potential transmission to other elk or deer, therefore reducing the spread of CWD. Wolves and other canines are not susceptible to the illness and thus are unable to spread it.

The continued and encouraged presence of wolves, bears, mountain lions, coyotes, and other carnivores on the NER ensures that the herds of elk and bison continue to have the presence of their native predators who they have co-evolved with for millenia to keep them healthy and sustainable.

### **Impacts on wildlife protected under the Endangered Species Act**

The NER is located in critical Canada lynx habitat (USFWS, 2014) and grizzly bear occupied and Demographic Monitoring Area (WGFD, 2016). Canada lynx and grizzly bears are protected under the Endangered Species Act (ESA). Since the continuation of feeding elk and bison by the USFWS adversely affects the health of prey species, continuation of feeding has the potential to adversely affect carnivores including those protected under the ESA. The EIS will need to address the long-term effects to Threatened and Endangered Species if elk (or bison) populations plummet due to disease.

### **Professional wildlife management agencies recommend phasing out feeding**

#### **a. Association of Fish and Wildlife Agencies (AFWA)**

- i. The American Association of Fish and Wildlife Agencies (of Which the Wyoming Game and Fish Department is a member) states in their Best Management Practices for Prevention, Surveillance, and Management of

Chronic Wasting Disease, “There is currently no evidence that baiting and feeding of free-ranging cervids can be conducted to mitigate increases in the opportunity for disease transmission. There is also no evidence the practice is likely to increase harvest sufficiently to overcome the negative effects of those increases by disease transmission. Evidence to date suggests that “restrictions on feeding quantity would not mitigate the potential for disease transmission” and that putative mitigating practices such as spreading feed or bait over a specified area, or restricting the kinds of food items that can be used, did not substantially reduce the potential risk for disease transmission” (Palmer and Whipple 2006; Thompson et al. 2008).

**b. The Wildlife Society**

- i. The official statement from The Wildlife Society in 2020 is to “encourage fish and wildlife agencies, wherever possible, to phase-out supplemental feeding of wild ungulate populations, both in-house and by the general public, and to manage populations at levels that are compatible with the long-term carrying capacity of the habitat.”

**Regional effects to wildlife from Wyoming’s elk feedgrounds**

Elk feedgrounds in Wyoming do not just affect the state but have detrimental effects across the entire Greater Yellowstone ecoregion. The Montana Fish and Wildlife Commission sent a letter to Wyoming asking wildlife managers to reconsider the use of winter feeding grounds in order to help prevent chronic wasting disease (Montana Fish & Game, 2017). They stressed that feedgrounds make Wyoming’s wildlife populations less stable, less healthy, and more susceptible to a catastrophic disease event. They also acknowledged that if we do not address CWD, we will all be culpable in leaving a greatly devalued landscape to future generations. In closing, they asked that Wyoming begin the process of closing feedgrounds. This absolutely applies to the USFWS and the NER feeding of elk and bison.

**What Happens When Elk Feeding Ends**

As a result of hearing a wide range of questions and concerns about ending the addiction to feeding created by the WGFC in this area, Wyoming Wildlife Advocates examined the common excuses provided for maintaining the status quo of the elk feedlot operations in west-central Wyoming. Please see Attachment 4 for this white paper that addresses myths and misconceptions of feeding elk.

**The USFWS’s Public Trust Responsibilities**

In 2016, the Forest Service commissioned law and policy experts to research the role and duties of the Forest Service in regard to wildlife management. The legal review was published in 2017 in the journal *Environmental Law*. We provide this review, in its entirety, as Attachment 7. This same public trust responsibility is applicable to the USFWS. The USFWS’s role here is the

conservation and protection of wildlife. It also delved into the authority of federal agencies to manage wildlife on public lands.

The executive summary of this review is as follows:

This Article reviews the authority of federal and state governments to manage wildlife on federal lands. It first describes the most common assertions made by state governments regarding state powers over wildlife and then analyzes the relevant powers and limitations of the U.S. Constitution and federal land laws, regulations, and policies. Wildlife-specific provisions applicable within the National Park System, National Wildlife Refuge System, National Forest System, Bureau of Land Management, the special case of Alaska, and the National Wilderness Preservation System are covered, as is the Endangered Species Act. We reviewed an extensive collection of cases of conflict between federal and state agencies in wildlife management on federal lands. These cases show how federal land laws, regulations, and policies are frequently applied by federal agencies in an inconsistent and sometimes even unlawful fashion. They also demonstrate how commonalities found in state wildlife governance, such as sources of funding and adherence to the North American Model of Wildlife Conservation, often exacerbate conflict over wildlife management on federal lands. The states' trust responsibilities for wildlife are subordinate to the federal government's statutory and trust obligations over federal lands and their integral resources. We appreciate the need for the USFWS to work together with the state of Wyoming to manage a shared species like elk and bison, however, the USFWS has the authority to manage for fewer elk and work with the state to set reasonable objectives for populations that meet the carrying capacity of the land without feeding. Intergovernmental cooperation must be a mutual and reciprocal process, meaning that state agencies need to constructively participate in existing federal processes, and federal agencies should be provided meaningful opportunities to participate in, and influence, state decision making affecting federal lands and wildlife.

We also request a complete review of Attachment 7 - Wildlife Health and Public Trust Responsibilities for Wildlife Resources, 2016. The paper is directly related to the federal government's responsibilities regarding wildlife disease transmission.

Provided as Attachment 8 is the Wildlife Society's Technical Review 10-01 The Public Trust Doctrine: Implications for Wildlife Management and Conservation in the United States and Canada. This Technical Review provides an in-depth review of the government's Public Trust duties and responsibilities.

### **WGFD quotes that make solid arguments against the feeding of elk and bison**

*"Quite naturally, all the groups interested in these elk have not seen eye to eye as pertains to their management. In some instances disputes have arisen. Much of this disagreement, however, is because at times prejudices, distortions and emotions have*

*been substituted for facts. At other times the available facts have not always been recognized in their proper perspective by everyone concerned. Unfortunately, all that is known is not common knowledge, nor have all the facts been brought to light."*

-A.F.C. Greene, Wyoming State Game and Fish Commissioner, in the Forward to Chester C. Anderson's *The Elk of Jackson Hole* (1958)

*"Feeding is most common in winter when well-intentioned people think wildlife need extra energy, but data collected over the last 50 years indicates that feeding causes a great deal of harm and may actually decrease winter survival. Feeding increases disease transmission, causes habitat degradation, can upset the normal digestive process, interferes with wildlife social structure and may attract predators and other problem wildlife."*

*"When animals are fed, they tend to congregate in unnaturally high numbers. This high density allows disease to be transmitted much more quickly."*

*"TB should not only be a concern for wildlife enthusiasts. The disease may infect domestic livestock and well as humans...once this disease is well established, it is very difficult to completely eradicate it from a wild population. One of the best preventative steps in this effort is to not feed wildlife."*

*"The evidence is undeniable. Wildlife are adapted to survive winter without supplemental feeding. Feeding causes many more problems to wildlife than it solves. Additionally it can be harmful to humans and domestic animals."*

*"[Brucellosis] is virtually nonexistent in elk herds that are not fed or closely associated with herds that are fed. There is no doubt that feeding has allowed the disease to persist. Likewise, there is little doubt that if feeding were discontinued and elk used native winter ranges, the disease would eventually disappear over time."*

*"Finally, it can be questioned whether feeding wildlife is even ethical."*

The Wyoming Game and Fish Department - Feeding Wildlife: A Recipe for Disaster

*"The supplemental feeding of elk, or any big game species, is not recommended. Concentrating animals in such a manner increases the potential for disease transmission (including brucellosis and scabies), as well as dependence upon unnatural food sources. This may result in less healthy populations and reduced reproduction. Supplementary fed animals are less inclined to forage for themselves and can lose their natural wariness, increasing the chance of predation. Concentrating elk may result in range degradation to the area surrounding the feedground. Collisions with motor vehicles while elk are feeding near highways and elk grazing damage to fields and haystacks are other undesirable possibilities resulting from supplemental feeding."*

*“Keep in mind that elk populations are neither stagnant nor constant. They fluctuate annually, higher in years of mild weather and/or plentiful forage and lower in years of severe weather and/or poor forage production. Big game herds do not, nor should they be expected to, remain at a constant level year after year. Though starvation of big game animals is not pleasant, it is a natural process that removes less fit animals the range simply cannot support at the time. To intervene in this process is to remove natural selection from elk population dynamics and jeopardize the future condition and capacity of the range to support elk.”*

Wyoming Game and Fish Department – Habitat Extension Bulletin No. 27

### **Landscape connectivity and big game winter ranges**

There are vast areas of protected public lands in western Wyoming that allow for wildlife to free-range. The only counties in western Wyoming with elk feedgrounds are Sublette County, Lincoln County, and Teton County. These three counties' combined acreage is almost 8.6 million acres of which 83% is federal land. More than 7 million acres in these counties are managed by the National Park Service, the US Forest Service, the US Fish and Wildlife Service and the Bureau of Land Management. Very importantly, there are 1.74 million acres of big game winter range in these counties, as designated by the Wyoming Game and Fish Department.

In adjacent counties, well within migratory capabilities of elk, there are even more natural winter ranges acknowledged by wildlife management agencies. In the context of this large area (Sublette, Lincoln, and Teton Counties and surrounding counties), human settlement is relatively sparse on comparatively small acreages. These critical wildlife habitats have better protections for wildlife than they did during settlement times in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries when the National Elk Refuge was established. Federal agencies and the WGFD restrict or prohibit many human activities on winter ranges to protect wildlife. Some elk, deer and other big game are known to undertake local and large-scale, long-distance migrations among their seasonal habitats throughout this region (Wyoming Migration Initiative 2016). The USFWS must consider the innate ability of elk and bison to migrate between seasonal ranges in western Wyoming, and the fact that feeding impedes ecologically beneficial behavior and harms the health of elk, bison, and the ecosystem. The USFWS must consider alternatives that do not bait elk and bison onto a disease-ridden parcel of land for the winter months, but allow elk and bison to naturally free-range among their natural, healthier seasonal habitats throughout the region. The USFWS must consider a healthier paradigm than feeding elk and bison to manage wildlife on the NER.

### **Economics of sustainable wildlife management**

Direct expenditures (plus a multiplier effect of expenditures) of wildlife watchers in Wyoming during 2011 were \$556 million dollars. A 2018 study found that people spent \$802.2 million in Wyoming on wildlife-based recreation in 2017. From that direct spending, the state saw the benefit of \$1.065 billion in total economic activity (Sweetwater Now, 2019). While the NER is only a portion of the state of Wyoming, the annual revenue from wildlife-related recreation in Sublette, Teton and Lincoln counties is undoubtedly many millions of dollars annually. The

allowance of feeding wildlife that promulgate diseases in elk and bison threatens the tourism and wildlife-based economies of western Wyoming and the Greater Yellowstone Ecosystem. The USFWS must consider these facts and must consider the impacts of diseased elk and bison on the economy, and must consider a transition to a healthier more sustainable paradigm of wildlife and habitat management, which will better serve the regional economy in the future.

### **Climate change**

Climate change is affecting the natural ecosystems of Wyoming and the Greater Yellowstone Ecosystem. “The frequent warm years coincide with a reduction in the frequency of extremely low (<-20 degrees C) January temperatures . . . ” (Shuman, 2011).

Wildlife are affected by changes in climate. “The ecology of ungulates in the (Rocky Mountains and Upper Columbia Basin) is strongly influenced by climate” (NPS 2010:48). “One of the key issues for ungulate management is wildlife disease, the spread and virulence of which is likely to be exacerbated by climate change (Harvell, 2002).” (Id.) It is known that feeding elk on the NER and in northwestern Wyoming exacerbates the incidence of diseases in elk (Smith, 2001; Peterson, 2003). “Climate change will likely increase the range, frequency, severity, and impact of plant and wildlife disease (Harvell, et al., 2002)” (NPS 2010:17). “Plant communities and wildlife that are faced with multiple stressors are the least likely to resist the emergence of novel diseases” (Id.). The USFWS must consider the effects of climate change on elk, bison, and their habitat and must consider alleviating stressors on elk and bison (such as density dependent diseases and diseased habitats) and implementing less harmful alternatives to managing elk and bison than confining them on the NER feedlines every winter.

### **Separation from livestock**

The USFWS must consider alternative ways (other than feeding elk and bison) to maintain separation between elk and bison potentially exposed to or infected with brucellosis and livestock vulnerable to brucellosis infection on private lands adjacent to or near the NER. One method to maintain separation is to fence in the livestock with elk and bison proof fences, or construct elk and bison proof fences to prevent wildlife from entering into private land where vulnerable livestock are pastured, and allow elk and bison to free range. There are already elk proof fences on USFS land (and other jurisdictions) to mitigate commingling. It is important to fence as little area as possible so as not to affect natural wildlife movements including wildlife migrations more than necessary to accomplish the goal. Another way to separate elk from livestock is to ship the livestock to winter elsewhere. There are very few cattle near the NER during the winter months. NGOs and other organizations are willing to assist with the cost and construction of fences and other tools to separate elk, bison, and cattle.

### **Bison hunting**

The bison hunt that occurs on the NER could arguably not be necessary without feeding. Bison come to the NER because of the supplemental feed and are basically sitting ducks. This is not ethical nor fair chase hunting. The small bison herd that moves between Grand Teton National

Park and the NER stayed at relatively steady low numbers until they discovered the feedlines on the NER. Bison will return to sustainable levels without hunting. Bison hunting should be discontinued immediately upon cessation of supplemental feeding.

## **Conclusion**

Elk and bison that attend the NER have elevated seroprevalence for exposure to *Brucella abortus*, which can cause brucellosis in elk and bison, and elevated levels of other diseases, in comparison to elk [and bison] that free range (Smith 2001). These are serious indicators that these elk and bison herds are unhealthy and at risk of other diseases such as CWD, and that a change in the management paradigm on the NER is needed. Since deadly CWD is expanding throughout Wyoming at an alarming pace, time is of the essence to manage elk, bison, and habitat on the NER in a more holistic way. Rather than manage elk and bison according to artificial objectives such as numbers of elk and bison determined by the Wyoming Game and Fish Commission and USFWS regardless of their health or the health of the habitat, the USFWS, WGFD, BTNF, and other agencies must strive for a healthier ecosystem and more sustainable objectives to manage the public's wildlife. Extensive, connected habitats and the conservation of predators can serve as natural capital to improve the health of the elk herds that are currently sick, at high risk, and confined on small parcels of land (such as the NER) for months at a time. Predators can, if conserved in abundance, steward the game herds, remove infected individuals, and help ensure healthy wildlife. Feeding elk and bison is an archaic method of wildlife management whose time has passed. We would recommend the phasing out of feeding of elk and bison as soon as possible on the NER. We are looking forward to an in-depth EIS that investigates the issues discussed above and presents alternatives that are focused on wild, free-ranging elk and bison herds.

Wyoming Wildlife Advocates (WWA) is a non-profit organization focused on informing, educating, and empowering communities to preserve our wild legacy and protect our shared wildlife resources. WWA envisions a Wyoming that leads the nation in exceptional and innovative wildlife management; all stakeholders are valued equally, and management decisions are driven by the best available science. Headquartered in Jackson, Wyoming, WWA has thousands of supporters in Wyoming, the Greater Yellowstone Ecosystem, and nationwide.

Thank you again for the opportunity to provide these scoping comments. We look forward to continuing to engage in this important decision-making process.

Sincerely,

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## **Attachments**

- Attachment 1: Healthy Elk Management in the Intermountain West - Alternatives to Feedgrounds**
- Attachment 2: Western State Management of Wintering Elk**
- Attachment 3: Court Case Rulings**
- Attachment 4: What Happens When Elk Feeding Ends**
- Attachment 5: Chronic Wasting Disease Literature Review Technical Report**

**Attachment 6: Fish and Wildlife Management on Federal Lands**

**Attachment 7: Wildlife Health and Public Trust Responsibilities For Wildlife Resources**

**Attachment 8: The Public Trust Doctrine**

[Link to Attachments](#)