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October 10, 2023

Superintendent Cam Sholly
Attn: Bison Management Plan
PO Box 168
Yellowstone National Park, WY 82190

RE: Draft Environmental Impact Statement (DEIS) for Bison Management Plan

Superintendent Sholly,

Thank you for the opportunity to offer comment on the National Park Service's (NPS) *Yellowstone National Park Bison Management Plan Draft Environmental Impact Statement* (DEIS). While the State of Montana, and the undersigned agencies, appreciate this opportunity, it is difficult to find a new or different way to present the questions, concerns, and positions the State has repeatedly articulated to Yellowstone National Park (YNP) and the Department of the Interior (DOI). To that end, the State refers to (and incorporates) the substance of its February 28, 2022 comment on the *Notice of Intent to Prepare an Environmental Impact Statement for a Bison Management Plan for YNP, Idaho, Montana, and Wyoming* (*Notice*); April 1, 2022 letter to NPS Director Charles Sams III; March 21, 2023 correspondence to Secretary Haaland; June 29, 2023 meeting with YNP employees; July 21, 2023 correspondence to YNP; and August 11, 2023 letter seeking a 60-day extension to the existing public comment opportunity, in addition to offering the following comments.

A. NPS Failed to Cooperate with the State in the DEIS Process.

NPS, like all DOI agencies, is required to collaborate "to the fullest extent possible" with all "cooperating agencies" having jurisdiction or specialized expertise in relation to the subject of a National Environmental Policy Act (NEPA) process. 43 C.F.R. §§ 46.225, 46.230. To that end, in 2020, NPS extended "cooperating agency" status to the State. NPS, however, has failed to uphold its cooperative responsibilities.

In a memorandum outlining the cooperative relationship, NPS agreed to "communicate candidly about the relevant substantive and procedural aspects of the forthcoming EIS work and attempt to resolve disagreements on issues." NPS also recognized "a shared interest in routine and regular communication of relevant and timely information." To that end, NPS agreed, in part, to:

> Seek meaningful input from the cooperating agency at key junctures in the EIS process, including the scoping phase, creation of a draft EIS and while drafting a ROD.
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> Keep all parties—primarily via teleconference calls—informed about the timeframes for public scoping, public comments and alternatives under consideration.
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> Let the cooperating agency know specifically how and where cooperating agency data, information, or input was incorporated into, or considered in, the EIS, and how it may have influenced the decisions of the lead agency.
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> Allow the cooperating agency to review analysis relevant to the information it provided and give meaningful consideration to comments it submitted so that relevant information can be incorporated or changed in the draft EIS before it is released to the public.

To be clear, the NPS did ***not*** solicit meaningful input from, or collaborate with, the State prior to the publication of its January 28, 2022 *Notice* outlining the alternatives for consideration. The first time the State saw the alternatives was on January 10, 2022, a little over two weeks before publication in the Federal Register. In its February 28, 2022 comment, the State explained its frustration and asked that the alternatives be withdrawn in favor of meaningful consultation. The State's request for joint meetings, collaboration, and consultation was repeated multiple times, both in writing and verbally to DOI and YNP employees, over the course of 2022 and into 2023. It was not until June 29, 2023, that YNP employees met with the State to discuss the alternatives.

On July 10, 2023, NPS gave "cooperating" agencies like the State the opportunity to review the DEIS and provide comments. NPS sent the 147-page DEIS and gave the State **11 days** to provide comment. Again, the State did its best to participate, providing an abbreviated comment on July 21, 2023. At no point has the State been told how or where its 2022 or 2023 "input" has been incorporated into the DEIS and, upon reviewing the substance of the document, the State is left to conclude that its input was ***not*** incorporated, let alone considered.

Similarly, at the June 29, 2023 meeting with YNP, the State requested an opportunity to review YNP information relating to bison grazing, genetics, and immunocontraception. YNP committed to providing that information. To date, that science has not been provided.

These repeated and consistent failures to be transparent, meaningfully engage with the State early or often, or even respond to State requests, violate NPS' commitments. The State is left to conclude that the alternative has been chosen, and the course pre-plotted, with "cooperating agencies" little more than a box to be checked along the way. For this reason, the State makes clear that its identification as a "cooperating agency" in this NEPA endeavor should in no way be interpreted as an endorsement of the alternatives formulated by NPS or any of the statements made in the DEIS.

B. The DEIS' Analysis is Substantively Deficient.

1. *The DEIS fails to adequately address studies critical of existing bison population numbers.*

Throughout this process, peer-reviewed science critical of YNP's existing bison population numbers and range management practices was identified. The DEIS either fails to address this science, or attempts to rebut it with unpublished or agency-published materials. This does not fulfill the "hard look" required by NEPA.

For example, Hunter, *et al.* 2018[1] found that "unnaturally high" ungulate numbers have led to excessive grazing and browsing, a general decline in forage production, and ecological processes that "are greatly impaired and degrading further." Beschta, *et al.* 2020[2] found that elevated numbers of bison are limiting the structure, composition and distribution of woody plant communities in YNP, which affects the character of stream and river channels, and influences habitat and food-web support for terrestrial and aquatic wildlife species.

> ***[I]ncreased bison numbers over the last two decades appear to have come at a major ecological cost to the biological diversity and functioning of the riparian ecosystems in the Lamar Valley.*** Even to a casual observer there are clear indicators of highly altered ecological conditions across the Lamar Valley: short stubble heights of native grasses and forbs in late summer, a high density of bison trails, wallows, and scat, continued suppression of young woody plants by browsing, and a general absence of woody and herbaceous riparian vegetation along the banks of the river and tributary streams. In addition, extensive areas of unvegetated alluvium are common, soil compaction and bank collapse along channel margins is widespread, and the physical churning of soils by bison hooves in springs and wetlands has undoubtedly altered the hydrology and biodiversity of these ecologically important areas. In short, high bison numbers in recent years have been an effective agent for accelerating the biological and physical modification of the valley's seeps, wetlands, floodplains, riparian areas, and channels, trends that had begun decades earlier by elk. Ecosystem simplification is well underway, much like that often associated with high levels of domestic livestock use in various areas of the mountain west.

Beschta, *et al.* 2020 at 10 (emphasis added); *see also*, Beschta, *et al.* 2023.[3] Similarly, a recent study found that the fourfold increase in YNP bison between 2004 and 2015 has limited, and in some places reversed, nascent aspen recovery. Painter, *et al.* 2023.[4]

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[1] Hunter, H.E., P.O. Husby, J. Fidel, J.C. Mosley. 2018. Ecological Health of Grasslands and Sagebrush Steppe on the Northern Yellowstone Range. *Rangelands*, vol. 40, no. 6, pp. 212-223.
[2] Beschta, R.L., W.J. Ripple, J.B. Kauffman, L.E. Painter. 2020. Bison limit ecosystem recovery in northern Yellowstone. *Food Webs*, vol. 23.
[3] Beschta, R.L., L.E. Painter, W.J. Ripple. Sept. 2023. Revisiting trophic cascades and aspen recovery in northern Yellowstone. *Food Webs*, vol. 36.
[4] Painter, L.E., R.L. Beschta, W.J. Ripple. Aug. 2023. Bison alter the northern Yellowstone ecosystem by breaking aspen saplings. *Ecology and Evolution*, vol. 13, issue 8.

> The management plan for Yellowstone bison has been under review to develop new goals and policies and assess environmental impacts (YNP, 2022). Alternatives under consideration would maintain the current number of about 4000–5000 bison or increase this target number. One option would allow bison to increase to a food-limited carrying capacity estimated at more than 8000 bison, nearly twice the recent number. ***There is no proposed option to reduce bison densities. Thus, the likely outcome of this plan will be expanding and intensified impacts on aspen and other woody plants in northern Yellowstone.*** Public notice documents for the new plan indicate that "potential impacts of bison grazing" would be expected, but these are unspecified. ***The substantial effects of bison on the long-term park goal of recovering aspen and willow on the northern range (NRC, 2002) appear to be left out of this important discussion that will determine the future of bison in the Yellowstone ecosystem.***

Id. at 10 (emphasis added).

The foregoing are but a few examples of studies critical of existing bison population numbers and impacts to the YNP ecosystem. None of the foregoing studies are mentioned, let alone adequately addressed, by the DEIS.

Kauffman, *et al.* 2023[5] found that current populations of bison are contributing to "biotic impoverishment," a loss of ecosystem services provided by riparian plant communities within YNP, and may be exacerbating climate change effects. *Id.* at 14. Kauffman, *et al.* 2023 concludes that

> ***[c]ontinued bison use at current population levels will likely result in the continuation of the ongoing loss of diversity and ecosystem services provided by intact riparian plant communities***. Reduction in bison numbers to densities below disturbance thresholds that are causing degradation or preventing vegetation recovery in riparian zones would therefore facilitate sustainability of the diversity and structure of these ecologically valuable landscapes in northern YNP for future generations.

Id. (emphasis added). Unlike previous studies, the DEIS does attempt to address the Kauffman, *et al.* 2023 findings. DEIS at 91-95. However, the two sources primarily used to rebut Kauffman are an unpublished YNP technical report (Geremia and Hamilton 2019[6]) and a publication issued by YNP which may not have been peer-reviewed (Geremia and Hamilton 2022[7]).

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[5] Kauffman, J.B., D.L. Cummings, C. Kauffman, R.L. Beschta, J. Brooks, K. MacNeill, W.J. Ripple. Feb. 2023. Bison Influences on Composition and Diversity of Riparian Plan Communities in Yellowstone National Park. *Ecosphere*, vol. 14, no. 2.

[6] As cited in DEIS References: "Geremia, C., and W.E. Hamilton. 2019. The effects of bison grazing and their movements on grasslands in northern Yellowstone. Unpublished technical report, Yellowstone National Park, Mammoth, Wyoming."

[7] As cited in DEIS References: "Geremia, C., and W.E. Hamilton. 2022. Are northern Yellowstone rangelands healthy or degraded? *Yellowstone Science* 28:26-43."

Years of peer-reviewed, scientific analysis demonstrating significant ecological degradation due to bison overpopulation require acknowledgement and consideration pursuant to NEPA. YNP's failure to conduct such analysis is in violation of NEPA.

2. *The DEIS mischaracterizes the 2020 National Academy of Sciences (NAS) publication* Revisiting Brucellosis in the Greater Yellowstone Area.

The DEIS cites the 2020 NAS publication *Revisiting Brucellosis in the Greater Yellowstone Area* (NAS Study), *ad nauseum*, as having "recommended not using aggressive control measures on bison until tools become available for an eradication program in elk." DEIS at 30 and 35; *see also*, 5,[8] 18[9], and 36[10]. The DEIS couples this assertion with the NAS Study's ***actual*** recommendation that agencies prioritize transmission prevention by elk, to rationalize abandonment of all disease management actions in bison. Such overstates the NAS recommendations at best, and contradicts the NAS Study at worst.

Recommendation 4 of the NAS Study, found in the section addressing spatial and temporal separation of bison from cattle (pages 175-177), states that "[a]gencies involved in implementing the IBMP [Interagency Bison Management Plan] should continue to maintain a separation of bison from cattle when bison are outside of YNP boundaries." NAS Study at 176. Regarding spatial and temporal separation, the document states that

> Spatial and temporal separation plays an important role in reducing transmission risk from elk. Separation of susceptible and infected animals during high-risk periods (e.g., immediately prior to and following abortion and full-term birth) has been and should continue to be utilized as a risk-reduction tool and is further discussed below in the context of specific management approaches. National policy for responding to the identification of infected cattle and domestic bison herds includes time-tested approaches toward maintaining separation of infected and susceptible animals, including hold orders and quarantine during follow-up testing. These actions are valuable tools for reducing risk. Other options include the timing and use of grazing allotments, biosecurity measures, and hazing of elk. ***Removal of bison for population management purposes could target B. abortus-infected bison if further reducing the prevalence of brucellosis is a goal; however, until tools become available that would simultaneously allow for an eradication***

[8] "The Committee recommended prioritizing efforts on preventing brucellosis transmission by elk, while maintaining separation between bison and cattle (see appendix E). The Committee also recommended not using aggressive control measures on bison until tools became available for an eradication program in elk."
[9] "Any brucellosis suppression techniques developed during such research would not be implemented as part of operations on Yellowstone bison until they are proven effective without significant adverse effects, additional NEPA compliance is conducted, and tools become available to eliminate brucellosis in elk as recommended by the National Academies of Sciences, Engineering, and Medicine in a 2020 evaluation of brucellosis in the GYA."
[10] "If an effective, reliable, and safe fertility control vaccine and delivery method were developed and demonstrated to be effective without significant adverse effects, park managers might consider them; however such techniques would not be implemented as part of operations until additional NEPA compliance, including public engagement, is conducted, and tools become available to eliminate brucellosis in elk, as recommended by the National Academies of Sciences, Engineering, and Medicine (2020)."

> ***program in elk, additional aggressive control measures in bison seem unwarranted.***

Id. (emphasis added). While the NAS Study does say that "additional aggressive control measures in bison seem unwarranted" until simultaneous action is taken in elk, that statement is made in the context of spatial and temporal separation. At no point does the NAS Study stand for the proposition that vaccination and disease suppression in bison is an unworthy endeavor, or state that the worth of such action is contingent upon simultaneous activity in elk. In fact, the NAS Study states that vaccination is a "time-tested, proven method of infectious disease control." *Id.* at 178. Recognizing that existing vaccine efficacy is not presently optimal, the NAS Study still states that for free-ranging bison and elk, "appropriate and cost-effective vaccine delivery systems would be critical." *Id.* Maintaining an emphasis on vaccination is especially critical given the soon-anticipated removal of *B. abortus* from the select agent list, enabling more expedient research and vaccine administration.

The NAS Study also says "***additional*** aggressive control measures" seem unwarranted. *Id.* at 176 (emphasis added). Yet, the DEIS uses this phrase to present, and argue for, ***less*** aggressive measures than those presently existing (*i.e.* higher populations, greater distribution, and reduced disease suppression measures). This too is disingenuous to the NAS Study, as it never suggested ***reducing*** any of the obligations presently contemplated under the IBMP.

3. *Assertions that the YNP bison population must average between 3,000-3,500 individuals, or higher, to preserve genetic diversity is contrary to, and overstates, existing science.*

The DEIS asserts that the YNP bison population cannot fall under 3,000-3,500 without threatening genetic diversity. At one point, the DEIS states that

> [u]nder any alternative, the NPS does not want bison abundance to decrease below 3,500 total in the population because this could substantially decrease genetic diversity...."

DEIS at 15 (citations omitted). The DEIS cites Perez-Figueroa, *et al.* 2012[11] for this proposition.

Perez-Figueroa, *et al.* 2012 estimated the genetic "effective population size" for the YNP bison herd. "Effective population size" (EPS) is arguably the most important parameter in much of conservation and population genetics (Nunney and Elam 1994[12]) (Frankham 2005[13]) (Allendorf, *et al.* 2022[14]), dictating the rate at which genetic variation will be lost in a finite population, and

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[11] Perez-Figueroa, A., R.L. Wallen, T. Antao, J.A. Coombs, M.K. Schwartz, P.J. White, and G. Luikart. 2012. Conserving genomic variability in large mammals: effect of population fluctuations and variance in male reproductive success on variability in Yellowstone bison. *Biological Conservation*, 150: 159-166.
[12] Nunney, L., and Elam, D.R. 1994. Estimating the effective population size of conserved populations. *Conservation Biology*, 8:175–184.
[13] Frankham, R. 2005. Genetics and extinction. *Biological Conservation*, 126:131–140.
[14] Allendorf FW, Funk, W.C., Aitken S.N., Byrne, M., and Luikart, G. Conservation and Genomics of Populations. Oxford University Press, 2022.

the efficacy of natural selection (Charlesworth 2009[15]). Contrary to assertions in the DEIS, Perez-Figueroa, *et al.* 2012 showed that the EPS in YNP bison is expected to be at, or greater, than 1,000 under a wide variety of demographic and management scenarios, including fluctuating population sizes between 2,000-4,500 individuals, and harvest focused on juveniles, adults, or random harvest. An EPS of 1,000, and not an overall population of 3,000-3,500, is the critical threshold for consideration and analysis as it is the EPS at which a population can "maintain approximately the same genetic diversity as expected in an infinite population." Frankham, *et al.* 2014.[16]

Rather than focusing on EPS—the more important conservation target—the DEIS focuses on predicted loss of genetic variation at a subset of gene loci. While informative, the DEIS does not point out that those estimates are biased high (*i.e.*, the estimated loss of genetic variation is larger than expected) because Perez-Figueroa, *et al.* 2012 did not consider mutation, the critical evolutionary force that increases genetic variation. Perez-Figueroa, *et al.* 2012 explicitly acknowledge their estimates for the loss of genetic variation in the YNP bison herd, though extremely small over multiple centuries, are biased high.

Further, the statement that a population below 3,500 could "substantially" decrease genetic diversity is ambiguous and misleading. Certainly, expected loss of genetic variation increases with smaller population sizes. However, population sizes would need to decrease markedly to "substantially" decrease genetic diversity. Indeed, Perez-Figueroa, *et al.* 2012 demonstrated that the vast majority of genetic variation would be maintained in the herd even if the average population sizes were lower than the 3,000-3,500 target values.

Also concerning is the DEIS statement that "NPS would seek to maintain more than 1,000 bison in each breeding area to help protect any existing unique diversity or rare alleles (genes) within each area...." DEIS at 15. At present, the State is not aware of peer-reviewed science supporting or necessitating specific values of 1,000 in each breeding herd. Indeed, the DEIS itself points out that there is genetic interchange occurring between the northern and central breeding areas of YNP, and that founding maternal lineages of the population are present in both breeding areas. *Id.* If the population is increasingly becoming genetically homogenous, as was argued in White and Wallen 2012[17], then it is the overall population size of YNP bison (and not specific breeding areas) that dictates the loss of rare alleles.

Finally, the DEIS' statement that it would "seek to maintain a balanced sex ratio of about 50% males and 50% females to support mate competition and allow natural selection to affect population genetics..." raises some questions. DEIS at 15. While it is a reasonable approach in terms of maximizing EPS in the YNP bison herd, managing specifically for this value may

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[15] Charlesworth, B. 2009. Effective population size and patterns of molecular evolution and variation. *Nature Reviews Genetics*, 10: 195–205.

[16] Frankham, R., C.J.A. Bradshaw, B.W. Brook. 2014. Genetics in conservation management: revised recommendations for the 50/500 rules, Red List criteria and population viability analyses. *Biol. Conserv.*, 170, 56–63.

[17] White, P.J., and Wallen, R.L. 2012. Yellowstone bison – should we preserve artificial population substructure or rely on ecological processes. *Journal of Heredity*, 103:751-753.

induce anthropogenic selection, given that many species do not have a natural 50/50 sex ratio due to differences in survival and longevity among sexes. The statement also begs a question as to how YNP plans to manipulate the ratio to achieve this goal.

The DEIS hyperbolizes and mischaracterizes the applicable science that guides genetic considerations. For this reason, the DEIS is insufficient.

4. *The DEIS makes other broad assertions without scientific support.*

At multiple points, the DEIS makes broad, sweeping assertions without scientific basis. Perhaps most concerning is YNP's assertion that increasing bison populations will force bison to utilize new areas of YNP. In relation to Alternative 2, the DEIS states

> [t]he NPS expects bison numbers generally would be slightly higher than under Alternative 1 and are expected to range between about 3,500 and 6,000 bison after calving. Larger numbers could support bison movements into new areas of the park to enhance nutrient cycling, grassland health, and biodiversity across a larger area.

DEIS at iv; *see also*, 52. The DEIS makes similar statements in relation to Alternative 3. *Id.* at 55.

These statements are made without citation to science supporting the assertion, and seem suspect given past findings that bison populations in excess of 3,000 are "likely to respond to heavy snow and ice by attempting to migrate to the lower elevation lands outside the park in the western and northern boundary areas." *Record of Decision for Final Environmental Impact Statement and Bison Management Plan for the State of Montana and Yellowstone National Park* (2000 ROD), 20 (Dec. 2000) (citing Cheville, N.F., *et al.*, *Brucellosis in the Greater Yellowstone Area*, National Academy of Sciences, 1998). Existing information does not seem to support renewed in-park colonization but, rather, exodus from YNP.

YNP needs to carefully re-examine the DEIS' scientific analysis and provide some citation to sound science that supports these broad assertions.

5. *The DEIS fails to examine how the proposed alternatives will impact brucellosis transfer from bison to elk.*

As the DEIS states, repeatedly, elk have been responsible for transmitting brucellosis to livestock in the Greater Yellowstone Area (GYA) at least 27 times since 1998, "with no transmissions attributed to bison." DEIS at 5; *see also*, 6, 30, 33, 54, and 60. The DEIS is also quick to rely on Kamath, *et al.* 2016[18] for the proposition that "[c]ontrol measures in bison would not affect the dynamics of unrelated Brucella abortus strains in elk elsewhere." DEIS at 5 (referencing Kamath, *et al.* 2016) and 35 ("In the past decade, brucellosis prevalence in some elk populations in the GYA has increased and spread, independent of Yellowstone bison, with all detected transmissions of brucellosis to cattle traced to elk.")

[18] Kamath, P.L., J.T. Foster, K.P. Drees, *et al.* 2016. Genomics reveals historic and contemporary transmission dynamics of a bacterial disease among wildlife and livestock. *Nat. Commun.*, 7, article number 11448.

Kamath, *et al.* 2016 did find that free-ranging elk are presently a self-sustaining brucellosis reservoir. However, notably absent from the DEIS is Kamath, *et al.*'s finding that "cross-species transmission [i]s asymmetric," with more than twice as many transmissions from bison to elk than from elk to bison. Kamath, *et al.* suggests several possible reasons for the higher transmission rate in bison, one of which being their significantly higher overall seroprevalence rate. (Indeed, YNP bison hold a steady 40-60% prevalence rate, whereas elk herds in GYA are estimated as having prevalence rates between 0-30%, depending on location.) Kamath, *et al.*'s observation regarding transmission inequity should snap YNP's concerns about bison reinfection into perspective. While reinfection of bison by elk is certainly a consideration in implementing disease suppression activities, it should not disincentivize those activities, especially given that the elk-to-bison transference rate is half that of bison-to-elk.

While disease treatment measures in bison may not reduce established prevalence in GYA elk, those measures may likely mitigate and reduce the risk of additional spread from bison to elk, which is not insignificant. This consideration must be acknowledged and examined by YNP in the DEIS.

Similarly, in its haste to blame elk, YNP fails to address or examine how increased bison population and distribution will affect elk presence, movement, and distribution in the GYA, and thereby exacerbate the spread of brucellosis to other wildlife and livestock. If bison populations are allowed to grow, and distribution expands, there must be analysis of where elk distribution might change, and whether any such change increases disease transmission to other elk or livestock herds. The DEIS' failure to analyze these issues is in violation of NEPA.

6. *Assertions that bison should be treated no more aggressively than elk are obtuse.*

The DEIS repeatedly asserts that the techniques Montana uses to mitigate brucellosis transmission in elk (*i.e.* hazing, hunting, etc.) have been implemented successfully in bison, obviating any need for any management more aggressive than that presently implemented by Montana for its elk population. DEIS at v, 10, 33, 35. However, this "good for the goose, good for the gander" mentality ignores significant differences existing in bison and elk in the GYA.

The most obvious difference is management opportunity. Elk are spread throughout Montana, moving far and wide in complex distribution and migration patterns. This was recognized in Kamath, *et al.* 2016 in discussing brucellosis lineages in elk, and how far and quickly those lineages can spread within the species. YNP bison, on the other hand, are generally contained within YNP borders and those tolerance zones set by Montana. The limited area within which bison are permitted present an opportunity for intensive, consistent management that does not exist in Montana's elk population. There are handling facilities that can be utilized for bison capture and more aggressive management activities, and bison can be hazed to, and worked through, those facilities with relatively little effort. No such facilities or opportunity exist for Montana's elk.

Furthermore, existing brucellosis vaccines have a higher efficacy rate in bison than elk. While vaccination of elk in Wyoming did not reduce prevalence or transmission (Maichak, *et al.*

2017[19])[20], experimental vaccination of bison reduced abortions 50-60% (*Remote Vaccination Program to Reduce the Prevalence of Brucellosis in Yellowstone Bison, Final EIS*, (Remote FEIS) Jan. 15, 2014). As such, vaccine administration in bison is more likely to yield the desired disease management result than would be the case in elk.

Finally, as a practical matter, elk are physically easier to spatially separate. Indeed, livestock owners and the public at large rarely, if ever, have to worry about being gored by an elk.

In conclusion, there are significant epidemiological, biological, ecological, and geopolitical differences between YNP bison and Montana elk. Just because those differences preclude some disease measures in elk (*i.e.* vaccination, test-and-slaughter, etc.) does not mean the same holds true for bison. For YNP to use these differences to rationalize reduced management is reckless and ignores one fundamental truth: that more disease, on a broader scale, is a bad thing.

C. <u>The DEIS Misstates Past IBMP Analysis and Decisions.</u>

The DEIS misstates past IBMP decisions and analyses, undermining the DEIS.

First, in discussing previous vaccination analyses and decisions, the DEIS states:

> The NPS concluded in a previous final EIS that the park-wide vaccination of bison would not achieve desired results and could have unintended negative effects to the population and visitor experience (USDOI, NPS 2014b). The NPS based this conclusion on the lack of an easily distributed and highly effective vaccine and limitations of current diagnostic and vaccine delivery technologies. ***Remote vaccination by darting or bio-bullet would result in injuries and changes in bison behavior that would negatively affect visitor experiences such as watching wild animals.***

DEIS at 6-7 (emphasis added); *see also* 35. To be clear, the 2014 Remote FEIS did <u>not</u> find that remote vaccination "would" result in injuries, changes in bison behavior, or negatively affect visitor experience. The Remote FEIS actually stated there was "little information"… "available to assess potential unintended behavioral consequences to bison from repeated remote-delivery vaccination over time." Remote FEIS at ii and vi. Indeed, remote vaccination alternatives were discarded because of "the low potential efficacy of the proposed program given the state of vaccine encapsulation and remote delivery technology, and the ***unknown yet potentially negative*** behavioral impacts to bison and, in turn, visitor experience (e.g., wildlife viewing)." *Id.* at vi (emphasis added).

Second, in dismissing remote vaccination from alternatives considered, the DEIS states that "[t]he 2000 ROD for the IBMP directed the NPS to evaluate whether to implement remote

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[19] Maichak, E.J., B.M. Scurlock, P.C. Cross, J.D. Rogerson, W.H. Edwards, B. Wise, S.G. Smith, T.J. Kreeger. 2017. doi: 10.1002/wsb.734.

[20] *See also*, Nol, P., S.C. Olsen, J.C. Rhyan, *et al.* 2016. Vaccination of elk (*Cervus canadensis*) with *Brucella abortus* Strain RB 51 overexpressing superoxide dismutase and glycosyltransferase genes does not induce adequate protection against experimental *Brucella abortus* challenge. *Front. Cell. Infect. Microbiol.* 6:10.

delivery vaccination of bison inside YNP to decrease the occurrence of brucellosis (USDOI and USDA 2000a)." DEIS at 33. This is an understatement, as the 2000 ROD ***actually*** committed the agencies to implementing a remote vaccine program once a safe vaccine was developed. 2000 ROD at 12-13. The 2000 ROD was a commitment to ***implement***, and not just a commitment to "evaluate" as characterized by YNP.

Third, the DEIS and YNP continually characterize the "no action" alternative as being a population of 3,500-5,000 bison. When YNP first published its *Notice*, it characterized the "no action" alternative as maintaining "a population range of bison similar to the last two decades (3,500 to 5,000 after calving)." 87 Fed. Reg. 4653, 4654 (Jan. 28, 2022). The State was critical of this characterization in its 2022 comment, as the 2000 ROD set forth an overall population of 3,000 as the management goal. 2000 ROD at 13, 20, 26, 30, 32. While the State recognizes that YNP has had difficulty maintaining that number, it is the last number analyzed pursuant to NEPA.

Now, YNP seeks to further bolster the proposed range, stating it is "consistent with consensus agreements among IBMP members on annual operations plans." DEIS as 20; see also, iii.

To be clear, the State of Montana has always managed and participated as an IBMP partner with a bison population of 3,000 as the goal. That was the number analyzed pursuant to NEPA and MEPA in 2000, and that is the goal Montana strives to progress towards each year. Additionally, various factors must be weighed each year when determining how many bison can be removed, and may dictate incremental, opportunistic removal rather than wholesale, *en masse* reduction. Montana recognized this in 2006, when it signed the 2006-2007 IBMP operating procedures, which included the following provision.

> As referenced in the Federal and Montana Records of Decision, a population size of 3,000 bison is defined as a population indicator to guide implementation of risk management activities and is not a target for deliberate population adjustment.

Adjustments to 2006-2007 Interagency Bison Management Plan Operating Procedures, ¶ 3 (Nov. 2006). Notably, this provision was an "operating procedure" utilized by IBMP partners to meet IBMP goals, and not an "adaptive management adjustment" that changed a provision of the IBMP itself and required NEPA review.

Just because partners, like Montana, have recognized the need for careful and deliberate action in specific years, based on varying conditions, ***does not mean the goalposts have moved*** or that a population range of 3,500-5,000 can be considered the "no action" alternative. To advance otherwise is to start from a place that has never been analyzed pursuant to NEPA and, more concernedly, suggests that YNP has been operating under an unanalyzed framework, in violation of NEPA.

D. Every DEIS Alternative is Fatally Premised on the Idea that the State's Tolerance Levels Will Remain Unchanged.

The success of ***any*** proposed alternative in the DEIS hinges on Montana's cooperation. As such, YNP should be concerned given that Montana has repeatedly flagged concerns and issues associated with each alternative.

In 2015, Governor Bullock made the decision to increase the physical tolerance zone for bison in Montana. *Decision Notice: Year-Round Habitat for Yellowstone Bison Environmental Assessment* (2015 Decision) (Nov. 2015). Male and female bison were given year-round access in a broader geographic area west of YNP. *Id.* at 6. Bull bison were given year-round access within the Gardiner Basin. *Id.* No bison were permitted to travel north of the Gardiner Basin. *Id.*

The modification was deemed appropriate because:

> Cattle [were] no longer found on Horse Butte because of change in ownership and subsequent changes in land use.
>
> Several Forest Service grazing allotments [were] closed, including those on Horse Butte and in the Taylor Fork drainage. For remaining allotments in the larger area, the Forest Service [has] adopted an adaptive approach to minimize risk of brucellosis transmission.
>
> Modifications in the federal rules that govern the response to brucellosis infection in cattle.
>
> New research indicating negligible risk of transmission of brucellosis from bull bison to cattle.
>
> Research on brucellosis persistence indicating decreased risk related to cattle turnout dates in the Hebgen Basin.
>
> Recognition of the role of elk as the primary transmission route of brucellosis infection to livestock.

Id. at 5. This decision represented a significant expansion of area within which YNP bison were able to roam into Montana. Notably, the EA also stated that all alternatives were intended to:

1. Maintain a wild, free-ranging population by providing year-round habitat north and west of YNP.
2. Reduce the risk of brucellosis transmission between bison and cattle ***and manage other conflicts***.
3. Provide the potential for greater hunting opportunities and the use of hunting as a tool for bison population management.
4. ***Expand opportunities for remote vaccination of bison for brucellosis.***
5. Increase IBMP partner knowledge of bison behavior and movements within a larger geographic area.

Id. (emphasis added). The decision was **not** intended to accommodate a bison population beyond that agreed to in the 2000 ROD.

The DEIS' analysis of **every** alternative assumes that Montana's expanded tolerance zones will remain unchanged. DEIS at 26-27 ("The NPS expects tolerance in coming years to remain like Alternative 1.") This is an unreasonable assumption given that YNP is changing the very basis upon which that tolerance was granted. The DEIS states

> [i]f an effective, reliable, and safe vaccine and delivery method were developed and demonstrated to be effective without significant adverse effects, park managers ***might*** consider it; however such techniques would not be implemented as part of operations until additional NEPA compliance, including public engagement, is conducted, and tools become available to eliminate brucellosis in elk, as recommended by the National Academies [sic] of Sciences, Engineering, and Medicine (2020). In summary, this alternative [remote delivery vaccination of bison] would not meet the purpose and need for action and would be technically infeasible.

DEIS at 35 (emphasis added). Looking past the mischaracterization of the NAS Study, and the fact that remote vaccination was a specific commitment made by YNP in the 2000 ROD, YNP is removing one of the underpinnings for Montana's 2015 Decision. If YNP has no interest in remote vaccination, then there may well be no need for the State to maintain its tolerance.

Further, one of the intentions of the 2015 Decision was to not only reduce the risk of brucellosis transmission between bison and cattle, but to "manage other conflicts." 2015 Decision at 5. Any decision to increase the YNP bison population resurrects the same physical pressure on an invisible boundary, similar to that existing prior to the 2015 expansion. Said expansion (especially when paired with reduced disease mitigation measures) may well create conflict with resident elk populations by changing current distribution patterns and/or increasing disease transference. Containment of an expanded herd may also tax Montana's abilities and resources. Any of these scenarios undermine the State's intention to "manage other conflicts."

Per CEQ guidance, action alternatives carried forward for detailed analysis must: 1) meet the purpose and need, 2) be technically and economically feasible, and 3) show evidence of common sense. DEIS at 10. Given Montana's strident and consistent opposition to the alternatives proposed, and the fact that YNP's alternatives may undermine the foundation of Montana's tolerance, "common sense" precludes assuming that Montana's tolerance zones will remain unchanged.

E. The Alternatives Do Not Meet YNP Mandates, Let Alone the Goals of the IBMP.

The purpose of the IBMP is "to maintain a wild, free-ranging population of bison ***and*** address the risk of brucellosis transmission to protect the economic interest and viability of the livestock industry in the state of Montana." 2000 ROD at 36. Although the DEIS proudly announces that "[u]nder all alternatives, the NPS would continue to meet the goals of the 2000 IBMP," DEIS at

v, each of the alternatives examined advance a "wild, free-ranging population of bison" at the expense of addressing the risk of brucellosis transmission.

While YNP admits that Alternative 3 in the DEIS "may" increase the risk of brucellosis transmission from bison to cattle, DEIS at 27, more concerning is the ongoing nescience for the disease in any global sense. In each alternative, YNP drops its commitment to vaccination, whether conducted remotely or by hand. In each alternative, YNP strives for a population increase, thereby increasing density and distribution in utter disregard for elk populations and seroprevalence rates. The DEIS' failure to examine and analyze this dynamic is particularly surprising given YNP's continual focus on elk as the disease transmission culprit. Additionally, Alternatives 2 and 3 enable YNP to remove Bison Conservation Transfer Program (BCTP) eligible bison, while ***re-releasing*** BCTP ineligible bison back to the herd and increasing overall disease levels. DEIS at iv. In light of the foregoing, how do any of the alternatives demonstrate "a commitment toward the eventual elimination of brucellosis in bison," "protection of livestock from the risk of brucellosis," or "actions to help protect the brucellosis class-free status of Montana?" DEIS at i.

YNP believes that because bison have not transferred brucellosis to Montana livestock in recent time, its work with disease suppression is done and it can now focus solely on the "wild, free-ranging" portion of its mission. That cannot be the end of the discussion, or of the actions that must occur to mitigate the disease. For YNP to pretend otherwise is disingenuous.

More broadly, none of the DEIS alternatives seem to comport with statute. Congress established YNP in 1872 to "dedicate and set apart as a public park or pleasuring ground for the benefit and enjoyment of the people...." 16 U.S.C. § 21. To that end, the Secretary of the Interior was required to promulgate those regulations that "provide for the preservation, ***from injury or spoliation***, of all timber, mineral deposits, natural curiosities, or wonders, within the park, and their retention in their natural condition." 16 U.S.C. § 22 (emphasis added). The Organic Act of 1916 similarly requires the Secretary of Interior, acting through the Director of the NPS, to

> promote and regulate the use of the National Park System by means and measures that conform to the fundamental purpose of the System units, which purpose is to ***conserve the scenery, natural and historic objects, and wildlife*** in the System units and to provide for the enjoyment of the scenery, natural and historic objects, and wildlife in such a manner and ***by such means as will leave them unimpaired for the enjoyment of future generations***.

54 U.S.C. § 100101(a) (emphasis added).

The DEIS cites these authorities, clearly under the belief that the alternatives advance those purposes. DEIS at 1. To the contrary, each alternative works against those purposes, exacerbating bison overpopulation to the clear detriment of supporting ecosystem services, and perpetuating the existence of disease within the population. Overpopulation and disease constitute impairment and spoliation in contradiction to YNP's mandate.

F. The DEIS Fails to Identify, Let Alone Commit, to a Specific Course of Action, Leaving the Public Unable to Meaningfully Comment.

Each alternative generally identifies management tools that ***could*** be used, without committing to when each tool will be used, or under what circumstance. The DEIS' failure to identify a clear course of action under each alternative, or at each population milestone, is contrary to NEPA and leaves the public, and Montana, unable to meaningfully participate, let alone comment, in this process.

NEPA serves two principal purposes. It ensures that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). NEPA requires an agency "provide the public with sufficient environmental information, considered in the totality of circumstances, to permit members of the public to weigh in with their views and thus inform the agency decision-making process." *Bering Strait Citizens for Responsible Res. Dev. v. U.S. Army Corps of Eng'rs*, 524 F.3d 938, 953 (9th Cir. 2008). The alternatives fail to clearly identify a course of action upon which the public can engage and meaningfully comment.

For example, Alternative 1 identifies a population range of 3,500-5,000, stating that "numbers and distribution would be limited by captures for the BCTP or shipment to slaughter, and public and tribal hunter harvests primarily on national forest lands near the park boundary. Within YNP, management of bison, such as capture, hazing, and quarantine, would generally occur near the boundary." DEIS at 20. Alternative 2 identifies a population range of 3,500-6,000 and states that it would "decrease shipments to slaughter by using the expanded quarantine capacity near Stephens Creek Administrative Area to enter more animals into the BCTP for eventual transport to tribes." *Id.* at 26. NPS would track the number of bison removed and, "based on these contingencies, the NPS ***could*** transfer ineligible animals to slaughter, prioritizing the removal of brucellosis-exposed animals. The NPS ***could*** also release all ineligible animals back into the park in spring." *Id.* at 26.

When the DEIS says Alternative 2 would "decrease shipments to slaughter," what does that mean? How much of a decrease will occur? When will NPS make the determination to hold BCTP ineligible animals? How long will YNP hold BCTP ineligible animals before determining whether they go to slaughter or are re-released? What are the ramifications of holding BCTP ineligible animals for an extended period of time? What criteria will mandate a shipment to slaughter, and what criteria will mandate a re-release? Will BCTP ineligible animals re-released to YNP be vaccinated? What is the short and long-term impact on disease prevalence and transference rates if YNP removes BCTP eligible animals and re-releases diseased animals back into the YNP herd?

Similarly, each alternative identifies a population range. Alternative 1 identifies a population range of 3,500-5,000 bison. Alternative 2 identifies a population range of 3,500-6,000 bison. Alternative 3 identifies a population range of 3,500-7,000. However, the DEIS then states that

> [t]he upper population estimates provided for each alternative are intended to guide the implementation of risk management activities; not as targets necessitating immediate population adjustment. Bison abundance may exceed the upper estimate in each range at times due to a series of mild winters that limit migration and removals or because successful management based on the demographic, genetic, ecological, and social objectives in this section indicate bison can be sustained at a higher population level.

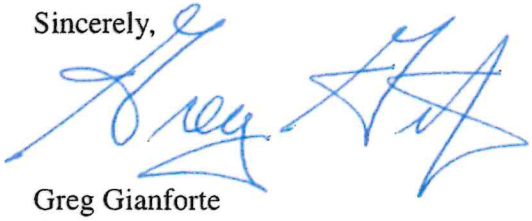
DEIS at 15 (citations omitted). In two sentences, the DEIS completely undermines what little structure was manifest in each alternative. If tools and actions are not tied to, or triggered by, bison population numbers, what is the point of a plan to begin with?

At no point does any alternative provide a clear course of action that the public can identify, let alone meaningfully comment on. This pervasive, noncommittal ambiguity is fatal to this decision-making process.

In closing, the State remains frustrated at the lack of consideration and coordination shown by YNP in its efforts. YNP's failure to work with the State has produced a DEIS that picks the science it likes, fails to consider or reconcile relevant science critical of the alternatives, mischaracterizes other science, and revises administrative and procedural history to serve YNP's ends. The DEIS makes unsupported assertions and assumes the continuance of environmental conditions that the State of Montana has flagged as being undercut by the very alternatives considered. Every alternative undermines and contradicts the statutes YNP is required to follow, as well as the goals of the IBMP. Even if the DEIS met relevant statutory and regulatory requirements, it still fails to set forth or commit to a set of readily identifiable actions.

Historically, success in bison management has only occurred when NPS and the State have cooperated and managed together. YNP's uncollaborative and obstinate posture is reminiscent of a time before the IBMP, when tensions between YNP and the State were high and litigation prevalent. Absent significant change, the State fears a return to that environment is inevitable. As always, the State stands ready to work with YNP to help rectify the issues identified herein, and asks YNP to reconsider the alternatives presented in the DEIS.

Sincerely,



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