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Comments: This objection to the High Uintas Domestic Sheep Analysis project is submitted on behalf of several organizations, including Yellowstone to Uintas Connection, Gallatin Wildlife Association, Sage Steppe Wild, Western Wildlife Conservancy, Western Watersheds Project, WildEarth Guardians, and Wilderness Watch.

September 5, 2025

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Re: Objection to the FEIS and Draft Record of Decision High Uintas Wilderness Domestic Sheep Analysis

Submitted Electronically To: https://www.fs.usda.gov/r04/ashley/projects/44503 and bethany.nickison@usda.gov

Forest Service:

This objection is filed in accordance with 36 CFR Part 218 on behalf of Yellowstone to Uintas Connection, Gallatin Wildlife Association, Sage Steppe Wild, Western Watersheds Project,

Western Wildlife Conservancy, WildEarth Guardians, and Wilderness Watch. We have previously submitted scoping comments and comments in response to the Draft Environmental Impact Statement (DEIS) for the High Uintas Wilderness Domestic Sheep Analysis Project, which was released June 25, 2019, and the Supplemental Draft Environmental Impact

Statement High Uintas Wilderness Domestic Sheep Analysis which was released in June 2023.

We find this FEIS and ROD violate the APA, NEPA, NFMA and the Wilderness Act. The remedy must be to cease future domestic sheep grazing in these project allotments and the

adjacent West Fork Blacks Fork allotment, which is being used as part of the sheep driveway. There is no other option that will sustain bighorn sheep, or protect the already degraded soils, plant communities and wilderness values from driving, trailing and grazing tens of thousands of domestic sheep in this sensitive environment. Given the history and length of time of over a decade that this process has taken demonstrates that merely remanding this decision

perpetuates the damage to the High Uintas Wilderness. In our Introduction, Dr. Kirk Robinson of the Western Wildlife Conservancy challenges the Forest Service for its neglect of wilderness

values and the elevation of commercial interests over wilderness values. This violates the Wilderness Act. The following sections detail the flaws in the purpose and need for the project, the inappropriate selection of alternatives, failure of the selected alternative to maintain the viability of bighorn sheep and sensitive plant species, failure to do an adequate capability

analysis and stocking rate determination for domestic sheep, and failure to protect wilderness values.

1. HIGH UINTAS WILDERNESS CHARACTER vs. LIVESTOCK GRAZING

by Kirk Robinson, PhD

In the following, I argue that the Forest Service misunderstands the Wilderness Act due to an institutional bias toward resourcism together with a conception of resources that systematically ignores relationships among things (Earth, water, atmosphere, plants, animals, decomposers, etc.). As a consequence, when faced with the task of making decisions involving conflicting values, the FS tends to favor the anthropocentric values of resource extraction above all others. Those values are regarded as being of paramount importance and all competing values, such as wilderness character, are regarded as being of subordinate importance - contrary to the intent of the Wilderness Act of 1964. This bias is clearly evident in the Forest Service's management of the High Uintas Wilderness, where livestock grazing has first priority and other values, particularly wilderness character, are sacrificed for the benefit of a few private parties who operate commercial livestock grazing enterprises in the wilderness. The bias stems mainly from a fundamental misunderstanding of the meanings of two concepts that are central to the Wilderness Act: 'trammel' and 'impair' combined with an institutional bias of misplaced values.

Definition of wilderness & management of wilderness

The Wilderness Act of 1964 (WA) defines wilderness as ". . . areas where the earth and its community of life are untrammeled by man" and "retain their primeval character and influence

. . ."

Wilderness areas within the National Wilderness Preservation System (NWPS), as the word preservation implies, are to be ". . . administered for the use and enjoyment of the

American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of theirwilderness character."

Additionally, management agencies ". . . shall be responsible for preserving thewilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to

preserve its wilderness character."

Summary

Wilderness areas within the NWPS, including their communities of life, shall be

managed by the responsible agencies to preserve their primeval character and influence and shall not be trammeled by man. Furthermore, other management purposes, such as recreation and livestock grazing, must be managed so as to preserve this wilderness character. In

accordance with this, there shall be no commercial enterprise in wilderness.

Analysis

Two concepts are of central importance to understanding wilderness character: 'trammel' and 'primeval':

1. Merriam-Webster defines 'trammel' as "a restriction or hindrance that impedes free action, movement, or progress."
2. The Oxford English Dictionary defines 'trammel' as "[to] deprive of freedom of action."
3. Merriam-Webster dictionary defines 'primeval' as "of or relating to the earliest ages (as of the world or human history) : ancient, primitive."
4. The Oxford Advanced Learner's Dictionary define 'primeval' as "from the earliest period of the history of the world, very ancient."

From these definitions it follows deductively, i.e., with logical necessity, that wilderness is essentially a place or area, including a community of life, where ancient natural processes are not impeded or hampered by humans. Clearly, this does not imply that conditions are static in wilderness, since static conditions cannot be impeded or hindered. (This is a definitional or logical truth, not a contingent empirical claim.) The important point is that change is driven predominantly by non-human forces - hence is untrammeled by humans.

In short, a unit of wilderness in the National Wilderness System must be administered and managed so as to preserve its wilderness character, which is a process that retains its

primeval nature untrammeled by humans and unimpaired. The concepts of 'trammel' and 'impair' are related but differ in emphasis. To trammel something is to hinder or impede the natural flow (change) of something. To 'impair' something is to damage it by interfering with its natural functioning and expresses a valuation - a negative one. It is possible to impede a process, such as the erosive force of a stream with riprap, without necessarily damaging it or harming it in any respect. To say that the flow of the stream is impaired is to imply that its

proper functioning is damaged, harmed, or injured, which expresses a valuation. The fact that the WA emphasizes both without distinguishing between them suggests that, so far as the WA is concerned, land that has been trammeled by humans has to that extent been impaired.

Of course, human influence pervades the biosphere in our times, but importantly, wilderness is not "all or nothing." It is a matter of degree. Those areas that possess wilderness character to a high degree and are officially designated wilderness under the WA must be

managed so as to preserve their wilderness character = the primeval character of the processes that constitute their wildness. Unfortunately, in the case of the High Uinta Wilderness (HUW), the Forest Service has repeatedly

chosen to manage for values that compromise wilderness character. The science of wilderness character is ecology - not botany or zoology or geology per se, but ecology, which is the science concerned with how all the parts (soil, water, plants, animals, etc.) interact together. And interaction implies a process or many interrelated processes.

Rather than base management decisions on the appropriate and best available science - ecology - the science of ecology is entirely ignored in favor of granting highest priority to continued livestock grazing (cattle and sheep) in the HUW. In the case of domestic sheep, this amounts to 10,300 ewe-lamb pairs and 3,000 dry ewes on 10 allotments in the most biologically fragile areas of the HUW, totaling approximately 161,000 acres of predominantly alpine basins, or approximately 1/3 of the area of the HUW for about two months every summer - a practice

stretching back in time for more than a century. The purpose of this is to support two families in Southwest Wyoming. There is nothing more to be said in its favor than that

Of subordinate importance is doing what can be done to keep domestic sheep away from the wild native Rocky Mountain bighorn sheep in order to minimize the threat of lethal disease transmission to the native sheep. (All other wilderness related values, such as the quality of the wilderness experience, are also thereby relegated to secondary importance.) In

short, providing economic support for two families and their employees is valued more highly than the ecological integrity of the HUW, which would require removing the domestic sheep and allowing the reintroduced bighorn herd to expand.

What the FS fails to consider is the ecological effects on the community of life in the HUW. It's as though that simply does not matter, even though the WA mandates that wilderness areas and their communities of life remain trammeled by human activity and that wilderness character not be impaired. The WA also mandates that there be no commercial enterprise in wilderness areas. Livestock herding for the purpose of grazing, with the ultimate goal of

producing income for a few private individuals and their families, is undeniably both a human activity and a commercial enterprise.

Evolution, ecology, and agency responsibility

Evolution is a process that is comprised of many sub-processes, including ecosystem processes. The evolutionary process, via natural selection, produces plant and animal organisms that tend to be optimally fitted for their roles in ecosystem processes. Thus, the central importance of primeval conditions and their value in the WA. Herbivory and predation are two such processes. The WA requires agencies to manage wilderness areas so as to protect and preserve these processes unimpaired. This means they are obligated to not interfere significantly in the lives of native herbivores and carnivores that are part of the community of life of a wilderness, lest the wild character of the wilderness be impaired by human trammeling.

Importantly, this doesn't mean that trammeling will be avoided if animal populations are managed so that the number of animals remains more or less constant from year to year. Numbers matter of course: populations should tend toward the natural carrying capacity of the land. But demographics also matter. For example, when dominant male mountain lions, which are the ones most prized as trophies, are removed from a population, it affects the fates and behaviors of all other mountain lions in the population - kittens, juveniles, subadults, and

adults of both sexes. When many dominant males are removed from a population, the

demographics of the population becomes skewed, cultural transmission is disrupted, and social chaos replaces relative order and stability. Research projects in the last 30 years have confirmed this repeatedly. And while the details differ, the same is true for other carnivore species as well, including bears, wolves, and coyotes. Removal of a dominant animal or a breeding pair can lead to the destruction of a family group, and consequently also disrupt natural ecological processes through trophic cascading effects.

When influential individual carnivores are removed from a population, not only are the social dynamics of the population upset, prey populations are adversely affected too, which in turn adversely affects the plant community. The effects ripple throughout the food web, as Aldo Leopold observed long ago in "Thinking Like a Mountain." The same basic story is also true for herbivorous species, such as Rocky Mountain bighorn sheep, elk, and mule deer. When a population of ungulates is decimated or extirpated, wilderness character, which includes a

community of life, is impaired. Prey species and plant communities are adversely affected. 'Adverse impact' is any resulting condition that deviates substantially from the primeval norm that wilderness is supposed to be managed to preserve. And this primeval norm is not a static

condition, but a process involving a multitude of interrelated processes. It is not something that land or wildlife managers, or anyone, gets to define, but an objective feature of reality as

defined by the WA. Put a bit differently, it is not a matter of human valuing concerning good or bad, but an objective state or condition of the community of life that qualified it for wilderness designation in the first place. The less it has been subjected to human trammeling and consequent impairment, the better. Of course, implicit in this is the presupposition - or rather, the stipulation - that primeval character is in some sense optimal and therefore best. And this

simply means that fitness is good for organisms. The WA is responsive to this fact by recognizing that human trammeling reduces the fitness of native organisms.

This valuation encompasses the idea that restoration of impaired processes is also desirable. In other words, it is wrong to think that a wilderness that has already been

trammeled and impaired by human activity (tie-hacking, trapping, mining, grazing, etc.) at the time of designation, can't or shouldn't be rehabilitated to improve its wilderness character. In fact, if we simply cease trammeling it, wilderness character will often return on its own, like the healing of a wound.

The question is, when have wild processes been trammeled by humans, and hence impaired? There is some room for informed discretion as to when impairment occurs, but it is tightly constrained by empirical facts. Discretion is not carte blanche permission. This means that land and wildlife managers have a professional obligation to be reasonably up to date on the relevant research concerning predator-prey interactions, and other ecological processes.

There is no bright line between healthy and impaired, just as there is no definite demarcation

between being bald and not being bald. That said, President Eisenhower was definitely bald and President Kennedy definitely was not. When it comes to administering and managing

wilderness areas, informed unbiased judgment is essential.

Additional analogies: It is probably not harmful to your car to occasionally drive it 1,000 miles past the factory-recommended distance between oil changes; but to go 10,000 miles

beyond the recommended limit would definitely be going too far, especially if it is done

repeatedly. Similarly, having a single glass of wine with dinner each evening probably won't harm a healthy human adult, but drinking a gallon of wine every day most definitely will, especially if this goes on for many months or years.

Community of life

Unfortunately, the Forest Service exercises poor judgment in its management of the Uinta-Wasatch-Cache and Ashley National Forests by allowing domestic sheep grazing in 10 contiguous grazing allotments in the HUW, year after year, ongoing for over 100 years. What is missing is a consideration of the community of life that is an integral part of the wilderness and is, thanks to Aldo Leopold, a central concept of ecology. Instead, members of the community of life are viewed, perhaps unconsciously, as discrete entities having no significant causal

interconnections with other members of the community. This almost necessitates reckoning health of a species in terms of abundance only - hence, the ludicrous idea that a minimum viable community of bighorn sheep or Canada lynx, is satisfactory. The community concept appears to be entirely missing from Forest Service analyses, planning, and decisions as regards livestock grazing in the HUW.

Ecology teaches us that a community of life is not just an aggregation of individual organisms of various kinds, like so many building blocks. It is the individual organisms plus their multifarious interactions, including reproduction of kinds. These interactions are far reaching, including proximate causal and remote causal relations, as well as a multitude of

feedback loops, some positive and some negative. Moreover the abiotic environment is part of the causal network too. The interactions among the parts reverberate throughout the system.

The High Uintas Wilderness and domestic sheep grazing

The character of the High Uinta Wilderness has already been trammeled and impaired by the anthropogenic decimation of the original native bighorn sheep population via disease transmission from domesticated sheep; and the impairment has not yet been successfully

repaired through reintroduction of bighorns. Yes, there are native bighorn sheep in portions of the Uintas, but they are almost nothing but museum pieces because their numbers and distribution do not begin to approximate what must have been the primeval situation. The reintroduced native bighorn sheep population has struggled to reach viability and natural distribution since the first transplants over 40 years ago. Non-native Rocky Mountain goats, which the Utah Division of Wildlife Resources transplanted to the Uintas, and non-native

domesticated sheep, are not adequate ecological substitutes for the missing bighorn sheep. They are different species with different habits and dietary preferences, and different vulnerabilities

to predation and other natural causes of mortality. In this connection, studies of the bison in northern Yellowstone National Park have revealed that the natural grazing regime of the bison does not harm the soil, but actually

enriches it, making it more productive. The same cannot be said for the domestic sheep, numbering in the thousands, that concentrate for a few weeks each year in the fragile alpine basins of the HUP, scouring it of plant life, resulting in an impact to the plants, soil, and water that is much greater than occurs under the natural grazing regime of

native species. The result is fewer native ungulates for native predators to hunt and eat, which in turn results in fewer predators and fewer native scavengers, with consequential adverse impacts to the soils, water, and plants. This is a human trammeling if there ever was one, since it all starts with the domestic sheep grazing that is permitted by the Forest Service and

conducted by private individuals for their own economic advantage.

Commercial enterprise in the High Uintas Wilderness

Speaking of economics, domestic sheep grazing in the HWU is a commercial enterprise. It is not done as a hobby, nor is it not done for the benefit of the wilderness or its community of life. It is done by private individuals strictly for monetary gain. Selling the sheep at auction may be where the money transactions occur, but it is not all there is to the enterprise. An enterprise is a much bigger and more complicated thing than a transaction. The sheep must also be raised, and this means they must be fed - fed at a cost that the enterprise can bear. Hence the low grazing fees that are not sufficient to cover the cost of funding the federal grazing program.

Never mind how it affects forest creatures such as the lynx, fox, fisher and wolverine, or hawks

and eagles. The FS seems to specialize in concocting ludicrous, woefully weak alternative explanations for the demise of these species where they were once abundant.

Sheep grazing in the HUW is an extractive commercial enterprise that inevitably hinders and impedes wilderness character (natural primeval processes) to some degree. And that is an impairment of wilderness character.

Illegal killing of native predators

The HUW is home to large native predatory animals, including black bears, mountain lions, Canada lynxes, and golden eagles. Grizzly bears, gray wolves, fishers, and wolverines were present historically. Are we to believe that sheep herders never kill these animals when they have a chance? This is evidently the position of the FS, ignoring the fact that sheepherders tend to carry guns (some of us have witnessed this first-hand), and the fact that it is unlikely that anyone would ever know about individual instances of predator killing that are not reported. Sheepherders have a motive for killing predators when chance provides opportunities, as well as a motive for not reporting the kills. While we may never know how many predatory animals are illegally killed by sheep herders, reason and common sense support the conclusion that it happens. Mere lack of concrete evidence of particular instances is not evidence that it doesn't happen. As David Hume noted, "A man who at noon leaves his purse full of gold on the pavement at Charing-cross, may as well expect that it will fly away like a feather, as that he will find it untouched an hour after." It is appropriate to point this out in the present context because incidental predator killing is another anthropogenic (not to mention illegal) assault on the character of the wilderness - on the integrity and stability of the

community of life - that undoubtedly accompanies domestic sheep grazing.

In this connection, it bears noting that the FS tends to disregard hypotheses that scientists have not been able to confirm, regardless of how plausible they are and instead

proposes alternative hypotheses that are no more plausible or credible. For example, it is at least plausible, even quite probable given historical documentation, that Canada lynx once thrived in the Uinta Mountains and surrounding areas. The Uinta Mountains alone may or may not have been capable of supporting a viable population of lynxes, but they certainly provided important habitat for lynxes as well as a movement corridor for them between the southern and the northern Rockies - a corridor that is almost certainly still used as of the reintroduction of lynxes to the San Juan Mountains of Colorado. In light of this, it is plausible as well to assume that

breeding pairs of lynxes were not uncommon in the Uintas. Despite this, the FS and the USFWS, prefers to grant greater probability to the far less plausible hypotheses that lynxes only

ventured into the Uintas during cyclic high periods of lynx reproduction farther north. They get away with this because they carry the authority of the label "scientist." But this isn't science by any stretch. In fact it is bullshit, making up a possibility and treating it as fact without serious regard whether it really is. For more on this, readers can consult previous documentation

provided to the FS by the contributors to this document.

This same kind of intellectual dishonesty shows up in the assumption that a minimal viable herd size is good enough for bighorn sheep and its role in the ecosystem of the HUW, as well as in the hypothesis that pocket gophers, not domestic sheep, are the cause of alpine basins being denuded of plant cover, as well as the hypothesis that avalanches are responsible for the devastation of the West Fork Black's Fork stream channel and lack of native trout. This tendency to discount plausible hypotheses in favor of invented implausible ones that allow the FS to save domestic sheep grazing is morally and professionally reprehensible.

Livestock grazing in wilderness is conditionally permissible

"The grazing of livestock, where established prior to the effective date of this Act, shall be permitted to continue subject to such reasonable regulations as are deemed necessary by theSecretary of Agriculture."

Livestock grazing in wilderness is permitted subject to two conditions: where it was established prior to the effectiveness of the WA; and under reasonable regulations as deemed necessary by the Secretary of Agriculture.

Does this mean that whatever the Secretary says is automatically right? No. Otherwise any regulations, or even no regulations at all, will automatically be "reasonable" if the Secretary arbitrarily deems them necessary. The point is that potential regulations must be reasonable before they can rightly be judged necessary. Furthermore, what is necessary is itself a matter of fact, not preference. What is necessary cannot be optional, dependent only upon the fiat of land managers. That would be to rob the term 'necessary' of all meaning. So, what grazing

regulations are both reasonable and necessary in the HUW?

Another part of the WA is responsive to this question: "Except as otherwise provided inthis Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area and shall so administer such area for such other purposes for which it may have been established as also to preserve its wilderness character."

Conclusion

Except as otherwise provided in the WA, wilderness must be managed so as to preserve its wilderness character, period. Does any part of the WA make an exception for livestock grazing, granting it greater importance than preserving the character of wilderness? This is the crux of the issue. After all, there can be no serious doubt that livestock grazing in wilderness, especially on the scale that occurs in the HUW, impairs wilderness character and is antithetical to the very idea of wilderness. So, does the provision that conditionally permits grazing in wilderness areas trump the mandate to manage wilderness areas so as to preserve their wilderness character? In short, does the WA mandate that where a conflict between wilderness

character and livestock grazing exists, livestock grazing must take priority? Clearly not. The WA

plainly states that preserving the wilderness character of the wilderness must be given top priority under the WA, and all permitted uses of the wilderness, including livestock grazing, must be subordinate to it. This means that if there is going to be any compromise between the two, preserving the character of the wilderness is to be given top priority. Therefore, the Forest Service ought to elevate preserving the wilderness character of the HUW to the position of first importance and dramatically scale down or totally eliminate livestock grazing in the HUW.

2. Purpose and Need

The Draft ROD:9 states that: "The primary purpose of this project is to comply with the November 7, 2013 settlement agreement resolving Western Watersheds Project et al. v. United States Forest Service, Case No. 10-cv-612 ELJ-REB. In conjunction with the primary purpose, the other main purpose of this project is to provide forage for permitted domestic livestock grazing[hellip]"

This Purpose and Need is narrowly drawn by placing the issuance of permits to continue grazing domestic sheep above all other options. By doing this, the entire EIS and Decision

process is biased towards this one goal. The result is the clear deflection around damage to the wilderness, watershed, soil, riparian, fish and wildlife values. It lacks the balance, sustainability and objectivity inherent in MUSYA and NFMA or the Wilderness Act.

The bias is clear when one reads specialists' reports or reviews monitoring data and photos provided by the Forest Service. Streambank scouring is the result of elk, who might be there in small numbers compared to thousands of domestic sheep. Then again, it is described as the result of an avalanche, which the stream bypasses and should have recovered from in the

decades since. Or, the scouring was caused by tie-hacking a century ago, while ignoring that in the century since, the streams would have recovered. Bare soil is the result of gopher activity, yet thousands of sheep have little impact. There are numerous deflections in the range,

hydrology, soils and other reports that amount to what appears to be willful blindness or deliberate misleading of the public. We have pointed these out in our past comments and will do so herein by reference and analysis of the specialists' reports and monitoring data provided with the FEIS and from our past FOIA requests. An egregious example of this narrow purpose and need is fully fledged in the Forest Plan amendment which is designed to do away with consideration of bighorn sheep as a sensitive species with viability requirements under NFMA, thus removing one of the biggest threats to domestic sheep grazing.

This narrowly drawn Purpose and Need "preordains" the decision to continue permitting

domestic sheep at all costs. In WWP v Jewell (Case No. 08-cv-435-BLW) the court ruled: "BLM can't identify the purpose of the action so narrowly "that the outcome of the decision is

preordained," or, in the words of Judge Lodge, "uncritical[ly] privilege[s]" grazing over other uses. Rosenkrance, 2011 WL 39651, at *9; Nat'l Parks and Conservation Ass'n v. BLM, 606 F.3df 1058, 1070 (9th Cir. 2010).

The FEIS:9 describes compliance with NEPA in this way: "We conducted this environmental

analysis under the Forest Service's and the USDA's current regulations as well as in consideration of the CEQ regulations at 40 CFR 1500-1508 that were in effect at the time of project scoping (December 1, 2015). References to 40 CFR 1500-1508 in the DEIS and SDEIS refer to our consideration of those CEQ regulations that were in effect at that time. Because CEQ rescinded its regulations at 40 CFR 1500-1508, we removed references to those regulations in the FEIS and in this decision document."

However, the Department of Agriculture Interim Final Rule1 states: "To ensure an orderly

transition without undue impact on the USDA mission, USDA [agencies] have discretion to continue using the versions of USDA and agency-specific NEPA regulations in place before publication of this interim final rule, as well as the 2020 version of the CEQ NEPA regulations, where it makes sense for proposals that are at a certain stage in the applicable NEPA process... USDA [agencies] also have the discretion to begin applying the USDA NEPA regulations, as revised, effective immediately upon

publication of this interim final rule where it akes sense to do so for new proposals and applications, or for existing proposals or applications that are in the early stages of the applicable NEPA process and can

easily transition to using the revised USDA NEPA regulations."

Here, the Interim Final Rule notes that this applies to projects in the "early stages" of the NEPA process. This project has been ongoing for a decade, hardly in its early stages. This removal of reference to important aspects of NEPA which the public has relied upon throughout this

process demonstrates another rush to the decision in favor of the sheep permittees and in detriment to the wilderness, watershed, soil, riparian, fish and wildlife values that are intrinsic to the wilderness and in which domestic sheep are an outside influence.

It also needs to be recognized that 36 CFR [sect] 220.4 requires proposed actions are subject to NEPA when the Forest Service has a goal and the effects can be evaluated, the "action is subject to Forest Service control", can "cause effects on the natural and physical environment and the relationship of

people with that environment."

The Public Interest, as opposed to the interests of two permittees, would be served best by restating the purpose

and need as follows: "In conjunction with the primary purpose, the other main purpose of this project is to evaluate whether permitting domestic livestock grazing is sustainable while protecting the principal and intrinsic values of wilderness, watershed, soil, riparian, fish, and wildlife." This statement no longer makes permitting livestock an automatic decision to be defended at all costs. It places it in context with those values sacrificed due to its presence.

1 Federal Register Vol. 90, No. 126, July 3, 2025. P29644.

FEIS:xiii states that "Since its early beginnings, livestock grazing in the area has been, and continues to be, an important factor supporting the economies and culture of local communities surrounding these two National Forests." The assumed economic value of grazing the 10,300 sheep plus lambs on these allotments is summarized in FEIS Table 17 as $2,569,335 dollars. A major flaw with this

analysis is that the sheep are only on these Forests for 2 out of 12 months, so the total should be one-sixth of that provided, or approximately $430,000. Another is that there are only two permittees, the JRB LLC and Sims as shown in the Annual Operating Instructions. JRB controls 9,750 mature sheep on nine of the allotments, while Sims has 1,300 on one allotment. The

analysis did not place the value of grazing sheep on these 10 allotments within the context of the overall economies of the counties or states. While the FEIS:80 notes that "the High Uintas are also used by residents and visitors for recreational purposes such as hunting, fishing, horseback riding,

hiking, backpacking and wildlife viewing" there was no summary of those values to place in context the relative importance of each economic resource.

Professor Tom Power of Montana State University provided a formula for evaluating the importance of grazing on federal lands.2 It requires answering these four questions:

1. What portion of the value produced by cattle and sheep operations is associated with the feed used?
2. What portion of the feed for those cattle and sheep operations comes from grazing on federal lands?
3. What portion of the total agricultural activity involves raising cattle and sheep?
4. What part of the total economy is represented by agriculture?

Dr. Power determined the relative importance of Federal lands grazing on jobs and income for western states. In Utah, the percent of income derived from federal forage was 0.08%, while the percent of jobs derived from federal forage was 0.18% and the days of real income growth to replace income from federal forage for Utah was

7 days. This makes the grazing of domestic sheep on these allotments even more insignificant to the overall economy.

This narrow drawn purpose and need results in a decision which is a violation of the APA in the sense that APA requires a court to "compel agency action unlawfully withheld or unreasonably

delayed," 5 U.S.C. [sect] 706(1), and to "hold unlawful and set aside agency action, findings and conclusions found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law," 5

U.S.C. [sect] 706(2)(A); San Luis & Delta-Mendota Water Auth. v. Jewell, 747 F.3d 581, 601 (9th Cir. 2014) (applying the APA to claims under NEPA). Agency action is arbitrary and capricious

2 Power, T. M. 2002. Taking Stock of Public Lands Grazing an Economic Analysis. In: Welfare Ranching the Subsidized Destruction of the American West. Island Press 374p.

where: "the agency fails to consider an important aspect of a problem, . . . the agency offers an

explanation for the decision that is contrary to the evidence, . . . the agency's decision is so implausible that it could not be ascribed to a difference in view or be the product of agency expertise, or . . . the agency's decision is contrary to the governing law." Lands Council v. Powell, 395 F.3d 1019, 1026

(9th Cir. 2005) (citing Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983) and 5 U.S.C. [sect] 706(2)).

In the following sections and attachments we show by analysis of agency documents and data and our own data and observations that the narrow purpose and need led to massive deflection around the actual conditions on the ground in the High Uintas Wilderness. As stated above, the environmental effects depicted in the FEIS and Specialists' reports are "so implausible that it could not be ascribed to a difference in view or be the product of agency expertise." This is the bias we referred to in our opening paragraphs.

3. Alternatives

The FEIS analyzed two alternatives, Alternative 1 which would not permit domestic livestock, and Alternative 2 which was to continue permitting domestic livestock grazing and use of the 52-mile driveway under general management requirements and an MOU with UDWR. Given the narrow Purpose and Need, Alternative 1 was never going to be implemented because clearly it was not the purpose. FEIS:36 notes that "We organized a team of resource specialists from both Forests, some of the cooperating agencies that represented agriculture, and some that had

jurisdictional authority over wildlife to objectively consider a variety of alternatives and determine their feasibility."

The composition of this team would inevitably arrive at the desired conclusion

because they are subject to the preferences of the agriculture industry, i.e. the Forest Service, a branch of the USDA, the DWR in Utah, and of course, the agriculture interests here, meaning the permittees. In this case there was no choice for the Forest Service but to continue permitting domestic sheep grazing at all costs, forgetting it's Public Trust duty.

The Forest Service cannot rely on the MOU between the Forest Service, the BLM, the State of Utah, and the domestic sheep permittees because the MOU was developed in violation of the Federal Advisory Committee Act (FACA), 5 U.S.C. App. II, [sect][sect] 2, 9-14. The inclusion of the permittees in the MOU discussions and as parties to the MOU removes any protections that would otherwise apply to intergovernmental communications.

There were additional alternatives considered but these were not analyzed because "they either did not meet the purpose of and need for the project, did not substantially reduce a resource conflict, or were not implementable." (FEIS:56) One of those alternatives was to close or modify two or three allotments to reduce the overlap between BHS and domestic sheep. That alternative was not

considered for analysis for the reason BHS would still have contact with domestic sheep off the Forest, would create difficulties in allotment management for the remaining open allotments and "create an economic hardship to the permittees and communities that rely on this area for domestic

sheep grazing for income and employment." (FEIS:57). There are two permittees on these 10

allotments, so the benefit of these permits accrue to a small number of businesses. We address the flaws in the BHS argument about contact within other jurisdictions later in this objection.

Reasonable alternatives do not have to eliminate all risk of contact, but rather they must be

evaluated for how they reduce risk within the Forest Service's control. Economic consequences are to be considered, disclosed, and weighed in the analysis, but do not constitute grounds to exclude alternatives. Furthermore, by defining the primary purpose as compliance with the 2013 settlement and "providing forage for permitted domestic livestock grazing," the agency constrained the decision space to continued authorization of sheep grazing. With that framing, any alternative such as closing the Gilbert Peak allotment, reducing AUMs, or converting

allotments to cattle was deemed inconsistent with the Purpose and Need. By dismissing intermediary alternatives that could have reduced risk of contact and addressed viability, the

Forest Service structured the analysis so that a plan amendment appeared necessary when other viable alternatives existed.

Another alternative that was considered, but not analyzed, was expanding the analysis to include the West Fork Blacks Fork (WFBF) allotment. This alternative was not addressed

because it was analyzed with an EIS and Decision in 2009. That is almost a full Forest Planning period gone by, but the principle reason requested for its analysis besides the serious degradation we have documented on that

allotment, BHS and other issues, is that historically sheep were driven up the West Fork Blacks Fork to the Ottoson and Lake Fork areas, then trailed back through the East Fork Blacks Fork or the reverse.

In our June 27, 2014 and July 13, 2014 Scoping Comments, as well as in our attached August 28, 2023 coalition comments (Attachment 1) on the SDEIS we requested the WFBF allotment be added to the analysis due to the trailing back and forth to the Ashley NF

allotments, particularly the Ottoson allotment which is being analyzed in this current NEPA process.

Chapter 3 of the DEIS for the West Fork Black's Fork 3(2005) notes that "Sheep Trailing - A sheep herd is permitted to trail across the allotment in the early summer as it travels to an allotment on the

Ashley National Forest; this same herd trails across the allotment again in the fall as they travel home from the Ashley National Forest." (WFBF DEIS:3-19). The 2025 AOI for the Ottoson Allotment shows sheep being trailed in and out of the West Fork Blacks Fork Allotment to the Ottoson Allotment. (Figure 1). Figure 2 shows the allotment boundaries of Ottoson, WFBF and EFBF. The historical trailing of sheep to and from the Ottoson allotment through the WFBF and in

3 USDA Forest Service. 2005. Draft Environmental Impact Statement West Fork Blacks' Fork Allotment Management Plan.

recent years, if the AOIs are to be believed, sheep are trailed to and from Ottoson through the WFBF. Whether they travel through the EFBF is an open question that needs to be addressed by the Forest Service, but there can be no question that for the years we have AOIs for Ottoson, they are trailed into the WFBF. The WFBF is connected to this current project and must be

included. Finally, the Fall Creek allotment has not been grazed by livestock since 1977. An alternative should have included permanent closure of this allotment since grazing ceased before the Utah Wilderness Act was in place.

Figure 1.

Figure 2. Allotment map with Ottoson trailing shown (red arrow)

4. Forest Plan Amendment and Bighorn Sheep
The Draft ROD:42 states that the "amendment is necessary because the WC plan area alone cannot meet the WC viability subgoal in relation to BHS." The Forest Service describes the five herds using both the Wasatch Cache and Ashley NFs "are not by themselves a viable population but in

combination with the other herds they interact with and the other lands that provide habitat, as well as with continued UDWR management of this species, we expect viability of BHS in the larger area will be maintained for the foreseeable future." (DROD:42). The FEIS Appendix B describes the Forest Plan Amendment to "ensure consistency" between the two plan areas and applies to the Wasatch- Cache plan area. The project was developed for "the other main purpose of this project [hellip] to provide forage for permitted domestic livestock grazing[hellip]" (B-1).

The Forest Service, UDWR, Utah Department of Agriculture and two of the three grazing permittees finalized a memorandum of understanding in 2022. (B-3). The MOU identifies site- specific strategies to "minimize the comingling risk between the species". The Wasatch-Cache RFP:4- 19 stated a goal to "Manage Forest Service sensitive species to prevent them from being classified as threatened or endangered[hellip]" citing FSM 2670.

FEIS:128 "Bighorn sheep prefer open habitat types (high alpine to lower grasslands) with adjacent steep rocky areas for escape and safety (UDWR 2018d; Shackleton 1985). Habitat is characterized by rugged terrain including canyons, gulches, talus cliffs, steep slopes, mountaintops, and river benches (UDWR 2018d).' Yet, the FEIS:149 states that "BHS generally use the ridge tops and steep slopes

for foraging, whereas domestic sheep generally use the valley bottoms." Here, the Forest Service is at odds with itself and appears to not understand that domestic sheep are driven, trailed, and grazed from valley bottom to ridgetop by design. There is no separation between BHS and

domestic sheep based on topography or vegetation.

FEIS: 129 "A mountain goat harvested in 2018 was the first mountain goat to test positive with

Mycoplasma ovipneumonia in the Uinta mountains and the prevalence of the pathogen in the mountain goat herds in the Uinta mountains is uncertain (UDWR 2019d)." Here, the UDWR documents the result of its own introduction of mountain goats to the High Uintas Wilderness. We have observed them in lower elevations, particularly in the Uinta River and Painter Basin area. "Other factors affecting BHS populations include habitat loss and disturbance, habitat condition,

predation, forage competition, and climate/weather (USFS 2021; UDWR 2019c; UDWR 2018d)." The presence of mountain goats is an additive risk affecting BHS.

FEIS:130 "The allotments in this analysis occur in proximity to the area used by the North Slope Uintas BHS herds and BHS habitat occurs in all 10 allotments (USFS 2021; UDWR 2019c; UDWR 2018b).

Bighorn sheep were recorded in the Uintas as early as 1849, but by 1930 it was evident that reproducing BHS in the Uintas did not exist (USFS 2021; UDWR 2019c; UDWR 2018b)". "[hellip]herd estimates have fluctuated over time. These fluctuations have been the result of disease, mountain lion predation,

reintroductions, augmentations, removal, and culling (USFS 2021; UDWR 2019c; UDWR 2018d)." Clearly, BHS were eliminated in the Uintas by 1930, and there is no logical explanation other than the domination of the landscape by domestic sheep in that era. Yet, the Forest Service is promoting the continuation of the practice that led to BHS demise. FEIS:131"The combined herd total was still over 200 individuals when it started to decline again in 2013 due to disease

(bronchopneumonia) (USFS 2021; UDWR 2019c)."

FEIS:132 "The UDWR has a large data set of local herd data (North Slope Uintas BHS data, including 225,000+ BHS locations), and we used that data in the ROC model and in estimating summer (May- October) and winter (November-April) CHHRs for the North Slope Uintas BHS herds (USFS 2021)." As we note below, some 80,000 of those BHS locations were discounted and not used. Where were those BHS located?

Table 24 FEIS:133 uses a one-to-two-year overlap for its ROC based on the days domestic sheep are on the allotment. The number of days used for summer was 184 days and 181 for winter and dividing these into the days domestic sheep are present. This omits consideration of strays which we have observed long after the end of the summer grazing period and also does not take into account the presence of infectious products in the soil, water, and vegetation, and

domestic sheep manure that will be there throughout the year for several years.

FEIS:144 "[hellip]the results of the model indicate a "high" ROC (because of overlap with the CHHR) with two Forest Service allotments (Gilbert Peak and Painter Basin), one BLM domestic sheep allotment, and

six private land mile sections; a "moderate" ROC with one Forest Service allotment (Hessie Lake-Henry's Fork); and a "low" or "no" ROC with the remaining Forest Service allotments, BLM allotments, and

private lands with domestic sheep use (USFS 2021). " "All the overlap and nearly all the ROC that is on Forest Service lands occurs on the western edge of the CHHR (USFS 2021). Thus, nearly all the CHHR has no overlap with Forest Service domestic sheep allotments." The FEIS discounts BHS forays up to 14 miles or more, stray domestic sheep, and contaminated environmental media.

FEIS:145 describes incomplete and unavailable information, including the lack of data from private lands, habitat disturbance from grazing "would be considered substantial if it is determined that grazing would permanently displace wildlife, or if grazing would inhibit vegetative communities

(habitats) on the allotments from meeting satisfactory/desired condition." Then the FEIS relies on the vegetative monitoring studies to claim that "plant composition, structure, and ground cover in all habitat types affected by grazing are in satisfactory condition[hellip]" Here, reliance on the range and vegetation reports leads the wildlife discipline down the primrose path as we will show in the following sections. It appears the powers of observation are lacking among staff.

In our past scoping comments and comments on the DEIS (Attachment 2), we have addressed bighorn sheep

issues. Review of the FEIS validates those points already made. These points were expanded in our August 28, 2023 comments on the SDEIS (Attachment 1). These are summarized here and referenced to the pages in those comments.

SDEIS Comment:21-24

* Bighorn sheep suitable habitat based on the UDWR 2014 model shows suitable habitat throughout the 10 allotments plus the WFBF.
* The WAFWA 9-mile buffer shows intermingling or contact possible in 7 of the project allotments.
* The WCNF RFP ROD lists seven of the project allotments plus the WFBF as suitable for closure.
* The SDEIS claimed separation of the domestic and bighorn sheep is maintained because the bighorns use ridge tops and steep slopes while domestic sheep use the valley bottoms. We refuted this based on our observations of domestic sheep on ridge tops and on steep slopes.

In addition, domestic sheep are trailed across the ridges from the UWCNF to the ANF allotments.

* We pointed out the historical trailing of domestic sheep through the WFBF to the ANF allotments, particularly Ottoson.

SDEIS Comment:37-42

* The premise that there is no need to address risks on Forest Service lands because there is also risk from other lands is faulty. The Forest Service has a duty under its own regulations to avoid contributing to the risk of disease transmission that could kill off one or more bighorn herds.
* Assumes because M.ovipneumoniae is present in bighorn herds there is no additional harm from transmission, but this omits the risk from other strains of M.ovi. In fact, there are many strains and infection by one does not imply protection from other strains.
* Cited Dr. Thomas Besser research wherein introduction of a new strain resulted in all bighorn sheep symptomatic and 30% died. There is no cross-strain immunity.
* The Forest Plan Amendment is flawed by failure to follow the 2012 NFMA regulations by not identifying and analyzing which substantive requirements from the regulations are directly related to the plan direction being removed.
* The interpretation that the Forest Service does not need to maintain viability of any wildlife population that uses non-Forest lands would then apply to all wildlife populations. The

Forest Service must ensure that its actions maintain viability even if harm is caused off the Forest.

* Viability requires sufficient animals for a self-sustaining population in the long term. Augmenting populations is not self-sustaining.
* The Forest Plan amendment only applies to the Wasatch-Cache NF and not the Ashely NF which remains subject to the NFMA viability rule. The 1986 Forest Plan for the Ashley NF has a standard to maintain or improve diversity of fish and wildlife populations.
* The MOU is invalid because it was developed in violation of the Federal Advisory Committee Act by including the permittees in the MOU discussions.
* The MOU premise that BMPs will protect BHS is false as WAFWA has stated that

"management practices designed to reduce risk of association are not proven and therefore should not be solely

relied upon[hellip]"

* No scientific analysis of BMPs' effectiveness was provided.
* Stray domestic sheep are common in this rugged terrain, the delays between infection and disease onset, onset and death make it impossible to trace the origin of infection.
* BMPs are not legally enforceable to protect BHS, lack scientific support and don't meet the Forest Services' legal duty to maintain viability.
* The Risk of Contact Analysis is flawed.
* It did not consider stray domestic sheep.

* The BHS 2021 assessment indicated the longest foray of BHS in summer was 14.3 miles, but this did not make it into the ROC analysis with the result that BHS risk

was determined moderate and low risk for the Hessie's Lake/Henry's Fork and Tungsten allotments even though BHS are documented at the eastern edge of both.

*
* Our mapping analysis of WAFWA's 9-mile buffer showed overlap with most of the allotments under analysis.
* The SDEIS analysis of ROC is almost four times higher than the Wild Sheep Working Group recommended rate.
* Some 80,000 location data points for BHS were omitted from the analysis.

* The SDEIS only looked at risk by combining all BHS herds into one with the result there is no herd-level viability analysis and no analysis of what the impact to the meta-population would be if one or more herds were lost.

* Each herd only contains 20 - 30 individuals with the Hoop Lake herd at highest risk. A new strain of M.ovi could wipe out any of these herds.
* Closing these allotments would significantly reduce the risk to BHS Hoop Lake and other herds.
* The Range of Alternatives is flawed and should have included reducing the number of allotments with BHS exposure and another that would close the allotments within the 9- mile buffer.

The FEIS:xiii notes that "We prepared the SDEIS because of new information that led to a need for specific changes or additions to the DEIS, including new data and results related to the risk of contact model regarding potential disease transmission from domestic sheep to Rocky Mountain bighorn sheep (BHS). This led to a need to revise the BHS analysis." "We added additional measures to the proposed action (to reduce the potential interaction and disease transmission between domestic sheep and BHS)

based on the August 2022 memorandum of understanding (MOU) entitled Bighorn Sheep and Domestic Sheep Management - Nine Allotments in Gilbert Peak Area of the Uinta Mountain Range (UDWR et al. 2022)."

We addressed the MOU above. It was a violation of FACA and is unenforceable and voluntary. The other management considerations included in Alternative 2 are also discretionary and without enforcement. This leaves the ROC. FEIS Table 2 describes the risk of Alternative 2 to bighorn sheep as high for Gilbert Peak and Painter Basin, Moderate for Hessie Lake-Henry's

Fork, and low for Tungsten, Red Castle, East Fork-Blacks Fork, Middle Fork-Black's Fork, Oweep, and Ottoson.

The ungrazed Fall Creek allotment is given a ROC of zero. Statistically, however, the probability of a bighorn sheep contacting the disease is either 0 or 1. Given the residence time of the bacteria in soil, vegetation, water or domestic sheep manure as we have observed, resting allotments for only one year does not alleviate the risk.

The SDEIS analysis assumed that because there is (1) already M. ovipneumoniae (hereinafter "M.ovi") in the High Uintas bighorn herds, and (2) the Forest Service has no control over the high-risk BLM and private land allotments, there is no additional harm from transmission of

M.ovi from the National Forest allotments. But in fact, there are many strains of M.ovi, such that infection with one strain will not prevent future infection by another strain.4

In a 2017 study, the authors found that "[hellip] introduction of a new genotype (strain) of M.

ovipneumoniae into a chronically infected bighorn sheep population in the Hells Canyon region of

Washington and Oregon was accompanied by adult morbidity (100%) and pneumonia-induced mortality (33%) similar to that reported in epizootics following exposure of na[iuml]ve bighorn sheep. This suggests an immune mismatch occurred that led to ineffective cross-strain protection."5 Dr. Thomas Besser, one of the country's foremost experts on bighorn infectious disease research, goes on say about this study that "In this paper we documented introduction of a new M. ovipneumoniae strain that triggered a dramatic change in the pattern of disease: all adult ewes developed signs of pneumonia (morbidity) and 30% died (mortality). The lambs again experienced a fatal pneumonia outbreak, primarily triggered by lung infections with the newly introduced M. ovipneumoniae strain. The finding of lack of cross-strain immunity has since been repeated elsewhere, confirming that the limited immunity that bighorn sheep may develop to a strain of M. ovipneumoniae with which they have been infected for years fails to

consistently protect them from genetically novel strains that they may encounter."6

Thus, despite claims to the contrary in the SDEIS or FEIS, the additional risk caused by any

Forest Service domestic sheep allotment does indeed increase risk to the High Uintas bighorn herds[mdash]regardless of any other risk posed by domestic sheep grazing in BLM and private allotments.

In addition, the SDEIS suggested that sources other than domestic sheep may be at play in transmitting M.ovi to bighorn sheep. The science does not support that supposition: "While M. ovipneumoniae has recently been reported in species other than sheep and goats (Caprinae), neither its

ability to persist in these hosts for long periods of time, nor the ability of these non-Caprinae hosts to

transmit the pathogen to bighorn sheep has been demonstrated, and the low carriage prevalence and the low genetic diversity of M. ovipneumoniae in non-Caprinae hosts are not consistent with them representing a separate reservoir for bighorn sheep infection."7"Domestic goats also pose a definite risk to bighorn sheep due to their M. ovipneumoniae reservoir status, although limited current data shows that goat sources tend to cause less severe and less persistent bighorn disease. In contrast, non-Caprinae species have not yet been shown to present any risk of transmitting M. ovipneumoniae to bighorn sheep."8 Moreover, M.ovi is extremely common in domestic sheep: the USDA National Animal Health Monitoring Service Sheep 2011 project, a national survey of domestic sheep operations, detected

4 Declaration of Dr. Thomas Besser, [para] 40, February 26, 2021, filed in WildEarth Guardians et al. v. Kristin Bail et al., Case 2:20-cv-00440-RMP (E.Dist. WA). Attached as Exhibit 3.

5 Cassirer EF, Manlove KR, Plowright RK, Besser TE. 2017. Evidence for strain-specific immunity to pneumonia in bighorn sheep. J Wildlife Mgmt 81(1)133-143. Attached as Exhibit 4.

6 Declaration of Dr. Thomas Besser, [para] 29.

7 Id., at [para] 26.

8 Id.

M.ovi infections in approximately 90% of domestic sheep operations sampled, including in all operations larger than 500 head involved in the study.9

In sum, the science is clear that allotments on the two National Forests are seriously problematic for the High Uinta's sheep herds irrespective of risks emanating from BLM-managed and

private lands. And that risk cannot be downplayed through implications that bighorns might be contracting M.ovi from other animals. Once again, the risk must consider the foray distances for BHS, domestic sheep strays left behind, and contamination of environmental media.

The creative interpretation being attempted here[mdash]that the Forest Service does not need to maintain viability if any wildlife population also uses non-Forest Service lands and has threats on those lands[mdash]would conceivably apply to virtually all fish and wildlife populations. This proposed forest plan amendment is an unreasonable interpretation that the Forest Service is only applying to bighorn sheep and is contrary to prior long-standing interpretation by the

agency. The Forest Service has the responsibility to ensure its own actions maintain viability even if other parties cause harm off of the forest.

Redefining viability at a "metapopulation" scale is not an application of 36 C.F.R. [sect] 219.9, it is a waiver. Each plan is required to maintain viable populations of species of conservation concern within its own plan area. By striking Subgoal 3i for bighorn sheep and offering no new standards or guidelines to ensure viability, the Forest Service has reduced protections for bighorn sheep. In an example of the agency doing the opposite, the Payette National Forest in 2010 adopted an amendment that directly addressed bighorn viability. That amendment closed "high risk" allotments and modified management to reduce contact risk, and the Ninth Circuit later upheld it in Idaho Wool Growers v. Vilsack (2016). The court confirmed the agency's authority to amend a plan to meet the viability requirement rather than erase it, which is being done here. By removing the viability requirement rather than adjusting management to comply, the agency sets a precedent that undercuts NFMA's viability mandate as well as the 2012 Planning Rule itself.

By removing the plan provision, the Forest Service could take actions that would impair viability and yet wouldn't be inconsistent with Plan. That is a significant change that was not analyzed and does not meet the substantive requirements for ecological sustainability and

diversity of plant and animal communities.

We also find it interesting that the forest plan amendment was proposed for only the Wasatch- Cache National Forest and not the Ashley National Forest. The Ashley Forest Plan dates to 1986 and is thus subject to NFMA's viability rule. In addition, the Ashley Plan contains a standard to

9 Id., at [para] 24.

manage fish and wildlife habitat to maintain or improve diversity and productivity.10 That standard is not addressed in the SDEIS.

Moreover, the overarching concept of the MOU is that Best Management Practices (BMPs) will adequately protect bighorn from domestic sheep. They won't. The Western Association of Fish and Wildlife Agencies (WAFWA) Guidelines, 2009, specifically state on page 15: "Effectiveness of management practices designed to reduce risk of association are not proven and therefore should not be

solely relied upon to achieve effective separation."

And even if BMPs were effective at maintaining separation (they aren't), the Forest Service must provide a scientific analysis of the effectiveness of the BMPs, which they haven't. Perhaps that

is because it is not possible to do so. One U.S. District Court has already concluded that, in the absence of scientific analysis, BMPs could not be relied upon to maintain separation.11

There is also the practicality of enacting BMPs in such rugged and remote terrain. Herders cannot always watch every sheep, and strays are common. In addition, the delays between infection and disease onset, and between disease onset and death, make it impossible to identify the specific moment of transmission or the specific animals involved in a M.ovi transmission

event.12 Therefore, tracing any disease transmission event back to its origin is virtually impossible. In short, courts have found similar BMPs and MOUs that are not legally enforceable insufficient to protect bighorn sheep, lacking in scientific support, and thus not adequate to meet the Forest Service's legal duties to maintain viable populations of bighorns.

The Forest Service admits that the actions of UDWR, UDAF, and permittees are not part of the proposed action but are only "considered" in the wildlife analysis. So, the analysis evaluates outcomes as if those outside actions (beyond the agency's scope of authority) will occur. This exaggerates the level of protection secured by the amendment, while the plan itself has lost the binding viability requirement it once contained.

The risk analysis doesn't even mention, let alone consider, stray domestic sheep or contamination of environmental media domestic sheep waste. It is very common for strays to stay behind for days or even weeks after the primary domestic sheep herds are moved off the allotments. In one recent analysis on the Gunnison BLM District in Colorado, Colorado Parks & Wildlife documented 25 stray domestic sheep occurrences over just a few years. And those constituted only the documented occurrences. Unless the Forest Service is going to consider

10 USDA Forest Service. 1986. Ashley National Forest land and resource management plan, final environmental impact statement, and record of decision. At IV-32.

11 Western Watersheds Project v. Bureau of Land Management, U.S. District Court for the District of Idaho, Civ. No. 09-0507-E-BLW, Decision and Order, October 14, 2009. https://casetext.com/case/western-watersheds-project-v-bureau-of-land-management-4

12 Declaration of Dr. Thomas Besser, [para] 34.

strays as an important factor in this analysis, we challenge the agency to demonstrate that strays are not an issue in this analysis area.

The Uinta's Bighorn Sheep Assessment from May 2021 indicates that the longest summer ram foray was 14.3 miles, while the longest winter ram foray was 5.6 miles. This data does not seem to have made it into the ROC analysis. Instead, the risk assessment somehow determined that the Hessie's Lake/Henry's Fork and Tungsten allotments are rated moderate and low risk even though bighorns are documented coming right up to the eastern edge of these two allotments. It is unreasonable, and contrary to agency practice and guidance, to only consider overlap with allotments as high risk to bighorn sheep. The ROC analysis shows the Hessie's Lake/Henry's Fork and Tungsten allotments are also high risk based on the contact rate and disease interval results from the model. As the Tenth Circuit recently found, diverting from the results of the model without scientific support is arbitrary and unreasonable. Note that opinion cites the Snow Mesa and Wishbone Sheep Allotments Volume II Assessment of Risk of Physical Contact between Rocky Mountain Bighorn Sheep and Domestic Sheep Allotments in the Snow Mesa and Wishbone Grazing Landscape where "disease outbreaks of every 32 years or less would result in a bighorn sheep population that, although potentially in the initial stages of recovery [from 1990s outbreaks], would be constantly exposed to ongoing disease transmission events and resultant outbreaks." (See Attachment 8 for the opinion). This is less than the 50 years recommended by the WSWG.

Using the 2014 UDWR habitat model for bighorn sheep, we mapped the Uinta Mountains and the project allotments. This shows high value bighorn sheep habitat occurs across the project area and not just on ridgetops. (Figure 3). In addition, we used the bighorn location data using WAFWA's suggested 9-mile buffer from the western-most documented bighorns, and that map (Figure 4) indicates substantial overlap with most of the allotments under analysis here.

Figure 3. UDWR Model showing high value habitat for BHS across the project allotments.

Figure 4. Project allotments with nine-mile buffer shown.

Keep in mind that our map uses a 9-mile buffer, not the 14.3-mile buffer that UDRW's own data indicates. Using the 14.3 miles would add additional allotments. The maps in the SDEIS at Figures 33 & 34 support our contention that the risk assessment artificially reduces the risk for all but 2 eastern allotments. Based on those two maps (Figure 3 and 4), at a minimum we should be discussing closure of 8 allotments: Gilbert Peak, Painter Basin, Hessie Lake/Henry's Fork, Tungsten, Red Castle, East Fork Blacks Fork, Oweep and likely Ottoson Basin.. Anything else is inconsistent with the analysis in the SDEIS and FEIS.

The Wild Sheep Working Group has advised that results of the Risk of Contact Tool may be interpreted as follows: "Given the potential severity of die-off resulting from interspecies contact, we recommend management scenarios that allow for disease free intervals of at least 50 years. If we assume a moderate probability of contact with an allotment resulting in an interspecies contact that will result in a disease transmission outbreak event (0.25), then we would need to see a rate of contact of less than 0.08 contacts per year (or less than 0.8 contacts per decade)." (WSWG 2012).13 In addition, the ROC Tool as applied and approved by the court in the years of litigation over the Payette National Forest decision to curtail domestic sheep grazing provides more support for using the WSWG rate of contact. In the Payette analysis, the ROC Tool was also run using the same rate of contact (that is, 0.25, or 1 in 4) indicating an average outbreak period of 50 years.

Instead, the analysis determines that a cumulative contact rate of 0.304[mdash]or almost 4 times higher than the WSWG recommended contact rate[mdash]is adequate to maintain these herds. (And again, we question these ROC numbers since strays were not considered and the SDEIS maps are inconsistent with the risk ratings.) The SDEIS conclusions rely on arbitrary contact rates of "high," "medium," and "low" that have no basis in the scientific literature. And even if one accepted these arbitrary labels, there is no attempt at justifying why only the "high" risk

allotments are being considered for closure when one "medium" risk allotment demonstrates a contact rate of .106 (Hessie Lake/Henry's Fork), which is well above the 0.08 recommended by WSWG.

The 0.304 contact rate equates to one bighorn contact with an allotment approximately every 3.3 years. Compare this to the WSWG recommendation that management should allow for disease free intervals of at least 50 years. The failure to use 80,000 bighorn location data points is suspicious. We do not comprehend how a collar can be placed on a bighorn without noting the sex of the animal, yet even if that is true those data points should've been tagged as female rather than deleted from the analysis.

The FEIS only looks at risk at the meta-population scale by combining all herds into one, but the record indicates there is one herd that is most at risk: Hoop Lake. There is no map of individual herd locations, but the FEIS discusses 5 herds, and one that is closest to the allotments. That would be the herd with overlap with 2 allotments and very close to 2 more, which means it is at the highest risk of disease. The FEIS does not discuss what the impact to meta-population

would be from loss of that one herd in terms of reduction of geographic distribution and loss of

13 See also Lyons et al. 2016. Final Report: Application of the Bighorn Sheep Risk of Contact Model on the Okanogan-Wenatchee National Forest. Washington Conservation Science Institute.

https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd512632.pdf

genetic diversity. In addition, there is no viability analysis at the herd level, just at the overall meta-population level.

All the impacted bighorn herds are very small. Even though the meta-population has about 150 animals, each herd only has about 20-30. Hoop Lake, at highest risk, has only about 20. And assuming the Hoop Lake herd is on the western end of the CHHR closest to the Forest Service allotments, it is not close to BLM land or private land. Thus, the Forest Service allotments are the greatest risk to that herd and are likely the cause of its continuing disease issues.

Maintaining low numbers of animals for long time puts herd at risk of inbreeding or loss during stochastic events. All herds have experienced recurring disease which keeps them small and prevents full recovery, yet as discussed above, a new strain of M.ovi could wipe out any of these herds.

The meta-population approach minimizes the impacts to the Hoop Lake herd. That herd has had a stagnant

growth rate and low numbers of animals for a decade because disease is likely suppressing growth. The Forest Service allotments are the main risk to this herd and closing those allotments would significantly reduce the risk. The FEIS identifies Gilbert Peak, a WCNF allotment, as "high risk," with the ROC model predicting one or more contacts per year.

Because the Hoop Lake herd is the only herd occurring in the WCNF plan area, this risk affects the Hoop Lake herd. The record therefore documents a high risk of contact and pathogen transmission to the Hoop Lake herd inside the plan area.

5. Capability and Suitability

FEIS:32 "We evaluated range capability and suitability in separate reports. These reports were last updated in 2025 (see project record)." The Draft ROD states: "We evaluated rangeland

suitability and capability in separate reports and addressed comments on this in our responses to

comments. The rangeland suitability and capability reports and maps were last updated in 2025 (see

project record). The project complies with both the Ashley Forest Plan and the Wasatch-Cache Forest Plan regarding suitability and capability and the grazed portions of the project area are considered suitable for and capable of sustaining domestic livestock grazing."

The FEIS:163 provided Figure 23 noting the "late persisting snowbeds". The photo was taken on July 27, 1995. (See Figure 5 below). This is after trailing and grazing has begun in these areas regardless of wet soils and new plant growth that is sensitive to defoliation during active growth.

Figure 5. Illustration from the FEIS

The AOIs show sheep enter the project allotments two weeks before this and are trailed and grazed into the Ashley NF allotments within a few days. This means the soil is wet and easily damaged by trampling, while plant communities have either not begun growth or are in the very early stages of active growth. Grazing during this sensitive period places the plants at

risk. On the driveway, tens of thousands of sheep are grazing and trampling the plants and soil during this period each year. There is no rest and as a well-known range management textbook notes: "when a range is repeatedly overgrazed, the metabolic reserve is depleted, the root system shrinks, and ultimately the plant dies[hellip]"14. (p126). Regarding soil erosion, they also note: "The primary effect of hoof action is compaction of the soil surface. Removal of cover and soil compaction reduce water infiltration rates, increase runoff, and increase erosion." (p379). These are well-known principles of range and soil science. As we will show, up until the early

1990s, range staff acknowledged the limitations and damage of grazing these sensitive areas. Since that time, the effort has lacked

14 Holechek, J.L., Pieper, R.D., and Herbel, C.H. 2004. Range Management Principles and Practices. Fifth Edition.

ecological insight and has sought to deflect around the impacts of grazing tens of thousands of domestic sheep in these steep and erodible landcapes.

The WCNF RFP FEIS used the Region 4 Protocol15 to identify the areas with the physical characteristics conducive to livestock grazing.16 Appendix B-9 to the RFP FEIS detailed the process but omitted most characteristics present in the Protocol. As outlined in the Protocol, 36 CFR 219.20 requires a determination of rangeland capability and suitability. The factors include:

* Areas with less than 30% slopes for cattle and less than 45% slopes for sheep.
* Areas producing more than or having the potential to produce an average of 200 lbs. of forage/acre on an air dry basis over the planning period.
* Areas with naturally resilient soils (not unstable or highly erodible soils).
* Areas where ground cover (vegetation, litter, rock > [frac34] in.) is sufficient to protect soil from eroise. The minimum percentage cover will be 60% unless local data is available for use in setting more specific

ground cover requirements.

* Areas accessible to livestock (without such factors as dense timber, rock, or other physical barriers).
* Areas within 1 mile of water or where the ability to provide water exists.

The WCNF RFP analysis only used slope and a vegetation coverage as a surrogate for forage production that omitted coniferous vegetation types and barren areas. In 2016, we conducted on-ground forage data collection across the soil types in the project allotments and applied the Protocol to determine capable acres for the project area allotments. In 2018, this was presented to the UWCNF and Ashley NF Supervisors and staff in a Report17 and a PowerPoint.18 In 2020, our analysis was published in the Journal of Geographic Information Systems.19 We recently

received a letter from Editor of the Boston Research Journals which is an international research journal. The Editor wrote: "I have recently read your research article titled Spatial Analysis of Livestock Grazing and Forest Service Management in the High Uintas Wilderness Utah. It is remarkable

15 USDA Forest Service. 1998. Intermountain Region Protocol: Rangeland Capability and Suitability Determinations for Forest Plan Revisions. Intermountain Region Office. Ogden, UT.

16 USDA Wasatch Cache National Forest. 2003. Final Environmental Impact Statement Summary Wasatch Cache National Forest. P3-349.

17 Vasquez, E., Carter, J., and Jones, A. 2018. A Forage Capacity and Stocking Rate Determination for the High Uintas Wilderness Domestic Sheep Analysis. Wild Utah Project and Yellowstone to Uintas

Connection. 94p. https://app.box.com/s/2c8dgun6na1v71zlew9oczpzq3nb27mo

18 Vasquez, E., Carter, J., and Jones, A. 2018. Uinta Sheep Capability and Stocking Rates. Wild Utah Project and Yellowstone to Uintas Connection.

https://app.box.com/s/u0rfho3iws7eiazquo16ou4pdsnwcbde

19 Carter, J., Vasquez, E. and Jones, A. (2020) Spatial Analysis of Livestock Grazing and Forest Service Management in the High Uintas Wilderness, Utah. Journal of Geographic Information System, 12, 45-69. https://doi.org/10.4236/jgis.2020.122003

for its path-breaking and rational approach. Your research aptitude and in-depth understanding of the

subject prompted me to discuss your paper with my team which is of the opinion that such research work can enlighten and inspire fellow researchers and scholars."

We analyzed current forage production (2016 samples) to that determined by the Forest Service in the 1960's finding that median forage production appears to have declined since the 1960's and was less than the 200 lb/acre criterion.

We applied the Protocol in a stepwise analysis as outlined:

1. USFS with slope <45%, minimum 200 lb/acre, without dense timber, rock or other physical barriers. Capable acres = 57,399.
2. USFS with slope <45%, minimum 200 lb/acre, without dense timber, rock or other physical barriers, and excluding water bodies. Capable acres = 36,695.
3. USFS with slope <45%, minimum 200 lb/acre, without dense timber, rock or other physical barriers, excluding water bodies and wetlands. Capable acres = 31,384.

These outcomes did not incorporate the forage production as we found and as was found in the Forest Service 1960's dataset. So, we ran the following analyses to include those:

1. 2016 Forage production, slope <45%, without dense timber, and excluding water bodies. Capable acres = 14,727.
2. 2016 Forage production, slope <45%, without dense timber, excluding water bodies and wetlands. Capable acres = 9,684.
3. 1960's Forage production, slope <45%, without dense timber, and excluding water bodies. Capable acres = 4,485.
4. 1960's Forage production, slope <45%, without dense timber, and excluding water bodies and wetlands. Capable acres = 2,888.

Allotment specific capable acres are tabulated and shown in maps in our Report and

PowerPoint. These were presented in our prior comments on the DEIS [Attachment 2]. A look at the map provided in those comments and copied below illustrates the patchy nature of capable areas. (Figure 6). This map is for the maximum capable acres (57,399) using minimal criteria. As more area is excluded by accounting for water bodies, wetlands, the capable lands become smaller and even more patchy. This means that sheep will be grazing and trailing through huge swaths of non-capable areas which can include soil that lacks ground cover, is on steeper slopes, and is high to highly erodible. For example, the Soil Specialists' Report 20

provides a figure we have copied below as below showing the loss of soil cover and erosion from sheep grazing and trailing in a forested area on Red Pine Shale. (Figure 7). The

20 Weems,S. and Leahy, S. 2024. High Uintas Domestic Sheep Updated Soil Resources Specialist Report.

photographs in our Report and PowerPoint illustrate the denudation of alpine areas, passes and slopes. The residual vegetation seen between the rocks shows that there is potential for significant plant cover. Trampling by sheep has disrupted and displaced the soils resulting in barren slopes.

Figure 6. Patchy nature of capable areas shown here for the 57,339 acres using the minimal capability criteria.

We have reviewed the Forest Service monitoring files we obtained by FOIA in 2019. Figures 8 - 12 are extracted from that set of folders for location 08-26A taken in September 1991. Notes

from the files are included. These show widespread devastation of the forest understory from sheep trailing that runs through the forested area to the ridge. Complete loss of vegetative

cover has occurred because of the grazing and trailing of thousands of sheep in this area that should not be capable. This has resulted in bare soil, exposure of tree roots, and the development of rills and gullies. This damage can only be remedied by removing disturbance,

sheep grazing and trailing in these non-capable areas of erosive soils. For further illustration of this damage, Figures from the driveway monitoring files received in that 2019 FOIA for location 08-26A follow.

Figure 7. Copied from Soil Specialist Report Figure 5 showing a portion of the sheep driveway in a forested location. Loss of soil cover and severe erosion present with tree roots exposed. This is irreversible in the human lifespan time frame.

Figure 8. Site 08-26A Little or no ground cover where sheep trail up. Studies show less than 5% ground cover (p14) Tree roots severely exposed with trees dying and falling over. Photos 9/10/1991

Figure 9. Site 08-26A contd. Severe soil loss, rilling taking place (p19)

Figure 10. Site 08-26A contd. Exhibit fresh soil movement, piled up behind logs (p22). Big gully developed (p23)

Figure 11. 08-26A contd. Near the top of the ridge or on top leading to Mansfield Meadows (p24). Extreme rilling, beginning of gully (p26)

Figure 12. 08-26A contd. Main draw completely blown out (p27). Additional photos show East Fork at bridge with no greenline, barren and eroding.

The Range Specialists' Report Capability Analysis for the Wasatch-Cache Allotments21

summarized the capable acres from the 2003 Wasatch Cache NF RFP and the 1960's Range Analysis for the five allotments in the project area. The totals were 13,817 acres (16% of the project area) for the RFP analysis and 18,270 acres (21%) for the 1960's analysis. The analysis considered vegetation, slope and distance to water. Capability was ranked from Low to High within each category and for the allotments overall with the outcome that no lands were found to be not capable. The Range Report:2 notes that the 1960's analysis was more accurate than that for the Forest Plan.

The vegetation capability for the five allotments was determined using two factors. If the area had the potential to produce >200 lb/acre of forage it was given a High (1) rating and if it

produces less, it was given a Low (0) rating. Similarly, if forested areas had a <30% canopy

cover they were given a High (1) rating or if >30% it was given a Low (0) rating. The result was 57% of the allotments in the WCNF project area were rated as High, the remainder Low. Soil erosion hazard was not included and forested areas were assumed to produce >200 lb/acre forage. This contradicts the statement in the FEIS:132"grouse whortleberry makes up most of the

ground cover in the conifer stands on all the allotments." The USDA plants database notes it is rated as fair for as browse for livestock.

Slope capability was based on four slope intervals ranging up to 10% High (1), 11 - 30%

Moderate -High (0.7), 31 - 60% Moderate - Low (0.4), and >61% Low. The Regional Protocol limits capable lands for grazing domestic sheep to no more than 45% and there is no breakdown of lands above and below 45% in this current analysis. The analysis concludes that 89% of the WCNF is capable, but that includes areas that exceed the criterion of 45% slope in the Regional Protocol and does not account for soil erosion hazard.

Distance to water was divided into three categories of High (0 - 2 miles, rating of 1), Moderate (2.1 - 3 miles rating of 0.5) and Low (>3 miles, rating of 0). All classes exceed the 1-mile distance to water criterion from the Regional Protocol in arriving at 96% of the land being capable based on distance to water. There was no source cited that determined where water bodies were located, such as the USGS source we used in our analysis. Instead, the Range Report merely states, "Across most of the project area, water is not a limiting factor."

The Analysis concluded that 50% of the project area was Low in capability and did so by using these ratings categories that have no basis cited. In sum, the Regional Protocol criteria were

violated by including slopes and distance to water that are not consistent with the Protocol, by including wetlands which are productive but avoided by sheep and not taking into account

21 Cameron, A. 2025. Rangeland Capability - Suitability Report for Gilbert Peak Allotment, Hessie Lake - Henry's Fork Allotment, Red Castle Allotment, East Fork - Blacks' Fork Allotment, Middle Fork Blacks Fork Allotment.

soil erosion hazard. Similarly, the capability analysis by the Ashley NF22 used the same process and criteria and arrived at 40% of the area as low capability.

The Soils Specialist Report in its Table 6 tabulates various soil properties for both the Ashley and WCNF allotments. These include acreage, soil texture, K factors, T factors and other information. By the K values in the table, the soils rank from low to moderate erodibility. The Soils Specialist Report:11 notes that the main property determining erodibility is soil texture.

What is missing is the actual determination of erosion risk. USDA has RUSLE2 which is a tool to calculate erosion and determine whether soil tolerance will be exceeded. This is based on use of the Universal Soil Loss Equation, which incorporates factors of slope, texture as K factor, precipitation, and ground cover to calculate the soil loss. See the box below which is extracted from the USLE Erosion Prediction methodology by NRCS.23

(Figure 13). That report is included as Attachment 3. That attachment also includes the USDA (1992) Wasatch-Cache Soil Survey descriptions for NS223 and NS502 soils used in our analysis.

We attempted an approximation of soil loss based on the USLE methodology. We looked up the annual precipitation for the EFBF Guard Station on the USU Climate Center website and found

24.5 inches annual precipitation. We entered this into the EPA Rainfall Erosivity Calculator to determine R = 23.06. This would be the lowest precipitation for the allotment as it will increase upslope to the summit. Then using Attachment (3) for K (0.1 -0.3) which covers the range reported in the Soil Specialist Report, slope length of 100 feet, slope of 30 - 60%, ground cover of 0% and 40% approximating ground cover we have observed on these high erosion hazard

areas, we determined the tons per acre soil loss. (Table 1).

This calculation predicts that soil losses are likely much greater than the maximum 1 to 5 tons/acre soil loss tolerances provided in Table 6 of the Soil Specialists Report. While this is an approximation, it represents the potential (or actual) risk occurring in these allotments as sheep are grazed and trailed over these steep and erodible slopes. It would be useful to look at the annual snowfall and runoff during melt that creates sheet and rill erosion, but that is what the Forest Service analysis should have done.

22 High Uintas Wilderness Domestic Sheep Analysis Forest Plan Consistency for Grazing Suitability and Project Specific Capability/Productivity Analysis for Fall Creek, Ottoson Basin, Oweep, Tungsten, and Painter Basin Allotments Ashley National Forest.

23 NRCS-IOWA. 2002. USLE Erosion Prediction.

Figure 13. USLE Formula definitions

Table 1. Approximation of Soil Loss using USLE Factors

Slope %KSoil Loss No Ground CoverSoil Loss 40% Ground Cover
30.00.18.21.8
40.00.113.12.9
50.00.118.54.1
60.00.124.05.3
30.00.216.53.7
40.00.226.35.8
50.00.237.08.2
60.00.248.010.7
30.00.324.75.5
40.00.339.48.8
50.00.355.512.3
60.00.372.116.0

This shows that, despite claims in the DROD that the project relied on the Best Available Data or Science, the Soils Specialist Report has failed to do this to determine damage to soils, while finding few isolated impacts. This lack of analysis of basic soil and watershed science

principles violated NEPA and in doing so gives approval to the continued degradation of Wilderness and ecological values.

The Soil Specialist Report:34 referenced the soil survey used for the Wasatch Cache NF portion of the project area.24 We requested that survey in our 2025 FOIA.25 Using the GIS map files

provided in that FOIA response, we mapped the soils for the EFBF for an example. There are

two soil map units that are rated as having a high or very high hazard of water erosion. These are: the NS223 Duchesne Family 20 to 40% slopes with high erosion hazard, consisting of

moraines with conifer and meadows; and the NS502 Talus-Rock-outcrop-Mirror Lake 40 to 80%slopes with very high erosion hazard with conifer and openings. We mapped these for the EFBF allotment (Figure 14). The NS223 soil totaled 4,252 acres and the NS502 soil totaled 8,690 acres. This amounts to 12,942 acres, or 51% of the EFBF allotment consisting of soil with high and very high erosion hazard.

Using the capability GIS files used in the Range Specialists reports, which we received from our FOIA, we overlaid the Forest Service capability map on the EFBF allotment as an illustration.

Figure 15 shows the moderately high and low capable areas overlain on the NS223 and NS502 soil map units. The map shows the patchy nature of the capable areas that are contained within these two soil types, particularly the NS223 moraines. This means that sheep are trailed and grazed over these erodible soils to access the capable areas. Using ArcGIS Pro, we found that for the EFBF, the Range Specialists' analysis found 5,004 acres of the moderate capability class and 2,942 acres of the high capability class. This is only 31% of the 25,463 acres

within the EFBF allotment.

Then, if we summarize how many of those acres are within these two soil types with high or very high erosion hazard, we find there are 4,252 acres within NS223 and 660 acres within NS502. If a proper capability analysis had been carried out, these acres would not have been included. So, if we subtract the total of these from the capable acres, this leaves 3,034 acres for the entire allotment, or 11.9 percent. This closely approximates the amount we found in our own previous analysis (see Exhibit 1 of Attachment 1). If the analysis were to include wetlands or wet meadow areas that the Forest Service admits sheep do not prefer, there are likely almost no capable acres in the EFBF or other allotments. The EFBF has seven pastures or units which

24 USDA Forest Service. 1992. Soil Survey Area UT647 North Slope Uinta Mountains Portion. Uncorrelated. Unpublished. On file at Vernal Ranger District Office, Ashley NF, Vernal, UT.

25 USDA Forest Service. 2006. Extracted from Map Unit Descriptions Soil Survey Area UT867 North Slope Uinta Mountains Portion. Wasatch Cache National Forest of October 24, 2006.

should have also been analyzed to determine the amount and arrangement of capable acres and remove those areas of high and very high erosion hazard soils.

Figure 14

Figure 15

If we look at the sheep driveway within the EFBF, it is largely passing through areas of NS223 high erosion hazard soil. (Figure 16). When overlain on the Forest Service capability map, there are added sections of the driveway also on those what the Forest Service has chosen to characterize as low capability areas. In the end, the EFBF and the other allotments have almost no suitable lands when you consider the wilderness values, the erodible soils, steep slopes and other resource values.

Figure 16

Both Range Reports have concluded that nearly 100% of the land is capable of being grazed by domestic sheep by avoiding the strict guidelines specified in the Regional Protocol and failing to take soil erosion into account while continuing to graze and trail domestic sheep over these steep slopes. It also means that the intensive on ground data collection and mapping of the

1960s is thrown out the window along with the 2003 WCNF RFP analysis which showed only 16 and 21% of the

land capable for the WCNF portion of the project area. This means that the range staff have reinvented the intent of the capability criterion to ensure that all lands are capable regardless of the risk or ecological damage.

NFMA capability and sustainability provisions are clearly violated as shown by our analysis. The Region has capability criteria that include slope (<45%), distance to water (<1 mile), with areas of soils that are not unstable or highly erodible. The Range Specialists included areas up to 60% slope, > 1 mile from water, and did not exclude any areas with unstable or highly erodible soils. The Forest Service capability analysis avoided using the clear definition of

lands that are not capable, instead it chose to define all lands as capable by using the term

"low capability". Adhering to the Regional Protocol and analyzing the allotments capability is critical to maintaining ecosystem productivity and sustainability.

Our analysis shows that grazing and trailing tens of thousands of domestic sheep in these allotments exceeds the tolerable soil losses shown in Table 6 of the Soil Specialists report. This exceedance is shown in our calculations above, as demonstrated as long ago as Mont Lewis in 1970, Padgett and Condrat in 1994, Carter 2006, and in the evidence provided by retired Ashley NF Soil Scientist, Darlene Voerner. In addition, our published analysis

(Exhibit 1 of Attachment 1) illustrates the lack of capability of these allotments and their being stocked at an order of magnitude greater than an actual quantitative range analysis

shows. Using the East Fork Blacks Fork as an example, we compared the Range Specialists' Reports capable areas to that which would have been determined if the Forest Service had it's specialists chosen to include the soil erosion factor in their analysis. When we did that, the total capable acres became 11.9%. Many of these acres are isolated patches that require trailing and grazing across the non-capable areas to reach them, creating damage as they

move.

The Forest Service FEIS and Soils Specialist Report references the 1992 WCNF Soil Survey which contains Soil Erosion Categories such as high or very high erosion hazard but failed to use this "Best Available Scientific Information" as claimed in the DROD:17. The Forest

Service and their Specialists have known this, and with intention, continued grazing and trailing tens of thousands of sheep across this sensitive land with the disastrous

consequences we have documented. This is a violation of NFMA and the intent of the Forest Plans. Not only is it a failure to take an actual "hard look", but it is ecologically unsustainable.

1. Degradation of Wilderness Values

The DROD:48 notes that the Wilderness Act section 4(d)(4)(2) "the grazing of livestock, where established prior

to September 3, 1964, shall be permitted to continue subject to such reasonable

regulations as are deemed necessary by the Secretary of Agriculture." It then provides guidelines from FSM 2323.22 Exhibit 1 that include this statement: "Any adjustments in the numbers of livestock permitted to graze in wilderness areas should be made as a result of revisions in the normal grazing and land management planning and policy setting process, giving consideration to legal mandates, range

condition, and the protection of the range resource from deterioration."

The DROD:49 notes that the High Uintas Wilderness Area was established in 1984, and the Utah Wilderness Act reiterated the allowance for domestic livestock grazing if in place at the time the Act. Then, referring to the FEIS, it admits that Alternative 2 creates impacts on the wilderness attributes of untrammeled, natural, undeveloped, opportunities for solitude or primitive or unconfined recreation. But it explains those away because the wilderness area was created with domestic sheep grazing in place. As we demonstrate here, the Wilderness is severely degraded

by the trailing and grazing of thousands of domestic sheep in non-capable lands and lands that should be determined not suitable under NFMA. A summary of our past comments follows.

DEIS Comments:13-17

* The High Uintas Wilderness is the most heavily grazed Wilderness and suggests this is why the likely best bighorn sheep habitat in the Wilderness Preservation System has struggling populations.
* The DEIS fails to state grazing in Wilderness is a nonconforming use that harms wilderness character and biases the NEPA analysis.
* This ignores that wilderness must be administered that leaves it "unimpaired for future use and enjoyment[hellip]protected[hellip]preservation of wilderness character.. "
* The wilderness definition includes that it is "untrammeled by man[hellip]retaining its primeval character...is affected primarily by the forces of nature".
* Grazing livestock in wilderness is an exception where it is allowed to continue if in place prior to September 3, 1964, but must be regulated.
* The DEIS leads the reader to conclude the proposed action would not harm Wilderness but fails to recognize agency policy to "close the gap" between the attainable level of purity and that which currently exists.
* The DEIS biases the NEPA analysis by incorporating condition classes described in an earlier plan, therefore an analysis of No Grazing is not needed.
* Those seeking a true primitive recreation experience would likely be most harmed by the presence of domestic sheep, while reliance on trail registers can be misleading.
* Cites the misapplication of Landres et al 2008 and Keeping It Wild that downplays the essence of Wilderness and how KIW2 has been used to justify trammeling actions in wilderness.
* Critiques DEIS characterization of naturalness that presumes domestic sheep impacts are transient while ignoring the forage consumed, watershed degradation, and disease organisms left in feces.
* Predator control was not mentioned yet the FSM emphasizes the critical role they play in maintaining integrity of natural ecosystems while the area is within lynx habitat, a recent wolverine sighting was made, while bears and coyotes are not mentioned.
* Sheep driveways are sacrifice zones lacking plant diversity and severely eroded.

* The DEIS recognizes there has been no grazing since 1977 on the Fall Creek allotment, while the High Uintas Wilderness was designated in 1984 and the DEIS does not detail impacts from grazing this allotment.

Summary of Evidence of Domestic Sheep Impacts on Wilderness

* Mont Lewis 1970 Analysis Attachment 4 was summarized in our comments on the DEIS (28-30).

*
* Deep soil occurs in boulder fields and talus while slopes below seeps and

snowdrifts have plants that occupy most of the soil similar to the boulder fields and talus

*
* Alpine soils are "weak" while shale derived soils are unstable with high erosion hazard with rapid erosion where ground cover is lacking. Any grazing use that damages plant cover may have serious consequences.
* Frost action breaks down soil stability, which is accelerated by grazing of sheep, while trampling by sheep increased the size of sod breaks.
* Wet meadows and bog communities are too wet for sheep grazing while dry

meadows are a favorite of grazing animals and have been heavily damaged. These dry meadows occur at the foot of slopes.

*
* Drier sites in conifer community are in poor condition due to heavy grazing.
* Range condition site analysis on areas with little or no past grazing use had ground cover approaching 100%.
* Wet meadows are not considered suitable.
* Suitable and non-suitable areas are intermixed on most of the alpine area and damage to non-suitable areas must be considered.
* Grazing on slopes above lakes was observed to increase sedimentation.

In the 2006 report by Dr. Carter numerous sites were surveyed showing the denuding of steep slopes and sensitive soils. (Attachment 5). Figure 17 illustrates the result of grazing sheep on steep slopes which have deep soils and near complete ground cover. The left photo below was taken in East Fork Blacks Fork and shows steep slopes with a high amount of bare soil, but with residual deep-rooted vegetation illustrating that the soil can support a high percent ground

cover if not grazed. The right photo shows the slope leading into Lake Fork Basin from Red Knob Pass along the sheep trail, but the entire slope, not just the trail, is denuded by grazing sheep with only residual deep rooted thistles present. Figure 18 shows similar areas in EFBF and Middle Fork Beaver Creek (MFBF) with vegetated slopes that have either escaped sheep grazing or in the case of MFBF with decades of no sheep grazing.

Below the figures is a chart taken from the 2006 report showing the bare soil observed at numerous locations compared to that in the Middle Fork Beaver Creek and Burnt Fork

allotments that have not been grazed for decades. (Figure 19). These were taken from the grazed West Fork Blacks Fork, East Fork Blacks Fork, and Ottoson allotments and the ungrazed Burnt Fork, and Middle Fork Beaver Creek allotments. The grazed uplands have significant bare soil, while the ungrazed uplands have nearly 100% soil cover. For the complete analysis, data,

photographs and more detailed discussion, see Attachment 5 and the Coalition comments on the DEIS (28-75). (Attachment 2).

Figure 17. Photos of steep slopes trampled and grazed by domestic sheep with

residual vegetation indicating potential for complete vegetation cover of the soil

Figure 18. Left from EFBF showing slope that has soil stabilizing the talus slope and is vegetated. Below a photo in the long ungrazed

Middle Fork Beaver Creek showing alluvial areas and slopes where soil occurs are vegetated. In areas of active rockfall and talus movement, soils have not developed to support vegetation of any extent.

Figure 19 . Comparison of ground cover at the grazed West Fork Blacks Fork, East Fork Blacks Fork, and Ottoson allotments with that in the ungrazed upland locations with that in ungrazed Burnt Fork and Middle Fork Beaver Creek allotments.

As the Lewis report (Attachment 4) illustrated, sheep grazing on slopes above lakes can

accelerate sedimentation into the lake. Here a graphic illustration from the West Fork Blacks Fork Lake EJOD shows this as deltas have formed in the lake from the bare soil created by sheep grazing and trampling. There are other

examples from our 2006 Report. (Attachment 5). Other examples are included.

A study of Lake EJOD using sediment cores found increased nutrient and sediment loading in the past century, coincident with the period livestock have grazed here. This is a departure from rates of deposition going back 5300 years.26

26 Munroe, J.S., Klem, C.M. and Bigl, M.F. (2013) A Lacustrine Sedimentary Record of Holocene Periglacial Activity from the Uinta Mountains, Utah, U.S.A. Quaternary Research, 79, 101-109. https://doi.org/10.1016/j.yqres.2012.12.006

Those Coalition comments on the DEIS also illustrated the denuding of forested habitat on shale derived soils, alpine turf broken up, a report by retired Ashley NF soils scientist showing the late snow and reduced growing season, broken turf and exposed soil, the return of ground covering lichens in a location in which grazing was discontinued, soil loss of several inches, vegetation pedestaled by soil loss. A review of the Forest Service monitoring and photos

provided in response to our 2019 FOIA (link to data) illustrated the extent of non-capable areas like wet meadows and steep slopes, and the short growing season. The Forest Service photos also revealed the damage to grazed uplands adjacent to wet areas where gophers are blamed for bare soil.In the long rested Fall Creek allotment they showed the recovery of trailing areas, meadows and streambanks, lack of gopher activity, and ground cover nearly complete.

The DEIS comments also looked at the Bald Mountain study and included photos of the sheep manure in water running off into streams and lakes, reported on the Bald Mountain study (St. Clair et al 2007) that showed the sites with more snow and accessible to sheep had total ground cover of about 50%, while the rocky sites with less snow and less sheep access had total ground cover ranging from about 50% to near 100% and an average of about 75%. Bare ground was much higher in the meadow locations than in the rockier locations.

In those DEIS comments we also reviewed the Forest Service Monitoring site data provided in the 2019 FOIA response. This showed a heavy bias towards monitoring in less sensitive areas. These were dominated by locations that were wet sites and were in valley bottoms and areas of low slope gradient. We don't believe the NEPA "hard look" requirement means to look only in place that are not impacted because they are not preferred by sheep.

* Report on Sheep Driveway Conditions by Padgett and Flood27 (Attachment 6). Wayne Padgett was the Forest Ecologist and Paul Flood was the Forest Soil Scientist. Their report which compared driveway sites to a late seral (undisturbed) site concluded:
* Ground cover, species composition, and depth of topsoil differ greatly on some portions of the sheep driveway when compared to the late seral site. Topsoil depth on the late seral site averaged over 11 inches while on the sheep driveway it was less than 2 inches.
* Bare soil on the late seral site was approximately 0.5 percent, along the sheep driveway it ranged from 6.5 to 52.5 percent. When percentage rock and pavement are added to those figures, there is approximately 7 percent for the late seral site and bare soil ranged from nearly 24 percent to over 86 percent along the sheep driveway.
* Existing national and regional standards that limit soil erosion and the loss of long-term soil site productivity are being exceeded along most portions of the driveway; these same standards are being exceeded in many of the pastures as well.

27 Padgett, W. and Flood, P. 1993. Sheep Driveway Resource Conditions. Wasatch Cache NF November 4, 1993.

*
* Alpine communities that represent near climax conditions in the Uinta Mountains

(occurring on sites similar to those we sampled along the sheep driveway) are characterized by nearly 100 percent ground cover.

*
* On unimpacted and low impact sites such as this area, cryptobiotic lichens are commonly present on the rock surface down to where vegetation and/or litter covers the rock. Most rocks on this site had this appearance. On driveway sites, these lichens were often totally absent. Where present in minimal amounts, they often occurred at an elevated position several inches above the ground surface level.

* Alpine Plant Community Classification28 (Brown 2006). In our comments on the SDEIS (p25) (Attachment 1) we commented on the Brown report and its potential for incorporating degraded conditions as a baseline by his collecting data in allotments that are being grazed by livestock and are degraded. We analyzed the data provided in that report for the sheep allotments. (Table 2). Throughout the SDEIS, utilization is indicated to be low to moderate and has been measured for more than 60 years (SDEIS p141) yet no tabulation or description of this data is provided and related to current or reference conditions. Neither are trend data provided as most

monitoring appears to be opportunistic, not systematic. The Forest Service Handbook emphasizes the use of reference areas and the need to use monitoring of those to determine progress towards DFCs. "Monitoring can then tie to these reference areas as a means of determining progress toward meeting the desired conditions." (FSH 2209.13).

Table 2. Ground Cover Characteristics in Brown (2006)

Community ID (Brown 2006)	No of Sites	Exposed Soil Min%	Exposed Soil Max%	Exposed Soil Median%	Exposed Soil Mean %
Dry	20	0	35		
Ivesia and Barren	15	28	42	37	
Low and Dwarf Shrub	44	10	56		
Meadow	32	0	45	36	
Mesic Carex	111	4	40	11	
Snowbed	36	0	65	20	23
Wet	10	0	5	0	1

28 Brown, G. D. 2006. An Alpine Plant Community Classification for the Uinta Mountains, Utah. Ogden, UT: U.S. Department of Agriculture, Forest Service, Intermountain Region. 140 p.

https://app.box.com/s/vt5obbo9tt2cd6ucesai9xjx046pu71y

This table illustrates several important points.

* The minimum amount of exposed soil in all communities is near zero. This comports with Lewis (1970) which indicated potential ground cover is near 100% and with our report29 comparing grazed and long term rested allotments in the Uinta Mountains. (Attachment 5).
* The maximum exposed soil in wet communities of 5% and average of 1% comports with the acknowledgement by the Range Specialists such as Sheryl Goodrich that sheep avoid wet plant communities therefore these are not capable.
* The maximum exposed soil in all other communities ranged up to 84%, which shows most sites are degraded from potential.
* Analysis of Forest Service Monitoring Data (Attachment 7). In response to our 2019 FOIA request, we obtained file folders (03-Studies) that contained monitoring data and photos for the Driveway, the Ashley NF allotments and the Uinta Wasatch Cache NF allotments.

Due to time constraints, we reviewed those files only for the Ashley NF in our detailed comments on the DEIS:40-61 showing many issues with interpretations. Major points include:

*
* There were 1565 study sites in file (07092019ANFStudyPlotCoordinates) but only 69 reported ground cover in the last 20 years and none reported utilization data.
* Overview photos show basins dominated by wet habitats which sheep do not prefer, surrounded by forested and rocky slopes and a few dry areas they will graze.
* Snowbanks or snow beds are present through most of the grazing period in areas being trailed and grazed. This impairs production due to plant growth barely starting before being grazed.
* Ottoson allotment examples of sheep grazing in upland adjacent to wet areas they avoid, accelerated runoff scouring channels and breaking up turf.
* Ottoson Little Basin snow bed showing barren slopes adjacent to wet meadow area while the notes state that the "growing season is so short for plants to colonize much of the site". But no mention of the fact that sheep prefer the uplands to the wet areas and will be on those slopes grazing any growth and trampling the wet soils on the slope.

29 Carter, J. 2006. Watershed Conditions Uinta Wilderness. Western Watersheds Project. https://app.box.com/s/944957604b8618539585

*
* Ottoson Little Basin "discontinuous sod community" not due to sheep but no other cause given except to claim that the adjacent wet area wasn't broken up. Lewis (1970) called this alpine turf in very poor condition due to heavy sheep grazing.
* Ottoson wet meadow where the Range staff stated, "Sheep are very reluctant to use wet meadows" yet this is ignored when adjacent uplands are denuded. This is evident in the Ottoson "Pocket gopher eskers indicate a site highly selected by gophers", but it is adjacent to a stream and wet meadow, so sheep also prefer this area and trample and graze it, yet pocket gophers are the cause of bare soil.
* Oweep sheep trail photo of a head cut with a note admitting that sheep "likely contributes to the cutting if not the cause of the cut".
* Fall Creek allotment photos showed complete ground cover, trails healing, dry moraines adjacent to wetlands healing with plant cover complete across the

moraine. See FOIA folder at

https://app.box.com/s/ykhjo7ebhbog2za7sdz9ou5kyhvvixdh for photos and descriptions by the Forest Service showing the conditions in Fall Creek after

nearly five decades of no livestock grazing and compare to the grazed allotments and driveway descriptions and analysis we have provided here. The contrast is clear. Wilderness and ecological values are returning in Fall Creek and continue to be degraded where domestic sheep are grazed.

*
* Fall Creek allotment trampled stream banks are healing with complete cover, dry meadow with Deschampsia and Danthonia with 99% ground cover, headcuts healing, a snow bed site is shown with near complete cover of lichens and vegetation. Gopher activity barely noticeable or absent in most descriptions.
* Below is copied from the DEIS:59 comments (Attachment 2).

Painter Basin 2003 (p304 12-022 to 12-052. Note with photo states, "This shows the vivid

contrast in vegetation cover on the near side of the stream in quartzitic materials and the relative sparse cover on the far side of the stream where shale materials are abundant. Had livestock grazing been so intense as to cause the conditions on the far side of the stream, similar conditions could be expected on the near side of the stream. Site specific factors and not the more or less ubiquitous factor of livestock grazing are strongly indicated to be the cause of the sharp contrast between the 2 sides of the stream." Here

Range Staff fail to note that wet meadow habitat is on the right side. They have admitted sheep avoid these areas, yet here in their zeal to forgive any sheep impacts, they fail to

connect the dots to acknowledge the area used by sheep is the less stable shale on the left. Sheep bedding, grazing, trailing, and loss of ground cover all are happening on the left.

Figure 21. Painter Basin photo from Forest Service files illustrating the barren area on the left where sheep prefer to graze, compated to the wet site on the right they avoid.r

For comparison, we have provided photos and notes below from the Fall Creek folder referenced. (Figure 22 - 24). Some notes from the folder include:

* Folder p102 of meadow with low level of gopher activity, barely visible in photo.
* Folder p118 Steep erodible slope with no evidence of trampling and with vegetation present.
* Folder p168 Juncus parryi site was 90% cover. Gopher activity minimal compared to other Juncus sites in the Uintas. These sites have potential for high ground cover. Potential without gophers 90 - 100%.
* Grandaddy horse allotment note Folder page 7. Pine Island Lake "Bare ground and accompanying small gully areas exist. It should heal over time if grazing and trampling is discontinued."

Figure 22. Showing complete ground cover in Fall Creek allotment ungrazed by domestic sheep for nearly 50 years.

Figure 23. Fall Creek healing erosion feature

Figure 24. Fall Creek meadow with near complete ground cover after almost five decades of rest from domestic sheep.

* Analysis of Driveway data (Attachment 7).

We received a file from our 2019 FOIA request that contained driveway data. There were 78 unique locations in the database. There were no locations provided for that data. We

submitted a FOIA in August of this year for location data, but the file received contained location data only for 36 sites which were along the driveway in the Red Castle, Hessie Lake and Henry's Fork, and Gilbert Peak allotments. There were no points for the driveway in the East Fork Black's Fork allotment. There are points along the East Fork Black's Fork portion of the driveway, but those are not identified with the same identifiers as in the 2019 data. So, we have analyzed the portion for which we have the data. Notes from the FEIS are provided below

*

* FEIS:175 "Trailing outside of the East Fork Sheep Driveway does occur on each individual allotment by the sheep permitted there."

*
* FEIS:194 "The map in Figure 31 illustrates the current trailing routes used by seven bands of sheep (i.e., three from the Ashley NF and four from the UWCNF) from the point they enter the National Forest at the Wyoming-Utah State line to their permitted allotments, and it also illustrates the monitoring sites along the sheep driveway. The length of the trail system is

roughly 52 miles or approximately 945 acres based on an average width of 50 yards".

*
* FEIS:196 "Photos, data and field notes from Cache Hill, East Fork-Smiths Fork and Hessie Lake show increased soil disturbance, reduced ground cover, and some active gullies. Each of these highly impacted areas is estimated at about 0.5 miles in length and widths range from 30 to 300 feet. Based on an average width of 150 feet, approximately 27 acres of the driveway were calculated to be in unsatisfactory condition, or less than 3 percent of the driveway."
* FEIS:196 claims ground cover is meeting or moving towards standards.

We mapped the driveway and the 36 points for which location data were provided. The minimum distance from the driveway to the monitoring point was 5 feet, the average was 530 feet, and the maximum was 1,868 feet. The bare soil ranged from zero or full soil cover in wetland and riparian areas to 90% of bare soil in one upland location. A review of the photos in the Driveway file showed a much larger area of damage than 150 feet. We have provided a

review of many of the sites in Attachment 7. See, for example, the very first site (08-03A) in that Attachment showing Big Meadow and claiming only 15% bare soil. (Figure 25). The Meadow is much, much larger than 150 feet and the photo of the ground surface shows about half of the plot is bare soil. In our prior comments we evaluated a plot using Sample Point and it showed a much higher bare soil level than the Forest Service range staff can see. In fact, a similar site (08-04A) was stated to have 44% bare soil. (Attachment 7). In Figure 26, we show that same site (08-03A) in 1998 with near complete ground cover and high diversity, yet the FEIS claims conditions are improving, the photos show otherwise.

Figure 25. Big Meadow Site 8-03A Claiming 15% bare soil against the evident nearly half of the plot being bare soil in the photos.

Figure 26. Site 8-03A taken in 1998 showing a diverse ground cover with little bare soil. Compare to the 2013 photo above with high bare soil and little

diversity.

Attachment 7 is self-explanatory with its use of Forest Service monitoring photos and points made. Some of these include:

*
* Meadows being monitored are very large compared to the claimed 150-foot width, so the driveway damage is grossly underestimated. (Sites 8-03A, 8-04, 8-09A, 8-09B, 8-09C, 8-21E, for example).
* Gophers are given as the cause for reduced soil cover in many cases.
* No accounting for drought v wet years in evaluations. For example, site 08-09B shows an improvement from 64% ground cover in 2004 to 98% in 2013. According to the Drought Monitor, 2004 was in extreme drought in July while in 2013, it was moderate. In addition, the photos appear to be taken before and after grazing.
* Steep, forested slopes with bare soil that is displaced by trampling leading to rills and gullies. (See sites 08-26A and 08-26B)
* Stream banks are scoured. (See site 98-32D). Lodgepole pine in the middle of the stream showing channel widening. Others included in the Attachment.
* Wet meadows show little use, while adjacent uplands are trampled and have bare soil. (See site 08-32C2)
* Snow beds blamed for reduced soil cover while ignoring widespread damage and reduced soil cover in areas not within the snow bed itself. (Site 8-33 for example)

*
* Summarized the 1993 Sheep Driveway Report which showed major soil loss with off driveway soil 11" depth and driveway soil 2" deep. It noted bare soil on a late seral site was 0.5% and, on the driveway, ranged from 6.5 to 52.5%. Reported lichens present on rocks to the soil surface off the driveway and elevated several inches

above the soil surface on the driveway. This indicates major soil loss on the

driveway. Note plants were pedestaled on the driveway, again indicated soil loss.

*
* Illustrated Red Knob Pass bias by only looking at the narrow mesic strip of vegetation while ignoring the highly erodible slopes that are lacking vegetation and upon which sheep trail and graze.
* Flat Top Mountain slope with bare soil along the driveway over a wide area. (See site 19-09).
* Driveway entering Hessie Lake drainage with large gully. (See sites 19-10, 19-11).
* Shows snow persisting until near the end of the grazing period and that it suppresses establishment and growth of plants. Yet, sheep are driven and grazed through these areas. (See site 19-32A).
* Snow bed in an off-driveway location shown with vegetation covering the soil. (See site 19-32D).
* In upper Henry's Fork near Gunsight Pass, slopes are shown that illustrate vegetation growing in areas not

directly in the path of rockfall. (See sites 20-05 and 20-05B).
* Reviewed Annual Operating Instructions noting that there are only two permittees grazing these allotments with one permittee JRB LLC having all but one allotment. Shows no pastures rested and trailing patterns around edges of basin along slopes.

Regardless of claims in the FEIS, these points illustrate major degradation of soils, plant communities, watersheds and Wilderness. For example, if you calculate the area of the

driveway that is impacted based on the distances to the monitoring sites, it is quite astonishing.

*
* Mean distance to points = 530 feet for the 52-mile driveway = 6,681 acres
* Maximum distance to point = 1,868 feet = 23,548 acres

These areas are massive compared to the 27 acres the FEIS claims and they validate the observations and measurements we have made over decades of surveying sheep damage in the Uinta Wilderness.

* Bighorn sheep loss due to forage competition with domestic sheep.

The 10,300 ewe/lamb pairs grazing these 10 allotments will consume approximately 301 pounds of forage per month per pair. (Attachment 1 Exhibit 1). This results in forage consumption of 6,200,600 pounds for the two-month grazing season. According to Holechek et al (2004)30, the daily forage consumption of a bighorn sheep is 3.6 lb/day. At this rate, the 6,200,600 lbs of forage consumed by domestic sheep during the summer grazing season would support 1,722,388 bighorn sheep days, or in the 60-day grazing season, it would support 28,706 bighorn sheep. Of course, the domestic sheep are consuming forage that other wildlife species such as elk could use, so the forage use would be spread across a number of species. However, this

provides an example of the sheer magnitude of wildlife species displacement by domestic sheep. It is a loss in wildlife and wilderness values.

* Domestic sheep fecal pollution of recreational waters.

These same 10,300 ewe/lamb pairs consuming over 6,000,000 pounds of forage would then defecate a huge amount (thousands of tons) of E. coli-containing manure across the landscape during the summer. This waste contains E.coli and other harmful bacteria, including those that can affect wildlife such as bighorn sheep. However, as we have noted in our past comments, these domestic sheep are grazing across these watersheds, even to the highest ridges and

spreading that waste across the landscape. The FEIS does not mention E.coli. The FEIS notes that some streams are impaired, others meeting beneficial uses, but these monitoring stations are not located within the allotments where recreationists obtain their water from streams and lakes. These same streams and lakes are directly impacted when domestic sheep trail across, or drink from them and from runoff from sheep waste spread

across the allotments.

In our comments on the DEIS (Attachment 2 pp62 - 66), we detailed the deposition of sheep manure in melt water on Bald Mountain. Here's the account, "I spent the long weekend in the Uintas, my husband and I climbed to the top of Bald Mountain in the Red Castle allotment. There was so much sheep sh.. we couldn't put our packs down. In most places the ground was so saturated the melt was creating overland flow, so the feces was in standing water that was running off into the creeks. We

hiked all the way back down without water, because gross. I trust my filter but that was just disgusting."

Many years ago, Dr. Carter and a friend were backpacking in the same area. His friend drank water running off these ridges and contracted giardia. Dr. Carter did not drink the water and did not contract giardia. From a recreation and human health standpoint alone, this water pollution issue should be sufficient to terminate sheep grazing in the Uinta Wilderness.

30 Holechek. Op.cit. Table 8.11.

The photos depict Bald Mountain with snowpack melt water running off with sheep manure in the water, polluting everything downstream. The photos show the condition left at the end of the season last year with little residual vegetation in the areas where melt is ongoing. In the years Dr. Carter backpacked these valleys, slopes, peaks and ridges, they were laden with sheep manure as evidence they had been grazing and trailing in non-capable areas.

A report by the Institute of Environmental Science and Research Limited concluded that "sheep and lambs excrete considerable less faeces per day than dairy cattle (Sheep 1-2 kg; Cattle 20 kg approx.), but their faeces containing significantly more E. coli per gram- adult sheep 1.67 x 107, dairy cattle 8.2 x 104 per gram)."31 "During rainfall or irrigation generated overland flow could result in considerable contamination of the waterways."

Modeling research in New Zealand reviewed the role of domestic sheep in E.coli generation. "Previous research has identified that, at equivalent stocking rates, sheep will deposit approximately 100 times more E. coli onto a pasture than cows due to the high concentrations of E. coli in sheep faeces

(Moriarty et al. 2015; Monaghan et al. 2021). However, Muirhead (2023) showed that at equivalent

stocking rates the E. coli runoff concentrations from sheep grazed pasture was on average only four times higher

than the cow grazed pasture. Furthermore, when the sheep stocking rate was increased four-fold, the average E. coli runoff concentrations increased six-fold (Muirhead 2023). This demonstrates that

efforts to model E. coli runoff from grazed pastures cannot simply be based on the E. coli loading rate directly onto the land. It was hypothesized that these observed differences may be driven by the relative surface area of the pasture covered by the sheep and cow faecal pats (Muirhead and Monaghan 2012; Muirhead2023)." 32 See also Muirhead (2023).33

If we use the range of 1 - 2 kg/day rate of fecal deposition by the sheep, the range of deposition per day is 45,320 - 90,640 lbs/day, or 2,719,200 to 5,438,400 lbs/season. This is a health risk to people and wildlife and a degradation of wilderness values.

1. Sensitive plants

The DROD:41 summarizes impacts to three sensitive plant species.

31 Moriarty, E. and Gilpin, B. undated. Sheep as a Potential Source of Faecal Pollution in Southland Waterways Institute of Environmental Science and Research Limited

32 Muirhead, R. W. (2024). Modelling E. coli runoff concentrations from sheep and cow grazed pastures in New Zealand: challenges and future research needs. New Zealand Journal of Agricultural Research, 68(7), 1707-1722. https://doi.org/10.1080/00288233.2024.2414779

33 Muirhead RW. Escherichia coli runoff from sheep and dairy cow grazed pasture: A plot scale simulation. J Environ Qual. 2023 Mar;52(2):287-295. doi: 10.1002/jeq2.20448. Epub 2023 Feb 8. PMID: 36645734.

*
* Rockcress draba: "No impact. Documented and expected in alpine tundra communities in the project area. However, this plant is protected from livestock grazing due to steep rocky slopes,

distance from preferred grazing areas, and other topographical obstacles."

*
* Utah Ivesia: "No impact. Not documented in project area but habitat could support this species. Areas where this plant would grow are protected from livestock grazing due to steep rocky slopes, distance from preferred grazing areas and other topographical obstacles."
* Arctic poppy: "No impact. Not documented in project area but habitat could support this species. Areas where this plant would grow are protected from livestock grazing due to steep rocky slopes,

distance from preferred grazing areas and other topographical obstacles."

The 2018 BA/BE listed Draba apiculate (beavertip draba) [DRGL6]and Papaver radicatum (rooted poppy). These are listed in the Alpine Plants Classification Appendix A as Papaver uintaense (Uinta poppy) [PAUI]and Draba globosa (beavertip draba)

It is interesting that the Forest Service claims these plants are protected by steep slopes, distance from preferred grazing areas and other topographic obstacles when the AOIs show pastures and trailing in these areas, when there is a major sheep driveway scaling steep slopes grazing the tops of Flat Top Mtn, Bald Mtn, Gilbert Peak and also show contouring around in these steep areas.

The Alpine Plants Classification (Brown 2006) found this:

Rockcress draba (DRGL6): listed as Draba globosa (beavertip draba) found in study plot A35- 34E which is the Salix arctica community and study plot W21-12S listed as Dryas

octopetala/Carex rupestris community. This was found east of the project area.

Utah Ivesia (IVUT): "Another Ivesia species (Ivesia utahensis) was found in a barren shale snowbed.

Because of its relationship with Juncus drummondii, Sibbaldia procumbens and Antennaria alpina it was classified with the Juncus drummondii snowbed community (study plot W17-31I3)." This was found in the West Fork Blacks Fork Allotment at Lake EJOD.

Arctic poppy (PAUI): "Finer material that "creeps" down slope supports additional plants such as Crepis nana, Senecio fremontii, Chaenactis alpina, Epilobium latifolium, Papaver radicatum, Cerastium beeringianum and Artemisia michauxiana. These plants are often restricted to these environmental

conditions and are considered indicator species for talus creep communities. " The plant was found in study plot (A11-4E) The photo on page 58 of the Alpine Plants Classification shows this habitat as talus with soil and 48% slope. These sensitive and erodible slopes are trailed and grazed as sheep either move across ridges or graze adjacent areas in the high elevation pastures. This was found in the Tungsten allotment near the sheep driveway.

Brown has nearly 300 sites and these three plants were found in only 3 locations. Only one was found in the project allotments. It appears that the habitats are damaged to the point the

plants are being eliminated, otherwise they would have been found. This is again an NFMA viability issue.

Sincerely,

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