

March 6, 2020

Bureau of Land Management
ATTN: Seth Flanigan
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Boise, ID 83705

Via email to BLM_WO_grazing_email@blm.gov

SCOPING COMMENTS ON THE PROPOSED BLM GRAZING REGULATIONS REVISIONS

Dear Mr. Flanigan and Other Responsible Officials,

The following comments are being submitted in response to the January 21, 2020 Federal Register notice (85 FR 3410) soliciting public comments on the Bureau of Land Management's (BLM) proposed revisions to the grazing regulations (43 CFR § 4100 *et seq.*), agency policies which govern the management of private livestock operations on 155 million acres of BLM-administered public lands.

The following comments are submitted by Western Watersheds Project (WWP) and the following organizations whose millions of members and supporters care about the restoration and protection of western watersheds and wildlife habitat: American Wild Horse Campaign, Basin and Range Watch, Center for Biological Diversity, Friends of the Clearwater, The Grand Canyon Trust, Great Old Broads For Wilderness, KS Wild, The Larch Company, Natural Resources Defense Council, Oregon Wild, The Sierra Club, Southern Utah Wilderness Alliance, Wild Earth Guardians, Wilderness Watch, and Wildlands Defense.

Collectively, we take a keen interest in the BLM's proposed actions regarding the grazing regulations, and offer the following comments for your consideration in preparing an Environmental Impact Statement to accompany any regulatory changes.

I. INTRODUCTION

As the BLM no doubt remembers, when it attempted to revise the grazing regulations in 2006 (71 FR 39,402), WWP and our allies prevailed in federal court to block their implementation. This was due to the inadequacy of the agency's proposals to comply with federal laws in promulgating the 2006 regulations, and both the district court and the appellate court agreed that the agency failed to take the required "hard look" at the environmental effects of the revised regulations under the National Environmental Policy Act (NEPA); failed to consult with the United States Fish & Wildlife Service (FWS) as required by the Endangered Species Act (ESA); and violated the Federal Land Policy and Management Act (FLPMA). *W. Watersheds Project v. Kraayenbrink*, 538 F.Supp.2d 1302, 1324 (D.Idaho 2008). The decision overturning the 2006 regulations was upheld in its entirety and the regulations were permanently enjoined, maintaining the primacy of the 1995 regulations (60 CFR 9894) in administering BLM livestock grazing programs. We've attached the relevant legal opinions here, for the sake of

convenience, and we ask the BLM to distinguish its 2020 grazing revision plans from the 2005 attempts to raise and revise regulations relating to many of the same issues. *See* Appendix A. We're also attaching a legal critique of BLM's earlier revisions, in honor of the late Joe Feller, an attorney who helped overturn BLM's prior proposed regulations. *See* Appendix B.

This is relevant history because BLM appears to be going backwards, trying once again to make its management programs more friendly to extractive users and less transparent to the public. We object to the continued attempts to weaken the oversight and environmental compliance requirements of the grazing program.

We note too that the scoping period is wholly inadequate for full public participation, given the overlap with the Council on Environmental Quality's proposed revisions to NEPA (85 FR 1684) and limited opportunities for the public to attend BLM's hearings on this issue. The agency has hosted only four meetings in four states despite the fact that the grazing regulations will affect 155 million acres of public land in 11 states. The four sites where the meetings were held have a combined population of less than 200,000 people, a tiny fraction of the 280 million annual public lands users. Indeed, it appears that BLM purposefully scheduled the meetings in places where the majority of attendees would be rural livestock operators and not other interested members of the public. Thirty-seven conservation groups, representing millions of members, requested more time from the BLM in a letter sent February 14, 2020; the BLM just responded yesterday to deny the request. To the extent that our comments herein fail to capture crucial parts of the regulatory revisions, we reserve the right to submit additional comments for the agency's consideration.

Seth Flanigan, who is leading the grazing regulations revision for BLM, recently spoke to the press and stated that BLM views public participation in decisions about when grazing can occur as no more than a burden.¹ In the meantime, the same article quoted a rancher who wants more flexibility about when grazing can occur. It is clear that BLM's intention in this regulation revision process is to cave to ranchers' demands for more control over grazing while cutting the rest of the interested public out. BLM's obvious bias at the outset of this regulations revision process guarantees that the result will infirm and requires, at least, an extension in the scoping period so that BLM can hear from the public it intends to shut out.

It is quite ironic that this article appeared on the same day as the group Public Employees for Environmental Responsibility (PEER) published their findings about the impacts of overgrazing on BLM managed lands and the failure of the BLM to conduct basic oversight of permitted livestock grazing.² According to PEER's research:

The most recent (2018) rangeland health report on BLM grazing allotments across 150 million acres in 13 Western states shows –

- Of total acres assessed, 42% fail to meet BLM Standards for Rangeland Health, totaling nearly 40 million acres, approximately the area of Washington State;

¹ <https://news.bloombergenvironment.com/environment-and-energy/new-sagebrush-rebellion-prompts-look-at-who-controls-old-west>

² <https://www.peer.org/americas-rangelands-deeply-damaged-by-overgrazing/>

- The largest portion (70%) of range health failure is due to livestock overgrazing in allotments covering nearly 28 million acres, an area the size of Pennsylvania; and
- These figures are underestimates because nearly 40 percent of these federal rangelands – nearly 59 million acres or an area about the size of Oregon – have never been assessed.

This would seem to indicate that, if anything, the BLM should welcome more public input as it is clearly unable or unwilling to be a proper steward of the land under its authority.

The agency’s scoping notice identified four subject areas regarding the regulations that the BLM purports to need to revise: 1. Updating and “modernizing” the regulations; 2. Improving permitting efficiency; 3. Promoting land health; and 4. Public participation. Because each of these issues are likely to affect our members and our collective interests in public lands, we are deeply concerned with the changes the agency is considering.

There is one section of the proposed revisions with which we wholeheartedly agree; it is well past time for the agency to publish the 1995 regulations in the CFR. As the BLM admits in its scoping notice, despite the federal court injunction, the 2006 amended version of the grazing administration regulations still (and inexplicably) appears in the CFR. This has created significant confusion and we’ve seen firsthand how the agency, grazing permittees, the public and the courts have had to identify the current, operative regulations again and again while the overturned regulations are being referenced. We absolutely concur that the BLM should publish and formalize the 1995 regulations. In regard to the other proffered subjects, we do not see a need for major revisions and instead urge the BLM to work towards enforcement of existing regulations, ensuring rangeland health standards on all public lands, penalizing trespass and unauthorized use, and creating more ways for the public to participate in grazing permit decision-making. Our specific comments are below, by section.

II. COMMENTS ON BLM’S PROPOSED REVISION AREAS

A. Updating and “modernizing” the regulations

The scoping notice states that BLM is interested in amending the grazing regulations to address the following:

“Updating and modernizing the regulations, including revising definitions to provide more accurate and concise descriptions of the terms, and to align with current statutory, and regulatory authorities; rewording certain sections to improve readability and understanding; and considering ways to improve grazing permit administration, such as: Transfers of grazing preference; provisions that allow for greater flexibility for using livestock grazing to address fuel loads and protect areas with high quality habitat from wildfire; continued Resource Advisory Committee [RAC] review of rangeland improvements and allotment management plans; and emergency public consultation.”

This is quite the list of potential actions for “permitting grazing efficiency,” and it is unclear the extent to which the agency is proposing new types of permits, new categories of old

permit types, new decision-making processes for certain types of decisions, and/or excluding the public from decisions that it intends to have the RAC review.

1. Definitions

It is impossible to know exactly which definitions or sections the agency feels inclined to revise, and thus impossible to comment on the impact of the definitions, but we are keenly aware that the definitions matter.

For example, the BLM uses the term “significant progress” throughout the existing regulations but never actually defines what significant progress means or how to measure it. This had led the agency to make findings about compliance with rangeland health standards that an objective observer would find unsupported by the conditions on the ground. In many cases, the BLM characterizes a rating of “Functioning at Risk with an upward trend” equally with “Properly Functioning Condition” (another term that needs more definition in the regulations) and equates both with “significant progress” and therefore meeting rangeland health standards. This false equivalence leads to a lack of meaningful progress toward actually meeting the standards and importantly, the desired conditions for public lands as identified in Resource Management Plans. In many cases throughout BLM managed lands, historic grazing led to highly degraded conditions that persist today. While grazing levels may have been reduced or other modifications made to reduce impacts over the past 30 years, current grazing is still a significant factor impeding recovery. While it may be true that conditions are better than they were during the apogee of public lands degradation and are generally trending upward, this progress can hardly be called “significant” if it will still take an infinite amount of time to be properly functioning under current grazing management and any changes in management are not directed at the key factors impeding recovery. The BLM must analyze the use of significant progress as a defining factor in how the Fundamentals of Rangeland Health are applied. We suggest that the regulations be modified to define significant progress as follows: **Significant progress means objectively-measured progress of key ecosystem parameters with the objective of meeting standards within 10 years.**

“Properly Functioning Condition” or “PFC” is another term that lacks a definition in the regulations even though subpart 4180 of the regulations is entirely dependent on a consistent application of the term. The BLM has released and revised several technical reference documents about what PFC is and how to apply it since PFC was first included in the 1995 regulations. The inherent problem here is similar to the problems discussed above where inconsistently determined PFC ratings are used to justify management actions and compliance with subpart 4180. PFC should be defined in the regulations as follows: **The PFC method is a qualitative assessment based on quantitative science that is conducted only by an experienced ID team of resource specialists from multiple relevant disciplines. It is not designed to monitor resource conditions and trends, assess specific resource values or be the sole method for assessing the health of a resource area.**

The term “grazing preference” has been used to mean several different things since the enactment of the Taylor Grazing Act, leading to confusion over what “preference” is and how it functions within the broader framework of BLM grazing administration. Accordingly, the

Department should clarify the definition of grazing preference to ensure consistency the Taylor Grazing Act and FLPMA. As a federal court recently explained, “[b]oth [the Taylor Grazing Act and FLPMA] give an existing permit holder the right to stand first in line when it comes time to renew that permit. This is referred to as a ‘preference’ by the TGA and a ‘first priority’ by FLPMA. See 43 U.S.C. § 315b (TGA); 43 U.S.C. § 1752(c) (FLPMA). No ambiguity results from the different usage because both terms mean the same thing: The existing permit holder stands first in line when seeking to renew his expired permit.” *Corrigan v. Bernhardt*, 2020 U.S. Dist. LEXIS 33989, Case No. 1:18-cv-00512-BLW, Slip Op. at * 3-4 (D. Idaho Feb. 26, 2020). The court further explained:

The privilege of renewal depends on the permittee being in compliance with the terms of the permit. Under § 1752(c) of FLPMA, an existing permittee, who is “in compliance with the rules and regulations issued and the terms and conditions in the Memorandum Decision & Order permit . . . shall be given first priority for receipt of the new permit.” See 43 U.S.C. § 1752(c). The plain meaning of this provision is that a permittee who fails to comply with the terms of his permit forfeits that priority.

Id. at 4-5. Nevertheless, the current definition of “grazing preference”—and the use of the term “preference” elsewhere in the regulations to describe grazing privileges that are transferred, inherited, or cancelled—may yet lead to confusion among public land users and the BLM over the scope of the privileges encompassed in “preference.” Such confusion could lead to user conflicts and result in inconsistent and inefficient management. Accordingly, we request that the Department redefine grazing preference to mean: **A first priority for permit renewal that is held by the current permittee, provided the permittee retains a valid grazing permit and remains at all times in compliance with the terms and conditions of that permit.**

We further recommend that, in the context of transfer, inheritance, and cancellation, the Department replace the term “grazing preference” or “preference” with “grazing privileges.”

2. *Transfers of grazing preference*

Currently, (a) Transfers of grazing preference in whole or in part are subject to the following requirements:

(1) The transferee shall meet all qualifications and requirements of §§ 4110.1, 4110.2–1, and 4110.2–2.

(2) The transfer applications under paragraphs (b) and (c) of this section shall evidence assignment of interest and obligation in range improvements authorized on public lands under § 4120.3 and maintained in conjunction with the transferred preference (see § 4120.3–5). The terms and conditions of the cooperative range improvement agreements and range improvement permits are binding on the transferee.

(3) The transferee shall accept the terms and conditions of the terminating grazing permit or lease (see § 4130.2) with such modifications as he may request which are approved by

the authorized officer or with such modifications as may be required by the authorized officer.

(4) The transferee shall file an application for a grazing permit or lease to the extent of the transferred preference simultaneously with filing a transfer application under paragraph (b) or (c) of this section.

(b) If base property is sold or leased, the transferee shall within 90 days of the date of sale or lease file with the authorized officer a properly executed transfer application showing the base property and the amount of permitted use being transferred in animal unit months.

(c) If a grazing preference is being transferred from one base property to another base property, the transferor shall own or control the base property from which the grazing preference is being transferred and file with the authorized officer a properly completed transfer application for approval. If the applicant leases the base property, no transfer will be allowed without the written consent of the owner(s), and any person or entity holding an encumbrance of the base property from which the transfer is to be made. Such consent will not be required where the applicant for such transfer is a lessee without whose livestock operations the grazing preference would not have been established.

(d) At the date of approval of a transfer, the existing grazing permit or lease shall terminate automatically and without notice to the extent of the transfer.

(e) If an unqualified transferee acquires rights in base property through operation of law or testamentary disposition, such transfer will not affect the grazing preference or any outstanding grazing permit or lease, or preclude the issuance or renewal of a grazing permit or lease based on such property for a period of 2 years after the transfer. However, such a transferee shall qualify under paragraph (a) of this section within the 2-year period or the grazing preference shall be subject to cancellation. The authorized officer may grant extensions of the 2- year period where there are delays solely attributable to probate proceedings.

(f) Transfers shall be for a period of not less than 3 years unless a shorter term is determined by the authorized officer to be consistent with management and resource condition objectives.

(g) Failure of either the transferee or the transferor to comply with the regulations of this section may result in rejection of the transfer application or cancellation of grazing preference.

43 C.F.R. § 4110.2–3. It is unclear what the BLM seeks to change in regard to these regulations, though the preceding terms in the scoping notice – “Improve ways to improve grazing permit administration” – suggests that the agency seeks to expedite the transfer process.

The BLM has often been using categorical exclusions (CX) to transfer grazing preferences among base-property holders, under BLM DM 11, 11.9 (D)(1), for periods of ten years, the maximum permit length.³ On the ground, such actions mean that the BLM is shifting permits among permittees and effectively renewing them for the maximum permitted length without any public process or oversight, and without any administrative recourse. None of the supporting documentation for such transfers is available to the public, and no confirmation of qualifications is provided. This is a questionable use of the CXs, given that per 43 CFR § 46.205(c) CXs may not be used where extraordinary circumstances *may* exist, including actions which:

- (a) Have significant impacts on public health or safety.
- (b) Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (EO 11990); floodplains (EO 11988); national monuments; migratory birds; and other ecologically significant or critical areas.
- (c) Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources [NEPA section 102(2)(E)].⁴
- (d) Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks.
- (e) Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects.
- (f) Have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects.
- (g) Have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by the bureau.
- (h) Have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species or have significant impacts on designated Critical Habitat for these species.
- (i) Violate a Federal law, or a State, local, or tribal law or requirement imposed for the protection of the environment.
- (j) Have a disproportionately high and adverse effect on low income or minority populations (EO 12898).
- (k) Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (EO 13007).

³ See, e.g. https://eplanning.blm.gov/epl-front-office/projects/nepa/1500549/20001593/250001802/BLM-DOI-AZ-AZ-G010-2019-0038-CX_Laurel_Canyon_45250.pdf

⁴ See, e.g. https://eplanning.blm.gov/epl-front-office/projects/nepa/1500549/20001593/250001802/BLM-DOI-AZ-AZ-G010-2019-0038-CX_Laurel_Canyon_45250.pdf

(I) Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and EO 13112).

43 CFR § 46.215.

Because so many grazing permits have never undergone NEPA analysis or had Land Health Evaluations conducted, the use of CXs would appear to violate all of these qualifiers (a-l), where “unknown impacts” necessarily results in “may” impact. In particular, and as discussed later in this document, the contribution of livestock grazing to the introduction, continued existence, or spread of noxious weeds or non-native invasive species would render the use of this CX improper across much of the West.

Because CXs are not able to be protested or appealed, the only remedy where a party believes a transferred permit is problematic is to litigate the decision in federal court. This creates a distinct inefficiency: whereas notifying the public about a potential transfer and providing the opportunity to comment may take an extra thirty days, fighting transfers in court requires orders of magnitude more resources and time. Hence, the BLM should provide public notification of a transfer and opportunity to comment, and, if a CX is to be used, documentation supporting why the BLM feels extraordinary circumstances do not apply.

3. *Provisions that allow for greater flexibility for using livestock grazing to address fuel loads and protect areas with high quality habitat from wildfire*

The BLM appears to be seeking to expedite permitting for programs such as “targeted livestock grazing,” also known as “prescribed grazing” or “prescriptive grazing.” Targeted grazing is a relatively new approach to managing vegetation communities, and there is a need for specificity regarding timing, duration, and class of livestock. There are also specific harmful effects associated with targeted grazing: plant secondary chemistry, seed dispersal or endozoochory, and animal welfare.⁵ These intrinsic complexities call for greater environmental review and specificity, not less.

The BLM has defined “targeted grazing” in various places similar to this definition from a Nevada project: “ Targeted grazing is defined as the application of a particular kind of grazing animal at a specified season, duration, and intensity to accomplish specific vegetation management objectives. The main purpose of targeted grazing is reaching a vegetation objective rather than maximizing the performance of the grazing animal.”⁶

The BLM has recently authorized unspecified levels of targeted grazing in the San Pedro Riparian National Conservation Area Resource Management Plan (2019). At the very last iteration of the SPRNCA RMP, the BLM proposed to expand its vegetation treatment options to

⁵ Bailey, et.al., “Synthesis Paper: Targeted Livestock Grazing: Prescription for Healthy Rangelands”, Rangeland Ecology & Management, Volume 72, Issue 6, November 2019, Pages 865-877
<https://doi.org/10.1016/j.rama.2019.06.003>

⁶ https://eplanning.blm.gov/epl-front-office/projects/nepa/124311/176799/215458/Scoping_Letter_signed_508.pdf

include “targeted grazing.” San Pedro NCA RMP at ES-4. *See* Appendix C. According to the plan, “targeted grazing” is a vegetation management tool and not part of the livestock forage allocation.” Thus, targeted grazing is outside of and in addition to permitted perennial grazing authorizations, complicating any site-specific analysis of grazing impacts by failing to incorporate and account for potential additional high-intensity grazing that could occur.

The San Pedro RNCA RMP admits:

Biological treatments, such as targeted grazing, have the potential to cause impacts on soil resources in the planning area similar to those discussed for livestock grazing. However, targeted grazing would be more limited in scale, occurring in discrete areas for the specific purpose of selective vegetation removal. As a result, any impacts on soil resources from targeted grazing would be localized and occur on a smaller scale than with livestock grazing generally. Additionally, targeted grazing would be limited in duration, only used for discrete periods of time and ending after selected vegetation types are successfully removed based on ecological site and treatment objectives. As a result, there would be less potential for livestock to cause permanent impacts on soil resources, such as soil compaction and increased erosion. Consequently, impacts on soil resources from targeted grazing would be more short-term and allow greater recovery time for soils compared to general livestock grazing. Therefore, impacts on soil resources from targeted grazing would likely be negligible, given that the frequency and intensity of targeted grazing would be less than with livestock grazing generally. [PRMP @ 3-12].

This paragraph demonstrates exactly why targeted grazing operations need more analysis, not less: The agency believes that there is a potential to cause localized impacts to soil resources but then excuses those biological impacts based on the temporal scale of the projects. However, without specific knowledge of the when, for how long, and where the targeted grazing operations may be authorized, this is wild speculation. The BLM’s grazing regulations revision should insist that any use of targeted grazing on public lands be supported by a robust and public environmental analysis of the cost/benefits of using this “tool.”

BLM’s “Targeted Grazing” Factsheet references a Lakeview BLM Targeted Grazing “Demonstration” project and pipeline. This appears to be the “Beaty Butte Targeted Grazing Project”⁷. The project includes 14.4 miles of above-ground pipeline, a water storage tank, placement of troughs at 4 locations, and two spring developments for the pipeline.

The Beaty Butte EA and Final Decision lack application of fire science to determine the suitability of the site for a fuels project. For example, there is no information on predominant summer wind directions, or the conditions of the lands it is supposed to protect. There is no clear delineation of the specific land area inside vs. outside the “demonstration” area; no explanation of how effects of regular permitted grazing and wild horse use (project is located in the Beaty

⁷ <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=1500485&dctmId=0b0003e881479414>.

Butte HMA) will be separated from targeted grazing effects; no data on cattle numbers used in the project; no threshold of ecological damage that would trigger project termination; no plan for rehabilitation if damage to resources are caused by high levels of impact. There was no consideration of alternatives other than intensive grazing that might address fuels concerns or reduce impacts, such as mowing since the site was described as cheatgrass on private lands and crested wheatgrass on BLM lands. The project EA relies on a 1998 FRH Assessment as a basis for understanding rangeland health in Beaty Butte and authorizes off-road driving for the project. Water developments of wild lands springs frequently cause deleterious impacts to springs and springbrooks. USDI BLM.TR 1737-17: A Guide to Managing, Restoring and Conserving Springs in the Western United States. 2001. Sada, D. W., J. E. Williams, J. C. Silvey, A. Halford, J. Ramakka, P. Summers, and L. Lewis describes numerous detrimental impacts of development such as flow reductions, mesic area reductions and harms to aquatic biota.

The Beaty Butte project is located in Priority GRS habitat (the allotment is bordered by both Sheldon and Hart Mountain National Wildlife Refuges), where conservation, enhancement and restoration of habitats is to be a priority. Instead the project area would be managed as an intensively grazed sacrifice zone. Thus it is clear that BLM's current model for how public lands are to be managed and the application concepts such as targeted grazing are not ripe for fast-tracking. In fact, more intensive review and scrutiny of these type of projects is called for including extending opportunities for the public to have meaningful engagement. Based on an examination of existing projects, we fear that what the BLM intends to do is exactly the opposite and will lead to the degradation of our public lands and important wildlife habitat.

The agency must consider the recent paper by Williamson, *et al.* (2019)⁸ that concludes, – contrary to the wishful thinking that “Grazing Prevents Blazing” – “Our novel time-series data and results indicate that grazing corresponds with *increased* cheatgrass occurrence and prevalence regardless of variation in climate, topography, or community composition, and provide no support for the notion that contemporary grazing regimes or grazing in conjunction with fire can suppress cheatgrass.” *Id.* (emphasis added).

Cheatgrass is a huge problem on BLM lands in the West, and we understand that the agency wishes there were a magic bullet to eradicate it. But the idea that cheatgrass (and thus fires) can be prevented through livestock management is not supported by any research. In fact, there are more journal articles questioning its efficacy than those that support it. According to Williamson, *et al.* (2019), grazing facilitates cheatgrass infestation through the reduction in native grasses. “Grazing often reduces the abundance of perennial native grasses, which can facilitate increases in the presence and relative abundance of cheatgrass; as our work suggests, these increases can occur over large areas, especially after fire. Widespread increases in cheatgrass presence and abundance, in turn, can increase fine-fuel loads and the likelihood of more frequent and extensive wildfires.” *Id.* (internal citations omitted).

Thus, the idea that targeted livestock grazing can universally be used to reduce fuel loads or knock back invasive plant infestations is unsupported by the scientific evidence. This suggests

⁸ Williamson, M.A., Fleishman, E., Mac Nally, R.C. et al. Fire, livestock grazing, topography, and precipitation affect occurrence and prevalence of cheatgrass (*Bromus tectorum*) in the central Great Basin, USA. *Biol Invasions* 22, 663–680 (2020). <https://doi.org/10.1007/s10530-019-02120-8>

that BLM must not expedite the process under which targeted grazing is permitted on public lands. In fact, to avoid the potential for disastrous consequences of this untried method, BLM should wait for an adequate body of peer-reviewed research to be published and evaluated by other scientists before including targeted grazing is approved as a management technique in these regulation revisions.

Domestic sheep and goats commonly used in fuels suppression efforts pose a significant risk of pathogen transmission to bighorn sheep, with such transmission often resulting in an outbreak of fatal pneumonia in the bighorn population. A single contact between a domestic sheep or goat and a wild bighorn sheep can devastate a bighorn herd, causing an immediate all-age die-off and initiating a multi-year mortality event in lambs born in the infected herd. One or more bighorn populations may be extirpated as a result of this interspecies contact. Should BLM fail to consider the likelihood of interspecies contact when implementing such fuels suppression projects, BLM is likely to exacerbate the spread of livestock pathogens to wild bighorn populations. This will result in morbidity and mortality in the wild sheep herd, as well as the loss of hunting and recreational wildlife viewing opportunities.

Dense brush may serve as a barrier to bighorn sheep movement across the landscape, limiting contact between a bighorn sheep population and domestic sheep grazed on public or private lands and reducing landscape permeability to bighorn sheep. Should fuels treatment projects be undertaken without an analysis of the effects of vegetation removal on bighorn sheep movement, BLM risks destroying vegetative barriers which prevent interspecies contact. The consequence of this removal may include pathogen transmission and subsequent pneumonia outbreaks in bighorn sheep. The environmental outcomes associated with fuels suppression projects quite clearly extend beyond fire risk reduction alone. The EIS must disclose the effects of changes to the fuels treatment policy on bighorn sheep and other species.

We are also extremely concerned that BLM is simply substituting “targeted grazing” for the “free use grazing” already permitted under 43 CFR § 4130.5(b), as follows:

Free-use grazing permits.

(a) A free-use grazing permit shall be issued to any applicant whose residence is adjacent to public lands within grazing districts and who needs these public lands to support those domestic livestock owned by the applicant whose products or work are used directly and exclusively by the applicant and his family. The issuance of free-use grazing permits is subject to § 4130.1-2. These permits shall be issued on an annual basis. These permits cannot be transferred or assigned.

(b) The authorized officer may also authorize free use under the following circumstances:

(1) The primary objective of authorized grazing use or conservation use is the management of vegetation to meet resource objectives other than the production of livestock forage and such use is in conformance with the requirements of this part;

(2) The primary purpose of grazing use is for scientific research or administrative studies; or

(3) The primary purpose of grazing use is the control of noxious weeds.

[43 FR 29067, July 5, 1978, as amended at 49 FR 6453, Mar. 30, 1984. Redesignated at 60 FR 9965, Feb. 22, 1995, and amended at 60 FR 9966, Feb. 22, 1995]

Before any new authority is provided in the regulations for targeted grazing, the BLM must compare and contrast this concept with the free-use permits already in existence. How many free-use permits have ever been issued? Has it worked to control noxious weeds? How much do these permits generate in revenue? How would targeted grazing permits differ? What environmental analysis accompanied free-use permits and how effective were they in disclosing past, present, and reasonably foreseeable future impacts to the affected environment? The BLM must answer all of these questions in the forthcoming EIS so that the public understands what the true “No Action” alternative is compared with any new proposals.

We also request that the BLM provide an analysis of the impacts of intensive livestock grazing, “to protect high-quality wildlife habitat from wildfire.” To the extent that livestock are being used to remove vegetation, that itself would seem to reduce the quality of the habitat and biological community that is already being described as “high-quality.” And, if it is “high-quality,” why does the BLM need to change anything? Many western ecosystems evolved with fire and wildlife communities can withstand historic levels of fire disturbance. Using cows or sheep to mow down vegetation in order to prevent wildfire would create more problems than it would solve. We also suspect that many acres of “high-quality wildlife habitat” managed by BLM are excluded to livestock entirely, and the extent to which this rationale is being used to open those areas for livestock use should be disclosed in the forthcoming EIS.

The concept and application of targeted grazing is not limited to the current BLM proposal to revise the grazing regulations. The BLM just last month released the Great Basin Fuel Breaks EIS for which Western Watersheds Project and others submitted substantial comments on the Draft EIS. Those comments are attached as Appendix D. Another example is the Nevada Targeted Grazing EA (comments attached as Appendix E). If the BLM intends to add additional authorizations to facilitate targeted grazing, it must consider and disclose in the EIS the effects of the new authority on the array of public land resources and values and assure site-specific analysis and meaningful public participation occurs.

4. Continued Resource Advisory Committee review of rangeland improvements and allotment management plans

It is unclear what the BLM needs to change in the regulations regarding the use of RACs, but we are concerned that the revisions will remove review of rangeland improvements and allotment management plans from public oversight. In particular, rangeland “improvements” (i.e. developments) can have significant impacts to public trust resources and the public should have a chance to weigh in on their effects.

5. *Emergency public consultation*

There is currently no regulation concerning “emergency public consultation” for grazing management and it is unclear what the BLM has in mind here. We can think of a few circumstances where it might be appropriate for the BLM to initiate public consultation that the BLM should consider in its analysis. For example, if there were a situation where chronic livestock-predator conflicts were occurring on a grazing allotment, it would be appropriate for the BLM to consult with public before considering lethal predator control. Or perhaps in a situation where a disease transmission that could impact native wildlife was imminent without immediate action, the public should have a right to be notified and consulted about action that the BLM intends to take.

6. *Outcome Based Grazing*

There is currently no regulation concerning “outcome based grazing” and it is unclear how the BLM intends to include this idea into the grazing regulations. From a review of the Outcome Based Grazing factsheet and a review of NEPA documents related to current projects under this program and other obtained through Freedom of Information Act requests, it appears that the BLM believes that existing authority is already sufficient for implementation.⁹

In its press release, “BLM Takes Steps to Improve Administration of Grazing Regulations on Public Lands,”¹⁰ BLM specifically focuses on its recent outcome based grazing initiative as a focus in its proposed grazing regulations revision:

The BLM is currently managing 11 demonstration projects in six states as part of our outcome-based grazing authorizations initiative. These demonstration projects provide BLM, working in partnership with ranchers and other partners, with opportunities to improve our guidance and best management practices to use when issuing grazing permits. Lessons learned from developing cooperative monitoring plans and land health evaluations under this initiative may also be incorporated into this regulatory process.

BLM signals in this press release that instead of wholesale rewrites of grazing regulations, it instead is seeking to change how the local administration of these regulations is carried out: BLM is proposing to “streamline,” “provide greater flexibility” in administration of permits, and “achieve greater efficiencies and services to permittees.”

Outcome based grazing is a new range management initiative announced by BLM to the public in Fall 2017. The BLM’s Outcome Based Grazing Authorizations (OBGA) is a program being developed that apparently would replace the Allotment Management Plan process, which is seen as not flexible enough.

⁹ For Example: <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=79677>
https://eplanning.blm.gov/epl-front-office/projects/nepa/60240/174798/212302/final_decision.pdf

¹⁰ <https://www.blm.gov/press-release/blm-takes-steps-improve-administration-grazing-regulations-public-lands>

BLM considers this policy part of its “Innovative Agriculture” program, that seeks to “reduce the burdens” on their local partners—grazing allotment permittees. BLM claims outcome based grazing will make their management of public lands “more efficient,” but this so-called streamlining will in actuality further reduce public participation in how these publicly-owned lands are managed and possibly lead to conflict and delay.¹¹

According to BLM this policy was designed to offer livestock operators greater flexibility to manage livestock grazing in response to changing on-the-ground conditions, such as weather. These management changes may be unavailable to public review and could result in considerable negative impacts to native ecosystems and associated streams and riparian areas and the rare species that depend on them—e.g., sage-grouse, pygmy rabbits, willow flycatchers, cutthroat trout, redband trout, and many rare plants. Permittees would apparently be allowed to adjust livestock numbers upward, under a permitted maximum, and switch season of use, with reduced oversight. This needs to be analyzed in the EIS.

As part of the forced move of Washington DC BLM employees to Grand Junction, Colorado, BLM leadership pushed forward an agenda for Fiscal Year 2020 that the agency would continue to focus on the Interior Secretary’s priorities (started under former Secretary Ryan Zinke) that include “delegating decisions to the front lines” and “taking a hard look at regulations and modifying or eliminating those that are unnecessary.”¹²

Outcome based grazing is part of this delegation of management decision-making. Line officers (District Managers, Associate District Managers, Field Managers, and Assistant Field Managers) will be empowered to make more decisions for how public lands grazing is managed. The EIS needs to discuss how this shift will impact the administration of grazing permits and potential impacts to resources including native vegetation, wildlife, hydrology and riparian resources, etc.

In Spring 2018, BLM announced 11 outcome based grazing demonstration projects in 6 Western states:

Elk Creek, Montana—Joe King and Sons, Grand Prairie LP
Coyote-Colvin, Oregon—Fitzgerald Ranches
Roaring Springs, Oregon—Roaring Springs Ranch
Deep Creek Ranch, Idaho—Deep Creek Ranch LLC
ELLC, Nevada—Elko Land and Livestock Co.
Winecup, Nevada—Winecup Gamble Ranch
Smith Creek, Nevada—Smith Creek Ranch
Willow Ranch, Nevada—Russell Fitzwater
John Uhalde and Company Ranch, Nevada—Gracian Uhalde
PH Livestock, Wyoming—Niels Hansen
Little Snake, Colorado—George Raftopoulos

¹¹ Brian Steed, Deputy Director for Programs and Policy, Western Association of State Departments of Agriculture, Salt Lake City, Utah, August 8, 2018.

¹² https://www.eenews.net/assets/2019/11/20/document_gw_04.pdf

In 2018 BLM issued 10-year “Grazing Permits” under the OBGA program for flexible management to these demonstration projects, that are said to be the functional equivalent of Allotment Management Plans. Will this OBGA “grazing permit” system be analyzed in the EIS?

The EIS should analyze how, under an outcome based grazing policy BLM staff could meet annually with the permittee and the public before the start of the grazing season to review the monitoring data and assess whether any adjustments need to be made. Would flexibility be allowed in season of use, pasture rotation, and livestock numbers for annual changes in management, such as for droughts, unusually wet years, wildfires, insects, or after vegetation treatments? Would permits be modified at any time by the agency before renewal? What Grazing Permit fees apply?

We are concerned that as far as flexibility, the permittees want to be able to graze how and when they want to. BLM should analyze how outcome based grazing decisions will authorize how AUMs are distributed within seasons of use. The EIS should detail what these grazing regulation revisions plan for seasons of use (will seasons move become to year-long?) and will permittees be given the flexibility to graze when they choose within the season of use, and the numbers of livestock they choose, as long as it does not exceed permitted AUMs?

BLM has the duty to “prescribe practices” for grazing on public lands. *See Nat. Res. Def. Council v. Hodel*, 618 F. Supp. 848, 869–70 (E.D. Cal 1985). Among the required terms and conditions of a grazing permit are “numbers of livestock” and “seasons of use.” 43 U.S.C. §§ 315b, 1752(d)-(e); *see also* 43 C.F.R. §§ 4120.2(a)(1) and 4130.3-1(a) (mandatory terms and conditions of AMP and grazing permit). BLM’s delegation of its management responsibility to private grazing permittees in the form of “flexibility” by allowing them to choose the number of livestock or time of year to graze violates both the Federal Land Policy and Management Act and the Taylor Grazing Act. *See Hodel*, 618 F. Supp. at 869–70. BLM’s management must be prescriptive, and therefore an “outcome based grazing” scheme that allows permittees to choose management that suits them is unlawful.

The EIS should analyze and disclose whether permittees would be allowed to monitor vegetation themselves during the 10-year permit, instead of agency staff. BLM should discuss methods for decreasing cheatgrass under outcome based grazing policy, and also how much seeded ranges will be allowed—such as Crested wheatgrass—as part of this initiative.

Under OBGA, will BLM and permittee have monitoring plans on allotments? What parameters will be included in these monitoring plans? Will BLM monitor to make sure that targets are being met and degradation is not occurring?

The EIS should detail what required outcomes should be used in permits. Will stubble height or utilization standards be mandatory terms and conditions of permits under outcome based grazing permits? Outcome based monitoring should be sufficiently objective, measurable, and publicly transparent in order to be enforceable.

The EIS should analyze how permittees might present range projects to BLM (such as sagebrush removal treatments (mowing, harrowing, aerial herbicide spraying, and prescribed fire) to increase grass forage for cattle, glyphosate herbicide spraying to reduce invasive weeds

such as Halogeton, and seeding with crested wheatgrass) and the criteria BLM will use in determining whether such range projects will be approved and evaluated. Will permits issued by BLM to these demonstration permittees allow for different operating parameters than permits issued under the usual process? Does BLM intend to expand this outcome based grazing management across the 155 million acres of livestock-grazed BLM lands? If so, what criteria and evidence of performance will be used and what information will be made available to the public?

The justification for these new types of permits is that BLM claims conditions change quickly on the ground, and thus make long NEPA processes untenable. But doing so eliminates the public and more detailed reviews of other public resources beyond forage which are crucial for conserving native plant communities and sensitive species and wildlife on public lands.

Outcome based grazing is apparently a push to give more oversight to the states and private entities participation on public lands which should have oversight and participation from all people. BLM could be renewing OGBA without any public process or oversight, and without any administrative recourse. This needs to be disclosed and discussed in the upcoming EIS.

The EIS should analyze the specifics of how the objectives of outcome based grazing will be determined and implemented. What are the objectives? Are they measurable? Who measures them? How often are they measured? How is compliance/success determined? Is the BLM conducting exclosure studies that will allow comparison between outcome based grazing and other management methods (including no grazing?) What are the consequences of not meeting the outcomes? How would outcome based grazing decisions fit in to Resource Management Plan revisions?

The BLM admits this is a new management method. It is only now conducting demonstration projects of OGBA with the goal of learning lessons from this departure from standard BLM operating procedures. Since this technique is still in the nascent phase of evaluation, it seems premature to codify it in these revised grazing regulations before there has been adequate time to review its efficacy and to make adjustments.

One detailed example that provides the public with a sense of the what the BLM has in mind with Outcome Based Grazing Authorizations are the Bruneau BLM's 2019 Battle Creek, East Castle Creek and Owens (BECO) allotments livestock grazing decisions. These correspond to the loosely controlled grazing generally referenced in BLM information on OGBA. Documents obtained through FOIA requests show that the BECO process was strongly influenced by a grazing permit renewal group convened by the Public Lands Council (PLC). The group involved the PLC, state and federal agencies and ranchers to the exclusion of the general public. The primary grazing elements discussed were termed Outcome Based Grazing in group communications. BLM incorporated many of these elements into its BECO final EA and decisions.¹³ After public comment on OGBA application in BECO, BLM claimed it was not

¹³ <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=140366>.

really using OBGA, never explained what constitutes OBGA, or how its decisions differ from the grazing management scenario described in Interior's OBGA information.

The BECO allotments include greater sage-grouse (GRSG) Priority Habitat and Focal Habitat – part of the largest block of GRSG Focal Habitat in the world – and are home to pygmy rabbit, redband trout, rare plant habitat, Wilderness, and ACEC areas.

The BECO decisions: Allow significant flexibility in timing of cattle use; contain no mandatory measurable use standards for upland and riparian areas; allow profligate water hauling to unspecified sites (3 per pasture = approx. 93 total water haul sites) which will result in severe new grazing disturbance zones, and further expand permanent livestock facilities despite the presence of many existing livestock developments. The BECO decisions also allow an unlimited amount of salt/supplement use that can very rapidly and severely degrade native communities providing ideal sites for cheatgrass and other flammable weed invasion and spread.

The only mandatory grazing permit terms and conditions are total allotment AUMs, the AUM type, the total size of the cattle herd that may be grazed, and the overall time period cattle can be present in the allotment. There are no pasture AUM limits, so the decisions do not appear based on carrying capacity, production, grazing capability and grazing suitability factors. Annual measurable use standards such as protective riparian herbaceous use (stubble height), bank trampling and browse standards are absent. Determining grazing compliance with annual measurable use standards is a critical monitoring protocol that allows BLM's early detection and rapid response to land degradation. Applying and enforcing measurable standards enables prompt agency action to prevent undue degradation. Such harms include grazing degradation of soils, crusts or native vegetation to the point where flammable weeds engulf crucial GRSG and pygmy rabbit habitats, or grazing degradation of springs, seeps, meadows and small streams causing accelerated head-cutting, gullying, stream entrenchment, water loss and water pollution. Such impacts of grazing are all exacerbated by climate change stress. *See Beschta et al. 2012.* Climate stress bearing down on arid western grazing lands reduces plant community resilience and resistance to grazing impacts and is another primary reason why mandatory measurable use standards are essential to ensure sustainability of public lands values and prevent undue degradation. Measurable use standards are also essential to ensure compliance with the Fundamentals of Rangeland Health, so significant progress is being made to recover degraded lands that are not meeting the FRH and to provide early detection of problems so that lands currently the standards do not suffer significant new damage leading to FRH violations. BLM's BECO FDs also allow stocking drastically above previous actual use.

The previous BECO grazing permits lacked mandatory measurable use standards, allowed stocking far above actual use, and had other elements similar to the 2019 BECO decisions. Those permits were found to be in violation of FLPMA and the Bruneau Land Use Plan and were ruled unlawful in *WWP v. Salazar*.

Grazing permittees who have a demonstrable record of failing to adhere to even the most rudimentary and basic land health standards appear to have latched on OBGA as a way to try to legitimize what had previously been found unlawful and the BLM has shown itself to be a willing participant in this scheme, including by authorizing activities that will clearly harm public land and cutting the public out of the decision making process.

Even if BLM did not officially call these decisions OBGA, BLM admits that the Public Lands Council (and a process that excluded other members of the Interested Public) laid the foundation for the BECO process. The BECO Battle Creek allotment final decision (p. 2) states: *“The Idaho Public Lands council reached out to all permit holders in the Battle Creek allotment the fall of 2017 to provide an opportunity for permittees, such as yourself, to collaboratively develop outcomes and potential solutions for your permit renewal. The Idaho State Department of agriculture hosted six meetings in which permittees, the Idaho cattle association, state agencies including Idaho Department of Lands, Idaho Fish and Game, and the Governor’s office of species conservation, and federal agencies including natural Resources Conservation Service, Fish and Wildlife Service, and Bureau of Land Management were invited to attend. Recommendations were provided individually to interested parties during the NEPA process.”*¹⁴ This is not how public lands should be managed.

B. Improving permitting efficiency

The BLM’s online materials regarding permit processing reveal some of what the agency is getting at: permit processing takes a long time because of all the opportunities for public involvement.¹⁵ We take issue with BLM’s characterization that this is a problem – these are public lands, in which all Americans have equal stake under the law.

The Federal Lands Policy and Management Act (FLPMA) requires that land use plans (known as Resource Management Plans (“RMPs”) for BLM lands) be developed with “public involvement” and then be used in managing the public lands. *See* 43 U.S.C. § 1712(a). FLPMA Section 309(e) further directs that: In exercising his authorities under this Act, the Secretary, by regulation, shall establish procedures, including public hearings where appropriate, to give . . . the public adequate notice and an opportunity to comment upon the formulation of standards and criteria for, and to participate in, **the preparation and execution of plans and programs for, and the management of, public lands.** 43 U.S.C. § 1739(e); *see also* 43 U.S.C. § 1701(a)(5). The grazing program is a program for management of public lands requiring notice and comment under FLPMA.

FLPMA does not direct BLM to manage public lands with the highest possible level of efficiency; it emphasizes at every level the need to accommodate and incorporate public comments. FLPMA also directs BLM to manage the public lands for “the use of some land for less than all of the resources . . . and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.” 43 U.S.C. § 1702(c) (defining “multiple use”). “In other words, FLPMA requires that the public lands be managed for many purposes in addition to grazing and for many members of the public in addition to the livestock industry.” *Pub. Lands Council v. Babbitt*, 167 F.3d 1287, 1299–300 (10th Cir. 1999), *aff’d*, 529 U.S. 728 (2000). Grazing permits are a major federal action, perpetuating unnecessary and irreparable

¹⁴ See <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=140366> .

¹⁵ https://eplanning.blm.gov/epl-front-office/projects/nepa/1500093/20011413/250015606/Permit_Processing.pdf

harms on the landscape, and the agency cannot rewrite FLPMA to create exemptions with regard to this program.

Nor does NEPA insist upon efficiency at the expense of quality. Instead, NEPA requires environmental analyses to use high quality information and accurate scientific analysis. 40 C.F.R. 1500.1(b). NEPA requires that an EIS must “provide full and fair discussion of significant environmental impacts of the proposed actions and shall inform decision-makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.” 40 C.F.R § 1502.1. NEPA requires that an agency discuss the environmental impacts of the alternatives, including the proposed action. *Id.* §1502.16. Where BLM misrepresented conditions, misconstrued scientific evidence, and arbitrarily and capriciously adopted new standards resulting in very different results, it failed under NEPA. *Id.* § 1502.24.

BLM cannot evaluate consequences to the environment, determine avoidable or excessive degradation, and assess how best to designate and protect lands under its jurisdiction without adequate data and analysis. Essentially, NEPA “ensures that the agency, in reaching its decision, will have available and will carefully consider detailed information concerning significant environmental impacts.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. at 349. The Data Quality Act and BLM’s interpreting guidance expand on this obligation, requiring that influential scientific information use “best available science and supporting studies conducted in accordance with sound and objective scientific practices.” Treasury and General Government Appropriations Act for Fiscal Year 2001, Pub.L. No. 106-554, § 515. *See also* Bureau of Land Management, Information Quality Guidelines, *available at* http://www.blm.gov/nhp/efoia/data_quality/guidelines.pdf. There is no doubt that livestock grazing has significant impacts. Grazing is one of the leading factors leading of species being listed under the Endangered Species Act throughout the west, as well as the source of the failure of the land to meet basic land health standards as described previously.

Efficiency can be promoted only to the extent that it does not impair the process that NEPA and FLPMA prescribe.

C. Promoting land health

The scoping notice includes the following statements regarding “Promoting Land Health:” “Considering where and how the BLM will evaluate the Land Health Fundamentals and Standards. Explore ways to use livestock grazing to reduce wildfire risk and improve rangeland conditions.” These issues are distinct: one is strictly procedural and the other is substantive and scientifically invalid. Our comments here address them separately.

1. Considering where and how the BLM will evaluate the Land Health Fundamentals and Standards

The materials on the BLM website regarding the proposed revisions provide some clue as to what BLM is thinking in terms of revising the requirements to conduct land health evaluations for grazing permit renewals. It appears that BLM is planning either to move to a watershed

model of evaluating land health or conducting this at the Resource Management Plan (RMP) level.¹⁶ Each is problematic.

First, it is important to note that despite the mandate that permit and leases "shall incorporate terms and conditions that ensure conformance" with the fundamentals of rangeland health (4130.3-1(c)), nearly a quarter of all BLM allotments have never been evaluated for conformance at all.¹⁷ Of those that have been evaluated, according to the most recent independent nationwide evaluation, 29 percent of the allotment lands (equaling 16 percent of all allotments) failed to achieve the land health standards.¹⁸ As of 2015, only 8.6 percent of BLM-managed allotments reflect the plant community or historic plant climax community for an ecological site, compared with 15.2 percent of lands in "early seral" condition.¹⁹ And it is imperative to note that these are BLM's self-reported data, which we suspect skew favorably towards positive outcomes. The last time BLM published its "Rangeland Inventory Monitoring Evaluation" (RIME) data was 2015; information about the rangeland health conditions is hard to come by. Thus, to the extent that BLM is bound by the provisions of IM-2012-124 to report land health data²⁰, it certainly isn't in turn making that available to the public.

a. *Evaluating land health standards at the Land Use Plan/Resource Management Plan level*

The proposal to consider whether or not to evaluate land health standards at the RMP level overlooks that – if existing conditions are instructive – land health would be assessed only every 20 years or more and evaluation would occur at such a broad scale as to be inadequate for a site-specific hard look regarding livestock impacts.

We note too that BLM is simultaneously proposing to revise its Land Use Planning, pursuant to former Secretary of the Interior Ryan Zinke's direction from March 27, 2017.²¹ The agency is apparently considering the removal of NEPA requirements from the planning regulations.²² No information about these proposed changes to Land Use Planning has been released to the public²³, but given the obvious intersection with the BLM's grazing regulations, it is plain that the forthcoming analysis must consider LUP revisions to be potentially foreseeable impacts.

¹⁶ <https://eplanning.blm.gov/epl-front-office/projects/nepa/1500093/20002574/250003048/LandHealthEvaluations.pdf>

¹⁷ <https://www.peer.org/blm-grazing-data/>

¹⁸ <https://www.hcn.org/articles/BLM-rangeland-health-grazing-cattle-environment>

¹⁹ <https://www.blm.gov/sites/blm.gov/files/uploads/2015%20RIME%20Final.pdf>

²⁰ <https://www.blm.gov/policy/im-2012-124>

²¹ https://wildlife.org/wp-content/uploads/2017/05/0509-SM-Zinke-orders-BLM-to-revise-planning-and-NEPA-processes_memo.pdf

²² <https://thehill.com/policy/energy-environment/481477-blm-weighs-cutting-environmental-review-when-crafting-public-lands>

²³ A leaked PowerPoint slide is published here:

https://aboutblaw.com/OCV?utm_source=1500+CWP+List+Daily+Clips+and+Updates&utm_campaign=a38203a83a-EMAIL_CAMPAIGN_2020_02_04_08_20&utm_medium=email&utm_term=0_4369a4e737-a38203a83a-84284705

By federal law, BLM is required, in developing land use plans, to “allow an opportunity for public involvement and by regulation shall establish procedures, including public hearings where appropriate, to give Federal, State, and local governments and the public, adequate notice and opportunity to comment upon and participate in the formulation of plans and programs relating to the management of the public lands.” Section 202(c) of FLPMA (43 U.S.C. 1712) Plans to forego NEPA violate this mandate. To the extent that BLM is planning to rely on LUP’s to evaluate land health standards in new grazing regulations, it seems at odds with what the agency is planning elsewhere.

In analyzing its proposal to evaluate land health standards at the LUP level, the BLM must provide an accurate accounting of the age of current land use plans, projected (and realistic) revision dates, and how shifting land health evaluations to the LUP process would be accomplished.

b. Evaluating land health standards at the watershed level

Based on the information provided by the BLM thus far, it is unclear what changes the agency has in mind in terms of the structure of watershed level analysis and the rigor of site-specific data collection, evaluations and determinations that will be included. However, the BLM already has a road map for implementing a watershed level approach for grazing management and other multiple use objectives that has largely been ignored or shunned by the majority of States and Field Offices. This approach is outlined in BLM Handbook H-4180-1 as a means of enacting the 1995 grazing regulations and specifically, the Fundamentals of Rangeland Health standards and guidelines. One Field Office that fully embraced this approach is the Dillon FO in Montana. In contrast to other Field Offices throughout the BLM, Dillon has a very small backlog of permit renewals and typically completes the process of multiple permit renewals in 2 years from initial data collection to a final decision. In fact, the Dillon Field Office was so successful in implementing the watershed approach that they were tasked by the National BLM to write about their experience.²⁴

However, by adopting a watershed based approach to implementation of the Fundamentals of Rangeland Health, the Dillon FO did not abandon site-specific analysis. In fact, assessing each allotment individually is a fundamental component of the system. Each livestock permittee is a unique individual with unique circumstances in terms of their business model, livestock handling practices, financial resources, etc. Each allotment reflects the specific circumstances of the permittee and so must be assessed and evaluated individually with specific management prescriptions. The watershed approach is useful as a tool to organize management on a larger scale and to incorporate other aspects of multiple use management but it fails if the individual pieces are neglected or missing.

c. Implications for Section 7 Consultation under the Endangered Species Act

²⁴ Ryan Martin, Pat Fosse, and Brian Thrift "An Interdisciplinary Approach for Watershed-Scale Assessment and Management," *Rangelands* 34(4), 25-30, (1 August 2012).
<https://doi.org/10.2111/RANGELANDS-D-12-00015.1>

Changing the way that land health is monitored and evaluated would also require re-initiation of consultation under the Endangered Species Act for numerous Biological Opinions and Recovery Plans that rely on site-specific land health standards being implemented at an allotment-by-allotment basis.

For example, the Biological Opinion for San Pedro Riparian National Conservation Resource Management Plan, Cochise County, Arizona (2019) bases its conclusions on the following:

- “1. The Arizona Standards for Rangeland Health will continue, with established schedules and congressional requirements. The Arizona Standards for Rangeland Health and Guidelines for Grazing Administration (BLM 1997) will apply to all livestock grazing on BLM-administered lands, consistent with the appropriate enabling legislation. The BLM interdisciplinary land health allotment evaluation process will continue to be used to provide specific guidance and actions for managing livestock grazing. Existing or new allotment management plans and other activity plans will be consistent with achieving the desired future conditions (HCPC), based on ecological site guides provided by the NRCS and Standards for Rangeland Health. They will contain the site-specific management objectives, as well as actions, methods, tools, and appropriate monitoring protocols.
2. Any changes to the existing grazing leases will be based on activity-level planning.
3. Complete land health evaluations before issuing new leases with terms and conditions designed to achieve allotment specific objectives.”

SPRNCA BO at 12.²⁵ “Allotment specific objectives” would require allotment-level planning wherein the land health evaluations would be incorporated.

In another Arizona example, the BLM’s Candidate Conservation Agreement for the Sonoran desert tortoise commits to, “Evaluate plant community condition through Range Health Evaluation – permit renewal process,” in order to reduce the identified stressor, “Loss of habitat through grazing management practices that alter shrub cover and/or grass and forb composition, reducing thermal cover and forage availability or quality.”²⁶ The USFWS decision not to list Sonoran desert tortoise under the ESA (80 FR 60321) considered the CCA among the conservation measures already in place sufficient to justify its “Not Warranted” decision.

The Ely RMP Biological Opinion of 2008 reached its conclusion that the activities authorized by BLM in the plan were, “[N]ot likely to jeopardize the continued existence of the threatened Mojave population of the desert tortoise, the threatened Big Spring spinedace, the endangered White River springfish, the endangered Pahrump poolfish, and the endangered southwestern willow flycatcher, or adversely modify any designated critical habitat for these

²⁵

https://www.fws.gov/southwest/es/arizona/Documents/Biol_Opin/190122_SPRNCA_RMP_FINAL_BO.pdf

²⁶ https://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/SonoranTort/Final_SDT-CCA_201500527%20v2.%20all%20signatures.6.19.2015.pdf

species.” This conclusion was based on the assumption, “Habitats of the listed species should be able to sustain viable populations of those species if rangeland health standards are being met.”²⁷ If the BLM ceases to evaluate rangeland health standards at the expected frequency or scale under which this assumption was made, the Biological Opinion would be in question.

As noted, BLM’s prior attempt to relax rangeland health standards failed because BLM did not consider how the revised regulations would impact listed species. A federal district court found BLM’s “no effect” determination arbitrary, capricious and contrary to law because the proposed regulations would have “alter[ed] ownership rights to water on public lands; increase[d] the barriers to public involvement in grazing management; and substantially delay[ed] enforcement on failing allotments, in ways that will have a substantive effect on special status species.” *W. Watersheds Project v. Kraayenbrink*, 632 F.3d 472, 498 (9th Cir. 2011).

In sum, any change in the evaluation of Land Health Standards at a spatial or temporal scale will have to be considered in context of the BLM’s existing commitments to evaluate land health at the allotment level; any failure to conform to the terms of the existing commitments could result in violations of the Endangered Species Act. It is unclear if evaluating rangeland health at the watershed or land use planning level would achieve the purpose of the commitments the BLM has made in numerous ESA-related documents.

d. Implications for Implementation of the Greater sage-grouse Approved Land Use Plan Amendments.

Our organizations are very concerned about the potential impacts of the grazing regulations revisions on the management of Greater sage-grouse. After many years of fighting for Endangered Species Act protection for the species, the BLM’s 2015 plan amendments were supposed to preclude the need for listing. The Obama-era plans were subsequently challenged as inconsistent with the scientific evidence defining the adequate level of protection the birds need from livestock grazing, energy development, noise, vegetation treatments, and other human disturbance.

We were particularly concerned about the 2015 plans’ assessment of livestock effects on sage-grouse. We were specifically alarmed that the plans were inconsistent in their commitment to use rangeland health standards and the permit renewal processes to implement sage-grouse management, and in the lawsuit filed against the 2015 plans, we specifically raised the issue of the indefinite time frame for modifying grazing to protect sage-grouse. *See* Appendix F. Relevant sections from the complaint include:

Moreover, rather than impose meaningful changes in current livestock grazing, the challenged EISs and RODs failed to require any meaningful or immediate changes in existing grazing management. Instead, the challenged RODs “kicked the can down the road” by indefinitely delaying any requirements for grazing management revisions to

²⁷ https://eplanning.blm.gov/epl-front-office/projects/lup/87546/137715/169136/Appendix_D_-_Biological_Opinion.pdf (at page 125)

protect sage-grouse habitats and populations – and then only under very narrow, highly discretionary circumstances.

Specifically, rather than adopt management requirements consistent with the best available science to protect sage-grouse habitats from adverse grazing-related impacts, the RODs assert that BLM is committed to “prioritizing” the review and processing of grazing permits in SFAs, followed by PHMAs. BLM will also “prioritize” field checks in SFAs, followed by PHMAs, to ensure compliance with the terms and conditions of grazing permits. The RODs indicate that the NEPA analysis for renewals and modifications of grazing permits and leases will include specific management thresholds, based in part on sage-grouse habitat objectives, land health standards, and ecological site potential, to allow adjustments to grazing that have already undergone NEPA analysis.

Contrary to the BLM’s assertions in the RODs and EISs, nothing about these later NEPA processes, rangeland health evaluations, or grazing authorization decisions will ensure that the ongoing impacts of livestock grazing are addressed in the highest priority areas, nor do they provide for grazing management reforms where needed in the near-term.

These assertions are also false or misleading in relying on subsequent permit renewals to assert that NEPA analysis will occur and change grazing management within sage-grouse habitats. Remarkably, the challenged EISs and RODs utterly fail to mention, much less discuss, the fact that recent Congressional appropriations “riders” have substantially eliminated requirements for NEPA analysis and directed that expiring grazing permits be renewed on their same terms and conditions (irrespective of their harmful impacts to sage-grouse). See, e.g., Section 3023 of the 2015 National Defense Authorization Act, P.L. 113-291, 128 STAT 3310, § 3023. Moreover, BLM has a poor track record of conducting NEPA analysis and complying with NEPA requirements in its grazing permit renewals, as demonstrated in extensive prior litigation before this Court.

The measures recommended in the NTT Report (quoted above) focused on ensuring that livestock grazing management is adjusted to ensure grazing is compatible with sage-grouse seasonal habitat needs, particularly for nesting and brood-rearing habitats, so that improvement on the ground in sage-grouse habitat conditions would be seen and benefit sage-grouse populations.

As reflected in the NTT Report recommendations, as well as the March 2010 Finding and substantial other science (including much science presented before this Court in other sage-grouse/grazing litigation, including cases cited above), livestock grazing management must allow essential habitat requirements for sage-grouse seasonal needs to be satisfied, including nesting, brood-rearing, and overwintering.

These issues were raised with BLM throughout the notice-and-comment rulemaking period, and yet, the agency failed to address the lack of specificity in timing in the final sage-grouse RODs.

Then, on December 27, 2017, the BLM issued an Instruction Memorandum that undid the 2015 amendments’ prioritization schemes for completing land health evaluations in priority

sage-grouse habitat.²⁸ This change made the evaluation of livestock grazing effects much more uncertain, and thus weakened the protections that the plans afforded the species.

Most recently, in 2018, the Trump Administration proposed further revisions, widening the existing loopholes for grazing. For example, in Idaho, WWP *et al.* raised the following protests regarding the implementation of management prescriptions for sage-grouse habitat objectives.

The issue of accurate and current Land Health Evaluations is of obvious significance where the BLM's new amendment proposes to re-prioritize based on land health standards rather than significance of the habitat. Idaho PRMP/FEIS at App-2-12, MD LG 15. The FEIS claims that this would not have a measurable impact on Greater sage-grouse management (Idaho PRMP/FEIS at 4-15) but this is wildly speculative in the absence of data. No information is provided about the number of acres in SFA and PHMA (priorities in the 2015 plans) versus the number of acres that aren't meeting land health standards or even the number of land health evaluations in sage-grouse habitat that the agency is able to conduct every year.

Of additional concern is the proposed inclusion of the language regarding desired conditions, "are not intended to be prescriptive at the allotment level." Idaho PRMP/FEIS at App-2-12. This is a considerable change from the 2015 amendment that required NEPA analyses of livestock grazing permits and leases to include the Habitat Objectives as specific management thresholds, i.e. at the allotment level. The proposed removal of anything quantifiable at the allotment level makes the impacts of the proposed management impossible to assess.

WWP Protest of the Idaho 2018 ARMPA at 4. We were thus concerned that even under the existing and operative 1995 grazing regulations, the application of land health standards and objectives would be insufficient. If the BLM's 2020 revisions weaken or alter the requirements of the land health evaluation process either spatially or temporally, the application of the sage-grouse plan amendments is even further inadequate to protect the bird. The agency must analyze and disclose how its proposed grazing regulations revisions would affect the existing land use plans and amendments in context of the pledges the agency has made.²⁹

2. Explore ways to use livestock grazing to reduce wildfire risk and improve rangeland conditions.

The BLM's proposed "exploration" of these purported beneficial uses of livestock grazing must take fully into account the science pertaining to the influence of livestock disturbance on wildfire, invasive weeds, and rangeland conditions. Nothing that is still in the "exploration" phase should be written into grazing regulations. As written, the BLM seems to be

²⁸ <https://www.blm.gov/policy/im-2018-024>

²⁹ We note here that our concerns about the implementation of the sage-grouse plan amendments with regard to livestock grazing should not be construed as endorsement of either the 2015 or 2019 plans' sufficiency to adequately protect the birds against grazing impacts.

proposing *ad hoc* projects that may not meet the standards for scientific objectivity, treatment replication, statistical analysis, and credibility.

a. Wildfire research summary and citations

Fire in dryland ecosystems such as sage-steppe, Great Basin sagebrush, and pinyon-juniper is naturally infrequent and high-intensity.³⁰ Historical fire rotations in persistent pinyon-juniper woodlands vary from 400-600 years, based on available fire scar data.³¹ Spreading, low-intensity surface fires have a very limited role historically in pinyon-juniper woodlands, and stand dynamics have been driven more by climactic fluctuations, insects, and disease than by fire.³² Fire in sagebrush-steppe systems is likewise infrequent and high-intensity.³³ Historical fire return intervals have been estimated at 171-342 years for Wyoming Big Sagebrush and 137-217 years for mountain big sagebrush.³⁴

In these systems, where stand-replacing “crown” fires are the norm, thinning of fuels through livestock grazing or any other means provides little protection from wildfire impacts and often does more harm than good. There is currently no reliable evidence that activities to reduce fuel loads and remove fuel ladders would affect the likelihood of large, high-intensity, stand-replacing fires in these areas.³⁵ Indeed, there is some evidence that these projects actually make fire danger worse by promoting cheatgrass invasion and by concentrating fuels under shrubs like sagebrush, intensifying fires.

There is also very little science showing that grazing is effective at influencing fire behavior. A study conducted in Arizona found that fire-control benefits from targeted grazing occur only when wind speeds are 5 m.p.h. or less.³⁶ Such conditions generally do not lead to large, out-of-control wildfires. Moreover, the level of grazing needed to affect fire behavior would, in all likelihood, prevent recovery native vegetation and soil crusts. Launchbaugh et al. (2008) found that the level of grazing required to influence fire behavior causes unacceptable impacts to habitat.

The BLM needs to explain in more detail how land health goals and objectives would be accomplished with these techniques. Preliminary indications are that the grazing intensities required to reduce invasive annual grasses, for example, are quite heavy. Young et al. (1983)

³⁰ Romme, W. H., C. D. Allen, J. D. Bailey, W. L. Baker, B. T. Bestelmeyer, P. M. Brown, K. S. Eisenhart, M. L. Floyd, D. W. Huffman, B. F. Jacobs, R. F. Miller, E. H. Muldavin, T. W. Swetnam, R. J. Tausch, and P. J. Weisberg. 2009. Historical and Modern Disturbance Regimes, Stand Structures, and Landscape Dynamics in Piñon–Juniper Vegetation of the Western United States. *Rangeland Ecology & Management*, 62(3):203-222.; Bukowski, B.E., and Baker, W.L. 2013. Historical fire regimes, reconstructed from land-survey data, led to complexity and fluctuation in sagebrush landscapes. *Ecological Applications* 23:546-564.

³¹ Romme et al. 2009.

³² *Id.*

³³ Bukowski and Baker 2013.

³⁴ *Id.*

³⁵ Congressional Research Service. 2013. *Wildfire Fuels and Fuel Reduction*.

³⁶ Bruegger, Retta A., Leticia A. Varelas, Larry D. Howery, L. Allen Torell, Mitchell B. Stephenson, and Derek W. Bailey. 2015. Targeted Grazing in Southern Arizona: Using Cattle to Reduce Fine Fuel Loads. *Rangeland Ecology & Management*. 69. DOI: 10.1016/j.rama.2015.10.011.

caution that “using livestock grazing to suppress invasive annual grasses and enhance desirable perennials assumes that desirable perennials will fill the temporary void left by the annual grasses. In many areas, however, desirable perennials may be outcompeted by species considered even more undesirable than annual grasses.” The BLM must show that grazing for fuels reduction will not lead to more resource damage from heavy grazing of vegetation, trampling, removal of biological soil crust, soil erosion, increased bare ground, and higher weed infestation. These potential impacts have not been adequately addressed by BLM thus far. In fact, no citations at all are cited to support or elucidate this concept in the scoping documents.

b. Invasive weeds research summary and citations

The use of livestock for fuels reduction brings with it a substantial risk of weed invasion. BLM must fully examine this likely impact in its NEPA analysis.

Where fires have become more frequent, this increase in frequency is closely related to cheatgrass invasion.³⁷ Fire-return intervals in landscapes dominated by cheatgrass are much shorter than in sagebrush-bunchgrass communities where invasive annuals are rare or absent.³⁸ These changes in fire frequency, driven in the first instance by cheatgrass invasion, can transform native shrub-steppe communities over time into annual grasslands dominated by cheatgrass and other invasives.³⁹

Livestock grazing makes sage-steppe communities more susceptible to cheatgrass invasion through two primary mechanisms: by suppressing native bunchgrasses, and by breaking up biological soil crusts.⁴⁰ Healthy native bunchgrasses and biological soil crusts are nature’s defense against annual grass invasion.⁴¹ Healthy, mature native bunchgrasses limit annual grass invasions by limiting the size and connectivity of gaps between vegetation, and by outcompeting cheatgrass seedlings for key nutrients.⁴² Biological soil crusts, meanwhile, limit invasions within gaps.⁴³

Livestock grazing has been shown to suppress native bunchgrasses, which did not evolve with significant grazing pressure before the introduction of livestock in the 1800s.⁴⁴ In addition,

³⁷ Baker, W.L. 2011. Pre-European-American and recent fire in sagebrush ecosystems. IN: Knick, S.T., and J.W. Connelly (eds.) Greater sage-grouse: ecology and management of a landscape species and its habitats. Studies in Avian Biology 38, University of California Press, Berkeley, CA.

³⁸ Whisenant, Steven G., Changing Fire Frequencies on Idaho Snake River Plains: Ecological and Management Implications, Paper presented at the Symposium on Cheatgrass Invasion, Shrub Die-Off, and Other Aspects of Shrub Biology and Management, Las Vegas, NV, April 5-7, 1989.

³⁹ Reisner, M.D., Grace, J.B., Pyke, D.A., and Doescher, P.S. 2013. Conditions favouring *Bromus tectorum* dominance of endangered sagebrush steppe ecosystems. *Journal of Applied Ecology* 50:1039-1049., Karl, M.G. and J.C. Chambers, Livestock Grazing Management, U.S. Forest Service, Rocky Mountain Research Station, General Technical Report No. 389 (2019).

⁴⁰ Reisner et al. 2013.

⁴¹ Chambers et al. 2014.

⁴² Reisner et al. 2013.

⁴³ Id.

⁴⁴ Mack, R.N. and J.N. Thompson. 1982. Evolution in Steppe With Few Large, Hooved Mammals. *The American Naturalist* 119(6):757-773.

livestock have been shown to trample and destroy biological soil crusts.⁴⁵ Grazing thus causes and exacerbates cheatgrass dominance of sage-steppe ecosystems by degrading or destroying the two key natural mechanisms for resisting invasion.⁴⁶ As Baker (2011) explains, “vulnerability to post-fire cheatgrass expansion has been positively correlated with high pre-fire cheatgrass, low cover of biological soil crust, and low native forb and grass cover, all of which are associated with degradation by domestic livestock grazing.”

Livestock grazing in sage-steppe also increases the likelihood that invasive annual grasses will dominate after wildfire. Fire is a natural and unavoidable occurrence in Western sage-steppe ecosystems.⁴⁷ Sagebrush fires, as noted, are almost always high-severity or stand-replacing.⁴⁸ Researchers therefore emphasize the importance of pre-fire resistance to annual grass invasion and post-fire resilience.⁴⁹ A resistant and resilient ecosystem can recover native species after a fire, while a system lacking resistance and/or resilience generally cannot.

Livestock grazing is among the most common disturbances associated with decreased resilience and resistance in cold desert ecosystems.⁵⁰ As noted, heavy grazing has been shown to suppress native bunchgrasses, reduce biological soil crust cover, and increase soil surface disturbance.⁵¹ With increasing grazing intensity, bare soil increases and cheatgrass can become progressively more abundant.⁵² These changes reduce the resilience of shrub-steppe ecosystems to wildfire and increase the likelihood of post-fire cheatgrass invasion.⁵³ Livestock grazing thus initiates and exacerbates the so-called “cheatgrass-fire cycle,” which over time increases wildfire frequency and ultimately results in highly flammable and ecologically barren cheatgrass monocultures.

c. Rangeland degradation research summary and citations

In addition to impacts related to weeds and fire, the BLM must consider the full spectrum of likely impacts to Western public lands from domestic livestock. Extensive scientific literature has confirmed that livestock grazing adversely affects many different components of arid Western ecosystems. Daubenmire (1970) described the lower resilience of sagebrush plant communities to grazing. In addition, Mack and Thompson (1982) discuss the myriad harmful effects of livestock grazing to intermountain and Great Basin sagebrush communities that evolved without large herds of hooved mammals. Fleischer (1994) and Belsky et al. (2000) review the many harmful impacts of livestock grazing to arid western lands, including alteration of plant community composition and structure. Finally, Anderson and Holte (1981) describe

⁴⁵ Reisner et al. 2013.

⁴⁶ Id.

⁴⁷ Shinneman et al. 2018.

⁴⁸ Id.

⁴⁹ See, e.g., Chambers, J. C., B.A. Bradley, C.S. Brown, C. D’Antonio, M.J. Germino, J.B. Grace, S.B. Hardegree, R.F. Miller, and D.A. Pyke. 2014. Resilience to stress and disturbance, and resistance to *Bromus tectorum* L. invasion in cold desert shrublands of western North America. *Ecosystems*, 17(2), 360-375.; Karl and Chambers 2019.

⁵⁰ Chambers et al. 2014.

⁵¹ Id.

⁵² Id.

⁵³ Id.

significant increases in perennial grass and shrub cover after grazing was removed from sagebrush lands in southeastern Idaho—perennial grass cover increased exponentially and shrub cover was 154 % greater.

Due to the scarcity of water on many BLM grazing allotments, livestock grazing impacts are often concentrated on riparian areas and springs. Much of this harm is the result of trampling. The static load of a livestock hoof ranges from 2.8 to 10.9 kg/cm² and can increase by 2 to 4 times when the animal travels.⁵⁴ . In addition, livestock selectively graze on the most palatable riparian species, decreasing both herbaceous cover and species diversity. During the summer and fall, when water is scarce, livestock congregate at riparian areas and springs,⁵⁵ causing erosion, decreased water infiltration rates, increased runoff, and reducing plant productivity and vegetative cover.⁵⁶

Although grazing management has changed since the initial introduction of livestock, modern grazing systems continue to degrade public lands across the West. Many BLM grazing permits lack terms and conditions to ensure recovery of native perennial grasses, and most allotments still operate under the obsolete 50% utilization standard, which does not allow for perennial grass recovery. Yeo (2005) noted that modern rest-rotation grazing systems continued to suppress annual grass abundance on BLM grazing allotments in Idaho. Other researchers have hypothesized that moderate grazing and deferment schedules increase cheatgrass abundance.⁵⁷ Carter et al. (2014), meanwhile, found that so-called “holistic” grazing systems conferred no environmental benefits and harmed native bunchgrass-sagebrush communities. And even today, inconsistencies in monitoring persist within and among agencies, making it difficult to measure current grazing pressure (Condon & Pyke 2018).

BLM must fully consider all of these impacts using objective, peer-reviewed science before committing to its risky and untested proposal to use livestock as a “fuels reduction” tool.

D. Public participation

The BLM’s publicly available slide on the timeline for grazing permit processing⁵⁸ begins with the Land Health Evaluations and concludes with permit issuance, a process the agency reports takes 5-7 years. The BLM would have us believe that addressing the length of time required for permit renewals is due to burdensome regulatory requirements and the need to

⁵⁴ Powell, G. W., Cameron, K. J., & Newman, R. F. (2000). Analysis of Livestock Use of Riparian Areas: Literature Review and Research Needs Assessment for British Columbia. Victoria, BC: B.C. Ministry of Forests. Retrieved from <http://www.for.gov.bc.ca/hfd/pubs/docs/wp/wp52.htm>

⁵⁵ Bailey, D. W., & Brown, J. R. (2011). Rotational Grazing Systems and Livestock Grazing Behavior in Shrub-Dominated Semi-Arid and Arid Rangeland. *Rangeland Ecology and Management*, 64(1), 1-9.

⁵⁶ Clary, W. P. (1995). Vegetation and Soil Responses to Grazing Simulation on Riparian Meadows. *Journal of Range Management*, 48(1), 18-25. .

⁵⁷ Knapp, P.A. 1996. Cheatgrass (*Bromus tectorum* L.) dominance in the Great Basin Desert: History, persistence, and influences to human activities. *Global Environmental Change* 6:37-52., Schmelzer, L., B. Perryman, B. Bruce, B. Schultz, K. McAdoo, C. McCuin, S. Swanson, J. Wilker, and K. Conley. 2014. Case study: reducing cheatgrass (*Bromus tectorum*) fuel loads using fall cattle grazing. *Professional Animal Scientist* 30: 270-278.

⁵⁸ https://eplanning.blm.gov/epl-front-office/projects/nepa/1500093/20011413/250015606/Permit_Processing.pdf

involve the public in public lands decision making. However, the BLM's failure to process grazing permits in a timely fashion is not a result of the current grazing regulations but rather a reflection of an inefficient and outdated agency culture.

The experience of the Dillon FO is again instructive here. The BLM issued handbook H-4180-1 in 2001 to guide field offices in adopting a watershed based management approach to implementing the Fundamentals of Rangeland Health and complying with the existing grazing regulations. Unfortunately, the vast majority of BLM managers simply ignored the handbook and went on with business as usual. In contrast to the 5-7 year timeline cited by the BLM for an average grazing allotment permit renewal, the Dillon BLM renews between 30 and 50 permits each year in one or two watersheds. Each watershed analysis takes around 2 years from start to finish and includes: data collection; ID team analysis assessment, evaluation, and determination under Sec. 4180; alternatives development; draft Environmental Assessment; final Environmental Assessment; proposed and final decision issuance. The public and all interested parties are invited and encouraged to participate in each step of the process. Public engagement at multiple levels does not hinder the process or create unnecessary delays. In fact, the opposite is true. Engaging with the public early and often allows the BLM to anticipate and address issues leading to quicker decision making and reducing the likelihood of decisions being challenged, withdrawn, or vacated by federal courts.

In analyzing any proposals to limit public involvement in grazing administration or management, the BLM must explain why certain field offices are capable of meeting their legal and regulatory responsibilities under the existing regulations including substantial public participation while others are woefully behind. How many field offices have fully adopted the approach detailed in H-4180-1 and how many have not? The EIS should also include specific examples of where public participation has caused a significant delay in grazing administration or management where the project or proposed decision did not require alteration due to inadequacies in the analysis or ruling by federal courts that the decision was in violation of law.

E. Unauthorized and Trespass Livestock Grazing

In addition to the issues identified above, the BLM's Notice of Intent also claims that the regulations need to be revised to address the finding of a 2016 Government Accountability Office Report on unauthorized and trespass livestock grazing. The NOI states:

“In addition, the U.S. Government Accountability Office (GAO) released a report in July 2016 titled, ‘Unauthorized Grazing: Actions Needed to Improve Tracking and Deterrence Efforts’ (GAO-16-559). The GAO recommended that the Secretary of the Interior direct the Director of the BLM to amend the regulations on unauthorized grazing use, 43 CFR subpart 4150 (2005), ‘to establish a procedure for the informal resolution of violations at the local level.’ The BLM plans to initiate a rulemaking to address the Congressional amendments and the GAO's concerns...”

However, the BLM is only offering a selective read of the GAO's recommendations and is completely ignoring the Department of Interior's official response to the report which

contradicts the BLM's rationale here. Nor does the BLM provide any significant justification for the change of policy direction on this issue.

The GAO's full recommendation reads:

"To improve the effectiveness of BLM's efforts to track and deter unauthorized grazing, we recommend that the Secretary of the Interior direct the Director of BLM to take the following three actions:

- amend the regulations on unauthorized grazing use—43 C.F.R. Subpart 4150 (2005)—to establish a procedure for the informal resolution of violations at the local level, **or follow the existing regulations by sending a notice of unauthorized use for each potential violation as provided by 43 C.F.R. § 4150.2(a) (2005)**; (emphasis added)
- record all incidents of unauthorized grazing, including those resolved informally; and
- revise the agency's Unauthorized Grazing Use Handbook to make it consistent with 43 C.F.R. pt. 4100 (2005)."⁵⁹

And the Department of Interior's response:

"The BLM concurs with this recommendation. The BLM will revise the agency's Unauthorized Grazing Use Handbook to better describe procedures for following the existing regulations. As part of this effort, the BLM will clarify the process for documenting and recording incidents of unauthorized grazing, including those resolved informally (as discussed below in the response to recommendation 2). In 2006, the U.S. District Court for the District of Idaho enjoined the BLM's most recent effort to revise the grazing regulations and the 1995 regulations have been in effect since the enjoinder was issued. That revision included the incorporation of the GAO's 1990 recommendations. **It is not necessary or desirable to attempt another revision of the regulations solely to address this issue.**" (emphasis added)⁶⁰

Any new grazing regulations must provide an efficient way for grazing permittees who repeatedly trespass or disregard the terms and conditions of their grazing permit to have that permit terminated. Any "informal" process must preserve the right of the federal government to address noncompliance including through the revocation of grazing privileges.

Trespass grazing by domestic sheep in areas outside those authorized for use by sheep or at times extending beyond those analyzed when a permit is granted may increase the risk of contact and pathogen transmission to bighorn sheep where bighorn sheep occur. The likelihood and frequency of bighorn sheep movement across the landscape changes seasonally, with increased movement observed during the autumn rut. Domestic sheep which remain on the landscape outside the permitted summer grazing season may come into contact with foraging

⁵⁹ "Unauthorized Grazing: Actions Needed to Improve Tracking and Deterrence Efforts" (GAO-16-559); <https://www.gao.gov/assets/680/678292.pdf>

⁶⁰ id.

bighorn sheep at this time, even in areas where the risk of contact during the authorized season of use is low. Domestic sheep allowed to graze in areas where their presence has not been analyzed in a risk assessment may likewise come into contact with bighorn sheep, transmit pneumonia-inducing pathogens, and cause the decline or extirpation of one or more bighorn sheep populations. The BLM must analyze any potential impact to bighorn sheep populations as a result of changes to the way that occurrences of unauthorized and trespass grazing are handled.

The BLM must fully analyze the issue of unauthorized and trespass livestock grazing without prejudice. The EIS should examine the consequences and benefits of weakening the existing regulations versus maintaining or strengthening them. This analysis should include issues such as threats and intimidation faced by BLM employees that have documented unauthorized grazing, increasing incidents of violence and extremism related to unauthorized grazing, and the potential for increasing penalties and consequences of unauthorized grazing as a deterrent to future violations.

As the department explained, the current grazing regulations were designed, in part, to increase accountability among grazing permittees:

The public reasonably expects the public rangeland permittees and lessees to exercise care for the land, just as a private lessor expects due care of private property. Rangeland resources, particularly soil, vegetation and water, are sensitive to misuse and once damaged or altered may require decades to recover. The BLM has experienced instances where noncompliance with the terms and conditions of permits or regulations has placed public rangeland resources at risk. The proposed rule makes clear that an applicant's history of noncompliance with, or violation of, rules and regulations pertaining to grazing and the terms and conditions of BLM or of other Federal or State grazing permits and leases will be reason for the BLM to withhold the renewal of leases or permits and to reject applications for new permits and leases.⁶¹

BLM needs to assess whether the current regulations have functioned as intended, or whether, in light of the GAO's findings, the Department should explore additional ways to strengthen enforcement and ensure accountability, such as increasing penalties for unauthorized use or clarifying BLM's authority to cancel or not renew grazing permits when permittees fail to demonstrate good stewardship.

III. COMMENTS ON ADDITIONAL PROPOSED REVISION AREAS

To the extent that BLM's is revising its grazing regulations, we believe there are numerous improvements to the program that the BLM should consider.

A. Allow for grazing permit retirement and long-term non-use for conservation purposes.

1. Voluntary permit relinquishment

⁶¹ Grazing Administration—Exclusive of Alaska, Proposed Rule 58 Fed. Reg. 43208, 43210 (Aug. 13, 1993)

BLM should adopt language to allow permit retirement under applicable land use plans when a permittee voluntarily waives its permit to BLM:

“When a permittee waives its grazing permit back to the BLM with the intention that grazing will no longer be permitted on the associated grazing allotment, BLM will make that allotment unavailable for grazing under 43 C.F.R. §§ 4100.0–8, 4110.2–2, 4110.4–2(b), 4120.3–6, and 4130.2.”

2. Non-use

The regulations should make clear that nonuse for conservation purposes continues to be a valid and allowable exercise of grazing privileges on public land. While the Tenth Circuit held that issuance of permits for conservation use is inconsistent with the Taylor Grazing Act, it made clear that BLM could approve nonuse annually, even for the entire duration of a 10-year permit. See *Pub. Lands Council v. Babbitt*, 167 F.3d 1287, 1307–08 (10th Cir. 1999). Rest of a grazing allotment through conservation nonuse authorizations is widely recognized as an important component of grazing management that serves multiple ends. *Id.*

BLM should update the regulations consistent with its policies described IM 2009-57⁶² in order to make clear that BLM managers may approve conservation nonuse annually, with no limit on how many years it may be approved, 43 C.F.R. § 4130.4(b), and to confirm other aspects of conservation nonuse, including:

- Revising §§ 4120.3–3(c), 4130.2(h), and 4130.6–2 to assure a policy that BLM will not grant temporary permits to other permittees or applicants for an allotment that is in approved temporary or conservation nonuse status;
- Affirming § 4140.1(a)(2), which states that a permittee is not subject to any requirement to make “substantial grazing use” when conservation nonuse has been approved.

Further, BLM should remove the three-year limit on temporary nonuse in 43 C.F.R. § 4130.2(g)(2). Given the competing interest in allowing permittees to rest an allotment from livestock use in the interest of land health, this provision is bad policy. BLM should also eliminate penalties for failing to make “substantial grazing use” when temporary or conservation nonuse is not authorized. *Id.* §§ 4140.1(a)(2) and 4170.1–2.

BLM also must not use allotments that are in the conservation non-use status as grassbanks, which deplete the values of livestock-free allotments.

B. Facilitate greater levels of public engagement, including through posting monitoring reports online for public review, inviting the interested public to attend field visits, and notifying the public of all grazing permit decisions.

⁶² Available at <https://www.blm.gov/policy/im-2009-057> (last visited Feb. 29, 2020).

Even when BLM provides a full scoping comment period and a draft EA for grazing permit decisions, it rarely includes the most recent and relevant land health evaluations, full monitoring data, actual use reports, utilization information, range infrastructure reports, geospatial data and/or the myriad other pieces of information that allow an Interested Public to thoroughly vet the proposed action. Some field offices are forthcoming with this information, and others require it to be requested formally under the Freedom of Information Act.

The BLM should instead post all the relevant files and folders online so that the public has as much information as possible during the comment periods to provide informed feedback for the agencies. The entire project record should be available to the public during the comment/protest/appeal period. Requiring the most recent monitoring data to be regularly and consistently uploaded to a central BLM grazing database would save the BLM considerable time and money by streamlining the FOIA process or even reducing the number of information requests received by the agency.

The BLM should use the opportunity with this regulation revision to standardize commenting procedures and bring them up to date with current methods of communication. For example, some field offices are stipulating that public comments cannot be submitted via email or fax. First of all, this proscription limits civic engagement and participation, which unfortunately leads to mistrust and frustration on the part of the public. Secondly, digital communication saves taxpayer money and time and facilitates information dissemination. The BLM should change the comment procedure agency-wide so that the BLM accepts all forms of public communication. In addition, all proposed decisions and NEPA documents should be issued in electronic format in a widely-accessible venue, not just on field office bulletin boards or local newspapers, which are not easily available to most Americans who might like to comment. Finally, all comment deadlines should be standardized and clearly stated in the Federal Register with the specific date and time. In one instance, a BLM office set the deadline at 4:30pm local time. This information was included in a notice on the BLM ePlanning website, but not in the Federal Register announcement. This had the appearance of an attempt to limit public participation by those who assumed, naturally, that the deadline was midnight of the date recorded in the Federal Register.

The quality and integrity of the information that BLM uses to inform its decisions is critical to its success. A sincere commitment to using science in natural resource management is the single most important thing the BLM can do to accomplish all of the goals it has delineated. Too often, field offices view science and scientists as simply another interest group with an agenda. Rather than looking to the best available, objective, peer-reviewed data as a starting point for range management, many management areas treat data as just another point of view in the mix, to be balanced with the values of industry, recreation, and other special interest groups. Science is not a special interest. It is the foundation on which management decisions should be built.

Quantitative vs qualitative data - Basing management on objective science rather than subjective anecdote will increase the credibility of the BLM with the public and help avoid litigation. In many cases, however, WWP has observed staff depend on their own subjective observations in making resource decisions, even when those unsubstantiated opinions are at odds with the best available science. On-the-ground local knowledge is important, but it must be verified with

objective, unbiased data and analysis. The BLM should emphasize data standardization, reliability, and accuracy, and to make those data easily available internally and externally to interested parties. Monitoring must include objective, empirical criteria that are readily observable and understandable by all stakeholders. Everyone must be able to agree that the data are objective and unbiased. The BLM's Monitoring Manual for Grassland, Shrubland, and Savanna Ecosystems⁶³ rangeland monitoring methods is a good example to use.

Data accessibility: Land use planning on a landscape scale over multiple jurisdictions requires the ability to share information easily, both between management entities and with the general public. The BLM needs to give the public better access to its own data. Managers, scientists, permit holders, interested public and others often do not have access to allotment information and are not adequately informed of allotment habitat conditions or grazing management actions. As a result, misunderstandings are generated that heighten tension and exacerbate political conflict. Collecting and sharing accurate information with users is an essential part of an evidence-based management process, and it builds trust between the public and the BLM as well. If the BLM is truly basing its management decisions on good data, and the public can see and evaluate those data, then public acceptance of management decisions, even politically unpopular ones, is greater. Some BLM materials are available to the public, but more should be. Too many in-house reports languish in file cabinets. Grey literature produced by the BLM with public funds should be consolidated and made available to the public. This includes data collected or used by the BLM in monitoring or research, such as information from the Rapid Ecosystem Assessments and Assessment, Inventory, and Monitoring efforts. Also, many allotment management plans, trend data, stocking rate, annual use data, and utilization are only available in response to FOIAs. If this information was collected digitally and automatically uploaded to the internet, it would save the BLM time and money by reducing the time needed to respond to these data requests. The BLM should build an accessible, up to date, searchable information portal for the public.

Training in data analysis The BLM needs to provide field staff with training in data analysis. In some of the NEPA documents WWP has read over the decades, for example, if data supporting management decisions are provided at all, the conclusions drawn from them are erroneous. For example, some field offices lump cover data inaccurately and information on functional groups and biodiversity is inadvertently lost. In trend studies, if a plant species declines to the point that it is no longer useful for determining trend, a new species is simply substituted. There is no discussion of why the original plant, which was once abundant enough to be a key species, has declined to the point that it can't be used to track trend. In other cases, trend is inferred from only two or three sample points spread over many years. Invalid conclusions such as these can have significant impacts on resources management.

C. Require grazing management to improve carbon sequestration in soils and analyze grazing in context of the climate crisis.

1. Carbon Sequestration

⁶³ Herrick, J.E., J.W. Van Zee, K.M. Havstad, L.M. Burkett and W.G Whitford. 2009. Monitoring manual for grassland, shrubland, and savanna ecosystems. BLM Tech. Ref.1734-8. USDA - ARS Jornada Experimental Range, Las Cruces, New Mexico.

The EIS must examine one of the most important factors in addressing climate change on public lands, soil carbon sequestration. One of the simplest, proven, low-tech solutions to increase soil carbon storage and restore degraded landscapes – the removal of livestock. Numerous scientific studies and reviews support this conclusion:

- “The results of our work indicate that sagebrush restoration may have the potential to offset 23% of annual US carbon emissions.”⁶⁴
- “(G)razing exclusion is an effective ecosystem restoration approach to sequester and store carbon in the living biomass and soil profiles.”⁶⁵
- “Simply removing livestock can increase soil carbon sequestration since grasslands with the greatest potential for increasing soil carbon storage are those that have been depleted in the past by poor management (Wu and others 2008, citing Jones and Donnelly 2004)”⁶⁶.
- “The elimination of perennial understory vegetation and cryptobiotic crusts is a nearly inevitable consequence of livestock grazing in deserts. This opens these systems to annual grass invasion, subsequent burning, and loss of a major carbon sink, a heavy price to pay for the minimal economic gains derived from direct use of these intrinsically unproductive lands for livestock production.”⁶⁷
- “While continuous overgrazing in the erosion-prone desert steppe is detrimental to soil and vegetation, this can be reversed and significant increases in soil fertility, cover, and biomass can be achieved by grazing exclusion.”⁶⁸
- “in terms of long-term carbon storage, rangelands can be superior to forests because relatively more of the total site carbon is stored in the soil (White et al., 2000; Paruelo et al., 2010) where it is usually better protected from atmospheric release than carbon stored in vegetation.”⁶⁹

Conversely, active restoration approaches, particularly those that involve increased grazing, often lead to negative consequences that exacerbate the existing problems.

- “Reisner et al. (2013) found that livestock grazing increases cheatgrass dominance in sagebrush steppe, livestock grazing is not likely a viable tool for reducing cheatgrass

⁶⁴ Austreng et al. (2011) “Carbon sequestration in semi-arid ecosystems: Potential benefits of sagebrush restoration.” American Geophysical Union, Fall Meeting 2011, abstract B23F-08.

⁶⁵ Gebrehaweria Kidane Reda. 2018. Effect of grazing exclusion on carbon storage on grazing lands: A review, *International Journal of Development Research*, 8: 22870-22878.

⁶⁶ Beschta et. al. 2013. Adapting to climate change on western public lands: Addressing the ecological effects of domestic, wild, and feral ungulates. *Environ. Manage.* 51: 474–491

⁶⁷ Meyer, S. E. 2011. Is climate change mitigation the best use of desert shrublands?, *Natural Resources and Environmental Issues*: 17(2). Available at: <http://digitalcommons.usu.edu/nrei/vol17/iss1/2>

⁶⁸ Qin et. al. 2015. Effects of livestock exclusion on soil physical and biochemical properties of a desert rangeland. *Pol. J. Environ. Stud.* 24: 2587–2595. DOI: <https://doi.org/10.15244/pjoes/43499>

⁶⁹ Booker et al. 2013. What can ecological science tell us about opportunities for carbon sequestration on arid rangelands in the United States? *Global Environmental Change* 23: 240-251.

dominance because it promotes cheatgrass invasion, and reduced grazing may be one of the most effective means of conserving and restoring imperiled sagebrush ecosystems.”⁷⁰

- “While active restoration approaches in herbivory-degraded landscapes may have some utility, such projects are often small in scope, expensive, and unlikely to be self-sustaining; some can cause unanticipated negative effects (Kauffman and others 1997).”⁷¹
- “Campbell et al. (2012b) suggest that expanding juniper woodlands in Oregon are sequestering carbon and that treatments removing trees do not mitigate carbon loss from forest fires.”⁷²
- “Disturbance by shrub removal (root ploughing) and/or livestock grazing significantly reduced the amount of soil organic carbon (SOC). The most disturbed treatment (grazed and ploughed) contained the least SOC (15.30 Mg C ha⁻¹) while protection from grazing and shrub removal led to the greatest SOC (28.49 Mg C ha⁻¹).”⁷³

In terms of the effectiveness of removing livestock to recover degraded rangelands, a picture is worth a thousand words:

Photos from Hart Mountain National Wildlife Refuge – 25 years after the removal of livestock:



2. Climate Change

Nitrous oxide, a by-product generated by the microbial breakdown of nitrogen in livestock manure, is a potent greenhouse gas completely ignored by the DEIS. Also, the digestion of organic materials by livestock is a large source of methane emission—another GHG not even mentioned in the DEIS. Methane is a far more potent substance than CO₂ causing climate change.

⁷⁰ Beschta et. al. 2014. Reducing livestock effects on public lands in the western United States as the climate changes: A reply to Svejcar et al. *Environmental Management*, 53(6), 1039-1042.
doi:10.1007/s00267-014-0263-5

⁷¹ Ibid.

⁷² Jones, A. 2019. Do mechanical vegetation treatments of pinyon-juniper and sagebrush communities work? A review of the literature. Wild Utah Project, Salt Lake City, UT.

⁷³ Batchelor et al. 2015. Restoration of riparian areas following the removal of cattle in the northwestern Great Basin. *Environ. Manage.* DOI: 10.1007/s00267-014-0436-2

Beschta et al., 2012⁷⁴ review some of the science on livestock exacerbation of climate change:

Livestock production impacts energy and carbon cycles and globally contributes an estimated 18% to the total anthropogenic greenhouse gas (GHG) emissions (Steinfeld and others 2006). How public-land livestock contribute to these effects has received little study. Nevertheless, livestock grazing and trampling can reduce the capacity of rangeland vegetation and soils to sequester carbon and contribute to the loss of above- and belowground carbon pools (e.g., Lal 2001b; Bowker and others 2012). Lal (2001a) indicated that heavy grazing over the long-term may have adverse impacts on soil organic carbon content, especially for soils of low inherent fertility. Although Gill (2007) found that grazing over 100 years or longer in subalpine areas on the Wasatch Plateau in central Utah had no significant impacts on total soil carbon, results of the study suggest that “if temperatures warm and summer precipitation increases as is anticipated, [soils in grazed areas] may become net sources of CO₂ to the atmosphere” (Gill 2007, p. 88). Furthermore, limited soil aeration in soils compacted by livestock can stimulate production of methane, and emissions of nitrous oxide under shrub canopies may be twice the levels in nearby grasslands (Asner and others 2004). Both of these are potent GHGs.

Gerber, et al., 2013⁷⁵ state, “Livestock producers, which include meat and dairy farming, account for about 15% of greenhouse gas emissions around the world. That’s more than all the world’s exhaust-belching cars, buses, boats, and trains combined.”

Saunois et al., 2016a⁷⁶ note “the recent rapid rise in global methane concentrations is predominantly biogenic—most likely from agriculture—with smaller contributions from fossil fuel use and possibly wetlands. ...Methane mitigation offers rapid climate benefits and economic, health and agricultural co-benefits that are highly complementary to CO₂ mitigation.” (Also see Saunois et al., 2016b; Gerber et al., 2013; and the Grist articles “Why isn’t the U.S. counting meat producers’ climate emissions?” and “Cattle grazing is a climate disaster, and you’re paying for it” and Stanford News article “Methane from food production could be wildcard in combating climate change, Stanford scientist says”.)

⁷⁴ Beschta, Robert L., Debra L. Donahue, Dominick A. DellaSala, Jonathan J. Rhodes, James R. Karr, Mary H. O'Brien, Thomas L. Fleischner, Cindy Deacon Williams. 2012. Adapting to Climate Change on Western Public Lands: Addressing the Ecological Effects of Domestic, Wild, and Feral Ungulates. Environmental Management, DOI 10.1007/s00267-012-9964-9 2012. <http://www.springerlink.com/content/e239161819g01117/fulltext.pdf>

⁷⁵ Gerber, P.J., Steinfeld, H., Henderson, B., Mottet, A., Opio, C., Dijkman, J., Falcucci, A. & Tempio, G. 2013. Tackling climate change through livestock – A global assessment of emissions and mitigation opportunities. Food and Agriculture Organization of the United Nations (FAO), Rome.

⁷⁶ Saunois, et al., 2016b. The global methane budget 2000–2012. Earth Syst. Sci. Data, 8, 697–751, 2016

Ripple et al. 2014⁷⁷ provide some data and point out the opportunities available for GHG reductions via change in livestock policy:

- At present non-CO₂ greenhouse gases contribute about a third of total anthropogenic CO₂ equivalent (CO₂e) emissions and 35–45% of climate forcing (the change in radiant energy retained by Earth owing to emissions of long-lived greenhouse gases) resulting from those emissions.
- Methane (CH₄) is the most abundant non- CO₂ greenhouse gas and because it has a much shorter atmospheric lifetime (~9 years) than CO₂ it holds the potential for more rapid reductions in radiative forcing than would be possible by controlling emissions of CO₂ alone.
- We focus on ruminants for four reasons. First, ruminant production is the largest source of anthropogenic CH₄ emissions (Fig. 1c) and globally occupies more area than any other land use. Second, the relative neglect of this greenhouse gas source suggests that awareness of its importance is inappropriately low. Third, reductions in ruminant numbers and ruminant meat production would simultaneously benefit global food security, human health and environmental conservation. Finally, with political will, decreases in worldwide ruminant populations could potentially be accomplished quickly and relatively inexpensively.
- Worldwide, the livestock sector is responsible for approximately 14.5% of all anthropogenic greenhouse gas emissions (7.1 of 49 Gt CO₂e yr⁻¹). Approximately 44% (3.1 Gt CO₂e yr⁻¹) of the livestock sector's emissions are in the form of CH₄ from enteric fermentation, manure and rice feed, with the remaining portions almost equally shared between CO₂ (27%, 2 Gt CO₂e yr⁻¹) from land-use change and fossil fuel use, and nitrous oxide (N₂O) (29%, 2 Gt CO₂e yr⁻¹) from fertilizer applied to feed-crop fields and manure.
- Globally, ruminants contribute 11.6% and cattle 9.4% of all greenhouse gas emissions from anthropogenic sources.
- Lower global ruminant numbers would have simultaneous benefits for other systems and processes. For example, in some grassland and savanna ecosystems, domestic ruminant grazing contributes to land degradation through desertification and reduced soil organic carbon. Ruminant agriculture can also have negative impacts on water quality and availability, hydrology and riparian ecosystems. Ruminant production can erode biodiversity through a wide range of processes such as forest loss and degradation, land use intensification, exotic plant invasions, soil erosion, persecution of large predators and competition with wildlife for resources.

⁷⁷ Ripple William J., Pete Smith, Helmut Haberl, Stephen A. Montzka, Clive McAlpine and Douglas H. Boucher, 2014. Ruminants, climate change and climate policy. *Nature Climate Change*, Vol. 4, January 2014.

- Roughly one in eight people in the world are severely malnourished or lack access to food owing to poverty and high food prices. With over 800 million people chronically hungry, we argue that the use of highly productive croplands to produce animal feed is questionable on moral grounds because this contributes to exhausting the world's food supply.
- In developed countries, high levels of meat consumption rates are strongly correlated with rates of diseases such as obesity, diabetes, some common cancers and heart disease. Moreover, reducing meat consumption and increasing the proportion of dietary protein obtained from high-protein plant foods — such as soy, pulses, cereals and tubers — is associated with significant human health benefits.
- The greenhouse gas footprint of consuming ruminant meat is, on average, 19–48 times higher than that of high-protein foods obtained from plants (Fig. 2), when full life cycle analysis including both direct and indirect environmental effects from 'farm to fork' for enteric fermentation, manure, feed, fertilizer, processing, transportation and land-use change are considered.
- In terms of short-term climate change mitigation during the next few decades, if all the land used for ruminant livestock production were instead converted to grow natural vegetation, increased CO₂ sequestration on the order of 30–470% of the greenhouse gas emissions associated with food production could be expected.
- (D)ecreasing ruminants should be considered alongside our grand challenge of significantly reducing the world's reliance on fossil fuel combustion. Only with the recognition of the urgency of this issue and the political will to commit resources to comprehensively mitigate both CO₂ and non- CO₂ greenhouse gas emissions will meaningful progress be made on climate change. For an effective and rapid response, we need to increase awareness among the public and policymakers that what we choose to eat has important consequences for climate change.

More explanation can be found at:

<https://www.facebook.com/DavidAvocadoWolfe/videos/10153860126441512/>

D. Ensure grazing management preserves the habitat value of public lands for native plant and wildlife species.

Our comments have thus far enumerated many circumstances where livestock grazing can have detrimental impacts on habitat for native plants and wildlife species. Additional examples include the impacts to native bighorn sheep populations. Over the last 150 years, pathogens carried by domestic sheep have contributed to widespread declines in bighorn sheep populations. While BLM has acknowledged that interaction between domestic sheep and bighorn sheep may lead to morbidity and mortality within bighorn populations, domestic sheep grazing on BLM allotments in close proximity to bighorn sheep herds remains widespread. Domestic

sheep grazing likewise occurs in habitats from which bighorn sheep have been extirpated, precluding the reintroduction of the species to vast areas of its native range.

The established incompatibility between bighorn and domestic sheep has been addressed through the addition of bighorn sheep to BLM's state Sensitive Species lists, and through BLM MS-1730, a guidance document prescribing spatial and temporal separation as the only effective means of protecting bighorn populations. However, despite a scientific consensus and existing agency policy regarding bighorn/domestic sheep interactions, BLM has not acted to substantially reduce the risk to bighorn populations from domestic sheep grazing. As of March of 2019, 75% of domestic sheep allotments overlapping occupied bighorn sheep habitat had their permits renewed without a NEPA assessment, compared to 53% of all allotments that had permits renewed without NEPA, and BLM GIS data indicate that more than 200 sheep allotments directly overlap occupied bighorn sheep habitat. This suggests that BLM is selectively renewing permits without NEPA in order to avoid addressing known grazing conflicts with wildlife, even when those permits clearly do not comply with agency policy.

Instead of strenuously avoiding addressing the fact that domestic sheep grazing renders large segments of the landscape hazardous to native bighorn sheep, BLM should incorporate management direction contained in MS-1730 into the grazing regulations. BLM should prioritize allotments where grazing has an established incompatibility with wildlife for NEPA analysis, and BLM should assess groups of allotments in a single action where those allotments collectively affect a single bighorn population. BLM should cease prolonging the precarious state of bighorn sheep as a species by acting upon what the agency, and scientists, have previously acknowledged.

E. Ensure grazing management does not impede grazed lands from serving as habitat for native predators.

Every year thousands of native coyotes, wolves, foxes, black bears, and others, are killed in retribution for predating on livestock grazed on public lands—often in actions funded by taxpayer dollars. Predators are killed using poisons and traps that are deadly to non-target wildlife and the recreating public—in 2018, a teenaged boy was injured and his dog was killed by a sodium cyanide M-44 ejector set to target coyotes. Public lands ranchers' desire to graze their livestock on a sanitized landscape is thus controlling the ability of those lands to support healthy populations of native predators. The new grazing regulations should provide that livestock on the public lands must coexist with predators and that periodic losses are part of the cost of doing business where ranchers receive the benefit of using the public lands for a fee that is far below market value.

Non-Lethal predator control methods are often more effective than lethal ones. Both lethal and non-lethal methods of predator control are used to reduce predation on domestic livestock. Scientific evidence shows that non-lethal methods are often more effective than lethal ones and are more rigorously tested for their effectiveness than lethal methods. Lethal predator

control does not reduce predation on livestock in the long run and may transfer losses to neighboring sites.⁷⁸⁷⁹⁸⁰

Lethal predator control leads to inadvertent harm to other species. Use of nonselective, lethal predator-control methods (e.g., trapping and poison baits) by Wildlife Services has resulted unintentionally in the deaths of millions of native mammals, including at least 12 taxa of mammals protected (or candidates for protection) under the Endangered Species Act since 1990.

Lethal predator control of native wildlife reduces the health of our public lands. Lethal predator control of native wildlife reduces the health of our public lands by diminishing biodiversity, reducing resilience to biotic invasions, destabilizing populations at lower tropic levels, and reducing ecosystem services.⁸¹

Removal and disposal of livestock carcasses is necessary to deter predation. The presence of livestock carcasses resulting from both predation and non-predation causes are a significant factor in attracting large carnivores to areas where livestock graze on public lands. This unnatural attractant can lead to predation events that often result in the killing of carnivores.⁸²⁸³⁸⁴

F. Ensure grazing management does not negatively impact riparian ecosystems and aquatic species

More than a century of livestock grazing in western riparian ecosystems has led to a decline in insect, fish, reptile, amphibian, bird, mammals, ground cover, biomass, and native vegetation,⁸⁵ making grazing the most destructive widespread activity wrought on Western rivers and watersheds since the arrival of American settlers. Decades of scientific research comparing

⁷⁸ Moreira-Arce, D., Ugare, C., Zorondo-/rodriguez, F. & Sinonneti, J. (2018). Management tools to reduce carnivore-livestock conflicts: Current gap and future challenges. Volume 71, Issue 3, May 2018, Pages 389-394.

⁷⁹ Santiago-Avila, F.J., Cornman, A.M. & Treves, A. (2018). Killing wolves to prevent predation on livestock may protect one farm but harm neighbors. *PLoS One*, 13, e0189729.

⁸⁰ Treves, A., Krofel, M. & McManus, J. (2016). Predator control should not be a shot in the dark. *Front. Ecol. Environ.*, 14, 380–388.

⁸¹ Bergstrom, Bradley. 2017. *Carnivore conservation: shifting the paradigm from control to coexistence*. *Journal of Mammalogy*, Volume 98, Issue 1, 8 February 2017, Pages 1–6, <https://doi.org/10.1093/jmammal/gyw185>.

⁸² Morehouse, A.T. and M.S. Boyce. 2011. From venison to beef: seasonal changes in wolf diet composition in a livestock grazing landscape. *Front Ecol Environ* 2011; doi:10.1890/100172

⁸³ Petroelje, T.R., Belant, J.L., Beyer Jr., D.E. and N.J. Svoboda. 2019. Subsidies from anthropogenic resources alter diet, activity, and ranging behavior of an apex predator (*Canis lupus*). *Scientific Reports* | (2019) 9:13438 | <https://doi.org/10.1038/s41598-019-49879-3>.

⁸⁴ Paquet, P.C., Vucetich, J., Phillips, M.K. and L. Vucetich. 2001. Mexican Wolf Recovery: Three-Year Program Review and Assessment. Prepared by the Conservation Specialist Breeding Group for the United States Fish and Wildlife Service. 86 pp.

⁸⁵ Krueper, D.J. 1996. Effects of livestock management on Southwestern riparian ecosystems. Pp 281 301 in Shaw, D.W., and D.M. Finch. 1996. Desired future conditions for Southwestern riparian ecosystems: bringing interests and concerns together. Gen. Tech. Rep. RMRS-GTR-272. USDA Forest Service, Fort Collins, CO. 359 p.

grazed and ungrazed areas have documented that livestock grazing in the arid west negatively effects water quality and quantity, stream channel morphology, hydrologic function, soil stability, streambank vegetation, and aquatic and riparian wildlife - proving that livestock grazing is an ecological catastrophe.⁸⁶

US Forest Service scientists have concluded that grazing is the most studied threat to riparian areas in the American West⁸⁷ and that livestock use is incompatible with maintenance of habitat for wetland and riparian wildlife.⁸⁸ Livestock grazing has contributed to the ESA listing of many threatened and endangered species, including the yellow-billed cuckoo,⁸⁹ spikedace and loach minnow,⁹⁰ Northern Mexican and narrow-headed gartersnakes,⁹¹ and other southwestern species.

Grazing impacts on riparian areas fall into four categories: impacts on streamside vegetation, stream channel morphology, water quality/quantity, and streambanks.⁹² Collectively, these impacts to vegetation, soils, and water lead to losses of wildlife habitat, reduced stream flow, increased pollution, and eradication of plant and animal species.⁹³ Grazing on riparian plants reduces vegetative cover and exposes soil to erosion, which in combination with streambank trampling leads to increased erosion and turbidity.⁹⁴ Grazing animals congregating in riparian areas feed on native tree and shrub regeneration, disrupting their reproductive cycle and leading to destabilized streambanks,⁹⁵ increased water temperatures, loss of hiding and breeding cover, and defecation and urination directly in the water. Reduced rainfall infiltration into soil⁹⁶

⁸⁶ Belsky, A.J., A. Matzke, and S. Uselman. 1999. Survey of Livestock Influences on Stream and Riparian Ecosystems in the Western United States. *Journal of Soil and Water Conservation* 54: 419-431.

⁸⁷ Poff, B., K.A. Koestner, D.G Neary, and D. Merritt. 2012. Threats to western United States riparian ecosystems: A bibliography. Gen. Tech. Rep. RMRS-GTR-269. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 78 p.

⁸⁸ Zwartjes, P.W., J.E. Cartron, P.L.L. Stoleson, W.C. Haussamen, and T.E. Crane. 2005. Assessment of Native Species and Ungulate Grazing in the Southwest: Terrestrial Wildlife. Gen. Tech. Rep. RMRS-GTR-142. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 74 p. plus CD.

⁸⁹ [60 Fed. Reg. at 10707](#) (“Overuse by livestock has been a major factor in the degradation and modification of riparian habitats in the United States ... Livestock grazing in riparian habitats typically results in reduction of plant species diversity and density, especially of palatable plants like willow and cottonwood saplings.”)

⁹⁰ [77 Fed. Reg. at 10,818](#) (“Impacts associated with roads and bridges, changes in water quality, improper livestock grazing, and recreation have altered or destroyed many of the rivers, streams, and watershed functions in the ranges of the spikedace and loach minnow.”)

⁹¹ [79 Fed. Reg. at 38718](#) (“We found numerous effects of livestock grazing that have resulted in the historical degradation of riparian and aquatic communities that have likely affected northern Mexican and narrow-headed gartersnakes.”)

⁹² Kauffman, J.B., and W.C. Krueger. 1984. Livestock impacts on riparian plant communities and streamside management implications-a review. *Journal of Range Management* 37(5): 430-438.

⁹³ Armour, C.L., D.A. Duff, and W. Elmore. 1991. The effects of livestock grazing on riparian and stream ecosystems. *Fisheries* 16(1): 7-11.

⁹⁴ Trimble, S.W., and A.C. Mendel. 1995. The cow as a geomorphic agent - a critical review. *Geomorphology* 13(1995): 233-253

⁹⁵ Patten, D.T. 1998. Riparian ecosystems of Semi-Arid North America: Diversity and Human Impacts. *Wetlands* 18(4): 498-512.

⁹⁶ Gifford, G.F., and R.H. Hawkins. 1978. Hydrologic Impact of Grazing on Infiltration: A Critical Review. *Water Resources Research* 14(2): 305-313.

and increased sediment loads combine to exacerbate riparian ecosystem decline and increase stream down-cutting.⁹⁷

Grazing in adjacent arid uplands and river terraces is equally as disastrous, with impacts to biological soil crusts, vegetation, soils, and wildlife.⁹⁸ A comprehensive review of grazing impacts in the Southwest concluded that no current grazing management system used by land managers is appropriate for the Sonoran Desert.⁹⁹ Cattle grazing also negatively impacts high elevation montane riparian meadows and creeks through hydrologic changes, soil compaction, erosion, bank instability, and siltation.¹⁰⁰ Often, these impacts can have greater effects on wildlife than do wildfires.¹⁰¹

The only widely accepted way to eliminate cattle impacts and restore stream health is the exclusion of domestic livestock. When maintained, grazing exclosure fencing protects riparian areas and leads to rapid recovery of vigorous native vegetation¹⁰² which is critical to maintain streambank stability and provide habitat to riparian and aquatic wildlife.¹⁰³ Prominent fish scientists have concluded that livestock grazing has been a major factor in eliminating native fishes from portions of their historic ranges¹⁰⁴ and that habitat degradation is most easily reversed by excluding livestock from the riparian area.¹⁰⁵ Furthermore, removal of livestock from sensitive ecosystems such as arid-lands riparian areas is a critical component of adapting to climate change.¹⁰⁶

⁹⁷ Obedzinski, R.A., C.G. Shaw, and D.G. Neary. 2001. Declining woody vegetation in riparian ecosystems of the Western United States. *Journal of Applied Forestry*. 16(4): 169-181.

⁹⁸ Jones, A. 2000. Effects of cattle grazing on North American arid ecosystems: a quantitative review. *Western North American Naturalist* 60(2): 155-164.

⁹⁹ Hall, J.A., S. Weinstein, and C.L. McIntyre. 2005. The Impacts of Livestock Grazing in the Sonoran Desert: A Literature Review and Synthesis. The Nature Conservancy in Arizona, Tucson.

¹⁰⁰ Federal Register Vol. 57 No. 225, November 20, 1992, Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for the Plant "*Salix arizonica*" (Arizona willow), with Critical Habitat.

¹⁰¹ Horncastle, V.J., C.L. Chambers, and B.G. Dickson. 2019. Grazing and Wildfire Effects on Small Mammals Inhabiting Montane Meadows. *Journal of Wildlife Management* 83(3): 534-543.

¹⁰² Schulz, T.T., and W.C. Leininger. 1990. Differences in riparian vegetation structure between grazed areas and exclosures. *Journal of Range Management* 43(4): 295-299.

¹⁰³ Sarr, D.A. 2002. Riparian Livestock Exclosure Research in the Western United States: A Critique and Some Recommendations. *Environmental Management* 30(4): 516-526.

¹⁰⁴ Propst, D.L. 1999. Threatened and endangered fishes of New Mexico. Tech. Rpt. No. 1. New Mexico Department of Game and Fish, Santa Fe, NM at page 15.

¹⁰⁵ Pritchard, V.L. and D.E. Crowley. 2006. Rio Grande Cutthroat Trout (*Oncorhynchus clarkii virginalis*): A Technical Conservation Assessment. Prepared for the USDA Forest Service, Rocky Mountain Region, Species Conservation Project. Department of Fishery and Wildlife Sciences, New Mexico State University, Las Cruces, NM.

¹⁰⁶ Beschta, R.L., D.L. Donahue, D.A. DellaSala, J.J. Rhodes, J.R. Karr, M.H. O'Brien, T.L. Fleischner, and C.D. Williams. 2013. Adapting to climate change on western public lands: addressing the ecological effects of domestic, wild, and feral ungulates. *Environmental Management* 51: 474-491.

As briefed here, the scientific literature documenting the impacts of livestock grazing on ecosystems is extensive, and universally shows severe and lasting negative impacts.¹⁰⁷ Livestock removal leads to a rapid regrowth of riparian willow shrub communities¹⁰⁸ and reestablishment of high-quality habitat¹⁰⁹ and avian populations.¹¹⁰ But full recovery of mature deciduous forests and the diversity that comes with them takes decades of cattle exclusion,¹¹¹ meaning monitoring, enforcement, and maintenance of riparian exclosures is crucial. Many Western rivers and their incredible native wildlife have endured abuse and neglect for too long. Complete exclusion of livestock animals is urgently needed to protect critical habitat and ensure the recovery and viability of the full range of native species.

The BLM must fully analyze the impacts to riparian ecosystems in the EIS. This proposed revision of the grazing regulations should provide the BLM with an opportunity to review how current management is or is not effectively addressing the negative impact of grazing on riparian ecosystems, native riparian vegetation, native aquatic species and native wildlife. An honest review of these issues should lead to regulatory changes that *strengthen* oversight of livestock grazing in riparian areas and provide the BLM with clear authority and direction to address riparian impacts by permanently excluding livestock from riparian areas.

G. Vegetation Treatments should be conducted with a more rigorous, science-based, transparent process.

Multiple recent literature reviews of the results of vegetation treatments have found that their chances of long-term success are quite variable depending on site characteristics, precipitation, level of non-natives already present in the seed bank, and pre- and post-treatment livestock management.^{112, 113} The BLM urgently needs better oversight on these projects, as the agency itself stated so well in a previous planning revision: “Don’t commit random acts of restoration.”¹¹⁴

Undesirable outcomes of vegetation treatments include:

¹⁰⁷ Fleischner, T.L. 1994. Ecological costs of livestock grazing in western North America. *Conservation Biology* 8(3): 629-644.

¹⁰⁸ Holland, K.A., W.C. Leininger, and M.J. Trlica. 2005. Grazing History Affects Willow Communities in a Montane Riparian Ecosystem. *Rangeland Ecology and Management* 58: 148-154.

¹⁰⁹ Krueper, D., J. Bart, and T.D. Rich. 2003. Response of vegetation and breeding birds to the removal of cattle on the San Pedro River, Arizona (U.S.A.). *Conservation Biology* 17(2): 607-615.

¹¹⁰ Poessel, S.A., J.C. Hagar, P.K. Haggerty, and T.E. Katzner. 2020. Removal of cattle grazing correlates with increases in vegetation productivity and in abundance of imperiled breeding birds. *Biological Conservation* 241 (2020): 108378.

¹¹¹ Szaro, R.C., and C.P. Pase. 1983. Short-term Changes in a Cottonwood-Ash-Willow Association on a Grazed and an Ungrazed Portion of Little Ash Creek in Central Arizona. *Journal of Range Management* 38(3): 382-384.

¹¹² Jones, A. 2019. Do mechanical vegetation treatments of pinyon-juniper and sagebrush communities work? A review of the literature. Wild Utah Project, Salt Lake City, UT

¹¹³ Miller, Richard F.; Chambers, Jeanne C.; Evers, Louisa; Williams, C. Jason; Snyder, Keirith A.; Roundy, Bruce A.; Pierson, Fred B. 2019. The ecology, history, ecohydrology, and management of pinyon and juniper woodlands in the Great Basin and Northern Colorado Plateau of the western United States. Gen. Tech. Rep. RMRS-GTR-403. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 284 p.

¹¹⁴ BLM. 2016. Planning 2.0 revision to land use planning regulations. 81 FR 89580 pp 89580-89671

- a. Outcompeting native species: Seeding non-natives such as crested wheatgrass and Russian wild rye produces forage in the short term, but tends to outcompete native species¹¹⁵ and reduce plant and animal biodiversity and vegetation resilience to perturbations. Once established, it is very difficult to convert these seedings back to functioning native ecosystems.^{116, 117} This leads to monocultures that are vulnerable to drought, insects, and sudden mass die-offs from age and overuse. Soils are then left bare to wind and water erosion, resulting in extreme resource damage and reduced resilience¹¹⁸. In addition, some range managers still maintain that non-native seedings can withstand higher utilization, with 60-80 percent utilization not uncommon. Concentrating livestock in this manner has devastating impacts on soils and hydrologic function.¹¹⁹ For these reasons, non-native species should be avoided. The focus on any vegetation treatment should be restoration of native species and ecosystem resilience, which is critically important especially in this era of climate change.

- b. Increase in annual exotics: The risk of increasing cheatgrass, especially in the extensive dry warm areas in the west, is high with all types of vegetation treatments but especially prescribed burns and chaining.^{120,121} In fact, a survey of the literature identified increase in cheatgrass as the most common outcome.¹²² Managers hope that treatments will be successful and allow desired species to outcompete undesirable ones, but that has not been borne out in the literature. The BLM often has no contingency plan when treatments fail and cheatgrass, tumble mustard, and other annuals take over. The increase in exotic annuals that has been reported from many post-treatment studies may be a primary threat to persistence of ecosystems. The alarming possibility that treatments may facilitate continued expansion of these populations and degrade native communities calls for further scrutiny. For this reason, vegetation treatments proposals should go through a rigorous vetting process to determine the likelihood of exotic infestation

¹¹⁵ Williams, J.R., L.R. Morris, K.L. Gunnell, J.K. Johanson, and T.A. Monaco. 2017. Variation in sagebrush communities historically seeded with Crested wheatgrass in the eastern Great Basin. *Rangeland Ecology and Management* 70(6):683-690.

¹¹⁶ Davies, K.W., C.S. Boyd, and A.M. Nafus. Restoring the sagebrush component in crested wheatgrass-dominated communities. *Rangeland Ecology and Management* 66(4):472-478.

¹¹⁷ Hulet, A, B. Roundy, and B. Jessop. 2010. Crested wheatgrass control and native plant establishment in Utah. *Rangeland Ecology and Management* 63(4):450-460.

¹¹⁸ Castellano, M.J., and T.J. Valone. 2007. Livestock, soil compaction and water infiltration rate: Evaluating a potential desertification recovery mechanism. *Journal of Arid Environments* 71(1):97-108.

¹¹⁹ Miller, M.E. 2008. Broad-scale assessment of rangeland health, Grand Staircase-Escalante National Monument, USA. *Rangeland Ecology and Management* 61:249-262.

¹²⁰ Jones, A. 2019. Do mechanical vegetation treatments of pinyon-juniper and sagebrush communities work? A review of the literature. Wild Utah Project, Salt Lake City, UT

¹²¹ Miller, Richard F.; Chambers, Jeanne C.; Evers, Louisa; Williams, C. Jason; Snyder, Keirith A.; Roundy, Bruce A.; Pierson, Fred B. 2019. The ecology, history, ecohydrology, and management of pinyon and juniper woodlands in the Great Basin and Northern Colorado Plateau of the western United States. Gen. Tech. Rep. RMRS-GTR-403. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 284 p.

¹²² Willms, J. , A. Bartuszevige, D.W. Schwilk, and P.L. Kennedy. 2017. The effects of thinning and burning on understory vegetation in North America: A meta-analysis. *Forest Ecology and Management* 392:184-194.

including factors such as climate projections, degree of current infestation, and post-treatment soil disturbance levels that will facilitate exotic expansion. This vetting process should be part of the grazing regulations. By having a common standard with which to evaluate treatment proposals the BLM can weight scarce treatment dollars toward those projects most likely to succeed. This would increase chances of success and save taxpayer dollars.

c. Impacts on Greater sage-grouse and other vulnerable species:

Greater Sage-Grouse: In sagebrush communities, mechanical mowing or chaining treatments are sometimes used to alter sage-grouse habitat. Sagebrush treatments are designed to reduce cover of sagebrush, often with the goal of allowing perennial grasses and forbs to increase and thus benefit sage-grouse. However, a meta-analysis of data responses showed a positive response by sage-grouse in only 36% of the data points. Negative (27%) and not significant (36%) responses were the majority (Jones 2019). This follows the conclusion of many researchers who have found that removal of sagebrush can have negative impacts on sage-grouse (Beck et al. 2012; Braun et al. 1977; Connelly et al. 2000; Fischer et al. 1996; Peterson 1995; Pyrah 1972; Swenson et al. 1987; Wallestad 1975).

Pinyon Jay and other pinyon woodland obligates: Treatments in pinyon-juniper woodlands have varying effects by species, but those requiring this habitat type (pinyon jay, pinyon mouse) are usually negatively affected by treatments removing these woodlands.¹²³

Pinyon Pine: Observers in pinyon pine ecosystems have noted declines in this keystone species in recent years. Causes are unknown but speculation includes climate change and warmer, drier conditions. Juniper does not seem to be as affected by this trend, leading to concerns that pinyon pine may eventually be replaced by juniper.¹²⁴¹²⁵ Researchers recommend that pinyon pine not be removed in vegetation treatments, but to date most BLM tree removal projects indiscriminately remove all trees.

¹²³ Bombaci, S., Pejchar, L., 2016. Consequences of pinyon and juniper woodland reduction for wildlife in North America. *Forest Ecology and Management* 365, 34-50.

¹²⁴ Redmond, M.D., N.S. Cobb, M.E. Miller, and N.N. Barger. 2013. Long-term effects of chaining treatments on vegetation structure in pinon-juniper woodlands of the Colorado Plateau. *Forest Ecology and Management*. 305:120-128.

¹²⁵ Redmond, M.D., F. Forcella, and N.N. Barger. 2012. Declines in pinyon pine cone production associated with regional warming. *Ecosphere* 3(12):120.

Pygmy Rabbit: To support pygmy rabbits, several authors concluded that mechanical sagebrush treatments should include large untreated areas or mosaics to provide pygmy rabbit habitat.^{126,127,128,129}

Beck et al.'s (2012) literature review on sagebrush treatment effects on wildlife concluded that the use of sagebrush removal to benefit wildlife is not supported by the literature. They report that, given the reliance of so many species on sagebrush, treating too many acres at once could lead to declines of these species. They recommend land managers not implement sagebrush treatments until further study is available. Welch and Criddle (2003) concluded that as more acres of sagebrush communities are modified by development or converted into invasive, annual weeds, sagebrush reduction treatments are inadvisable because they may impact sagebrush obligate species' survival.

The BLM has a requirement to use best available science, and there is no long-term science regarding the efficacy that treatments resulting in the reduction and removal of sagebrush will benefit native wildlife. Many of the earlier studies on post-treatment outcomes have been short term studies, usually less than 5 years. As the body of literature grows and longer-term studies become available, new patterns of response may emerge (Bates et al. 2007; Beck et al. 2012). Beck et al. (2012) and Bombaci and Pejchar (2016) point out that most vegetation treatment studies have been on specific, fine-scale management actions that only address short-term effects immediately post-treatment. They recommend that experiments be conducted over longer-term temporal and spatial scales. We also are deficient in reference areas with which to compare treated areas, especially for sagebrush communities. Vegetation treatment projects should thus incorporate a system of large exclosures in the post-treatment study design. These will be invaluable in future attempts to understand the effects of management.

Despite the fact that most of these expensive vegetation treatments are conducted to increase forage for livestock, there is virtually no research on the effect of grazing on seedlings post-treatment. The majority of studies that reported increased cover, frequency, productivity, or density of native perennial grasses or forbs following mechanical treatment were conducted in exclosures, or only sampled during the brief (often two years or two growing seasons) post-treatment livestock exclusion period. In studies where grazing did occur in the study area, it was usually characterized as light to moderate utilization (e.g., Bates et al. 2009; Davies et al. 2018; Dittel et al. 2018) This level of use is not always explicitly described, but Davies et al. (2018)

¹²⁶ Lee, J.E., 2008. Pygmy Rabbit (*Brachylagus idahoensis*) Habitat Use, Activity Patterns and Conservation in Relationship to Habitat Treatments. A thesis submitted to the faculty of Brigham Young University in partial fulfillment of the requirements for the degree of Master of Science, Department of Plant and Wildlife Sciences, Brigham Young

¹²⁷ Flinders, J.T., Alston, J.L., Larsen, R.T., 2005. Final Research Report: Habitat use, behavior, and limiting factor affecting the pygmy rabbit in Grass Valley, Utah. In cooperation with: the Bureau of Land Management - Richfield Field Office, the Utah Department of Natural Resources, and Brigham Young University.

¹²⁸ Flinders, J.T., Larsen, R.T., Bentley, D.F., Lee, J.E., 2006. Planning Phase Final Report: Deep Creek Watershed Pygmy Rabbit (*Brachylagus idahoensis*). Project Conservation Partnership Initiative. Report prepared for the Natural Resource Conservation Service (NRCS).

¹²⁹ Wilson, T.L., Howe, F.P., Edwards, T.C., 2011. Effects of Sagebrush Treatments on Multi-Scale Resource Selection by Pygmy Rabbits. *Journal of Wildlife Management* 75, 393–398.
<https://doi.org/10.1002/jwmg>

defines it as being between 35 to 45% utilization with non-consecutive season grazing and periodic rest. Holechek et al. (2006) recommend no greater than 40% utilization and lower in drought conditions or on rangeland in poor condition. However, ungrazed or lightly grazed conditions are atypical on public lands, particularly in sagebrush communities, so these results may not represent the common management situation. Most sagebrush communities on public lands are grazed, many at more than moderate levels. In practice, many management units adhere to a “take half, leave half” strategy of 50% utilization (e.g., Ogle 2009; Oregon State University 1988; Pratt and Rasmussen 2001; Sprinkle, 2018) or even higher in seedings (Busby and Gifford 1981). Moreover, the standard 2-year post-treatment deferment of grazing is not always adequate for recovery (Gottfried 2004), and it is not always complied with. Miller et al. (2005) “Introduction of livestock after burning in western juniper woodlands has not received adequate scrutiny . . . [T]ypically two years of grazing rest is prescribed following fire. This requirement has never been tested experimentally. Decisions regarding livestock reintroduction should be made based on the response of vegetation following a fire. With slow community recovery, rest may be required beyond the standard 2-year time frame.”

As we alluded to above, at the field office level, there is still the conventional ‘wisdom’ that seedings can tolerate higher levels of grazing utilization. There are numerous instances of vegetation treatments being overused and declining over time until the agency requests funds to retreat the area (CITES). This is not a sustainable way to manage vegetation. These grazing regulations should make clear that treatment dollars are intended to restore ecosystem function to an area that is then managed to maintain and preserve that function. To this end, the BLM needs to facilitate more research into the link between grazing management and the need for ecosystem restoration. To continue with the same management practices that led to the need for restoration in the first place leads to inexorable ecosystem decline over time and is a waste of money.

Using passive restoration to restore ecosystem function has not received enough attention in the treatment literature.

The disparity in responses to vegetation treatment projects is a clear indication that treatments are not “one size fits all.” Planners must beware of applying the same mechanical treatments over vast areas of pinyon-juniper woodlands or sagebrush steppe vegetation communities with variable site characteristics. A careful treatment plan must be designed before implementation. Practitioners should conduct small-scale, pilot field tests with the proposed treatment method before applying it on a larger scale. This will prolong the time before treatments can be applied on a larger scale but this information is necessary to avoid resource degradation. Pilot studies should be followed by independent post treatment scientific validation, ideally with long-term monitoring of the site, to ensure that the proposed treatment method actually does lead to the intended ecological conditions. As changing climatic conditions make predicting the results and risks of mechanical treatments even more uncertain, public land managers should aim for more transparency in the decision process to explain the expectations for a project and the science guiding the planning effort.

H. Ensure that the Land Health Standards are evaluated at least once a decade using peer-reviewed scientific and quantifiable methods, and increase certainty that implementation of “appropriate action” is not delayed.

To the extent that BLM plans to revise the requirements for land health evaluations spatially or temporally, it should consider an alternative that requires allotments to be fully evaluated at least once a decade, in addition to site-specific monitoring that may be conducted at greater frequency (utilization, actual use, stream bank trampling, etc.).

The agency needs to reinstate a regular schedule of conducting forage capacity analyses on every allotment. A quantitative, clip-and-weigh assessment of the true amount of forage on an allotment used to be a standard part of the land health assessment process. Setting accurate stocking rates is critical to improving resource conditions on these allotments and limiting long-term liability. An updated, thorough forage capacity analysis should be conducted for each field office RMP and updated every twenty years, or more often if environmental conditions dramatically change forage production.

Many allotments have not had such an assessment in decades, and AUMs are in many cases well out of date. As the climate warms and dries, forage levels are declining but AUM permit numbers declining accordingly. The BLM relies on a subjective “stock and monitor” approach and claims that it’s not necessary to know how much total forage is available as long as overutilization does not occur. However, this method relies too much on back door *ad hoc* decisions and encourages overstocking. By inflating AUMs, permittees feel they can put more livestock on the ground than it can truly support. Overestimating forage capacity hinders the BLM’s ability to enforce limits based on resource condition. It can also lead to undesirable, politicized management decisions. For example, the recent Grand Staircase-Escalante and Bears Ears Monument Management Plans now allow some permittees to graze the fully permitted number of AUMs on their permit, regardless of the fact that the forage those AUMs are based on is no longer there on the ground. BLM now has no objective information on which to base the number of AUMs that can be supported on an allotment. It can not manage lands effectively without this critical information. Continuing to present out of date information on permits as factual is violating transparency and the public trust.

To be meaningful in planning and management, currently available forage needs to be described at the allotment scale or preferably at the soil map unit scale. To meet BLM range management goals, calculating forage demands should include all uses, including ecological components such as wildlife consumption and maintenance or recovery of ecological processes. Thus the availability of forage for consumptive use needs to be in deference to the requirements to maintain Rangeland Health Standards and protect the ecological values of the planning unit.

Further, AUM calculations are based on average livestock weights that are out of date. The amount of forage required to support one cow/calf pair has increased in recent years along with increases in the size of livestock. This increase in forage requirements has not been reflected in the numbers on grazing permits. The BLM should adjust stocking numbers reflecting the increased forage use by today’s livestock's weight. Average weight for a cow calf pairs today requires an increase in forage (lb/AUM) that is roughly 60% more today that it was 40 years ago based on agricultural statistics.¹³⁰ If local cattle weights are known, they can be

¹³⁰ Carter J. 2008. Updating the Animal Unit Month. Unpublished white paper, Western Watersheds Project.

used to assess AUM forage demand. If not, regional averages should be used, such as the 1,532 lb/AUM forage demand for today's cow calf. Note that this may be even higher since average cattle weights have continued to increase since 2008.

I. Include water quality monitoring as part of the land health evaluations.

Livestock grazing operations on public land include impacts to watershed health, water quality and water quantity. These impacts are rarely assessed or disclosed in environmental analyses.

In 1995, BLM promulgated the Fundamentals of Rangeland Health. See 43 C.F.R. § 4180.1 (1995). That rule requires that “upon determining that existing grazing management needs to be modified to ensure that [a set of four enumerated] conditions exist” the relevant BLM officer “shall take appropriate action” pursuant to authority under rules for qualifications and preferences, grazing management, authorizing grazing use, and administrative remedies “as soon as practicable but not later than the start of the next grazing year.” Id. The conditions enumerated by the rule include water quality:

(a) Watersheds are in, or are making significant progress toward, properly functioning physical condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage, and the release of water that are in balance with climate and landform and maintain or improve *water quality*, water quantity, and timing and duration of flow.

(b) *Water quality complies with State water quality standards* and achieves, or is making significant progress toward achieving, established BLM management objectives such as meeting wildlife needs.

These provisions mandate water quality testing as part of regular land health evaluations, but they are rarely accomplished. The BLM should take the opportunity with this revision of grazing regulations to make explicit the necessity of testing water quality.

J. Include an accurate and site-specific economic analysis of grazing with every permit renewal, revealing the revenue obtained from grazing fees against the cost of administering the permit and other associated costs of livestock grazing on public lands.

It is a well know and studied fact that the cost of livestock grazing administration far outweighs the fees collected by the agency. We believe it is well past time for the public to stop subsidizing activities that lead to the degradation of public lands at the expense of restoration and recovery work that takes a lower priority in agency budgets and allocations of resources. The BLM should provide analysis in the EIS about the true costs and consequences¹³¹ of public lands grazing and provide for direction to include a thorough economic analysis when renewing livestock grazing permits.

¹³¹ https://www.biologicaldiversity.org/programs/public_land/grazing/pdfs/CostsAndConsequences_01-2015.pdf

K. Disclose underlying Indigenous land claims and address environmental justice issues.

“Beef’s move to the center of the American diet depended on bison hunters’ and ranchers’ ecological remaking of western lands with the support of the U.S. military. Further, this process produced a set of narratives that not only justified seizing American Indian lands, but also placed ranching at the heart of the story of the American West.” - from Red Meat Republic by Joshua Specht. (Princeton University Press 2019).

The history of livestock grazing in the West is inextricably linked to the conquest and displacement of Indigenous peoples. Cattle companies created proxy territorialism, carving up the landscape of Nations and cultures into one of barbed-wire and “resource use.” To the extent that ranchers today claim to have been on a particular piece of land for generations and therewith claim some “rights” to those lands, their sense of propriety should be contextualized with who was displaced when they originally staked those claims. Unceded territories should be disclosed in land management decisions and environmental justice considerations should be thoroughly discussed.

The BLM should be seeking more public input and Indigenous input in order to properly and accurately tell these stories, and grazing permit renewals should necessarily entail in-depth analyses of the history of the places and peoples affected by continued livestock use.

L. Require grazing management to maintain and improve wilderness characteristics and other special values of grazed lands.

The Wilderness Act requires agencies to administer Wilderness in a manner that “preserv[es] the wilderness character of the area.” 16 U.S.C. § 1133(b). It allows livestock grazing to continue in those areas where it existed at the time of designation subject to “reasonable regulations.” 16 U.S.C. § 1133(d)(4).

In order to ensure that livestock grazing does not unnecessarily degrade Wilderness, the BLM should analyze making changes to the grazing regulation to ensure the following:

- 1) All grazing allotments within Wilderness shall meet Rangeland Health Standards and that grazing will be curtailed on those lands that don’t meet these standards until the areas have recovered.
- 2) Natural ecological processes and succession will be allowed to operate freely to the greatest extent feasible.
- 3) Livestock grazing will be administered in such a manner that ecosystems are largely unaffected and that plants, animals, and ecosystems develop and respond primarily to natural forces.

4) Livestock grazing will be administered to avoid conflict with native carnivores and to allow native carnivores to play their roles in maintaining naturally functioning ecosystems.

5) Construction of new structures, fencing, and other grazing-related infrastructure will not normally be approved in Wilderness. Any new construction should be for the purpose of resource protection and the more effective management of wilderness rather than to accommodate livestock or increase stocking levels.

6) Motorized use will not be approved for routine livestock management practices such as herding livestock or distributing salt or mineral blocks. In rare cases, where it is not feasible to accomplish necessary tasks by non-motorized means, maintenance or other activities may be accomplished through the use of motorized equipment. Such use, with the exception of emergencies, will be authorized through grazing permits and after National Environmental Policy Act review.

M. Require use of the best available science in livestock grazing decisions.

The BLM is required to use the best available science in management decisions, but documents it prepares are not always supported by the best, or even any, literature. If sources are cited, they are often older, or unpublished agency documents that have not been peer-reviewed, or sources that do not actually support the conclusions in the text. Research presented by the public is routinely ignored. This refusal to comply with NEPA requirements to use high quality information and analysis (40 C.F.R. 1500.1(b)) and the Data Quality Act (67 F.R. 8452) risks legal challenge. See *Id.* § 1502.24 should be addressed in the upcoming revision. The regulations should include a provision requiring a more thorough explanation of research supporting grazing decisions, including an explanation why the published, peer-reviewed journal articles presented to the BLM by the public were not considered in decisions.

N. Set a fair and equitable grazing fee based on comparable private land prices.

The public lands grazing program is fundamentally inequitable to the majority of livestock operators in this country. At the heavily-subsidized rate of just \$1.35 per AUM in 2020, the BLM loses hundreds of millions of dollars every year. A Government Accountability Office report on the grazing program in FY2004 identified a loss of at least \$46 million dollars to the BLM grazing program due to the discrepancy between the costs of administration and the fees collected. Other studies have placed the entire cost of the public lands grazing program (both BLM and Forest Service) as high as \$1 billion annually.¹³²

The current fee formula was established by the Public Rangelands Improvement Act of 1978. It was meant to be just a seven-year trial, but President Reagan extended the use of the formula by Executive Order in 1986. (E.O. 12548.) President Clinton proposed and Congress

¹³² A copy of the report, *Assessing the Full Cost of the Federal Grazing Program*, is available at http://www.biologicaldiversity.org/swcbd/Programs/grazing/Assessing_the_full_cost.pdf.

considered changing the formula in the 1990s, but ultimately the changes were not adopted when BLM adopted the new grazing regulations in 1995.

Conservation organizations have long sought to reform the grazing fee through pointing out the fundamental problems with its methods, and in 2005, some of the signatories to this letter submitted to BLM and FS an Administrative Procedures Act petition to raise the grazing fee. After procedural litigation forcing the agencies to respond, the agencies denied the request for rulemaking.

We reattach that petition here as a basis for the agency's consideration in modifying the fee formula towards a fair, market-based value in this rule-making revision process. Appendix G, Grazing Fee Petition from 2005.

O. Ensure that AUMs reduced for resource protection are removed from the permit.

The regulations should make explicit that when "permitted grazing use" is reduced under 43 C.F.R. § 4110.3-2(b), BLM must cancel those AUMs, not place them in suspension. This addition to the regulations would codify BLM's current practice of removing those AUMs from the permit rather than moving them to suspended use.¹³³ The change is also consistent with BLM's definition of permitted use, which includes suspended use. Because suspended use is a subset of permitted use, moving AUMs from active to suspended does not reduce permitted use as required by the regulation.

P. Water wells, pipelines, and springs

The BLM routinely constructs range improvements without determining if the development will have any effect on the seeps and springs in the project area. RMPs should stipulate that a comprehensive hydrological assessment needs to be completed for all projects that might affect hydrologic regimes. Currently, some BLM units completely dewater springs or streams by piping all the water out of the system to a cattle trough, which destroys the riparian area.¹³⁴ The BLM should have an agency-wide policy prohibiting the complete dewatering of natural waters so that riparian systems are maintained.

Water developments are often undertaken to improve rangeland health conditions by dispersing livestock impacts over a wider area. However, any new water may add to livestock impacts by increasing forage competition and trampling in areas that were previously ungrazed. These new impacts are rarely analyzed in environmental assessments. Any new water project should establish monitoring that will alert the BLM to changes in vegetation composition and structure, bare ground, and biological soil crust cover.

Q. Cultural and Historical Properties

¹³³ See, for example, *06 Livestock*, 192 IBLA 323, 365–69 (2018).

¹³⁴ For example, Grand Staircase-Escalante National Monument Center Knoll Riparian Enhancement Project draft EA

The BLM's Notice of Intent states: BLM is also seeking the views of the public on the potential for prospective regulatory changes to affect historic properties. The information about historic and cultural resources will assist the BLM in identifying and evaluating impacts to such resources and determine the agency's obligations under Section 106 of the National Historic Preservation Act (54 U.S.C. 306108).

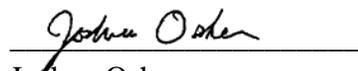
BLM must strengthen and expand its regulatory review and protections for historic properties and cultural sites on public lands. Vast areas of public lands grazing allotments have not been adequately surveyed for historical and cultural materials and sites. Ongoing and expanded grazing, trampling and other impacts (including intensified grazing under Targeted Grazing, Outcome Based Grazing, or under minimal review or public input under streamlining) could thus result in grazing actions that seriously impact or destroy artifacts and sites. Locations of livestock facilities and other activities such as salt/supplement use or water hauling that concentrate livestock may cause rapid deterioration of, and damage to, these irreplaceable materials. Grazing disturbance may be highly detrimental to cultural materials and sites, through trampling breakage and displacement of artifacts; soil churning causing sites to lose stratigraphic integrity and scientific value; loss of vegetative cover causing accelerated erosion that de-stabilizes historical structures or exposes artifacts to surface looting and livestock trampling or other damage; and general disturbance, desecration and pollution of cultural sites.

IV. Conclusion

In sum, the undersigned organizations – representing millions of public lands users who are also stakeholders in this process – ask that any revisions that BLM undertakes to the grazing regulations are based in science, expand and encourage public involvement, and reflect the current context of climate instability and accelerating species extinction. It is not appropriate to respond to difficulties regarding the implementations of current law by weakening the laws themselves; the BLM instead must seek ways to support enforcement and compliance through additional funding and staffing resources.

Thank you for considering our comments, and please keep us apprised of further developments in this process.

Respectfully Submitted,



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Appendices and Attachments

Appendix A. *Western Watersheds Project v. Kraayenbrink*, 632 F.3d 472

Appendix B. “Ride ‘em Cowboy: A critical look at BLM’s proposed new grazing regulations.”

Appendix C. San Pedro RNCA ROD-ARMP.

Appendix D. WWP comments on Great Basin Fuel Breaks EIS.

Appendix E. WWP et al. comments on Nevada Targeted Grazing EA.

Appendix F. Opening brief in GRSG ARMPA case.

Appendix G. Grazing Fee Petition 2005.